The Irrelevance of Drug Policy

Patterns and careers of experienced cannabis use in the populations of Amsterdam, San Francisco and Bremen

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1. Introduction and methodological overview

This report deals with a comparison in drug career data from cannabis users in three cities: Amsterdam, San Francisco and Bremen. In this first chapter we will describe the study in terms of its history, its intentions and central ideas, and its methodology. The methodology part has a general description, and description of specific local characteristics that differ between Amsterdam, San Francisco and Bremen.

1.1 History and central ideas

Before starting our 1994 population survey into drug use of the population of Amsterdam we decided to couple the population survey to a study of consumption careers of experienced cannabis users. In spite of the conspicuous drug policy in the Netherlands relating to cannabis use, truly representative information on cannabis user careers and use patterns was unavailable. The study done in San Francisco and in Bremen (1998 and 1999), comparing exactly the same cannabis user variables as in Amsterdam, builds immediately on the methodology developed in 1994 and 1995 for the Amsterdam study.

Our investigation of positive and negative effects, consequences, disadvantages and advantages of cannabis consumption in Amsterdam was designed to help to create the precondition for a more balanced policy debate. The aim of the Amsterdam study was to present a wide and multi-sided range of data on cannabis consumption from a large sample of experienced cannabis users who had had access to cannabis for a very long time in a relatively non-criminalizing context [1].

We cannot stress enough the importance of researching drug use outside the social context of marginalisation. If a society ostracizes particular behaviour, like drug use or homosexuality, such behaviour will necessarily be constrained to hidden subcultures. Rules and regulations will develop that are partly compensations for (and products of) the socially deviant status of that behaviour. In *Crack in America* Reinarman and Levine (1997, p.8) state that a "criminalized context has influenced how illicit drugs are used, by whom, what their effects are taken to mean, and to a significant degree even their behavioural consequences." Although this remark might put a somewhat too heavy emphasis on the legal status of a drug, it underscores the immense importance of getting information about cannabis use in a situation *in which consumption is not hidden, but regulated by fairly open and normal social controls.*

Another reason why our type of cannabis research in Amsterdam and other cities is important is, that through population surveys, we would be able to reach a sample of experienced cannabis users that is just as representative for the whole population of experienced users, as the population survey sample is for the population of the city. By tapping the experienced cannabis users in the population sample, we would for the first time in the history of cannabis use create knowledge on a sample that is as non-biased as possible. However careful one would make samples via other methods[2] one would never be able to fully discard intuitions of uncertain representativeness.

Therefore, the two important advantages of studying cannabis users through population-wide recruitment techniques in Amsterdam or any culturally comparable city are:
1) sample representativeness for experienced cannabis users city wide; and
2) the collection of data from users that developed their use over time.

And for comparisons between cities as is the case in this report, our study enables us to look at drug use in a non-criminalizing context – Amsterdam – versus criminalizing ones that are all part of the western industrialized cosmopolitan culture and life-style. This is the only way we can empirically check the above-mentioned remark by Reinarman and Levine.

Experience with cannabis in 1994 Amsterdam is not higher than almost 35 percent of the adult population (18-70 years) of which only 43 percent has an experience of 25 times of use or over (Sandwijk et al 1995). This means that experienced use is constrained to 15 percent of the Amsterdam population between 18 and 70 years of age. In the year the study was replicated in San Francisco and Bremen (1998) lifetime prevalence in San Francisco was 62%[3] and in Bremen 14.7%. This means that cannabis use is almost normal in the San Francisco population, a minority behaviour in Bremen, and somewhere in between in Amsterdam. Of all cannabis users, 43% has an experience of 25 times and over in Amsterdam, 57% in San Francisco and 24% in Bremen (see for overview Table 1.1).

To measure drug use in the population we used, in all three cities, questionnaires that would measure lifetime prevalence of a series of drugs, last year prevalence, and last month prevalence. Questions that would tap into in depth information about cannabis using careers were divided into twelve topics:

- initiation into cannabis use;
- level of use through time;
- patterns of use through time;
- quitting and diminishing of use;
- the use of other drugs and combinations of drugs;
- buying cannabis;
- contexts of cannabis use;
- advantages and disadvantages;
- prevalence of effects of use (more than a hundred potential effects are mentioned)
- attitudes about cannabis and other users;
- cannabis 'dependence' both from a subjective angle and according to DSM-IV; and
- use of cannabis at work.

Of course, what the risks are of cannabis use is not an objective problem. It is up till now a battleground for ideological positions around drug use in general, and cannabis use in particular. Risks are definable in terms of behaviour or social relations, but also as physical functioning, till the level of the human cell.

Table 1.1: Prevalence of cannabis use, age cohort 18-70

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	corrected %	*n*	%
Population sample	3611	-	819	-	2929	-
Life-time prevalence	1244	34.5	576	62.2	430	14.7
Last year prevalence	437	12.2	272	28.8	139	4.8
Last month prevalence	278	7.7	146	15.3	49	1.7
used > 25 x (% of tot. sample)	524	14.6	347	33.9	102	3.5
used > 25 x (% of users)		43.1		56.6		23.8

Nowadays, with the recent advance made in understanding of how substances influence brain activity, risks are often formulated in terms of 'brain damage'. Each time some activity of an illicit drug is recognized in part of the brain, this activity is labelled as 'damage' under the current ideological climate. Hopefully this labelling will be a temporary matter, as knowledge will increase. As the neurologist and Parkinson disease specialist Wolters remarked during a small symposium on the risks of MDMA use, much activity in the brain that is labelled as 'damage' should be labelled as 'adaptive brain behaviour' as there is no evidence of this activity to be really damaging for behaviour, and irreversible[4].

In our cannabis survey we could not ask anything that relates to risks on the level of the human cell, or the level of organs within the human body. But, as the careers of experienced users appeared to be ten years or longer, the structure and openness of our questionnaire would allow tapping information on at least some physiological risks if our respondents would have noticed them. We have to take into account however, that users normally do not interpret their risk perceptions in terms of organ malfunctioning, unless such malfunctioning is highly perceivable. Risks of substance use is easier seen in terms of one's own behaviour and in terms of effects on the micro-cosmos of the user, which is more the type of risks we dealt with in the structured part of our survey.

Research can clarify local impacts on predefined health risks and risks for social marginalization by doing rigid and systematic comparative research between different cities or regions as we are now reporting for Bremen, Amsterdam and San Francisco. Of course, we are still far away from balanced multi-disciplinary calculations of the costs and benefits of drug use in different cultural contexts.

When speaking about the notion of risk, we have to measure the negative side of some behaviour against its positive yield or potential. The risk of breaking a leg when skiing is huge when compared to the risk of breaking ones leg during a walk in the park. But, we accept some high risks if the benefits of the behaviour are high as well. So, few skiers will, on the basis of risk assessment, exchange the excitement of their skiing for walking in the park. Risk is a rather complicated topic for research or for policy, because there is no immediate way of doing aggregate cost-benefit analyses on drug use or on the cost benefit calculations drug users make for themselves. We also have to deal with the dominant ideological climate around drug use in which the notion of drug use having benefits is far from accepted. And, when substance use does bring about some risks, just as skiing does, when do these risks have to be labelled as unacceptable?[5]

In our questionnaire we did not include questions that allow good insight into these processes of cost benefit comparison, as it goes on in experienced cannabis users. This topic lends itself much more to qualitative research until well quantifiable hypotheses can be formulated. However, we did collect information on reasons for use, for quitting cannabis, for diminishing use level and on how users control their use by applying many types of rules. This information allows fairly detailed insight into what is seen as costs by users, and what as benefits.

Health is not an objective entity, so what we considered healthy or unhealthy, may reflect in the wording of our questionnaire. It also reflects in the type of answers we get, so to a certain extent even our outcomes are determined by our local bias. This cannot be prevented. Every questionnaire is a reflection of political or professional preoccupations.[6] Sociologists will ask completely different questions than psychologists, and again than psychiatrists. One can observe this very nicely in the enormous difference between the topics of the recent Kleiber and Soellner (1998) study of cannabis users in Germany, and our own. Kleiber lives in a political and professional world in which psychological and psychiatric questions are considered relevant (although Kleiber is critical of a 'deviance orientation' in this area, Kleiber and Soellner 1998, p. 9). This means that relevant questions about health are operationalised in terms of scores on psychological scales. We omitted such scales. In our user survey we opened the

possibility for each respondent to insert his or her own definition of problems and/or health around cannabis. The disadvantage of this way of non-standardized questioning is that comparisons between cities are non-standardized as well. We, in other words, do not create scores on accepted systems of scoring. However, why would scores on psychological scales or other standardized scales be relevant for a description of cannabis users?

We introduced many open questions in order to tap into the notions of users themselves. Just for the purpose of comparison we introduced some 'foreign' items, like the items inspired by DSM-IV.

By not introducing a pathology paradigm in many of the questions, and by trying to focus as much as possible on more neutral self- perceived "advantages and disadvantages" we have tried to steer free of introducing a particular labelling language in our questionnaire. Also, we freed ourselves that way from the necessity to collect the same data in a matched contrast group. Above all we tried to collect systematic descriptive information on many aspects of use (buying, prices, rules of use, quitting, risks related to driving or to the justice system, etc.). In this sense we have tried to at least approach something that according to Quensel et al. (1997, pp. 95-105) is impossible, to create a 'neutral research instrument'[7]. As also we have shown earlier, a fully neutral research instrument is indeed impossible because every step in a survey, from sampling to item selection to question wording, is tied up to more or less scientific constructs about drug use and its ethical evaluation.[8]

We look at cannabis use as a 'career' that can have very different courses for different users, during a time span in which cannabis use is looked upon by the users as a normal aspect of life. The title of this final report to the Dutch Ministry of Health, Welfare and Sports refers to an earlier publication of the first author, in which it is stated that "...one may indeed discover that most drug users apply all sorts of self imposed controls. These controls are very similar for all drugs one studies. They are learned within life styles and environments in which the prohibition of drugs - and the legal constraints that come with it - has become utterly irrelevant" (Cohen 1999). In this final report we show, as most important finding, that experienced consumers of cannabis generate more or less identical sets of characteristics relating to the use of cannabis and its controls, showing how irrelevant the different drug policy regimes around them really are.

1.2 Methodology.

No method of sampling the population is without problems and disadvantages, the most important of which is that whatever method we choose, some groups in the population will not be covered. And each data recording method will create specific non-response as well, as we will show in the forthcoming report of the second national population drug use survey (Abraham et al 2002). However, making the general population as defined by the central registry of the Municipality – as we did in Amsterdam – our recruitment basis for finding experienced cannabis users is a lot better than going to cannabis distribution places, café's, prisons or the streets. Undoubtedly this sampling method will not cover particular types of users. In Amsterdam this will typically be the highly outgoing younger part of the population, among which the minority groups (Turks, Moroccans, Ghanese, etc.) will be even less represented. Also, the population registers of the population do not cover the prison population (i.e. those who are in Amsterdam prisons are part of the Registry, but they are not automatically included into the sample frame). Hospitalised people do figure in our samples, but they are not accessible to our interviewers. In short, we will have missed certain subgroups of the population (see Sandwijk et al. 1995, Ch. 10)

As we outlined in the introduction of this report, the heart of the sampling part of the study, its essence so to speak, is random recruitment of experienced cannabis users. Recruitment of cannabis consumers is done from the general population, in a sampling design that rigorously tries to prevent selection bias to occur. Reason for this is, that we are interested in cannabis consumption careers in the general population, as opposed to selected sub groups like convicts, treatment clientele, youth, or members in any other biased and / or deviant sub group of society.

In this chapter we will outline the sampling design, and the sampling procedures, as practiced in each of the three cities. The task we set ourselves in this chapter is to answer the question in how far our selection of experienced cannabis users from the population of each of the cities may be considered 'representative' for the population of experienced cannabis users. The sampling design in Bremen and San Francisco followed as much as technically possible the original study that took place in Amsterdam in 1994 and 1995. This had to be so, because the Amsterdam study had already been completed when the study of cannabis use in Bremen and San Francisco started. Prof. Craig Reinarman was principal investigator in San Francisco, while prof. Lorenz Boellinger and prof. Stephan Quensel were principal investigators in Bremen, for that part of the research replicating the original Amsterdam study.

Sampling design in Amsterdam.

The original study in Amsterdam used a sampling design that had already been tried in 1987 and 1990 for the selection of *persons* that would be surveyed to measure drug use prevalence in the registered population of Amsterdam.

The Amsterdam population registry, as maintained by the Municipality, served as the sampling frame for selection of participants. The Amsterdam registry is strictly reserved for inhabitants of the municipality, so that people living in 'greater Amsterdam' (the municipalities that sometimes are immediately attached to the city), are not sampled. From this registry a large random sample of individual persons of 12 years and older was retrieved just prior to our fieldwork in 1994, of which 50.2% responded to our request to participate in our drug use survey.

In the 1994 drug use prevalence survey of the population of 12 years and older in Amsterdam (N= 4364), about 600 experienced users of cannabis were found. All users of cannabis were asked if the researcher was allowed to revisit them for a possible follow up interview, explicitly directed at generating more information about use of cannabis and its course over time. This means that the sample that was interviewed in the experienced cannabis user survey was a sub-sample of the original random population sample. The quality of the population sample therefore determines the quality of the sub-sample. It is therefore important to report that after response had been collected, a non-response survey was undertaken to allow evaluation of the quality of the estimates that are computed from the response data. The sample response was compared to sample non-response on a series of variables. It was found that sample non-response did not differ in important ways for sample response (see Sandwijk et al. 1995, Ch. 12).

In Amsterdam the population sample as drawn in 1994 does not cover persons living in the city that are not registered. So, illegal immigrants and homeless people (often coming from abroad or from other Dutch municipalities) are not covered by this sampling method. Prisoners are in the Registry, as are inhabitants of homes for the elderly and some local patients in hospitals. It was decided that prisoners would not be surveyed, because of the changing composition of the prison population in terms of place of original residence. But, more important, even if we would have selected only Amsterdam citizens in the prisons, the amount of work to get clearance to interview them was not considered worthwhile.

Patients in hospitals were left out as well, since it would be uncertain what selection of them would be survey-able introducing problems of bias that we considered too complex. Moreover, we did not consider our survey as important as, for instance, a census, that legitimates to intrude the hospital climate. This means that the sampling design of the Amsterdam study leaves out some elements of the population. But, even this omission keeps the general representativeness of the sample high enough to warrant reliability of estimates based on this sample.

In respect to the recruitment of experienced cannabis users, this sampling design suffers from a double occurrence of non-response: first the non-response in the original large population sample, and second, non-response in the sub-group of experienced cannabis users within the larger population sample. In order to check the impact of the second kind of non-response, the response among the subgroup of experienced cannabis users was compared to the non-response in that subgroup on twelve demographic and drug use variables in a way that closely resembles review of response versus non-response in the original population sample (see Table 1.1 to Table 1.12). This way it was possible to measure the impact of the second source of non-response as well, and to evaluate the representativeness of the final selection of experienced cannabis users in the population of Amsterdam. The respondents were found to differ from the non-response group on two of the twelve variables: they were slightly higher educated and had a slightly higher last year prevalence of cannabis.

No weighting of respondent values was considered necessary for creating our citywide drug use prevalence estimates. Our comparison between sample, response and known city data in all of the different variables we used for evaluating sample and response representativeness did not create the need for weighting. These comparisons can be found in detail in Sandwijk et al. (1995).

This outline of the sampling design in the original Amsterdam study formed the basis of the sampling design as adopted in the studies of Bremen and San Francisco. However, it was inevitable that some differences would occur between the sampling designs, because of legal and administrative differences between the sites of the study.

Table 1.2: Gender[9]

	Response		*Non-response*	
	n	*%*	*n*	*%*
Male	127	59.1	212	66.5
Female	88	40.9	107	33.5
Total	215	100.0	319	100.0

χ^2 = 2.58 (Yates correction); df = 1; p=.108, not sign.

Table 1.3: Household composition

	Response		*Non-response*	
	n	*%*	*n*	*%*
Single parent	12	5.6	27	8.5
Couple without children	35	16.3	32	10.0
Couple with children	40	18.6	52	16.3
Youth	17	7.9	32	10.0
Single	81	37.7	139	43.6
Other	31	14.4	37	11.6
Total	216	100.5	319	100.0

χ^2 = 8.36; df = 5; p=.137, not sign.

Table 1.4: Age at time of interview

	Response		*Non-response*	
	n	%	*n*	%
20 or younger	16	7.4	25	7.8
21 - 25	31	14.4	53	16.6
26 - 30	45	20.9	65	20.4
31 - 35	41	19.1	54	16.9
36 - 40	39	18.1	67	21.0
Older than 40	44	20.5	55	17.2
Total	216	100.5	319	100.0
Average	32.9		32.5	

t = 0.51; df = 533; p= .609, not sign.

Table 1.5: Position on labour market

	Response		*Non-response*	
	n	%	*n*	%
Full time employement	87	40.3	120	37.6
Part time employment	37	17.1	62	19.4
Unemployed for short period	16	7.4	23	7.2
Unemployed for longer period	13	6.0	16	5.0
Disabled	7	3.2	16	5.0
Student	17	7.9	19	6.0
Other	38	17.6	55	17.2
Unkown	1	0.5	8	2.5
Total	216	100.0	319	100.0

2 = 5.94; df = 8; p= .654, not sign.

Table 1.6: Average nett income per month of household

	Response		*Non-response*	
	n	%	*n*	%
Less than *f*1,250	31	14.4	42	13.2
*f*1,250 - *f*2,000	44	20.4	62	19.4
*f*2,000 - *f*3,000	40	18.5	57	17.9
*f*3,000 - *f*4,000	23	10.6	36	11.3
*f*4,000 - *f*5,000	24	11.1	30	9.4
More than *f*5,000	32	14.8	30	9.4
Unknown	22	10.2	62	19.4
Total	216	100.0	319	100.0

t = -1.81; df = 513; p=.071, not sign.

Table 1.7: Educational level

	Response		*Non-response*	
	n	%	*n*	%
Elementary school	14	6.5	21	6.6
Low level vocational school	7	3.2	30	9.4
Medium level vocational school	15	6.9	38	11.9
Medium level high school	29	13.4	31	9.7
High level high school	52	24.1	76	23.8
University, high level vocational school	96	44.4	110	34.5
Other	1	0.5	7	2.2
Unknown	2	0.9	6	1.9
Total	216	100.0	319	100.0

t = 2.70; df = 481; p= .007, sign.

Table 1.8: Last year prevalence cannabis

	Response		*Non-response*	
	n	%	*n*	%
Yes	136	63.8	168	53.3
No	77	36.2	147	46.7
Total	213	100.0	315	100.0

χ^2 = 5.33 (Yates' correction); df = 1; p= .021, sign.

Table 1.9: Last month prevalence cannabis

	Response		*Non-response*	
	n	%	*n*	%
Yes	101	47.4	134	42.3
No	112	52.6	183	57.7
Total	213	100.0	317	100.0

χ^2 = 1.17 (Yates' correction); df = 1; p= .280, not sign.

Table 1.10: Lifetime prevalence amphetamines

	Response		*Non-response*	
	n	%	*n*	%
Yes	64	29.6	80	25.3
No	152	70.4	236	74.7
Total	216	100.0	316	100.0

χ^2 = 1.00 (Yates' correction); df = 1; p= .317, not sign.

Table 1.11: Lifetime prevalence cocaine

	Response		*Non-response*	
	n	%	*n*	%
Yes	90	41.7	113	35.6
No	126	58.3	204	64.4
Total	216	100.0	317	100.0

χ^2 = 1.73 (Yates' correction); df = 1; p= .189, not sign.

Table: 1.12: Lifetime prevalence Ecstasy

	Response		*Non-response*	
	n	%	*n*	%
Yes	40	18.8	60	19.0
No	173	81.2	256	81.0
Total	213	100.0	316	100.0

χ^2 = 0 (Yates' correction); df = 1; p= 1.000, not sign.

Table 1.13: Lifetime prevalence heroin

	Response		*Non-response*	
	n	%	*n*	%
Yes	23	10.6	29	9.1
No	193	89.4	290	90.9
Total	216	100.0	319	100.0

χ^2 = 0.20 (Yates' correction); df = 1; p= .654, not sign.

Sampling design: San Francisco

San Francisco does not maintain a register of its inhabitants, which is the reason that finding a random sample of inhabitants had to be designed in a different way than in Amsterdam. The sample design had to be a two stage one, with first sampling of 'addresses of households' (in itself a two stage procedure) and then sampling of a person within the household. Also, because of San Francisco's large Chinese sub-population (about 17%, 1990 census) of which half speaks Chinese only, the sample excluded non English speaking Chinese because of the prohibitive costs of translating the two questionnaires into both Cantonese and Mandarin, and finding interviewers for these two languages. Moreover, it was reasoned that only a few cases of experienced cannabis users would be found in the non English-speaking Chinese communities, so that omitting those would introduce a small but acceptable bias. The San Francisco version of the prevalence investigation was now limited to English speaking inhabitants of the city but, for the experienced cannabis user survey a Spanish version was available for those who would feel more comfortable to answer the questions in Spanish.

A detailed report of how the general design of the sample as out lined above was applied to result into at least 200 experienced cannabis users in San Francisco was written by Piazza and Yu-The Cheng (1999). In the following summary they are quoted almost verbatim.

Once the target population was defined, the investigation proceeded to develop a strategy to sample that population. The sample was a two-stage area sample of all households within the city of San Francisco. City blocks served as the primary sampling units, and housing units on selected blocks were the second-stage units. The statistics of the 1990 U.S. Census provided the sampling frame for the selection of blocks. For this purpose a computer file was obtained from the UCDATA Program at the University of California in Berkeley. The file contained for each block in San Francisco an identifier and the number of housing units enumerated by the Census. At the time this work began, the Census data were already more than eight years old. Nevertheless, it was known that there had been little new construction in the target area during those years and the Census data were adequate for the current research purposes. For this study each block had to have at least forty-five housing units, since it was originally expected to select approximately thirty housing units on each selected block. Blocks that had fewer than forty-five housing units were therefore linked with other blocks to create units of at least the desired minimum size. When we refer below to "blocks," therefore, we mean those units of at least forty-five households, comprising one or more physical Census blocks.

Once the list of blocks within each tract was complete, the full list of blocks was sorted by tract and block number, in order to provide implicit geographic stratification by neighbourhood of San Francisco. Subsequently, 150 blocks were selected from the sorted block list with probability proportionate to the estimated number of housing units on each block. The selection was carried out by using systematic random sampling, with a random start, in order to preserve the implicit geographic stratification of the blocks. Field workers were sent to each of the selected 150 blocks with instructions to list all housing units. The selected blocks were located with the help of block maps prepared for this project by the Survey Research Center at the University of Michigan. Each house was listed by its street address. Each apartment was listed by its address and also by its apartment number (when available) or by a description of its location within the structure. The outcome of this procedure was a list of housing units for each block. This list constituted the sampling frame from which individual housing units were selected.

The actual selection of housing units was carried out by systematic random sampling. As a first step, a target sample size for each selected block was calculated. Since it was originally estimated that it was needed to select 4,500 households to complete enough Prevalence Interviews to generate the desired number of In-Depth Interviews with career users, the sample was designed to select 30 households on

each of the 150 selected blocks. Piazza and Yu-The Cheng (1999) describe in detail the way target sample size was set per block, and selection intervals.

The total number of selected blocks (150) and households (targeted at 30 per block) was based on worst-case assumptions. A random part of the selections were put into a reserve sample, to be used only as needed. Two methods were used to set part of the sample aside as a reserve sample. The first type of reserve sample was a random subset of entire blocks. To ensure that both the main sample and the reserve samples were spread maximally over the entire city of San Francisco, the researchers first sorted the 150 blocks into 31 neighbourhood groups. They then drew three systematic random samples (with separate random starts) of 25 blocks each from the sorted list to create three sets of reserve blocks. Using this procedure, it was ensured that the main sample and each of the three reserve samples were distributed throughout the city. Eventually 25 of the 75 reserve blocks were used. The second type of reserve sample was a random subset of housing units on the selected blocks. The original target of 30 housing units was reduced to 15 on about half of the blocks, by retaining every other selection after a random start. In order to maximize the geographic spread of the sample, the number of selected housing units was reduced on some blocks to a random quarter of the original 30 selections, to allow more blocks to be included in the sample.

In the end it was found that the prevalence of career marijuana users was higher than anticipated. As a result, it was not needed to use most of the reserve sample. In total, 100 blocks were used. On 35 of those blocks the original target of 30 housing units was selected; 48 of the blocks were sampled at half that rate, and the remaining 17 blocks were sampled at a quarter of the original rate.

A total of 1,951 housing units were selected by the sampling procedures described above. Of the total selections, 13.3 per cent were excluded because they were vacant or otherwise ineligible, leaving 1,690 housing units for the sample. Of these housing units, 962 (56.9 per cent) were successfully enumerated - that is, an interviewer was able to determine whether any eligible persons resided there and, if so, to list the eligible persons and select one at random. In the enumerated housing units, 71 selected adults either were unable to participate or refused to complete the Prevalence Interview. A final total of 891 randomly selected adults completed the Prevalence Interview and 349 of those 891 (39.2 per cent) were later identified as career marijuana users. Three of these did not speak English adequately for the In-Depth Interview and therefore were treated as ineligible. Of the 346 eligible career marijuana users identified 23.1 per cent either refused or were never found at home to complete the In-Depth Interview. The remaining 76.9 per cent (266 persons) completed the In-Depth Interview.

Weights were produced to adjust for differences in the probabilities of selection among various respondents (weight 1) and for differential response rates at the two stages of selection (weight 2). Thus the San Francisco sample of experienced cannabis users could be made more representative for estimated population of experienced users. However, it was eventually decided not to use weights. The reason for not using weights was that they were felt to make no sufficient difference on the outcome to justify the statistical complications which would follow from the use of weights (like severe complication of computation of statistical significance). Many variables were looked at, and only on one variable (average income) was the predicted value with weights found to fall outside the 95% confidence interval of the unweighted mean (Table 1.14). Thus, we considered using unweighted data superior.

Also in San Francisco a non-response analysis was done to compare experienced users who participate with those who did not participate in the second stage of the study. Respondents and non-respondents were compared on eleven variables (Table 1.15 to Table 1.25), and no statistical differences were found.

Table 1.14: Comparison of weighted and unweighted data in San Francisco

	Unweighted	95% Confidence Interval		Weight 1	Weight 2
Descriptives	Mean	Lower Bound	Upper Bound	Mean	Mean
Age at time of interview	37.18	35.88	38.47	36.00	36.01
Gender	1.47	1.41	1.53	1.49	1.49
Level of education (cat.)	15.13	14.89	15.36	14.91	14.97
Average monthly take-home income (cat.)	5.54	5.24	5.85	5.11	5.21
Steady partner	1.41	1.35	1.47	1.36	1.35
Children (cat.)	0.17	0.12	0.21	0.14	0.14
Evenings spent at home (cat.)	1.66	1.57	1.75	1.63	1.62
Bar cafe night-club visited in last four weeks (cat.)	3.25	3.08	3.42	3.18	3.19
Restaurants visited in last four weeks (cat.)	4.02	3.90	4.14	3.92	3.93
Movies visited in last eight weeks (cat.)	2.45	2.31	2.59	2.38	2.39
Theatre visited in last eight weeks (cat.)	1.92	1.80	2.05	1.87	1.89
Age when first used cannabis	16.54	16.05	17.03	16.33	16.31
Age when started using cannabis regularly	18.91	18.20	19.63	18.91	18.92
Age when used most cannabis	22.11	21.27	22.95	21.87	21.89
Age when quit using cannabis	34.07	32.85	35.30	33.14	33.26
Length user career in years	15.31	14.24	16.38	14.33	14.43
Number of days used cannabis in past year (cat.)	2.97	2.77	3.18	2.87	2.84
Number of days used cannabis in past month	10.17	8.24	12.10	10.07	10.03
Frequency of cannabis use during first year (cat.)	3.64	3.50	3.79	3.66	3.69
Frequency of cannabis use during top period (cat.)	2.15	2.01	2.30	2.11	2.12
Frequency of cannabis use during past year (cat.)	4.49	4.30	4.68	4.38	4.35
Frequency of cannabis use during past 3 months (cat.)	4.08	3.85	4.31	3.92	3.88
Amount per month 1st year regular cannabis use (cat	2.90	2.61	3.19	2.76	2.72
Amount per month during top period (cat.)	4.74	4.40	5.08	4.47	4.47
Amount per month during past year (cat.)	2.25	1.95	2.55	2.25	2.31
Amount per month during past 3 months (cat.)	2.33	1.99	2.66	2.24	2.25
Amount used in past 30 days (cat.)	2.78	2.30	3.27	2.58	2.61
Monthly limit to spend on cannabis in Euros	75.03	47.41	102.65	67.56	67.33
High during 1st year regular cannabis use (cat.)	3.88	3.71	4.04	3.97	3.97
High during top period cannabis use (cat.)	4.40	4.27	4.53	4.39	4.39
High during past year (cat.)	3.46	3.27	3.65	3.63	3.63
High during past three months (cat.)	3.25	3.04	3.46	3.39	3.38
Life time prevalence tobacco	1.05	1.03	1.08	1.06	1.05
Life time prevalence sedatives	1.61	1.55	1.67	1.62	1.63
Life time prevalence sleeping pills	1.62	1.56	1.68	1.66	1.67
Life time prevalence ecstasy	1.60	1.54	1.66	1.57	1.57
Life time prevalence amphetamines	1.40	1.34	1.46	1.41	1.41
Life time prevalence cocaine	1.27	1.21	1.32	1.31	1.30
Life time prevalence crack	1.82	1.77	1.87	1.83	1.84

Table 1.15: Gender

	Response		*Non-response*	
	n	%	*n*	%
Male	141	53.2	54	65.1
Female	124	46.8	29	34.9
Total	265	100.0	83	100.0

χ^2 = 3.14 (Yates' correction); df = 1; p= .076, not sign.

Table 1.16: Age at time of interview

	Response		*Non-response*	
	n	*%*	*n*	*%*
=< 25	36	13.6	6	7.2
26-30	58	21.9	17	20.5
31-35	31	11.7	16	19.3
36-40	46	17.4	14	16.9
40+	94	35.5	30	36.1
Total	265	100.0	83	100.0
Average	37.0		38.3	

t = -0.95; df = 346; p= .343, not sign.

Table 1.17: Marital status

	Response		*Non-response*	
	n	*%*	*n*	*%*
Married	43	16.2	23	27.7
Widowed	6	2.3	1	1.2
Separated	15	5.7	2	2.4
Divorced	29	10.9	10	12.0
Never been married	172	64.9	47	56.6
Total	265	100.0	83	100.0

χ^2 = 6.87; df = 4; p= .143, not sign.

Table 1.18: Educational level completed

	Response		*Non-response*	
	n	*%*	*n*	*%*
< = Eleventh grade	11	4.2	7	8.4
Twelfth grade (high school graduate)	27	10.2	8	9.6
Freshman/1st year college	12	4.5	1	1.2
Sophomore/2nd year college	29	10.9	7	8.4
Junior/3rd year college	18	6.8	8	9.6
Senior/4th year college (college graduate)	111	41.9	33	39.8
Graduate or professional school or higher	57	21.5	19	22.9
Total	265	100.0	83	100.0

t = 0.60; df = 346; p= .548, not sign.

Table 1.19: Employment status

	Response		*Non-response*	
	n	*%*	*n*	*%*
Working full-time (> = 35 hours a week)	183	69.1	66	79.5
Working part-time (< 35 hours a week)	37	14.0	7	8.4
Unemployed	14	5.3	2	2.4
Disabled for work	11	4.2	3	3.6
Other	20	7.5	5	6.0
Total	265	100.0	83	100.0

χ^2 = 3.88; df = 4; p= .423, not sign.

Table 1.20: Last year prevalence cannabis

	Response		*Non-response*	
	n	%	*n*	%
Yes	178	67.2	46	55.4
No	87	32.8	37	44.6
Total	265	100.0	83	100.0

χ^2 = 3.31 (Yates' correction); df = 1; p=.069, not sign.

Table 1.21: Last month prevalence cannabis

	Response		*Non-response*	
	n	%	*n*	%
Yes	106	40.2	24	28.9
No	158	59.8	59	71.1
Total	264	100.0	83	100.0

χ^2 = 2.94 (Yates' correction); df = 1; p=.086, not sign.

Table 1.22: Lifetime prevalence heroin

	Response		*Non-response*	
	n	%	*n*	%
Yes	106	40.2	24	28.9
No	158	59.8	59	71.1
Total	264	100.0	83	100.0

χ^2 = 2.94 (Yates' correction); df = 1; p=.086, not sign.

Table 1.23: Lifetime prevalence hallucinogens

	Response		*Non-response*	
	n	%	*n*	%
Yes	206	78.3	55	67.1
No	57	21.7	27	32.9
Total	263	100.0	82	100.0

χ^2 = 3.71 (Yates' correction); df = 1; p=.054, not sign.

Table 1.24: Lifetime prevalence stimulants

	Response		*Non-response*	
	n	%	*n*	%
Yes	155	58.7	45	54.2
No	109	41.3	38	45.8
Total	264	100.0	83	100.0

χ^2 = 0.35 (Yates' correction); df = 1; p=.551, not sign.

Table 1.25: Lifetime prevalence cocaine

	Response		*Non-response*	
	n	%	*n*	%
Yes	199	75.1	54	65.1
No	66	24.9	29	34.9
Total	265	100.0	83	100.0

χ^2 = 2.72 (Yates' correction); df = 1; p=.099, not sign.

Sampling design: Bremen

The following account of the sampling design used in Bremen is based on two German Technical Reports[10]. The first stage of the survey was to find a random sample of cannabis users in the general population of the city of Bremen. Like San Francisco, a useable register of persons living in the city, is not available. The register that is, was considered of too low a quality (too many mistakes and too high an arrear) by the fieldwork organization that would execute the fieldwork. In order to create a random sample of households from which persons would be selected, it was decided that the age cohort to be selected from the general population was to be between 16 and 70 years old. This created a difference with the San Francisco sampling design (over 18 years of age) and the Amsterdam sampling design (every one over 12 years) but this difference was considered acceptable. The target was to find 3000 persons from the general population. Our German colleagues computed in cooperation with the field research organization this would be enough to find the targeted 200 experienced cannabis users. The drug use survey in Bremen was part of a larger survey, covering more topics. This 'piggybacking' is an often-used way to produce survey data when funds for a completely autonomous survey are not available.

The sampling procedure to find persons in the general population was a three-stage affair: the first stage sampling frame was all the districts in the city of Bremen that are created to organize parliamentary elections. The 422 election districts in the city of Bremen were each used as a 'sampling point', where the largest ones were taken twice. This procedure resulted in 431 sampling points. To find households, a random route design was used, that would deliver an average of seven households per sampling point (=election district). This means that 431 sampling points could theoretically yield 3017 households. A start address was designated, from which the interviewer had to depart and list 23 addresses, each third address from the original in a certain order of follow up streets. Non-private houses/enterprises were excluded. The fieldwork organization marked 11 of the 23 addresses. Only these addresses were to be used by the interviewers, to find households and persons within the target age-cohort. If the household was not larger than one person and this person was eligible, the person had to be requested to participate. In households of more than one person, a key indicated which person to use from the list of household persons within the age range on that address.

The average number of interviews per sampling point was 7, with 29 sampling points (6,8%) delivering less than 5 interviews, and with 10 sampling points (2.4%) delivering more than 8 interviews. Of the total of 3008 interviews (all done in the period between February and may 1998) 752 were checked in various ways (did the interview take place, check on the person that was interviewed etc). These checks resulted in 17 interviews being excluded from the sample. In 17.5% of all short prevalence interviews in the Bremen population, a third person was present, of which in about half of all cases some involvement with the interview was observed. According to interviewer information, 7% of all interviews had to be seen as having some flaws in reliability.

The data of the selected respondents were given a weighing factor to neutralize statistical noise that is caused by using *households* to select *persons* - multiple person households change the probability of a person being selected, compared to this probability in one-person households. Another weighing was done to neutralize bias in the response in relation to gender and age distribution in the Bremen population, according to last available census data. On the same grounds as were described for San Francisco these weights were not used in the analysis described in this report.

Among the 3008 interviewed citizens of Bremen, 110 experienced cannabis users were found. Of these, 81 agreed to being interviewed a second time for our intended study on experienced users. In the period between the end of the Bremen population survey (May 1998) and the beginning of the experienced user survey (October 1998) 5 of the 81 moved to destinations outside Bremen or abroad. From the

remaining 76 addresses, a yield of 59 interviews was realized. Again, a non-response analysis was conducted, and no significant differences were found on any of the variables looked at (Table 1.26 to Table 1.38).

Table 1.26: Gender

	Response		*Non-response*	
	n	%	*n*	%
Male	32	58.2	33	67.3
Female	23	41.8	16	32.7
Total	55	100.0	49	100.0

χ^2 = 0.58 (Yates' correction); df = 1; p=.447, not sign.

Table 1.27: Age at time of interview

	Response		*Non-response*	
	n	%	*n*	%
< = 25	11	20.0	17	34.7
26-30	11	20.0	5	10.2
31-35	13	23.6	16	32.7
36-40	10	18.2	5	10.2
40+	10	18.2	6	12.2
Total	55	100.0	49	100.0
Average	33.0		30.1	

t = 1.63; df = 102; p=.105, not sign.

Table 1.28: Marital status

	Response		*Non-response*	
	n	%	*n*	%
Married, living together	9	16.4	5	10.2
Married, separated/divorced	11	20.0	4	8.2
Single	35	63.6	40	81.6
Total	55	100.0	49	100.0

χ^2 = 4.41; df = 2; p=.110, not sign.

Table 1.29: Employment status

	Response		*Non-response*	
	n	%	*n*	%
Fulltime	19	34.5	19	38.8
Partitme	10	18.2	5	10.2
Unemployed	9	16.4	9	18.4
Student	13	23.6	9	18.4
Other	4	7.3	7	14.3
Total	55	100.0	49	100.0

χ^2 = 2.88; df = 4; p=.579, not sign.

Table 1.30: Highest level of education

	Response		*Non-response*	
	n	*%*	*n*	*%*
noch Schüler/ohne Abschluß	6	10.9	4	8.2
Hauptschule	6	10.9	7	14.3
mittlere Reife	12	21.8	19	38.8
Fachabitur	3	5.5	5	10.2
Abitur	28	50.9	14	28.6
Total	55	100.0	49	100.0

t = 1.18; df = 102; p=.242, not sign.

Table 1.31: Individual nett income

	Response		*Non-response*	
	n	*%*	*n*	*%*
< 1250	8	27.6	6	40.0
1250-1999	11	37.9	2	13.3
2000-2999	4	13.8	5	33.3
3000-3999	3	10.3	2	13.3
> 4000	3	10.3		
Total	29	100.0	15	100.0

t = 0.16; df = 42; p=.874, not sign.

Table 1.32: Nett income household

	Response		*Non-response*	
	n	*%*	*n*	*%*
< 1250	4	8.3	8	21.1
1250-1999	12	25.0	8	21.1
2000-2999	10	20.8	7	18.4
3000-3999	5	10.4	5	13.2
4000-4999	10	20.8	4	10.5
> 5000	7	14.6	6	15.8
Total	48	100.0	38	100.0

t = 0.78; df = 84; p=.436, not sign.

Table 1.33: Last year prevalence cannabis

	Response		*Non-response*	
	n	*%*	*n*	*%*
Yes	35	64.8	32	65.3
No	19	35.2	17	34.7
Total	54	100.0	49	100.0

χ^2 = 0 (Yates' correction); df = 1; p=1, not sign.

Table 1.34: Last month prevalence cannabis

	Response		*Non-response*	
	n	*%*	*n*	*%*
Yes	21	38.9	17	34.7
No	33	61.1	32	65.3
Total	54	100.0	49	100.0

χ^2 = 0.06 (Yates' correction); df = 1; p=.813, not sign.

Table 1.35: Lifetime prevalence amphetamines

	Response		*Non-response*	
	n	%	*n*	%
Yes	13	23.6	6	12.2
No	42	76.4	43	87.8
Total	55	100.0	49	100.0

χ^2 = 1.55 (Yates' correction); df = 1; p=.213, not sign.

Table 1.36: Lifetime prevalence cocaine

	Response		*Non-response*	
	n	%	*n*	%
Yes	16	29.1	11	22.4
No	39	70.9	38	77.6
Total	55	100.0	49	100.0

χ^2 = 0.30 (Yates' correction); df = 1; p=.584, not sign.

Table 1.37: Lifetime prevalence Ecstasy

	Response		*Non-response*	
	n	%	*n*	%
Yes	8	14.5	9	18.4
No	47	85.5	40	81.6
Total	55	100.0	49	100.0

χ^2 = 0.07 (Yates' correction); df = 1; p=.794, not sign.

Table 1.38: Lifetime prevalence heroin

	Response		*Non-response*	
	n	%	*n*	%
Yes	3	5.5	4	8.2
No	52	94.5	45	91.8
Total	55	100.0	49	100.0

χ^2 = 0.03 (Yates' correction); df = 1; p=.874, not sign.

The co-researchers in Bremen decided to expand the relatively low yield with other respondents, reached through so-called snowballing technique. By snowballing from each of the 59 respondents they found 45 more experienced users, total of 104 experienced cannabis users. For our comparative study we do not include the respondents recruited through snowballing, because this method of recruitment would not be comparable to recruitment methods in the other cities. Another aspect that introduced some incomparability was, that out of the 104 interviews in Bremen 34 were recorded on tape. We compared the respondents that were recorded on tape with those who were not (see Table 1.38 to Table 1.43). Other variables which were checked but not here displayed in tables were: intentions for future cannabis use; reported to have quit using cannabis; ever having grown cannabis; lack of sexual interest ever experienced; inability to reach orgasm ever experienced; having contact with real criminals to buy cannabis. On this whole range of variables only one significant difference was found between recorded and non-recoded respondents. This was not felt to be sufficient reason to exclude the recorded respondents from the sample.

We used for this report 55 respondents out of the 59 that resulted directly from the prevalence survey in Bremen. In the four we did not use were too young at time of interview (i.e. younger than 18 years old) to be included.

Table 1.39: Frequency of cannabis use in last three months

	Recorded		*Not recorded*	
	n	%	*n*	%
Daily	3	13	3	10
more than once a week	4	17	2	6
once a week	1	4	1	3
once a month or more	2	8	5	16
less than a month	1	4	4	13
None	13	54	16	52
Total	24	100	31	100

t = -2.01; df = 276; p=.045, sign.

Table 1.40: Amount of cannabis use last 30 days

	Recorded		*Not recorded*	
	n	%	*n*	%
< 2 gr	3	13	4	13
2-4 gr	2	8	6	19
4-7 gr	3	13	2	6
14-18 gr	2	8	-	-
21-28 gr	1	4	-	-
> 28 gr	1	4	1	3
Not applicable	12	50	18	58
Total	24	100	31	100

t = 1.28; df = 219; p=.203, not sign.

Table 1.41: Lifetime prevalence Ecstasy

	Recorded		*Not recorded*	
	n	%	*n*	%
Yes	4	17	5	16
No	20	83	26	84
Total	24	100	31	100

χ^2 = 0; df = 1; Yates' correction, p = 1, not sign.

Table 1.42: Lifetime prevalence amphetamines

	Recorded		*Not recorded*	
	n	%	*n*	%
Yes	7	29	10	32
No	17	71	21	68
Total	24	100	31	100

χ^2 = 0; df = 1; Yates' correction, p = 1, not sign.

Table 1.43: Frequency cannabis use top period

	Recorded		*Not recorded*	
	n	%	*n*	%
Daily	10	42	12	39
more than once a week	11	46	9	29
once a week	2	8	6	19
once a month or more	-	-	4	13
less than a month	1	4	-	-
Total	24	100	31	100

t = -1.01; df = 534; p=.312, not sign.

Table 1.44: Amount of cannabis used per month top period

	Recorded		*Not recorded*	
	n	%	*n*	%
< 2 gr	1	4	1	3
2-4 gr	6	25	2	6
4-7 gr	1	4	5	16
7-11 gr	2	8	6	19
11-14 gr	3	13	-	-
14-18 gr	2	8	5	16
18-21 gr	5	21	1	3
21-28 gr	1	4	1	3
> 28 gr	1	4	6	19
Dont know	2	8	4	13
Total	24	100	31	100

t = 1.08; df = 488; p=.914, not sign.

1.3 Drug use in the populations of Amsterdam, San Francisco and Bremen.

One of the advantages of recruiting experienced cannabis users through population surveys is, that prevalence figures for drug use in the population as a whole become available. These figures, presented in Figure 1.1 to Figure 1.4, describe a general drug context, in which our survey among experienced users takes place. They show that the prevalence of all four drugs looked at is highest in San Francisco and lowest in Bremen.

The figures for San Francisco presented here have been corrected for the under representation of the Asian population in our sample. The 1990 census showed that 31.3 per cent of the population of San Francisco county was Asian; the Asian respondents in the sample thus received a weight ensuring they represented this proportion of the sample.

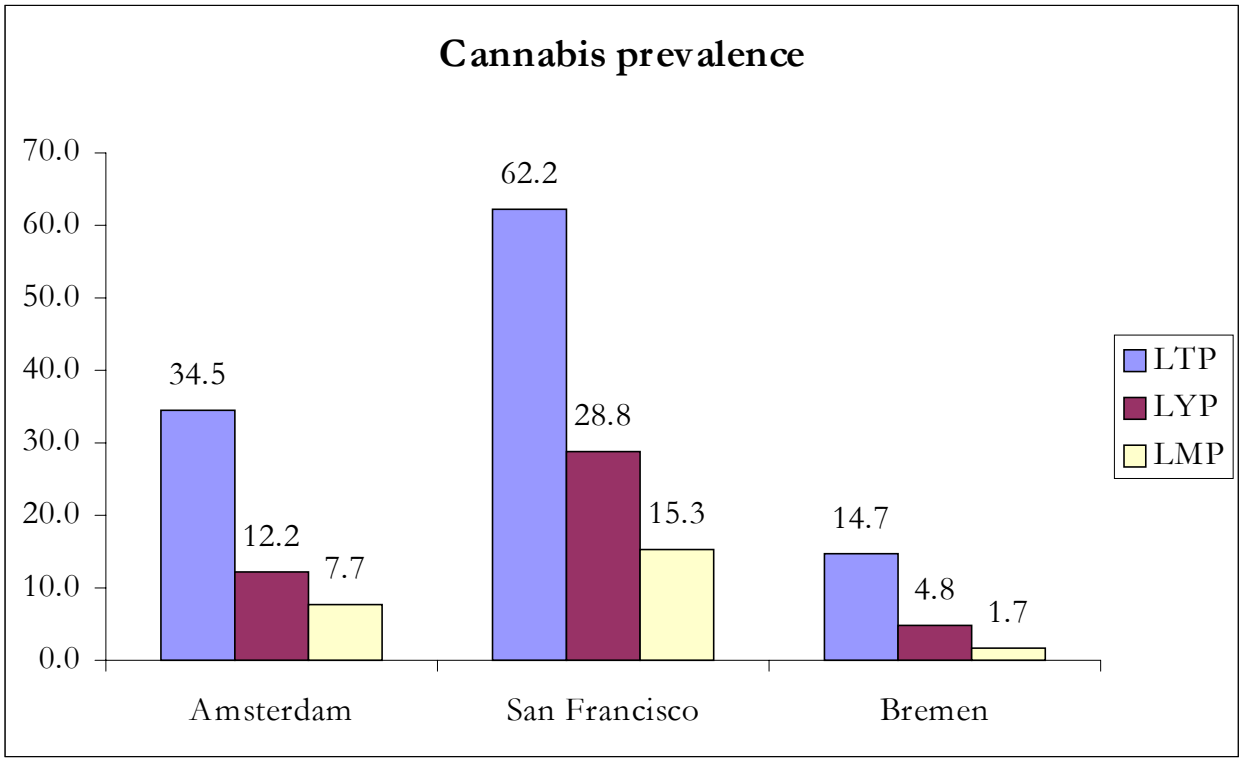

Figure 1.1: Cannabis prevalence in Amsterdam, San Francisco and Bremen, age cogort 18-70

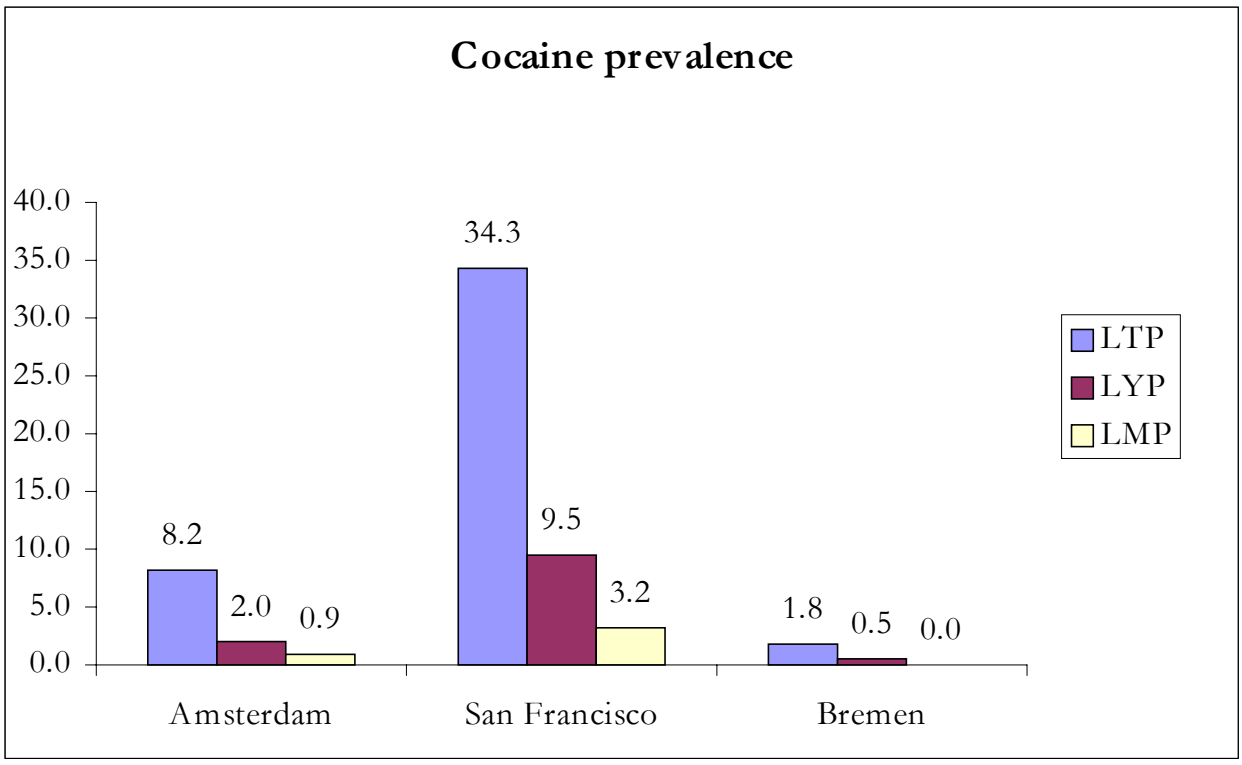

Figure 1.2: Cocaine prevalence in Amsterdam, San Francisco and Bremen, age cohort 18-70

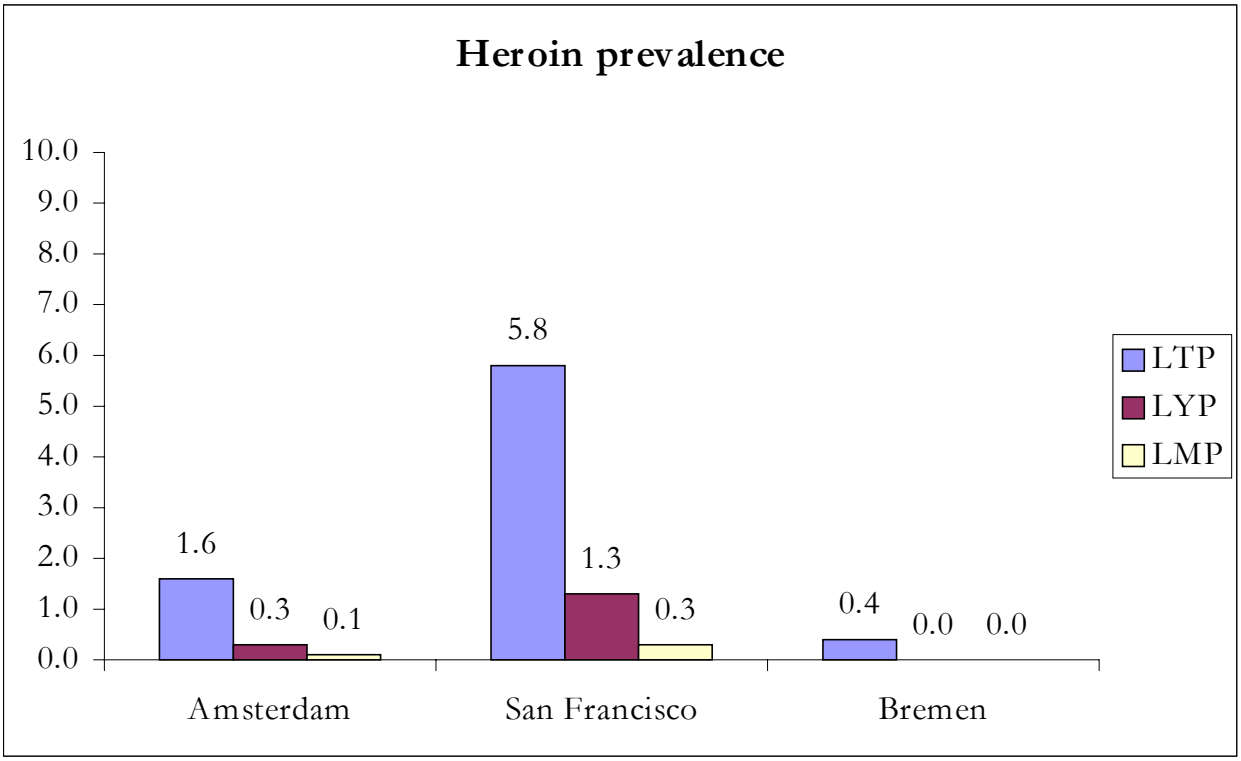

Figure 1.3: Heroin prevalemce in Amsterdam, San Francisco and Bremen, age cohort 18-70

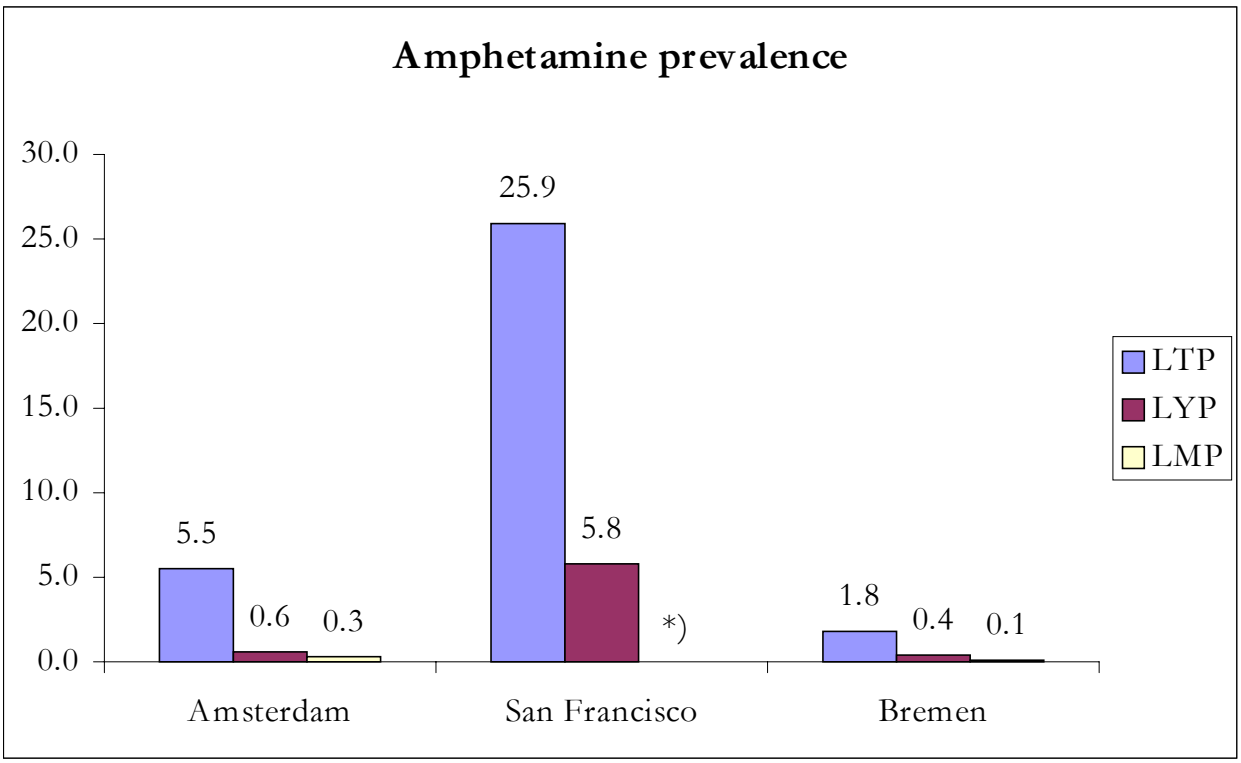

Figure 1.4: Amphetamine prevalence in Amsterdam, San Francisco and Bremen, age cohort 18-70
*) not asked in San Francisco

[1] The only other study we know, of users that live in a context of low to zero social taboo about cannabis use, is the Rubin and Comitas (1975) study of Jamaican consumers. Although this study is exemplary in its erudition and scope, it carries the disadvantage that the highly studied subjects live in a totally different culture than users living in the more industrialized parts of this world. Because so much of the policy debates about cannabis take place in western industrialized countries, this is an important disadvantage.

[2] Snowball sampling: Goode, 1970; Kleiber & Soellner, 1998; Didcott et al., 1997; referral studies: Stefanis et al., 1977, or 'reasoned' target sampling methods: Rubin & Comitas, 1975.

[3] The prevalence figures for San Francisco were corrected for undersampling of the Asian population; see par. 1.3

[4] Eric Wolters, MD, at a symposium on risks of MDMA, Jellinek Centre October 29, 1997.

[5]And if so, who is the one that does the labelling? And if such risks are seen as acceptable by the user but unacceptable by the State, under what definition of State power does such a conflict of view legitimize a State dominance in the construction of policy?

[6] See for a discussion on the relation between types of data that are requested, and type of drug control system: Cohen 1997, pp. 27-34.

[7] See also Thoumi 2001. This document shows in minute detail how funding sources determine scope and interpretation of 'research' in the area of drug policy.

[8] See "Introduction into the author's bias" in Peter Cohen 1990, pp. 1-7.

[9] In those tables where the total number of respondents reported upon does not add up to the total number of respondents interviewed, one can assume that no data were avaliable on the missing respondents. E.g. in this table gender was reported for 215 respondents in the response sample, whereas there were 216 repondents in this sample; for one respondent no data on gender were available.

[10] Methodendokumentation zur technischen Organisation und Durchführung des Projektes :Cannabis in Bremen, Repräsentative Bevölkerungsumfrage, p 1-21, Ipsos 1998, and Methodendokumentation zur technischen Organisation und Durchführung des Projektes :Cannabis in Bremen,Tiefenbefragung von Cannabis-Verwendern, p1-12 , Ipsos 1998.

2. Background characteristics of the three samples

Respondents in the three cities were compared on a number of background variables, ranging from age to the prevalence of felony convictions. In this chapter we will present 17 of these background variables, to show how similar experienced cannabis users are on these variables, across the cities we are comparing. The respondents in this study are mostly between their mid-twenties and mid-forties, and have a steady partner although just less than half is living alone. They tend to have no children, are well educated, are in stable employment and earn well. Furthermore, they seem to be outgoing and not particularly criminal. Although there are some differences between the three samples (respondents in San Francisco are slightly older, work more, and earn more), these do not invalidate the general conclusions.

The average age of the respondents was between 33 and 37 years (Table 2.1); respondents in the San Francisco sample were around three years older than in the other two samples. The gender division was very similar in the three samples: in all three cities there were slightly more men than women, although the differences were not large (Table 2.2).

Around two-thirds of the respondents had a steady partner (Table 2.3), while a substantial minority lived on their own (Table 2.4). Only a minority of respondents had children, and this was even more so in San Francisco than in the other two cities (Table 2.5); in San Francisco those who had children also less often lived with their children than those in the other cities.

Table 2.1: Age at time of interview

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
18-25	40	19	35	13	11	20
26-35	83	38	88	33	22	40
36-45	74	34	79	30	16	29
46-55	17	8	52	20	5	9
> =56	2	1	11	4	1	2
Total	216	100	265	100	55	100
Average (years)	34.2		37.1		33.6	

A-S: t = -3.38; df = 478; p=.001, sign.
A-B: t = 0.41; df = 269; p=.679, not sign.
S-B: t = -2.32; df = 318; p=.021, sign.

Table 2.2: Gender

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Men	127	59	141	53	32	58
Women	89	41	124	47	23	42
Total	216	100	265	100	55	100

χ^2 = 1.63; df = 2; p=.443, not sign.

Table 2.3: Steady partner

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	144	67	157	59	35	64
No	72	33	108	41	20	36
Total	216	100	265	100	55	100

χ^2 = 2.83; df = 2; p=.243, not sign.

Table 2.4: Living situation

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
living alone	94	44	106	40	16	29
living with others	121	56	159	60	39	71
Total	215	100	265	100	55	100

χ^2 = 3.92; df = 2; p=.141, not sign.

Table 2.5: Children

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
No children	145	67	219	83	31	57
Children living at home	52	24	10	4	16	30
Children not living at home	14	6	30	11	4	7
Children both at home not at home	5	2	4	2	3	6
Total	216	100	263	100	54	100

χ^2 = 55.58; df = 6; p=.000, sign

As the educational systems in the three countries are very different, it is difficult to compare the level of education of the respondents. For Amsterdam and San Francisco a division was made in "low", "middle" and "high" level of education. "Low" included those who had completed the lower levels of secondary education (vocational, left school at sixteen or earlier) or less; "middle" included those who had finished the higher levels of secondary education (educated till the age of seventeen or eighteen); and "high" included those who had continued their education after secondary school in a polytechnic or university. No comparable data were available for Bremen, where data on university education were collected but not entered in the data file. No significance tests were considered suitable to look at differences between cities, as the educational systems remain very dissimilar. However, Table 2.6 shows that the level of education of the respondents was generally high, with only a very small proportion of respondents falling in the lowest category. In San Francisco just under two-thirds of respondents fell in the highest category.

The majority of respondents were at the time of interview in some form of employment; the level of employment amongst respondents in Amsterdam was slightly lower than in the other two cities (Table 2.7). However, the proportion of respondents who reported unemployment in the two years before interview was slightly lower in Amsterdam than in the other cities (Table 2.8). This suggests that in Amsterdam a higher proportion of those not employed is not in search of a job, but for example studying, taking care of the household, retired, or otherwise. The respondents in all three samples seemed to have relatively stable work-situations (Table 2.9): the average number of jobs in the two years before interview was low. The majority of respondents had only had one job in this period, while only 1/5-1/4 of the respondents in each sample had had more than two different jobs.

Table 2.6: Education

	Amsterdam		*San Francisco*	
	n	%	*n*	%
"Low"	46	21	38	14
"Middle"	73	34	59	22
"High"	96	45	168	63
Total	215	100	265	100

Table 2.7: Employment status at time of interview

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Employed	157	73	223	84	45	82
Unemployed	59	27	42	16	10	18
Total	216	100	265	100	55	100

χ^2 = 9.77; df = 2; p=.008, sign.

Table 2.8: Unemployed in past two years

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
No	181	84	187	71	38	69
Yes	35	16	78	29	17	31
Total	216	100	265	100	55	100

χ^2 = 12.82; df = 2; p=.002, sign.

Time unemployed (months)	17.6	6.5	13.1

A-S: t = 7.35; df = 49.3; p=.000, sign.
A-B: t = 1.90; df = 50; p=.064, not sign.
S-B: t = 3.42; df = 20; p=.003, sign.

Table 2.9: Number of different jobs in past two years

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
1	110	59	128	52	26	52
2	40	21	72	29	11	22
> 2	37	20	48	19	13	26
Total	187	100	248	100	50	100

Average	1.9	1.3	2.5

A-S: t = 0.65; df = 433; p=.515, not sign.
A-B: t = -1.07; df = 235; p=.285, not sign.
S-B: t = 1.27; df = 54.3; p=.209, not sign.

Table 2.10: Hours worked per week

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
1-16 hours	15	10	4	2	6	14
17-32 hours	41	26	30	14	11	25
33-49 hours	65	41	126	57	23	52
50+ hours	36	23	62	28	4	9
Total	157	100	222	100	44	100

Average (hours)	38.2	42.4	33.6

A-S: t = -2.88; df = 261.6; p=.004, sign.
A-B: t = 1.81; df = 200; p=.071, not sign.
S-B: t = -4.78; df = 265; p=.000, sign

Table 2.11: Nett income (in Euro's)

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
< € 700	70	32	18	7	17	34
€ 701-1000	34	16	40	15	11	22
€ 1001-1500	63	29	19	7	14	28
€ 1501 - 2000	31	14	64	25	4	8
€ 2001 - 2500	10	5	49	19	2	4
> € 2500	8	4	71	27	2	4
Total	216	100	261	100	50	100

A-S: t = -11.56; df = 475; p=.000, sign.
A-B: t = .747; df = 264; p=.455, not sign.
S-B: t = 7.30; df = 309; p=.000, sign.

Table 2.12: Number of evenings at home per week

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
5-7 evenings at home	77	36	130	49	14	26
3-4 evenings at home	103	48	100	38	28	53
1-2 evenings at home	26	12	30	11	9	17
Almost never at home in evening	7	3	5	2	2	4
Total	213	100	265	100	53	100

F-test: F = 5.33; df = 530; p=.005, sign. Tukey Post-hoc: A-S: p=.046; S-B: p=.014.

Respondents in San Francisco worked significantly more hours per week than those in Amsterdam or Bremen – only 16 per cent of respondents in San Francisco worked part-time, i.e. 32 hours per week or less (Table 2.10). This, together with the slightly higher age of the San Francisco sample, could partially explain why income was found to be much higher in San Francisco than in Amsterdam or Bremen (Table 2.11). Also a difference in general cost of living in this city could account for the difference.

Besides the more standard demographic variables, respondents were also asked about their social and cultural activities. They were asked about how many evenings they spent at home, and how often they went out to café's, restaurants, cinema and the like. Respondents in San Francisco reported most evenings at home (Table 2.12); at the same time they reported more restaurant and cinema visits (Table 2.14 and Table 2.15), while there is no difference between the three samples in reported café- and theatre-visits (Table 2.13 and Table 2.16). This seeming contradiction can to some extent be explained by a difference in culture – whereas going to a restaurant in the Netherlands and Germany is considered an event, in California it is much more common to go for a meal instead of cooking for oneself and thus not considered an evening out.

Finally, respondents were asked about their criminal past. It was found that only a very small proportion of respondents had been convicted of a felony in the four years before interview, and that there was no difference between the three samples on this account (Table 2.17).

Table 2.13: "How many times did you go out to a bar, café or nightclub in the last 4 weeks?"

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Never	45	21	55	21	10	18
1 time	15	7	17	6	5	9
2-3 times	58	27	48	18	13	24
4-9 times	75	35	96	36	20	36
10 times or more	23	11	49	18	7	13
Total	216	100	265	100	55	100

F-test: F = 1.05; df = 535; p=.350, not sign.

Table 2.14: "How many times did you go out to restaurants in the last 4 weeks?"

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Never	29	13	6	2	17	31
1 time	28	13	15	6	5	9
2-3 times	59	27	45	17	21	38
4-9 times	76	35	100	38	10	18
10 times or more	24	11	99	37	2	4
Total	216	100	265	100	55	100

A-S: t = -8.32; df = 415; p=.000, sign.
A-B: t = 3.47 ; df = 269; p=.001, sign.
S-B: t = 8.46; df = 70; p=.000, sign.

Table 2.15: "How many times did you go out to the movies in the last 8 weeks?"

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Never	103	48	77	29	22	40
1 time	41	19	52	20	10	18
2-3 times	49	23	79	30	15	27
4-9 times	22	10	53	20	7	13
10 times or more	1	0	4	2	1	2
Total	216	100	265	100	55	100

F-test: F = 11.19; df = 535; p=.000, sign. Tukey Post-hoc: A-S: p=.000.

Table 2.16: "How many times did you go out to the theatre, opera, concerts or ballet in the last 8 weeks?"

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Never	110	51	124	47	30	55
1 time	47	22	65	25	15	27
2-3 times	38	18	51	19	9	16
4-9 times	19	9	23	9	1	2
10 times or more	2	1	2	1		
Total	216	100	265	100	55	100

F-test: F = 1.54; df = 535; p=.215, not sign.

Table 2.17: Conviction of a felony in the last four years

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	9	4	4	2	3	5
No	206	96	261	98	52	95
Total	215	100	265	100	55	100

χ^2 = 4.21; df = 2; p=.121, not sign.

3. Initiation into cannabis use

The age of initiation of experienced users of cannabis is remarkably similar in the three cities studied, with a median of 16 years of age. The experienced users tend to be younger when they have their first experience with cannabis than the inexperienced users. Most people were offered the cannabis of their first use, and around a third had been offered before but declined. Only a small group of users asked to be initiated into cannabis use. Generally, people seem to choose a positive social setting for their initiation, only few people use cannabis for the first time when they are on their own, feeling bad or in negative circumstances. Most therefore label their first cannabis experience as a pleasant experience, although a sizeable minority report cannabis having no effect the first time they used: perceiving the high of cannabis has to be learned.

The age of initiation of our experienced cannabis users is very similar in the three cities, with a median age of 16 years in each city (Table 3.1). The pattern as shown in Figure 3.1 is also remarkably similar, with a very steep increase in use in the teenage years. Research in the Netherlands revealed that experienced users start use at a slightly younger age than those who only experiment with cannabis use: the average age of initiation of inexperienced users in Amsterdam studied in 1994 was 21.1 years. The same was found to be true for Bremen, where the average age of non-experienced users was 19.5, compared to 17.8 for experienced users. The difference is less great than in Amsterdam, but still statistically significant. No data were available on the average age of initiation of non-experienced cannabis users in San Francisco. As the average age of respondents was between 33-37 years of age, most respondents had started using cannabis a considerable while ago. Age of first use by gender was looked at, but no statistically significant differences between the sexes were found.

Table 3.1: Age of experienced cannabis users at time of first use

	N	*Mean*	*S.D.*	*Min.*	*Max.*	*Median*
Amsterdam	216	17.0	3.8	11	45	16
Bremen	55	16.9	4.1	12	35	16
San Francisco	265	16.4	3.7	3	34	16
Total	536	16.7	3.8	3	45	16

F = 1.20; df = 2; p=.301

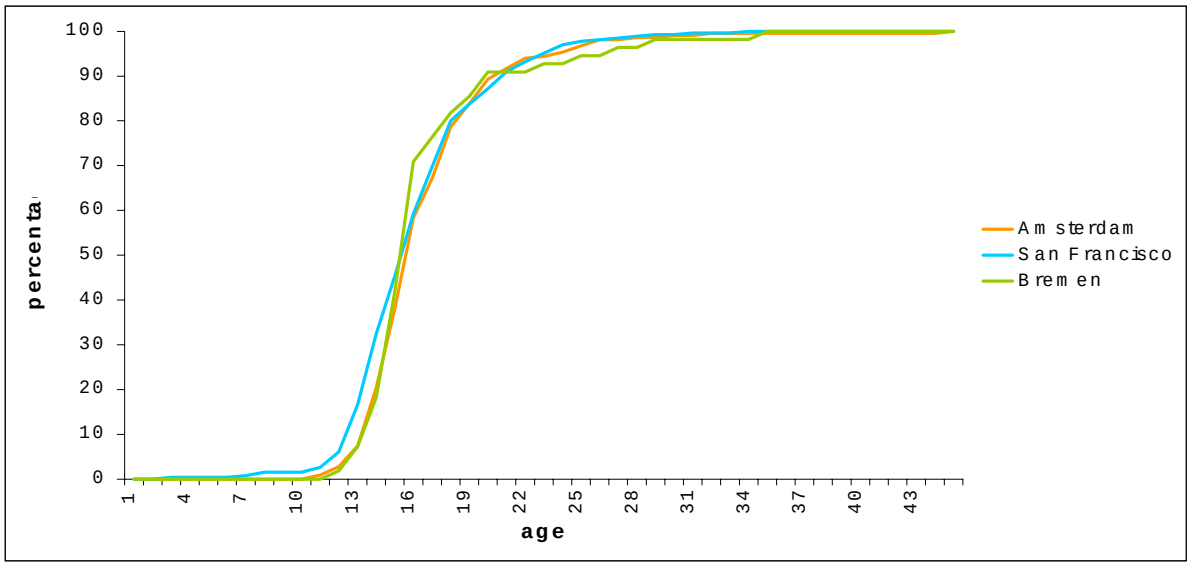

Figure 3.1: Age of experienced cannabis users at time of first use (cumulative %)

Respondents in both Amsterdam and Bremen predominantly used hashish the first time they tried cannabis, although the proportion of marijuana users was slightly higher in Amsterdam (Table 3.2). Information on this issue was not asked in the San Francisco questionnaire, as hashish cannot generally be obtained there. Thus, everyone in San Francisco would be expected to have used marijuana when they first tried cannabis. In Amsterdam, the majority of those respondents who first tried to use hashish, later kept a preference for hashish (Table 3.3). Also those who started with marijuana developed a taste for hashish, albeit less so. In Bremen there was no difference in the preferences between those who first used hashish and those who first used marijuana.

Most respondents were offered the first cannabis they used (Table 3.4). In San Francisco, users were slightly less proactive than in the other two cities. In Amsterdam, relatively more of those who were not offered but acquired their first cannabis themselves went out to buy their own cannabis. However, there as well as in the other cities, this was a small minority. It had been found that in Amsterdam men were a bit more active in acquiring their first cannabis than women (Cohen and Sas (1998), table 3.2). However, no such difference was found between men and women in the other cities.

Respondents in Amsterdam and Bremen were asked whether they had ever been offered or had asked for cannabis before first use. Just over a third of users had been offered cannabis at some point before the occasion of their first use (Table 3.5). In Amsterdam, women were found to have been offered cannabis before first use significantly more than men (Cohen and Sas (1998), table 3.3). However, in Bremen no such difference was found, and the trend rather seemed to be the other way around.

Table 3.2: Type of cannabis used first time*

	Amsterdam		*Bremen*	
	n	*%*	*n*	*%*
Marijuana	60	27.8	6	10.9
Hashish	140	64.8	45	81.8
Don't know	16	7.4	4	7.3
Total	216	100	55	100

χ^2 = 6.98; df = 2; p=.031, sign.
*Not asked in San Francisco

Table 3.3: Type of cannabis used first time by cannabis preference*

	Amsterdam						*Bremen*					
First use	*Hashish*		*Marijuana*		*No preference*		*Hashish*		*Marijuana*		*No preference*	
Preference	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Marijuana	11	18	44	31	1	6	3	50	15	50	1	33
Hashish	32	53	62	44	5	31	3	50	13	43	2	67
Don't know	17	28	34	24	10	63			2	7		
Total	60	100	140	100	16	100	6	100	30	100	3	100

χ^2 = 14.34; df = 4; p=.006, sign. χ^2 (No pref = miss.) = 0.45; df = 2; p=.799, not sign.
*Not asked in San Francisco

Table 3.4: Method of cannabis acquisition first time used

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Offered	156	72	229	88	38	73
Asked	33	15	20	8	11	21
Bought	27	13	11	4	3	6
Total	216	100	260	100	52	100

χ^2 = 24.22; df = 4; p=.000, sign.

Table 3.5: Ever been offered cannabis before first use*

	Amsterdam		*Bremen*	
	n	%	*n*	%
Yes	79	37	20	36
No	131	61	30	55
Don't know	6	3	5	9
Total	216	100	55	100

χ^2 = 4.58; df = 2; p=.101, not sign.
*Not asked in San Francisco

Table 3.6: Ever asked for cannabis before first use*

	Amsterdam		*Bremen*	
	n	%	*n*	%
Yes	12	6	10	18
No	193	89	44	80
Don't know	11	5	1	2
Total	216	100	55	100

χ^2 = 10.11; df = 2; p=.006, sign.
*Not asked in San Francisco

Table 3.7: First time used with whom

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Alone	6	3	3	1	1	2
One friend	48	22	88	33	9	16
Group of friends	142	66	142	54	36	65
Other	20	9	31	12	9	16
Total	216	100	264	100	55	100

χ^2 = 15.00; df = 6; p=.020, sign

As Table 3.6 shows, respondents in Bremen more often seem to have asked for cannabis without this resulting in actual initiation. Both in Amsterdam and in Bremen it is only a small group of respondents who ever asked for cannabis before first use. However, comparing the number of people who asked for cannabis on the occasion of their initiation into cannabis use with the figures in Table 3.6 suggests that the chances of refusal are higher in Bremen.

Table 3.7 shows that cannabis is usually first used in a social setting. Between 80-90 per cent of respondents reported to have first used cannabis with a friend or a group of friends. It only very rarely happens that someone has his or her first experience with cannabis while being on his or her own. This is the same in all three cities. Any significant difference found between the cities seems to be in the category 'other', which, amongst others, comprises colleagues, siblings en acquaintances. Thus, the conclusion remains the same. It seems that the company of trusted persons is a very important prerequisite for initiation.

On the basis of this finding, it is not surprising that the majority of respondents label the circumstances of first use as positive (Table 3.8). However, this is significantly less so in San Francisco and Bremen than in Amsterdam, and no less than 13 percent of respondents in Bremen even label the setting of first use as negative. It would be interesting to know to what extent the difference in policy and/or cultural context of cannabis between the cities is responsible for this lower rating of the circumstances of first use.

A higher proportion of respondents in Bremen also label the first experience with cannabis as unpleasant, although the difference with the other cities is not significant (Table 3.9). Most striking, however, is the fact that over a third of users in all three cities say they experienced no effect of their first cannabis use.

Table 3.8: Circumstances first marijuana use

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Positive	162	75	163	62	32	58
Negative	8	4	14	5	7	13
Neutral	45	21	88	33	16	29
Total	215	100	265	100	55	100

χ^2 = 17.11; df = 4; p=.002, sign.

Table 3.9: Description of first time experience

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Pleasant	105	50	138	53	19	39
Unpleasant	18	9	26	10	11	22
No effect	85	41	96	37	19	39
Total	208	100	260	100	49	100

χ^2 = 9.43; df = 4; p=.051, not sign.

Table 3.10: Feeling right before first use of cannabis

	Amsterdam		*Bremen*	
	n	*% of responses*	*n*	*% of responses*
Good	38	13	19	28
Cheerful	8	3	2	3
Happy, in love, feelings of being conn	3	1	1	1
Sociable	6	2	3	4
Amusing	3	1	2	3
Giggly	7	2		
Relaxed	13	4	2	3
Excited	26	9	14	21
Suspense, adventurous	74	25	3	4
Full of expectation	7	2		
Curious, interesting	26	9	4	6
Rebellious, acting touch, reckless	4	1		
Nervous	26	9	4	6
Bad, miserable	5	2	2	3
Gruesome, scary, afraid	2	1		
Not at ease, wait and see	3	1		
Sad, depressive			1	1
Drunk			4	6
Ordinary	39	13	6	9
Other	1		1	1
Don't know	10	3		
Total responses	301	100	68	100

*Not asked in San Francisco

It is known that perceiving the high of cannabis has to be learned (Becker (1963) in Grinspoon (1994)). The figures thus show that over half of the respondents needed more experience than a first try in order to learn to appreciate the feeling of cannabis intoxication.

Finally, respondents in Amsterdam and Bremen were asked about the feelings they had just before their first use of cannabis (Table 3.10). The answers to this question could be grouped in three main categories. A large group of respondents indicated they had felt generally good and happy. An even larger group reported feelings of excitement and adventure, which could generally be seen as a positive feeling as well. Only a very small proportion of respondents reported negative feelings. This again confirms that people tend to wait for positive circumstances to be initiated into cannabis use; very few people seek initiation in bad conditions.

4. Cannabis careers: intensity and patterns of use over time

The timing, length and patterns of cannabis use careers are very similar in the three cities studied. In the previous chapter, it was already shown that the average age of cannabis initiation was virtually identical for the three populations. The first year of regular cannabis use came around two years later, while the total length of a user's career was on average between 12 and 15 years. Most users reported a pattern whereby their use gradually increased until it reached a peak, and then declined. This pattern was also clearly visible in the frequency of cannabis use, the amounts used, and the level of high experienced as reported for various moments in the user's career. The second most reported pattern was where the intensity of use varied widely over the years. On average the amount of cannabis consumed was low: even during he top period of use the majority of users used less than 28 grams per month. Also, the duration of being high is generally limited to less than 4 hours, even during the top period of use. The majority of users report use during the weekends, during the top period of use their use during the week increases, which suggests that their cannabis use becomes more integrated in their normal lives. The evenings and nights remain the most popular times to use cannabis though.

4.1 Introduction

In this chapter a series of characteristics is discussed that reflect the intensity of cannabis use and its dynamics over time, and patterns of use. Frequency of use is one of the key components of intensity, but on its own is not sufficient to compare users, as the amount of cannabis used on each occasion can vary substantially. A problem with talking about amount of cannabis used, is that we cannot know the level of THC ingested when using a certain amount of cannabis, as THC levels vary with type of cannabis and over time. Thus, two additional variables were measured: level of being high at a typical occasion of cannabis use and typical duration of being high in hours. Further variables considering patterns of use reported in this chapter are parts of day and days of week during which cannabis is typically used.

Questions considering intensity and patterns of used were asked for four periods of the respondents' cannabis using careers. Within a career we distinguished:

1. first year of regular use, defined as the first year in which the respondent used *at least* once a month (FY);
2. period of maximum use, or top period (TP);
3. use in the last twelve month prior to the interview (LY); and
4. use in the last three-month prior to the interview (L3M).

Each of the characteristics of cannabis use in this chapter will be reported for each of these four periods. To facilitate comparison the findings will be depicted in bar charts. Detailed figures and statistical tests that form the basis for these charts can be found in the appendix to this chapter.

Length and timing of career are similar in the three cities studied. In Chapter 3 it was described that on average respondents in all three cities started using cannabis around 16/17 years of age (Table 3.1), and that the cumulative percentage of users by age showed a very similar pattern for all three cities (Figure

3.1). For the majority of users there is less than one month between their first and second use of cannabis (Table 4.1). However, the first year of regular use is on average is much later after the first experience: in Bremen the first age of regular use is 1.6 years after age of initiation, in San Francisco no less than 2.4 years. The average age of heaviest use is two to three years later again (Table 4.2). The patterns on all these variables are very similar for the three cities, and if we would make graphs depicting the cumulative percentages of average age of first regular use, heaviest use, and last use, the pictures would be very similar to that of Table 3.1, with the angles of the graphs virtually identical for all three cities. The duration of the period of heaviest use is slightly shorter in San Francisco than in the other cities, but the overall pattern again looks very similar (Table 4.3). Finally, the length of user career of respondents in Amsterdam (12 years) is lower than in San Francisco (15 years), with Bremen (13 years) in between, but there is no significant difference between the three cities in the average age of giving up use (Table 4.2). The slightly longer career length in San Francisco could be related to the higher average age at time of interview of the sample in this city, and a slightly younger average age of initiation.

4.2 Pattern of use during career

In order to get an overall picture of cannabis using careers, respondents were shown a card describing in words plus graphic illustration six patterns of cannabis use (Figure 4.1). These six patterns had been adopted from Morningstar and Chitwood (1983) in an earlier study of cocaine users. Respondents were asked to choose from the (graphically displayed) patterns the one that most resembled their own developments of level of cannabis use through time.

Table 4.1: Time between first and second use of cannabis

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
< 1 week	46	21	46	18	10	18
1 week	53	25	46	18	12	22
< 1 month	43	20	42	16	11	20
< 6 months	42	19	71	28	16	29
6+ months	32	15	53	21	6	11
Total	216	100	258	100	55	100

F = 3.48; p=.032, sign. Tukey Post-Hoc: A-S: p=.025.

Table 4.2: Average age of first regular use, top use and last use of cannabis

	Amsterdam		*San Francisco*		*Bremen*		
	Mean	*Std.Dev.*	*Mean*	*Std.Dev.*	*Mean*	*Std.Dev.*	
Age first regular use	19.1	5.0	18.8	4.8	18.5	4.8	F = 0.41; p=.665, not sign.
Age heaviest use	21.5	6.0	22.0	6.7	20.3	5.8	F = 1.69; p=.185, not sign.
Age of last use if quit	33.3	9.3	34.8	10.2	33.3	10.4	F = 0.86; p=.423, not sign.

Table 4.3: Duration of period of heaviest use of cannabis

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
< 1 year	28	13	43	16	6	11
1 year	37	17	64	24	14	25
= < 2 years	62	29	77	29	12	22
= < 3 years	29	14	35	13	6	11
4+ years	56	26	45	17	17	31
Total	212	100	264	100	55	100

F = 3.96; p= .020, sign. Tukey Post-Hoc: A-S p= .025.

The six patterns were described as follows:

1. *First much – slowly less.* The respondent starts using large amounts after he or she first tried cannabis, but gradually decreased since then. This pattern of use was reported by less than ten percent of respondents in Amsterdam and San Francisco, and not at all in Bremen.

2. *Slowly more.* The respondent's cannabis use has gradually increased over the years. This pattern again was reported by only a small proportion of respondents, but slightly more in Bremen than in the other cities.

3. *Stable.* The respondent started using cannabis at the same level that he or she still uses, and the amount and frequency have not changed. Again, this pattern again was reported by only a small proportion of respondents, and even less in San Francisco than in the other cities.

4. *Up – top – down.* The respondent's use increased gradually until it reached a peak, then it decreased. In all three cities this pattern was familiar to the largest proportion of respondents. Just under half of all respondents reported this pattern resembled their cannabis career.

5. *Intermittent.* The respondent has started and stopped using cannabis many times. This pattern was reported by only a small proportion of respondents, but slightly more in San Francisco than in the other cities.

6. *Varying.* The respondent's use pattern has varied considerably over the years. In all three cities this was the second most often mentioned pattern, with 1/4 to 1/3 of all respondents feeling this resembled their own experience.

Although there is a significant difference between the answers to this question in the three cities, it appears that this is only the result of small differences in the less frequent categories (Table 4.4). In all three cities no less than 75 per cent of respondents indicated that they identified either with pattern 4 or pattern 6.

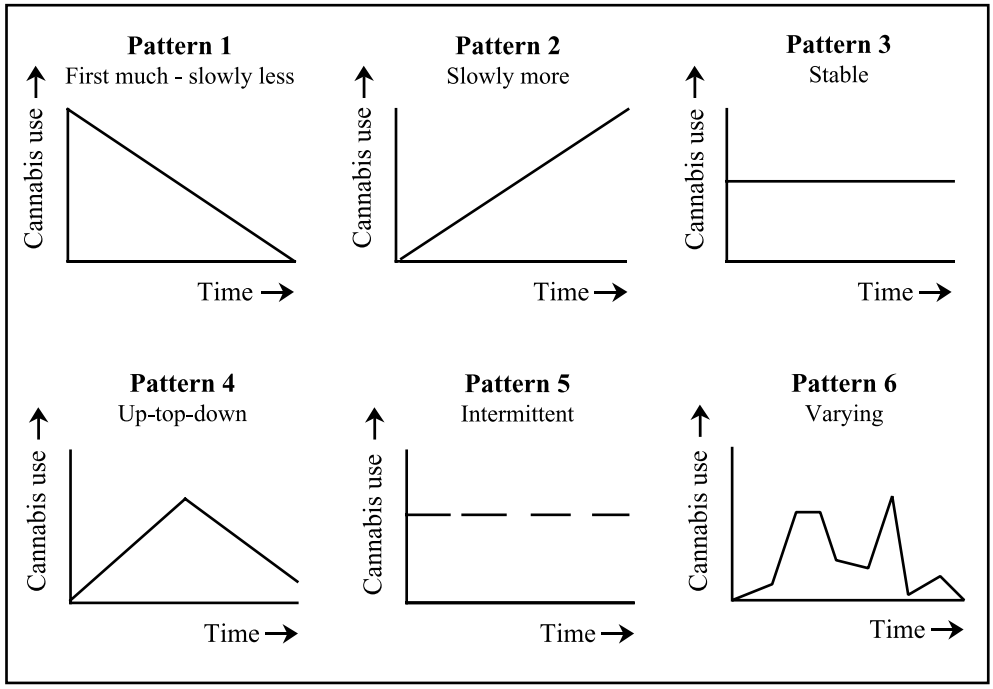

Figure 4.1: Theoretical patterns of development in cannabis use

Table 4.4: Patterns of use most resembling the respondents' careers

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Pattern 1	17	8	18	7		
Pattern 2	13	6	17	6	6	11
Pattern 3	24	11	5	2	5	9
Pattern 4	104	48	133	50	24	44
Pattern 5	7	3	25	9	2	4
Pattern 6	51	24	66	25	18	33
Total	216	100	264	100	55	100

χ^2 = 32.31; df = 10; p=.000

4.3 Frequency of cannabis use per week

The most frequently reported pattern of development of cannabis use, the "up-top-down" pattern, is also clearly visible in the frequency of cannabis use reported per week (Figure 4.2). In Amsterdam, almost half of all respondents reported daily use of cannabis in their period of heaviest use, compared to fewer than ten per cent before and after this period. Just fewer than 90 per cent of respondents in this city used once a week or more during their top-period, and this falls to fewer than 30 per cent of all respondents later in their user career. Almost half of all respondents in Amsterdam did not report any use at all in the three months prior to the interview.

Although there are some slight differences (the frequency of use is somewhat lower (stat. sign.) in San Francisco than in Amsterdam in all periods, and lower than in Bremen in the first and last year of use) the overall pattern in San Francisco and Bremen is remarkably similar. It is clear that most users know a period of heavy use, but that in time the vast majority of these diminish the frequency of their use or stop using altogether. This proportion is likely to be even higher than suggested by the figures presented here, as it is to be expected that some of those reporting frequent use in the last 12 or three months are still in their top-period of use, and will diminish their frequency of use at a later stage.

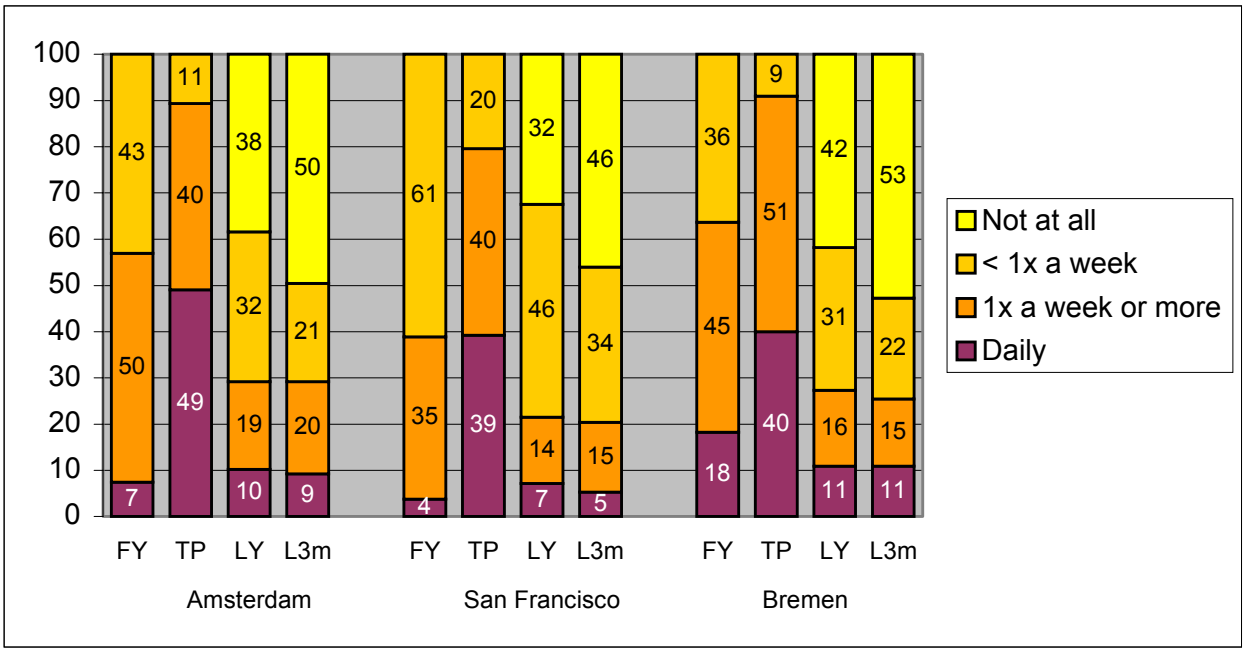

Figure 4.2: Frequency of cannabis use (in percentages of all respondents)

4.4 Average amount of cannabis used per month

Figure 4.3 depicts the average amount of cannabis used per month[1]. In addition to the four career periods recorded for the other variables, also last month use was recorded here. We see that, as expected, in each city the amount of cannabis used increased towards the period of heaviest use, and decreased again later in time. It is important to note that percentages are calculated over those respondents reporting any cannabis use at all. Thus, although in the last three reported time periods the quantity of cannabis used seems stable, an increasing number of users quit during this time who are not included in the figures and the average amount of cannabis consumed by all respondents will therefore have decreased.

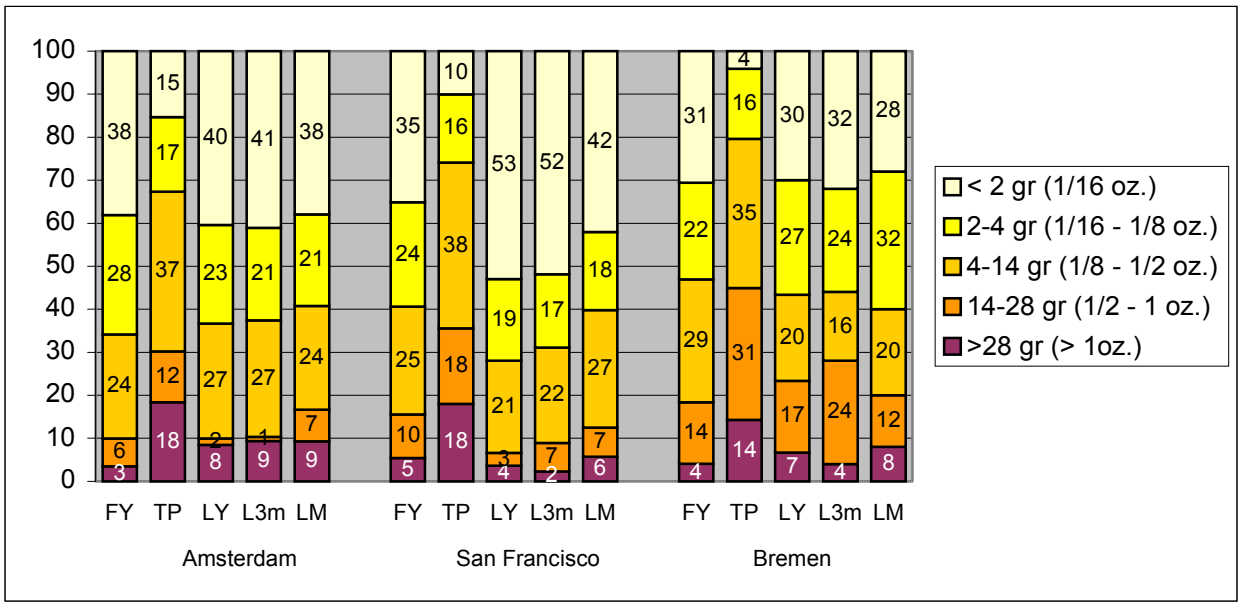

Figure 4.3: Average amount of cannabis used per month (in percentages of respondents using)

The amounts used are very similar in the three cities – only in the last 12 months use in San Francisco was slightly lower than in Bremen. In all, we must conclude that the amounts of cannabis consumed are low – in their top-period of use 18 per cent or fewer of all respondents used more than 28 grams or one ounce of cannabis; in the last year prior to the interviews being conducted around 60 per cent of all those who used any cannabis at all used less than four grams or 1/8 ounce per month.

4.5 Level of being high at a typical occasion of cannabis use

For each of the four career periods respondents were asked how high or stoned they generally got when using cannabis. They were asked to indicate the level of being high on a six-point-scale as displayed in Figure 4.4. Again, the same pattern is found as was found in the previous two paragraphs: not only do

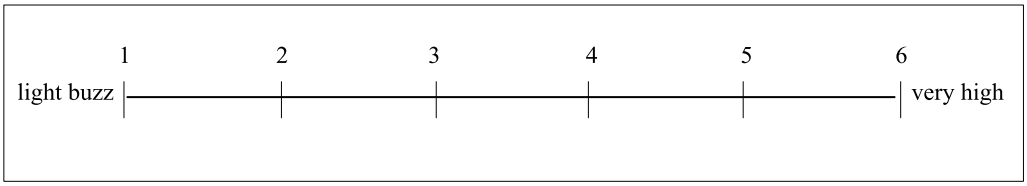

Figure 4.4: Six-point scale for measuring level of being stoned

respondents use less frequently and lesser amounts after a period of time, they also report a lower level of intoxication (Figure 4.5). There are some differences between the three cities (the level of being high in Amsterdam is somewhat lower than in San Francisco (stat. sign.) in the first year of regular use, and lower than both other cities in the period of heaviest use) but the overall patterns again are similar.

Of course, self-reported levels of being high or stoned are not necessarily reliable: it is impossible to know how a respondent establishes 'level of being high' and whether this remains the same over time. 'Level of being high' is a very difficult variable to remember, and there might be an important bias. Thus, these data need to be interpreted with care. However, the findings seem to confirm the patterns found earlier in frequency and amount used, and the similarity between the three cities seems to take away some of the uncertainties concerning the interpretation of 'level of being high'.

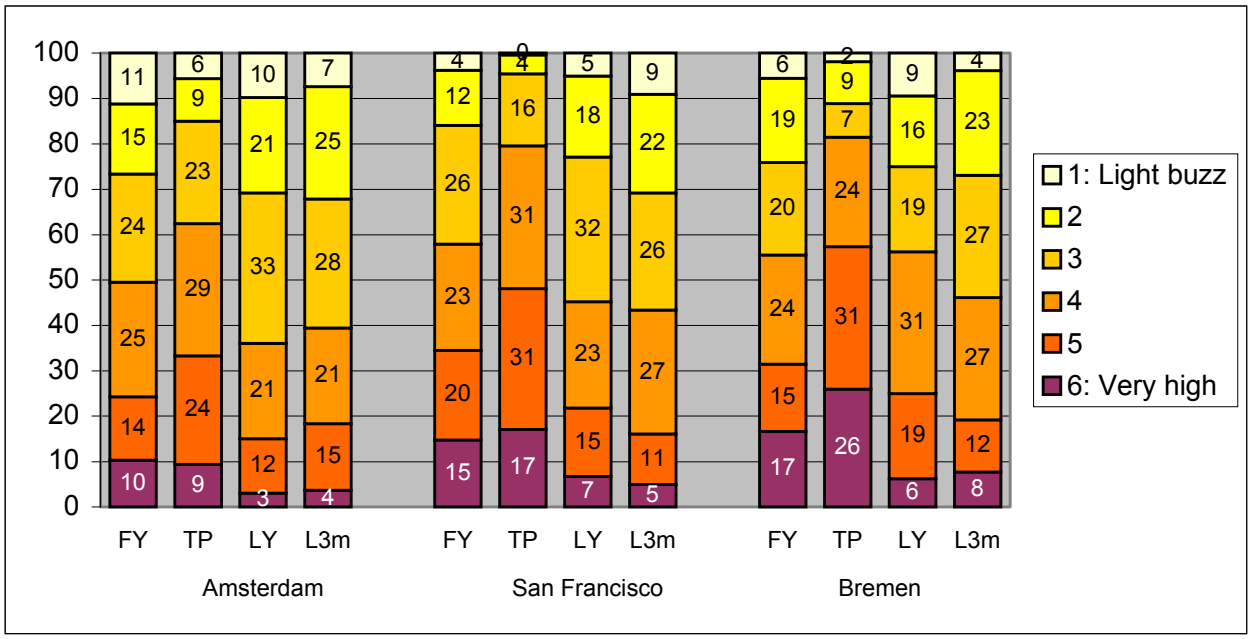

Figure 4.5: Level of being high at a typical occasion of cannabis use (in percentages of respondents using)

Table 4.5: Description of most recent use*

	Amsterdam		*San Francisco*	
	n	*%*	*n*	*%*
Until certain level of effect	94	45	122	46
Specific amount	81	39	108	41
Continue to maintain level	34	16	34	13
Total	209	100	264	100

χ^2 = 1.11; df = 2; p=.575, not sign.

*Not asked in Bremen

4.6 Duration of being high at a typical occasion of cannabis use

"Duration of being high' again shows a pattern similar to that found in the previous paragraphs (Figure 4.6). This is not surprising as this variable is clearly related to a combination of the frequency of use and the amount used. Respondents in the three cities again showed to have similar preferences, with the majority of users preferring to be under the influence of cannabis for a period of less than four hours, even during their period of heaviest use.

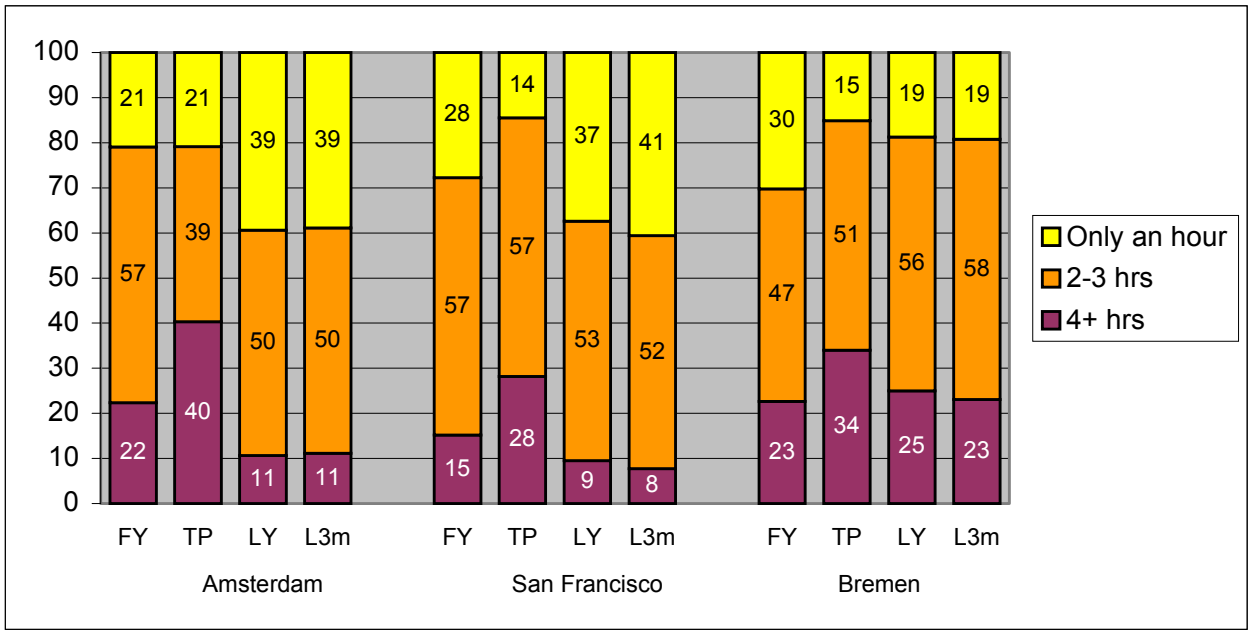

Figure 4.6: Duration of being high at a typical occasion of cannabis use (in percentages of respondents using)

4.7 Days of the week and parts of the day on which cannabis is typically used

Figure 4.7 shows that cannabis is predominantly used during weekends, especially during the first year of regular use. In the top-period of use the proportion of respondents who report equal use in weekend and on weekdays almost doubles, and decreases again slightly in later stages of the user career. It can thus be concluded that over time, the use of cannabis becomes somewhat more integrated into the daily lives of those who continue using at all. Although it seems that especially in the last year of use Amsterdam users report more equal use on weekdays, there are no statistically significant differences between the three cities in any of the career periods.

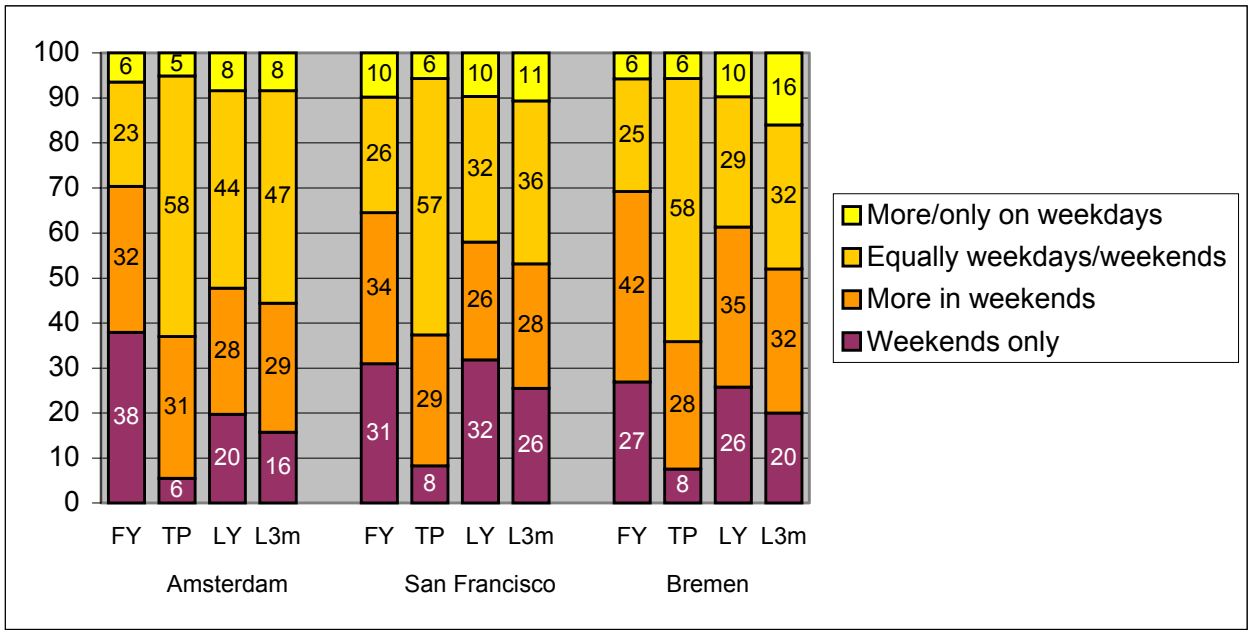

Figure 4.7: Days of use during a typical week (in percentages of respondents using)

For all periods in users' careers, respondents indicated that they predominantly used in evenings and at night, and very rarely all day or in the morning (Figure 4.8). The questionnaire allowed respondents to give more than one answer to this question, so no ordinary χ^2 could be calculated. Interpreting the figures, the main difference between the three cities seems to be that respondents in San Francisco reported relatively more use at night and less in the evening. It is likely, however, that this difference is more the result of cultural interpretation of the terms 'evening' and 'night' than of actual differences in behaviour. Whereas 'night' in Dutch is not usually used until past midnight, in English this term is often used for what the Dutch would call 'late in the evening', i.e. ten p.m. onwards.

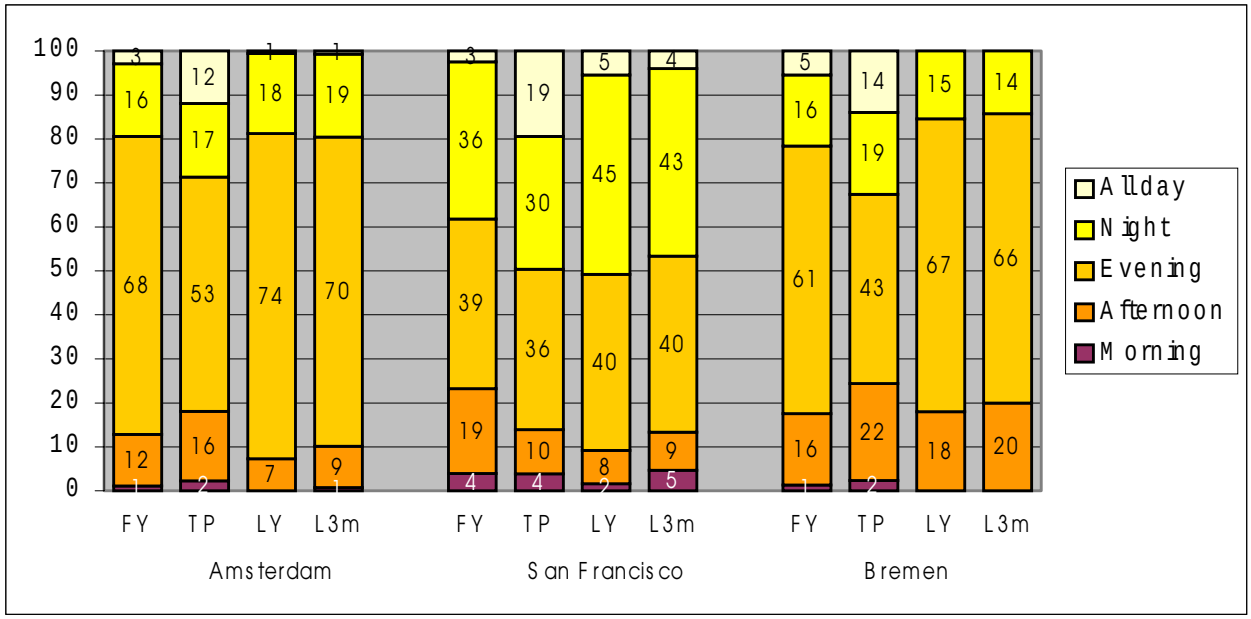

Figure 4.8: Parts of day on which cannabis is used on a typical day of use (in percentages of respond-

5. Methods of use

In Amsterdam cannabis is mostly used in cigarettes where cannabis is mixed with tobacco. This is in stark contrast to San Francisco, where cannabis is mostly smoked without tobacco in cigarettes, dry pipes, chillums or waterpipes. Practice in Bremen is somewhere in between. In San Francisco cannabis users don't generally have a choice to use hashish. In Amsterdam and Bremen, where users do have the choice between hashish and marijuana most have a clear preference for the one or the other. About half of the respondents in each city prefer marijuana above hashish. In Bremen, the other half prefers hashish, while in Amsterdam they are split between hashish and 'no preference'. Most users also have a clear idea of the strength of cannabis they prefer; in Amsterdam the preference is for slightly milder cannabis, in San Francisco for stronger. Users are generally able to obtain the strength of cannabis they prefer, although in San Francisco and Bremen just under half of the users would prefer stronger cannabis if they could obtain it. In Amsterdam, users are generally able to obtain the cannabis they want, thus being able to have exact control over the level of intoxication they desire to reach.

5.1 Modes of cannabis ingestion

The vast majority of users in Amsterdam make cigarettes of tobacco mixed with cannabis (Figure 5.1). Just over 90 per cent of respondents report smoking this as their main method of ingestion at any time period. The remainder predominantly report smoking cannabis without tobacco in a cigarette, waterpipe or chillum. The pattern in San Francisco is very different, and seems to shift over time. Smoking cannabis in tobacco cigarettes is very rare amongst users in this city: only eight per cent of users report this as the main method of ingestion during their first year of regular use, and this percentage is down to 2 percent in the last year. In the first year of regular use the most popular method of use in San Francisco is in a cigarette without tobacco (57%), while another substantial group (30%) use a dry pipe or chillum to smoke cannabis. Later in time, the balance shifts and in the last year only around 30 per

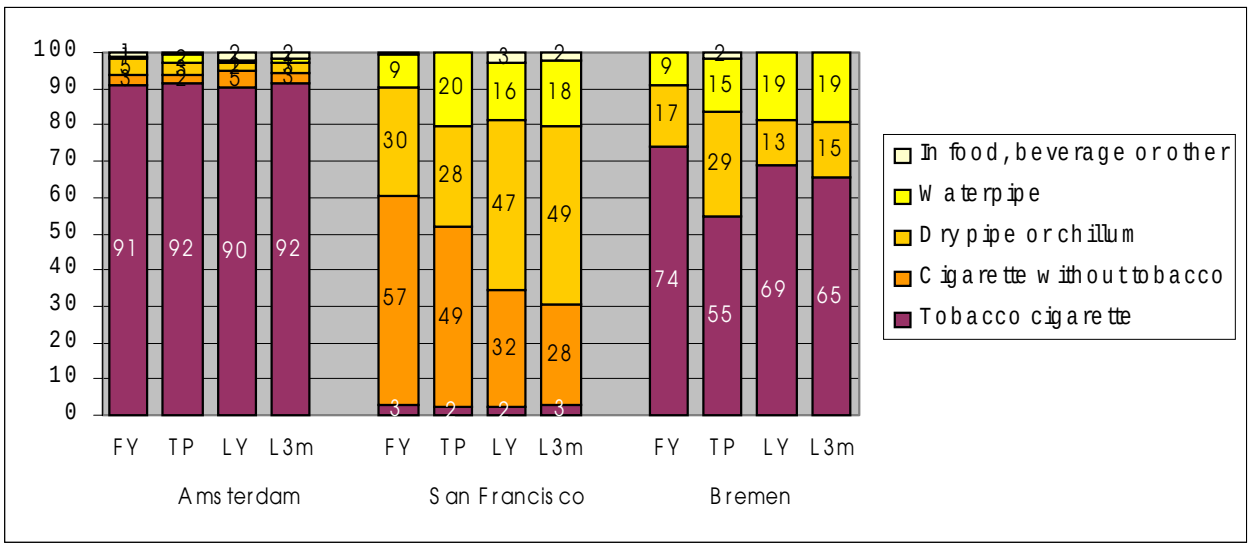

Figure 5.1: Methods of cannabis use

cent smoke cannabis in a cigarette without tobacco while just less than 50 per cent uses a dry pipe or chillum. The waterpipe is also more popular here than in Amsterdam, with 20 per cent of users in San Francisco preferring this method in their top period. Users in Bremen seem to fall in between those of the other two cities regarding their preferences – although the majority uses cannabis in cigarettes with tobacco, a substantial group also uses the dry pipe, chillum, or waterpipe, and this is more so in the top period of use than in any of the other periods.

5.2 Preferring hashish or marijuana?

Respondents in Amsterdam and Bremen were asked whether they preferred marijuana or hashish. Respondents in San Francisco were not asked this question, as they do not generally have the choice to buy hashish. In both cities just under half of the respondents indicated that they preferred marijuana (Table 5.1). However, where in Bremen the other half preferred hashish, in Amsterdam the remainder of user was equally split between preferring hashish and not having a preference at all.

Table 5.1: Do you prefer hash or marijuana?*

	Amsterdam		*Bremen*	
	n	*%*	*n*	*%*
Hashish	56	26	19	49
Marijuana	99	46	18	46
No preference	61	28	2	5
Total	216	100	39	100

χ^2 = 12.98; df = 2; p=.002, sign.
*not asked in San Francisco

Those respondents who indicated a preference for either marijuana or hashish were subsequently asked why they preferred either the one or the other. Respondents were allowed to give more than one reason, and the percentages in the tables therefore do not add up to 100 per cent. The total number of respondents who answered the question is indicated in the tables between brackets.

Reasons for the preference of marijuana are shown in Table 5.2. The most important reasons are similar amongst users in the two cities. The perception that marijuana is purer, more natural and healthier is an important motivation for respondents to prefer marijuana, as is the fact that they find it is lighter and milder than hashish. In Bremen, marijuana is perceived as giving a better effect and being more reliable, whereas in Amsterdam more emphasis is place on the better taste and smell of marijuana.

The reasons for preferring hashish above marijuana are not so similar in the two cities (Table 5.3). The better taste and smell of hashish is by far the most mentioned reason for users in Amsterdam to prefer hashish. In Bremen the reason most mentioned is a very practical one: marijuana is difficult to get. Other important reasons are that the effects of hashish are seen to be better, that it is stronger than marijuana, easier to roll and smoke and more relaxing.

Table 5.2: Reasons for preferring marijuana*

	Amsterdam		Bremen	
	n	%	*n*	%
Material is verifiable, purer, more natural	27	27.5	3	16.7
Is lighter, milder	18	18.3	5	27.8
Makes you more active, not so tired	17	17.3	2	11.2
Tastes better, less sharp, softer	17	17.3	2	11.1
Effect is better, more reliable	10	10.2	5	27.8
Is nicer, more pleasant	13	13.3	1	5.6
Works easier, slower, less vehement, shorter period	11	11.1	2	11.2
Easier to dose, role, smoke	12	12.2	1	5.6
Healthier, less harmful, safer	6	6.1	1	5.6
Habit	4	4.1	1	5.6
Pleasant smell	5	5.1		
Makes cheerful, more laughter	5	5.1		
Other	42	42.6	3	16.7
Total	187 (98)	190.8	26 (18)	144.4

*Not asked in San Francisco

Table 5.3: Reasons for preferring hashish*

	Amsterdam		Bremen	
	N	%	*N*	%
Tastes better, less sharp, softer	17	32.1	2	10.5
Effect is better, more reliable	7	13.2	4	21.1
I have no choice, marijuana difficult to get			8	42.1
Hashish is stronger	4	7.6	3	15.8
Is nicer	6	11.3		
Easier to roll, smoke	6	11.3		
More relaxing	4	7.5	2	10.5
Pleasant smell, marijuana smells	6	11.3		
Habit	3	5.7	1	5.3
Is lighter, milder	4	7.6		
Material is verifyable, purer, more natural	3	5.7		
Works faster	3	5.7		
Other	22	35.3	4	21.1
Total	85 (53)	160.4	24 (19)	126.3

*Not asked in San Francisco

5.3 Preferred strength of cannabis

Although, as was explained earlier, it was not possible to measure the actual strength of the cannabis used, it is possible to ask users about their preferred strength and the perceived strength of the cannabis used. Most cannabis users had a very clear idea about the strength of cannabis they preferred to consume: 197 out of 216 respondents in Amsterdam (91 per cent), 264 of 265 users in San Francisco (100 per cent) and 47 of 55 (85 per cent) users in Bremen did indicate a preference for a particular strength of cannabis.

The answers of those who did indicate a preference were very different in the three cities (Table 5.4). In Amsterdam the mild/moderately strong varieties of cannabis were preferred by a much higher percentage of respondents than in the other two cities, while more users in San Francisco had a preference for the very strong varieties of cannabis than in Amsterdam and to a lesser extent the latter is true in Bremen as well.

A combination of the data on preferred strength with data on the strength of cannabis consumed in the past month (Table 5.5) shows that for the majority of respondents the strength of the cannabis they had consumed in the past 30 days fell in the same category as what they preferred (Table 5.6). In both Amsterdam and Bremen no less than 70 per cent of users indicated they had used the same strength of cannabis they preferred. Of the remainder, Amsterdam users more often used drugs they felt were too strong, whereas the Bremen users more often used drugs that were too mild. In San Francisco only half of the users were able to use the strength of cannabis they preferred, while too mild cannabis was encountered slightly more than too strong cannabis.

Respondents were asked what they would do on occasions where they were – unexpectedly – using a particularly strong or potent variety of cannabis. More than two-thirds of the respondents in each of the three cities answered that they would use less than normal (Table 5.7). Only very few respondents indicated they would use more on such an occasion. The reasons users reported to use less cannabis when encountering a strong variety were very similar for all respondents: they only wanted to reach a certain level of intoxication, with a stronger type of cannabis you would need less to reach the same effect and the effect would be too strong if you would use the same amount of cannabis. Apparently many users have a particular level of intoxication they regard as preferable, and they adapt their cannabis intake to reach just that level. This is very similar in all three cities (see also Figure 4.5 and Table 4.5 on level of intoxication over time).

Table 5.4: Preferred strength marijuana

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Mild	59	30	42	16	2	4
Moderate	69	35	71	27	21	45
Strong	59	30	100	38	19	40
Very strong	10	5	51	19	5	11
Total	197	100	264	100	47	100

χ^2 = 42.92; df = 6; p=.000, sign.

Table 5.5: Strength of marijuana used in past 30 days

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Mild	38	27	9	10	3	11
Moderate	39	28	21	23	14	52
Strong	51	36	35	39	7	26
Very strong	12	9	25	28	3	11
Total	140	100	90	100	27	100

χ^2 = 29.65; df = 6; p=.000, sign.

Table 5.6: Preferred strength of cannabis compared to strength used in past 30 days

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Milder than preferred	14	10	25	28	7	26
As preferred	94	70	45	50	19	70
Stronger than preferred	27	20	20	22	1	4
Total	135	100	90	100	27	100

χ^2 = 17.42; df = 4; p=.002, sign.

Table 5.7: When using stronger marijuana, would you use...

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Less	143	70	186	71	35	71
The same	56	27	72	27	14	29
More	6	3	5	2		
Total	205	100	263	100	49	100

χ^2 = 1.77; df = 4; p=.778, not sign.

Table 5.8: If available prefer stronger marijuana

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	12	8	76	44	14	45
No	128	90	87	50	14	45
Don't know	3	2	11	6	3	10
Total	143	100	174	100	31	100

χ^2 = 61.55; df = 4; p=.000, sign.

Respondents who had not indicated that they had quit using cannabis were asked whether they would prefer to use stronger cannabis if this would be available (Table 5.8). The picture that emerges here does not match the findings of the previous table (Table 5.6). In Amsterdam, again the vast majority of respondents would not prefer to use a stronger variety of cannabis – in this city it seems that users generally have the choice to acquire the strength they prefer. However, in San Francisco and Bremen the proportion of respondents who indicate whether they would prefer stronger cannabis if asked explicitly is much higher than one would expect from comparing the strength of cannabis used with preferred strength – around 45 per cent of users would prefer stronger cannabis if available, whereas for only around 27 percent of users the strength of what they used was lower than what they preferred.

The reason for preferring stronger cannabis mentioned most often was that you need less of it (mentioned by around 40 percent of respondents in Amsterdam and Bremen, by 61 per cent in San Francisco), that the effect is stronger and faster (16 percent in San Francisco, 33 per cent in Bremen) or just to try it (46 per cent in Amsterdam, 22 per cent in Bremen and 4 per cent in Bremen). The reasons not to wish a stronger variety of cannabis are very similar to the reasons to use less of a stronger type of cannabis: there is no need for it, the current type is strong enough, users want to reach only a certain level of intoxication and the effect of more potent cannabis would be too strong.

The findings suggest that in Amsterdam over time a cannabis market has developed that enables users to buy the cannabis they prefer. This stability and translucence of the market is important as it safeguards users from surprises and allows them to use in such a way that they reach exactly the level of intoxication they desired (see Table 5.6 and Table 5.8). This seems to be less so in San Francisco and Bremen, where a higher proportion of users would prefer a stronger variety of cannabis. It has been suggested that the potency of modern Dutch bred marijuana is high (CRI, 1992), and a difference in potency might explain the difference between the cities found. However, the high potency found in the Netherlands is the exception rather than the rule (Reinarman and Cohen, 1999), and we cannot here establish what the influence of this is. Respondents in Amsterdam and Bremen were asked whether in their experience the potency of cannabis had changed over the years. Seventy-one users (33 per cent of respondents) in Amsterdam and 19 users in Bremen (35 per cent of respondents) indicated they did no know whether

the potency of cannabis had increased or decreased over time. Of the remainder, over half of those in Amsterdam felt that the strength of cannabis had increased, whereas only 28 per cent felt it had in Bremen (Table 5.9). Although perceptions do not necessarily reflect true changes and differences in strength, this might explain why the desire for stronger cannabis is felt more strongly in Bremen than in Amsterdam.

Table 5.9: Perceived development in strength*

	Amsterdam		*Bremen*	
	n	*%*	*n*	*%*
Stronger	77	53	10	28
Strength remained the same	44	30	20	56
Less strong	24	17	6	17
Total	145	100	36	100

χ^2 = 9.03; df= 2; p= .011, sign.

*Not asked in San Francisco

[1]Respondents in Amsterdam were allowed to indicate the amount either in grams or in the value of the cannabis used. How the answers to this question were recoded can be found in an earlier publication on the Amsterdam findings (Cohen & Sas (1998), par. 4.8).

6. Rules around cannabis

I*n Chapter 4 it was concluded that many cannabis users regulate the amount of cannabis they ingest according to preset criteria about the level of intoxication they want to reach. In Chapter 5 it was noted that users adjust their intake through the type of (strength of) cannabis they purchase. It was assumed that there would be more regulating mechanisms, or 'rules of use', with cannabis users. According to Schneider (1997, 96) rules of use co-ordinate and regulate drug use behaviour, prevent negative consequences and boost positive drug effects. Zinberg et al. (1977, 117-32) also understand that rituals and sanctions among drug users have multiple functions: they define moderate use and prevent excessive use, define physical or social contexts where use is less safe or less pleasant, aid prevention of dependence, aid mutual control between users, and regulate non drug use relations with the wider social context in which users live. Basic to most present day drug policies is the idea that a strong regulatory structure in the drug use arena has to come from external and repressive institutions like the law.*

This Chapter shows that users report many internal regulatory mechanisms, regardless of the legal or political regulations. They have a clear idea of which situations (social settings), what company (friends) and what emotions (positive) are fit for cannabis use, and an equally clear idea of where and when they had better not use cannabis. A substantial minority of users have at times dissuaded or persuaded others to use cannabis, showing that they also have ideas of who should or should not use cannabis. Also, around a third of respondents have rules concerning the amount of money they want to spend on cannabis. The cost of cannabis was only thought to have a limited impact on cannabis consumption though.

6.1 Rules applied to the use of cannabis

Respondents were asked explicitly if they had any rules about using cannabis. Some examples were given regarding other substances, such as "I never drink coffee at midnight" or "I never smoke in front of my children". In each of the three cities the majority of respondents confirmed that they applied rules (Table 6.1). The rules they mentioned were varied (Table 6.2) and were mostly exclusionary, perhaps because of the exclusionary examples. 'No cannabis use during work or study' was the most important rule in each of the three cities. No use during the day or in the morning was also a very important in Amsterdam and Bremen, possibly suggesting a wish for cannabis use not to conflict with other commitments. In San Francisco, second most important rule was not to use in the presence of children and not to use in traffic. Of those respondents who indicated they applied rules, the majority tend to stick to them fairly well (Table 6.3). Adherence to rules seems slightly less strict in Bremen than in the other cities, but no less than 94-98 per cent of respondents say they stick to their rules all or most of the time.

Table 6.1: Do you apply rules to (use of) cannabis?

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Yes	150	69	193	73	34	62
No	66	31	72	27	21	38
Total	216	100	265	100	55	100

χ^2 = 2.78; df = 2; p=.248, not sign.

Table 6.2: Rules applied to the use of cannabis

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Not during work, study	58	38.7	68	35.4	12	35.3
Not during the day	43	28.7	9	4.7	8	23.5
Not in traffic	10	6.7	28	14.6	2	5.9
Not in the morning	32	21.3	8	4.2		
Never in presence of small children	4	2.7	33	17.2		
Not with relatives	9	6.0	28	14.6		
Not too often, in moderation	4	2.7	23	12.0	5	14.7
Only if I have no commitments	7	4.7	13	6.8	4	11.8
Not if I must be clear headed	10	6.7	9	4.7	3	8.8
Not in public	7	4.7	14	7.3		
Not in combination with alcohol	5	3.3	8	4.2	1	2.9
Only with friends and partner	4	2.7	9	4.7		
Other	51	34.1	76	40.2	16	47.0
Total	244(150)	162.7	326(192)	169.8	51(34)	150.0

Table 6.3: How well do you stick to your own rules about cannabis use?

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
All the time	97	65	134	70	15	45
Most of the time	50	33	55	29	16	48
Some of the time	1	1	3	2	2	6
Rarely or never	2	1				
Total	150	100	192	100	33	100

A-S: t = 1.16; df = 296; p=.246, not sign.
S-B: t = 2.57; df = 40; p=.014, sign.
A-B: t = -1.96; df = 181; p=.052, not sign.

Table 6.4: Situations in which cannabis use occurs and indication of frequency of occurence

	Amsterdam			*San Francisco*			*Bremen*		
	n	*%*	*Mean*	*n*	*%*	*Mean*	*n*	*%*	*Mean*
With friends	119	55.1	2.5	157	59.2	2.6	30	54.5	2.5
Parties	79	36.6	2.3	119	44.9	2.7	33	60.0	2.2
At home	94	43.5	2.5	60	22.6	2.6	2	3.6	2.5
Concerts, popfestivals	29	13.4	2.2	99	37.4	2.2	20	36.4	2.0
Park, nature, outdoors	30	13.9	2.6	75	28.3	2.8	7	12.7	2.4
Going out	88	40.7	2.4	15	5.7	2.7	7	12.7	2.3
Cinema	20	9.3	2.4	72	27.2	2.7	3	5.5	2.0
Bars, café, youth centre	29	13.4	2.3	25	9.4	2.9	1	1.8	1.0
Before sex	8	3.7	2.3	16	6.0	3.1	18	32.7	3.1
School,study	18	8.3	2.7	13	4.9	2.3	2	3.6	3.0
Listening to music	7	3.2	2.7	14	5.3	2.7	10	18.2	3.0
Driving, travelling	6	2.8	2.0	24	9.1	2.8	1	1.8	3.0
Coffeeshop	23	10.6	1.6	2	0.8	3.0			
After work/school, relaxing				19	7.2	2.1	6	10.9	2.7
Tension, stress	8	3.7	2.5	13	4.9	2.5	3	5.5	2.0
Creative pursuits	4	1.9	2.0	15	5.7	2.7	3	5.5	1.7
Alone				15	5.7	3.1	7	12.7	2.9
Together with partner	7	3.2	2.6	11	4.2	2.6	2	3.6	3.5
Before going to sleep	10	4.6	1.9	8	3.0	2.5			
At work, during work	8	3.7	2.6	6	2.3	2.5	3	5.5	3.7
Other	41	19.0	2.3	47	17.7	2.7	27	49.1	2.2
Total	628 (216)	290.7	2.4	825 (265)	311.3	2.6	185 (55)	336.4	2.4

6.2 Situations that are considered fit or unfit for cannabis consumption

As it was felt that respondents might have difficulties with the rather abstract concept of 'rules' it was decided to ask a series of questions that would tap respondents' regulatory mechanisms in different ways. In the previous cocaine studies conducted along the same lines as this cannabis study this clearly led to more insight in rule related drug use (Cohen 1989; Cohen & Sas 1993, 1995). One way in which this was done was by asking respondents what 'situations' they felt were or were not fit for cannabis use. Respondents were first asked what were the most common situations in which they had been most likely to use marijuana, and how often they used when they were in these situations (Table 6.4). Earlier it had been described that initiation into cannabis use generally took place in a social setting. Here again it was found that situations thought fit for cannabis use in general referred to social gatherings. With friends or going out (parties, concerts, bars) were mentioned most often in all three cities. A large proportion of users in Amsterdam said they used at home, while in San Francisco many users indicated they used outdoors and when going to the cinema. In Bremen a large proportion of users reported they would use before having sex. Frequency of use was recorded on a scale from 1 (always) to 4 (seldom). Most average scores were found to be between 2 (often) and 3 (sometimes), suggesting that there are only few situations in which users find themselves using as a rule.

The next question was whether there were situations in which respondents simply *did not* want to use cannabis. As expected, a very large majority of the experienced users in all three cities reports there are such situations (Table 6.5) although the size of the majority varies (between 98 and 82%). The situations mentioned in which not to use largely confirm the earlier findings that work and study are the situations thought unfit for cannabis use by most respondents (Table 6.6). In Amsterdam and San Francisco this was followed by the company of certain persons (parents, relatives, public spaces, people you don't

Table 6.5: Are there situations in which you would not want to use cannabis?

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Yes	200	93	218	82	50	98
No	15	7	47	18	1	2
Total	215	100	265	100	51	100

χ^2 = 18.43; df = 2; p=.000, sign.

Table 6.6: Situations that are not regarded suitable for cannabis use

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Work, study	138	69.3	114	52.1	31	62.0
With parents	33	16.6	37	16.9	2	4.0
In trafic, while driving	16	8.0	43	19.6	12	24.0
Public spaces, official occasions	31	15.6	35	15.9	3	6.0
With relatives	30	15.1	32	14.6	5	10.0
With concentration, achievement	22	11.1	25	11.4	10	20.0
People don't know/uncomfortable with			33	15.1		
Going out with other people	10	5.0	17	7.8		
With children	9	4.5	13	5.9	5	10.0
With non-users, people who are against	16	8.0	8	3.7	1	2.0
Sports	8	4.0	5	2.3	4	8.0
Outdoors	6	3.0	2	0.9	7	14.0
Other	60	30.0	60	27.5	13	26.0
Total	379(199)	190.5	424(219)	193.6	93(50)	186.0

know). In San Francisco and Bremen, traffic was clearly considered an unfit situation for cannabis use more often than in Amsterdam. Driving and cannabis use will be further discussed in paragraph 6.6 below.

Respondents in Amsterdam and San Francisco were asked explicitly where they had used cannabis during the last three months before interview, or, if they had stopped using earlier, during the last three months of their user career. Respondents were given a list of locations and were asked to indicate whether they had never (0), seldom (1), sometimes (2), often (3) or always (4) used in this location. Details of the answers given to these questions can be found in the appendix to this chapter, a summary of the finding is given in Figure 6.1. The patterns are remarkably similar in the two cities, and confirm the earlier findings on situations fit for cannabis use. It is interesting to find that whereas the earlier question suggested that users in Amsterdam use at home more often than those in the other cities (Table 6.4), the difference here is not as large as was expected from that finding. Only three statistically significant differences were found: respondents in San Francisco report less use at parties, at concerts and in nightclubs and bars that those in Amsterdam. This is likely to be the result of the possible legal consequences of using in public. Respondents from San Francisco reported slightly more use outdoors and in the car, but the differences are not significant.

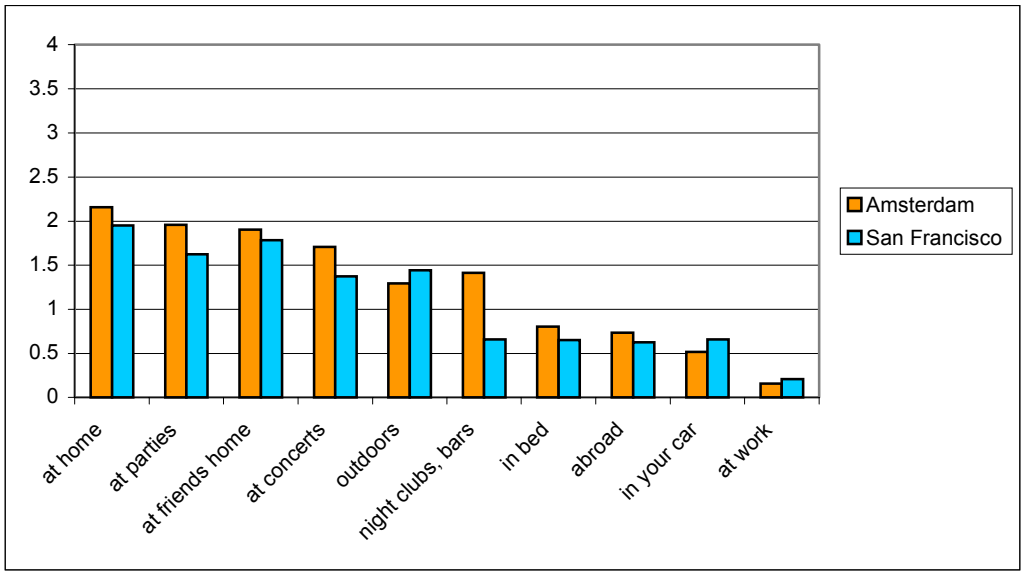

Figure 6.1: Location of canabis use during the last three months of use

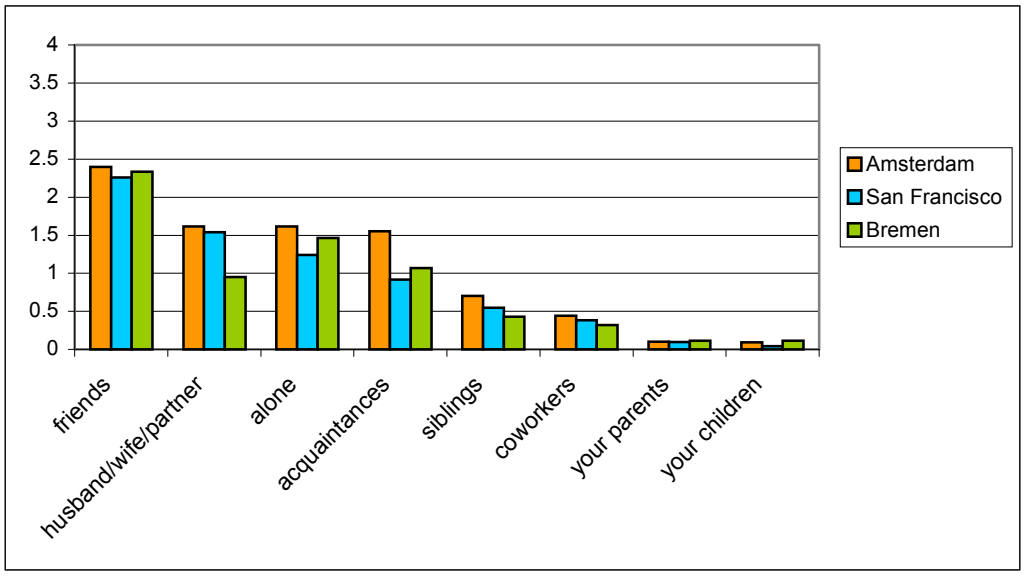

Figure 6.2: Company with whom respondents have been using in the last three months of use

When asked about the company in with whom they have been using cannabis in the last three months of their cannabis career (Figure 6.2, for details see appendix to this chapter) and with whom they would not use cannabis (Table 6.7, Table 6.9), respondents made clear that cannabis is mostly consumed in the company of friends or alone, and not with family members and people from whom they are further removed. As the patterns are very similar again in all three cities, the legal situation does not seem to make a difference in this. A sizeable minority report they have never hidden their use for anyone, even least so in San Francisco (Table 6.8). Those who have hidden their use have done so most from parents and other family member, followed by co-workers and employers. Again, the legal situation does not seem to alter this.

Table 6.7: Are there people with whom you would definitely not use cannabis?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	174	81	238	90	52	96
No	42	19	25	10	2	4
Total	216	100	263	100	54	100

χ^2 = 14.95; df = 2; p= .001, sign.

Table 6.8: Have you ever hidden use for someone?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
No	103	47.7	148	55.8	14	26.9
Parents	77	35.6	67	25.3	22	42.3
Other family members	57	26.4	31	11.7	15	28.8
Coworkers/employer	32	14.8	49	18.5	17	32.7
Teachers	14	6.5	5	1.9	16	30.8
Friends	14	6.5	4	1.5	7	13.5
Parents/spouse	8	3.7	4	1.5	2	3.8
Other	23	10.6	40	15.1	5	9.6
Total	328(216)	151.9	348(265)	131.3	98(52)	188.5

Table 6.9: Persons in whose company respondents do not want to use cannabis

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Parents	95	54.6	122	50.8	27	54.0
Coworkers	34	19.5	69	28.8	12	24.0
Relatives	57	32.8	44	18.3	3	6.0
Children	17	9.8	39	16.3	17	34.0
Strangers	15	8.6	50	20.8	3	6.0
Non-users, people who opppose it	21	12.1	24	10.0	2	4.0
Employer, boss, manager	10	5.7	30	12.5	2	4.0
Authorities	4	2.3	36	15.0	2	4.0
Siblings	9	5.2	26	10.8	4	8.0
People I don't like	2	1.1	24	10.0	7	14.0
Grantparents	10	5.7	11	4.6	1	2.0
Acquaintances	6	3.4	13	5.4	2	4.0
Partner, spouse	3	1.7	7	2.9	4	8.0
People I don't trust			14	5.8		
Formal / business contacts, customers	6	3.5	17	7.1		
Other	14	8.0	21	8.7	7	14.0
Total	298(174)	171.3	545(240)	227.1	93(50)	186.0

6.3 Emotions and cannabis use

Respondents were also asked whether there were certain emotions or feelings that go well with cannabis use. The majority of respondents reported there were emotions that they felt particularly fit for cannabis consumption (Table 6.10). The emotions mentioned by the respondents in all three cities are clearly positive feelings, such as being relaxed, feeling good, cheerfulness and happiness (Table 6.11). Negative emotions were mentioned as well, but by far fewer respondents. However, the proportions were similar in the three samples: depression, feeling bad, tension, worries and problems were mentioned by between 10-16 per cent of respondents.

Respondents were also asked whether there were any emotions or feelings that definitely do *not* go well with the use of cannabis. Again, the majority of respondents recognise there are such emotions, although between 1/4-1/3 of respondents say there are no emotions they consider unfit for cannabis consumption (Table 6.12). Here, negative emotions dominate the list (Table 6.13). We may safely conclude that positive feelings are normally seen as fit for cannabis use, whereas negative feelings are seen as unfit in each of the three cities. This suggests that cannabis use is not normally associated with depression or negative feelings, but with the enhancement of positive feelings. This association may be an important protective mechanism against patterns of 'dysfunctional' cannabis use, where motivations for use are not very helpful in the end. Using cannabis as a depressant is not necessarily dysfunctional, as management of tension and stress is an important common task for many people. The context in which cannabis is used is essential here. Although the majority of respondents reported here they use cannabis to enhance positive feelings, later questions show that for many users cannabis also has an important relaxing function (Chapter 7).

Table 6.10: Are there emotions that combine well with cannabis use?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	168	78	191	73	45	82
No	48	22	71	27	10	18
Total	216	100	262	100	55	100

2 = 2.75; df = 2; p= .253, not sign.

Table 6.11:Emotions or feelings that combine well with cannabis use.

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Being relaxed	38	22.8	79	41.4	6	14.3
Feeling good	37	22.2	34	17.8	22	52.4
Happiness	4	2.4	67	35.1	4	9.5
Cheerfulness, joy	58	34.7	11	5.8	4	9.5
Sexual feelings	23	13.8	13	6.8	1	2.4
Snugness, coziness, friendship	7	4.2	22	11.5	7	16.7
Excitement, exuberance, euphoria	17	10.2	10	5.3	2	4.8
Depression, feeling bad	16	9.6	10	5.2	3	7.1
Tension, worries, problems	11	6.6	13	6.8	1	2.4
Philosophic moods	7	4.2	16	8.4		
Humorous, silly, laughter			21	11.0		
Feeling positive, optimism	6	3.6	11	5.8	2	4.8
Feeling creative	9	5.4	10	5.2		
Being in love	14	8.4	5	2.6		
Satisfaction	8	4.8	4	2.1		
Other	53	31.8	32	14.3	9	21.6
Total	297(167)	177.8	350(191)	183.2	59(42)	140.5

Table 6.12: Are there emotions that do not combine well with cannabis use?

	Amsterdam		San Francisco		Bremen	
	n	%	n	%	n	%
Yes	145	69	179	69	42	76
No	66	31	80	31	13	24
Total	211	100	259	100	55	100

2 = 1.29; df = 2; p= .523, not sign.

Table 6.13: Emotions or feelings that do notcombine well with cannabis use

	Amsterdam		San Francisco		Bremen	
	n	%	n	%	n	%
Depression, feeling down	56	42.4	52	29.1	28	66.7
Sadness, cheerless, upset, sorrow	37	28.1	29	16.2	13	31.0
Anxiety, paranoia	15	11.4	58	32.4	1	2.4
Anger, rage, aggression	16	12.1	42	23.4	5	11.9
Tension, stress	21	15.9	23	12.8	9	21.4
Feeling unsafe, insecure, uncertain	14	10.6	29	16.2		
Pessimism, negative mood	7	5.3	13	7.3	3	7.1
Fatigue	3	2.3	6	3.4	1	2.4
Feeling unhappy	3	2.3	3	1.7	1	2.4
Illness	5	3.8			2	4.8
Joy, cheerfulness, happiness	6	4.6	1	1.2		
Nervousness	3	2.3	2	1.1	1	2.4
Other	13	10.2	27	15.2	10	23.9
Total	199(132)	150.8	285(179)	159.2	74(42)	176.2

6.4 Persuading or dissuading cannabis use in others

To see whether they had general notions about who can or cannot use cannabis, respondents were asked whether they had ever persuaded or dissuaded anyone to try cannabis, and if so, whom they had tried to persuade or dissuade and why. The answers to these questions can be found in the following series of tables (Table 6.14-Table 6.19). In general we found that cannabis users indeed have some notion about who can, and who cannot use.

Dissuading anybody to try cannabis had occurred more often in Amsterdam than in the other two cities: around a third of respondents had ever tried to dissuade anyone from using cannabis in Amsterdam, compare to only a fifth in the other two cities. In all three cities between 1/4 -1/3 of respondents had ever tried to persuade anyone to try cannabis. The groups of people being persuaded or dissuaded are very similar: in all cities, they most often concern friends and family members. However, the emphasis lies more on friends when talking about persuasion.

Reasons to dissuade or persuade are very diverse. Reasons to dissuade people from trying cannabis are often related to the person being dissuaded: they were too young, not mature enough, unstable, or were otherwise not thought to be able to handle it. However, an important proportion of respondents also said to have dissuaded people because of their own negative experiences. Reasons to persuade people to use drugs had mostly to do with the experience which was thought to be nice and which the respondents wanted to share, either because they thought the person would like it, or because they would like to have the company.

Table 6.14: Have you ever dissuaded someone to try cannabis?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	74	34	54	20	12	22
No	142	66	210	80	43	78
Total	216	100	264	100	55	100

χ^2 = 12.31; df = 2; p=.002, sign.

Table 6.15: Who did you dissuade to try cannabis?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Friends	37	50.7	26	48.1	6	50.0
Family members	21	28.8	24	44.4	3	25.0
Spouse/lover/partner	7	9.6	2	3.7	2	16.7
Coworkers	4	5.5	1	1.9		
Other	29	39.7	8	14.8	3	25.0
Total	98(73)	134.2	61(54)	113.0	14(12)	116.7

Table 6.16: Have you ever persuaded someone to try cannabis?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	64	30	79	30	13	24
No	152	70	185	70	42	76
Total	216	100	264	100	55	100

χ^2 = 0.91; df = 2; p=.634, not sign.

Table 6.17: Who did you persuade to use cannabis?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Friends	41	64.1	63	80.8	11	84.6
Family members	18	28.1	11	14.1	2	15.4
Spouse/lover/partner	12	18.8	10	12.8	1	7.7
Coworkers	3	4.7	3	3.8		
Other	14	21.9	6	7.7		
Total	88(64)	137.5	93(78)	119.2	14(13)	107.7

Table 6.18: Reasons to dissuade someone to use cannabis

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Too young, mentally not mature enough	15	20.8	10	18.6	6	60.0
Because of my own negative experiences	15	20.8	12	22.2	2	20.0
Person was a psychosis patient / psychologically instable	17	23.6	5	9.3	1	10.0
The person could not handle it	10	13.9	7	13.0	1	10.0
It is addictive	6	8.3	1	1.9	1	10.0
I was told it was a bad thing	8	11.1				
They did not want it	3	4.2	5	9.3		
You come into contact with other drugs / subculture	4	5.6	1	1.9	1	10.0
I did not want to set a bad example	4	5.6	1	1.9		
Because of the responsibilities of my job	1	1.4	3	5.6		
Other	14	19.5	16	29.7	2	20.0
Total	97(72)	134.7	61(54)	113.0	14(10)	140.0

Table 6.19: Reasons to persuade someone to use cannabis

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
To share the experience	16	26.7	16	20.5	4	36.4
Because it is nice	5	8.3	14	17.9	4	36.4
I though they would like it	3	5.0	17	21.8	1	9.1
To get him/her involved	6	10.0	12	15.4	1	9.1
They were curious, interested	4	6.6	14	17.9		
For sociability	5	8.3	6	7.7	1	9.1
Did not want to smoke alone	8	13.3	3	3.8		
Relaxing	5	8.3	4	5.1	2	18.2
Alternative for alcohol / cocaine dependence, sleeping pills	7	11.7	1	1.3		
To dismiss fear of addiction	5	8.3				
Other	14	23.2	17	21.8	1	9.1
Total	78(60)	130.0	104(78)	133.3	14(11)	127.3

6.5 Advice to novice users

One of the ways employed to find out if experienced cannabis users have notions about how to control cannabis use and create a rule structure as an instrument for control, was to ask all of them if they would have 'good advice' for novice users. In as far as this question would be answered, we might assume experienced users have created 'results' of their experience and solidify these results into 'advice'. We distinguished between different topics for advice to novices:
- best method of ingestion
- best dose
- best location and when
- yes or no combinations with other substances
- what to do to counteract disadvantages or emergencies

Table 6.20 reports on the prevalence of advice on each of the distinguished topics and shows that on each of the topics a large majority has advice to give, irrespective of city. The prevalence of advice is very high, which means that notions about 'best practice' are widely available. This is incredibly important for users, because it protects them from our cultural sensitivity of 'losing control'. Exactly which advice is given varies between the cities, but in this case we were more interested in the availability of advice per topic, than in exactly what advice.

One exception will be made. The advice "use moderately" is given by 76% of the users in Amsterdam, versus 12% in San Francisco, and 39% in Bremen. When we combine all dose related advice asking for moderation and carefulness, Amsterdam respondents give such advice in 196 cases (out of a total of 236

Table 6.20: Number of people having advice for novice users, and number of suggestions done

	Amsterdam (N=216)			*San Francisco (N=265)*			*Bremen (N=55)*		
advice on…	*n*	*%*	*average no. of suggestions*	*n*	*%*	*average no. of suggestions*	*n*	*%*	*average no. of suggestions*
...method of ingestion	192	0.89	1.2	223	0.84	1.2	46	0.84	1.4
...best dose	185	0.86	1.2	229	0.86	1.1	51	0.93	1.1
...where and when	194	0.90	1.5	232	0.88	1.7	50	0.91	1.7
...combi with other substances	191	0.88	1.1	241	0.91	1.1	51	0.93	1.2
...counteracting disadvantages	173	0.80	1.5	229	0.86	1.3	50	0.91	1.3

dose advices, or 83 % of all dose advice), San Francisco respondents in 174 cases (out of 291 dose advices or 60%) and Bremen respondents in 31 cases (out of 59 dose advices or 53%).

6.6 Driving under the influence of alcohol and/or cannabis

A situation that is rarely thought fit for cannabis use is in a car (Table 6.2, Table 6.6). As we saw earlier 70 percent of respondents in Amsterdam and 62 per cent of respondents in San Francisco reported not having used cannabis in their car in the last three months of their cannabis using career, while a further 13 and 16 percent of respondents respectively said this had happened rarely (Figure 6.1). This suggests that cannabis smoking in cars is not considered right by most respondents. In Bremen these questions were not asked.

However, when users in Amsterdam and San Francisco were asked about driving and cannabis use, no less than 42 per cent of respondents in Amsterdam and 74 per cent of respondents in San Francisco reported ever to have driven a motor vehicle while under the influence of cannabis (Table 6.21). Thirteen percent in Amsterdam and 34 per cent in San Francisco report to have driven more than 15 times under the influence of cannabis. The proportion of respondents reporting to have ever driven a car under the influence of both cannabis and alcohol at the same time is lower in both cities: lifetime prevalence in Amsterdam is 24 percent, compared to 66 per cent in San Francisco. It seems that respondents apply stricter rules to their use of a combination of cannabis and alcohol while driving than they do to their use of cannabis alone. Explanations for this finding might not only be found in the fact that fears for the legal consequences are lower (driving under the influence of cannabis is illegal as well, but more difficult to detect) but also in the fact that cannabis has a different effect on one's driving skills than alcohol (Robbe 1994, 1997).

Table 6.21: Driven motor vehicle under the influence of cannabis / alcohol

	Cannabis + alcohol				Cannabis only			
	Amsterdam		*San Francisco*		*Amsterdam*		*San Francisco*	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Never	164	76	90	34	125	58	68	26
1-5 times	33	15	74	28	49	23	64	24
6-10 times	6	3	20	8	10	5	25	9
11-15 times	2	1	20	8	4	2	16	6
> 15 times	11	5	61	23	28	13	91	34
Total	216	100	265	100	216	100	264	100
	t = -9.68; df = 452; p=.000, sign.				t = -7.99; df = 478; p=.000, sign.			

Table 6.22: Number of accidents under the influence of cannabis / alcohol

	Cannabis + alcohol				Cannabis only			
	Amsterdam		*San Francisco*		*Amsterdam*		*San Francisco*	
	n	*%*	*n*	*%*				
none	204	94	237	90	206	95	244	93
1	6	3	16	6	6	3	17	6
2	1	0	7	3	2	1	1	0
4	1	0	1	0			1	0
5	2	1	3	1	1	0		
10	2	1						
30					1	0		
Total	216	100	264	100	216	100	263	100
Average (excl. "none")	3.5		1.8		4.5		1.2	
	t = 1.65; df = 13; p=.124, not sign.				t = 1.15; df = 9; p=.280, not sign.			

More striking than the difference in frequency of occurrence between the use of cannabis while driving and the use of cannabis in combination with alcohol, is the difference in occurrence of either of these in the two cities. The most likely explanation for the difference is the need to drive to be able to get around in San Francisco. Users in Amsterdam have more choice in methods of transport (bicycle, public transport) and seem to make use of these options.

Respondents were also asked how many traffic accidents they had had that were related to their use us cannabis, either on it's own or in combination with alcohol. A very high proportion of respondents reported no accidents at all (Table 6.22), while the percentage of people who did was slightly higher in San Francisco than in Amsterdam. This is in agreement with the higher occurrence of driving under influence there. Those who did report accidents mostly reported just one incident. The average number of accidents was much higher in Amsterdam than in San Francisco, mainly as a result of one respondent who reported ten accidents under the influence and cannabis in combination with alcohol, and another respondent who reported no less than 30 accidents under the influence of cannabis alone. When asked, the interviewer stated that this was not the result of an interviewing error, but that she did have the impression that the respondent rather exaggerated. Also, one should be careful in interpreting this finding, as people were asked about any accidents they had had, however minor. No further information was given on the nature of the accident, and thus falling of one's pushbike with no other traffic involved would also classify as an accident.

6.7 Rules related to buying cannabis

When asked, around a third of respondents seemed to have rules concerning the amount of money they allowed themselves to spend on marijuana each month (Table 6.23). The proportion of respondents who reported to have a limit to their spending was highest in San Francisco and lowest in Bremen. The average monthly limit was the equivalent around •45 in both Amsterdam and San Francisco; in Bremen the average was much higher, at •128 (F=6.64; df = 2; p=.002; Tukey Post-Hoc: A-B p=.002; S-B p=.001).

Less than a third of respondents in San Francisco felt that cannabis had ever been too expensive (Table 6.24); in the other two cities this proportion was even lower. When respondents in Amsterdam and

Table 6.23: Is there a limit to the amount of money you spend on cannabis per month?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	65	31	109	41	12	22
No	145	69	155	59	43	78
Total	210	100	264	100	55	100

χ^2 = 10.27; df = 2; p=.006, sign.

Table 6.24: Was cannabis ever too expensive?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	38	18	79	30	12	23
No	175	82	185	70	41	77
Total	213	100	264	100	53	100

χ^2 = 9.44; df = 2; p=.009, sign.

Bremen were asked to predict the influence of prices on cannabis consumption in general, not more than under 2/5 felt that if cannabis was half the price most users would increase their consumption (Table 6.25), while around half felt that if cannabis would double in price, most users would decrease their use (Table 6.26). However, when asked about their own use, only a small proportion of those who still used felt that they would use more if cannabis were cheaper, although this proportion was slightly higher again in San Francisco (Table 6.27). Hardly any of those who had given up cannabis felt they would start again if it would become less expensive (Table 6.28).

Table 6.25: "If cannabis was half the price, most users would increase their use"

	Amsterdam		*Bremen*	
	n	%	*n*	%
Yes	73	36	19	40
No	132	64	28	60
Total	205	100	47	100

χ^2 = 0.20; df = 1; Yates correction, p=.536, not sign.

Table 6.26: "If cannabis was double the rpice, most users would decrease their use"

	Amsterdam		*Bremen*	
	n	%	*n*	%
Yes	119	57	21	46
No	91	43	25	54
Total	210	100	46	100

χ^2 = 1.42; df = 1; Yates correction, p=.232, not sign.

Table 6.27: If cannabis was cheaper, would you use more?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	7	5	22	13	2	6
No	131	95	142	87	30	94
Total	138	100	164	100	32	100

χ^2 = 6.58; df = 2; p=.037, sign.

Table 6.28: If cannabis was cheaper, would you start using again?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	1	1	2	2		
No	75	99	83	98	20	100
Total	76	100	85	100	20	100

Table 6.29: If cannabis was more expensive, would you use less?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	50	37	64	39	15	47
No	84	63	99	61	17	53
Total	134	100	163	100	32	100

χ^2 = 0.99; df = 2; p=.609, not sign.

Most users in San Francisco and Bremen obtained their cannabis through friends, who either knew a dealer or who dealt themselves (Table 6.30). Street dealers were not very important. As expected, in Amsterdam most users obtain their cannabis through one or more coffeeshops. However, no fewer that 34 per cent of respondents obtain their cannabis predominantly through other channels. In all three cities the percentage of respondents who say that growing cannabis is their main source is low. This is most frequent in Amsterdam, where eight per cent of respondents say they grow their own cannabis at the time of the interview (Table 6.31). Only one respondent in San Francisco and two in Bremen say they do so. The lifetime prevalence of home-growing is much higher: around two-fifths of respondents in each of the three cities they have grown cannabis at some time in their life (Table 6.32).

Table 6.30: Main source of cannabis during the past 12 months

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Friend knows dealer	8	4	111	43	10	19
Several friends know dealer	35	16	78	30	15	29
Friend is dealer	12	6	44	17	9	17
Street dealers			10	4	4	8
Growers	8	4	5	2		
Grow it myself	4	2	2	1	4	8
One coffeeshop	75	35			1	2
Several coffeeshops	67	31				
Other	6	3	11	4	9	17
Total	215	100	261	100	52	100

Table 6.31: Do you grow your own cannabis now?

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Yes	17	8	1	0	2	4
No	197	92	262	100	48	96
Total	214	100	263	100	50	100

χ^2 = 18.49; df = 2; p=.000, sign.

Table 6.32: Have you ever grown your own cannabis?

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Yes	71	34	79	30	21	44
No	139	66	183	70	27	56
Total	210	100	262	100	48	100

χ^2 = 3.53; df = 2; p=.170, not sign.

Table 6.33: Are there other drugs available at your source of cannabis?

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Yes	29	15	127	51	25	49
No	167	85	124	49	26	51
Total	196	100	251	100	51	100

ASB: χ^2 = 64.92; df = 2; p=.000, sign.
SB: χ^2 = 0.00; df = 1; Yates correction, p=.959, not sign.

Table 6.34: Which other drugs are available at source

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Cocaine	13	44.8	59	47.2	15	60.0
LSD	10	34.5	34	27.2	10	40.0
Amphetamines, speed	4	13.8	38	30.4	8	32.0
Ecstasy	5	17.2	32	25.6	7	28.0
Heroine	6	20.7	9	7.2	1	4.0
Mushrooms	5	17.2		24.8	4	16.0
Crack	1	3.4	7	2.6		
Valium and other CNS depressants	1	3.4	7	5.6		
Opium	1	3.4	3	2.4	1	4.0
Pills	2	6.9	3	2.4		
Stimulants (pills)	2	6.9				
THC capsules	1	3.4				
All sorts of drugs	4	13.8	11	8.8	1	4.0
Other			20	16.0	2	8.0
Total	55(29)	189.7	254(125)	203.2	49(25)	196.0

The source of cannabis has a clear impact on whether respondents report that there are other drugs available at the source. In Amsterdam, where most respondents buy there cannabis from coffeeshops, no more than 15 per cent of respondents report there are other drugs available at their cannabis-source, which is any source, coffeeshops included (Table 6.33). In San Francisco and Bremen, where cannabis is mostly obtained through friends knowing or being dealers, no less than half of the respondents report other drugs being available from their source of cannabis. There are no great differences between the cities in the types of drugs that are available from their cannabis source (Table 6.34): cocaine is mentioned most in all three cities, while LSD, amphetamines, Ecstasy and mushrooms are also mentioned by a substantial proportion of respondents. In Amsterdam, amphetamines are mentioned relatively less often than in the other cities, while heroin is mentioned relatively often in this city. These findings suggest that the integration of the cannabis market into other drug markets seems to exist in a much higher degree in San Francisco and Bremen, than in Amsterdam. However, in as far as the integration exists, roughly the same drugs can be bought at cannabis sources. A possible reason for this similarity may be that the life styles in which other drugs are used next to cannabis are roughly the same for the respondents in each of the 3 cities.

7. Advantages, disadvantages, and effects of cannabis

In the previous chapter a series of questions were discussed which were asked with the aim to uncover some of the rules respondents used to regulate their cannabis use. This chapter focuses on the answers respondents gave us on questions on advantages, disadvantages and effects of cannabis use. These data are interesting in their own right, but they also have relevance for further understanding of which instruments users apply to regulate their use. The main reason for people to use cannabis is that it helps them relax. Other advantages of cannabis are the recreational element and enhancing the senses. Disadvantages mentioned are fewer in number and the main disadvantage is that it makes people less active and tired – the other side of its relaxing qualities. A wide variety of other effects are experienced, but negative effects are only experienced by a small minority of users. Advantages thus seem to outweigh disadvantages of use, even though when rated on a scale from one to ten, cannabis is rated higher than any of the other drugs mentioned but still only scores 6½ out of 10. Dosage and circumstances of use are found to be important both for the advantages and disadvantaged experienced. That negative effects are not prominent might therefore not only be attributed to the mild properties of the drug, but might also be the result of a learning process on how to use cannabis. Internal regulatory mechanisms seem to be more important in this process than external rules.

7.1 Advantages and disadvantages

Respondents were asked to name up till four advantages of cannabis use. The results are shown in Table 7.1. On average respondents mentioned around 2.5 advantages per person, slightly more in Bremen, slightly less in San Francisco. By far the most mentioned advantage of cannabis use in each of the three cities is that it is relaxing. The recreational element of cannabis use is clearly visible as well: cannabis is felt to have social properties, gives a good and pleasant feeling, makes people uninhibited and leads to good talks. Thirdly, respondents mention as advantages of cannabis use that it amplifies the senses, gives one new ideas and helps creativity. These advantages seem to be stressed slightly more by respondents from Bremen. However, the rank order of advantages is very similar in the three cities.

In order to achieve the advantages of cannabis such as relaxation, feeling good or sociable, and having enhanced sensitivity, the user needs to dose their cannabis intake in a rather exact way. Indeed, just over half of the respondents recognise that the dosage influences the occurrence of the advantages (Table 7.2). The circumstances are even more important: around three-quarters of respondents indicated that experiencing the advantages is influenced by the circumstances of use (Table 7.3).

As with any drug, the use of cannabis has disadvantages as well as advantages. Table 7.4 shows that the disadvantages mentioned most frequently are associated with some undesirable influence on daily life. A large proportion of respondents mentions that the use of cannabis makes you less active and tired, causes you to think less clearly, causes loss of concentration, forgetfulness and indifference. Also anxiety, paranoia and insecurity are mentioned by relatively many respondents. The fact that cannabis is illegal is an important disadvantage of cannabis to many respondents in San Francisco, while this is less so in Bremen and (expectedly) not at all so in Amsterdam. Many different disadvantages are mentioned, but

Table 7.1: Advantages of cannabis use

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Is relaxing	102	47.2	104	39.5	22	41.5
Social, good in company of others	45	20.8	44	16.7	8	15.1
Amplifies senses, intense experiences	44	20.4	34	12.9	18	34.0
Good, pleasant feeling	49	22.7	31	11.8	10	18.9
Think deeper, new ideas, other view on r	25	11.6	42	16.0	14	26.4
Fun, cheerfulness	18	8.3	34	12.9	12	22.6
Creativity, fantasy, inspiration, associ	24	11.1	27	10.3	9	17.0
Bouts of laughter	20	9.3	19	7.2	2	3.8
Forget worries, forget surroundings, all	14	6.5	21	8.0	2	3.8
Effect of intoxication	16	7.4	16	6.1	2	3.8
Disinhibiting, less shy	13	6.0	17	6.5	2	3.8
Good sex	19	8.8	6	2.3	1	1.9
Deep sleep, sleep better	15	6.9	8	3.0	2	3.8
Good talks, better communication	18	8.3	4	1.5	2	3.8
Belong to the group	3	1.4	13	4.9	6	11.3
Positive thinking, come out of depression	10	4.6	10	3.8	1	1.9
Deepens feelings, thoughts, emotions	12	5.6	5	1.9	3	5.7
Better concentration	10	4.6	6	2.3	1	1.9
Medicinal value			17	6.5		
Makes me see things in perspective, allo	9	4.2	7	2.7	2	3.8
No hangover	6	2.8	8	3.0	2	3.8
Is stimulating, more interesting	5	2.3	6	2.3	1	1.9
Increases appetite			10	3.8		
Creates alternative reality, mystical	4	1.9	1	0.4	5	9.4
Other	58	26.9	77	29.2	21	39.7
Total	539(216)	249.5	567(263)	215.6	148(53)	279.2

Table 7.2: Does the amount used influence the advantages?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	120	57	139	55	25	50
No	90	43	115	45	25	50
Total	210	100	254	100	50	100

χ^2 = 0.89; df = 2; p=.641, not sign.

Table 7.3: Do the circumstances influence the advantages?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	166	79	184	73	37	76
No	43	21	69	27	12	24
Total	209	100	253	100	49	100

χ^2 = 2.80; df = 2; p=.247, not sign.

there is not much agreement between the respondents. Many of the disadvantages are mentioned by only a small number of respondents. On average, respondents mentioned 1.9-2.6 disadvantages, which is less than the number of advantages they mentioned.

The amount of cannabis consumed seems to influence the disadvantages for more respondents than it influences the advantages (Table 7.5); the circumstances on the other hand seem to be slightly less influential on the disadvantages (Table 7.6) although still a majority of respondents feel they make a

Table 7.4: Disadvantages of cannabis use

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Makes you stuffy, slow, less active, laz	79	38.9	38	14.3	11	20.4
Illegal			55	20.8	4	7.4
Fatigue, sleepy	25	12.3	22	8.3	12	22.2
Makes you paranoid, confused	19	9.4	37	14.0	2	3.7
Less clear thinking	9	4.4	32	12.1	5	9.3
Financial consequences	14	6.9	24	9.1	5	9.3
Nervousness, anxiety, fear attacks, insecu	19	14.3	21	8.0	3	5.7
Bad for your health	12	5.9	26	9.8	4	7.4
Loosing control, loosing grip on reality	17	8.3	17	6.4	5	9.3
Negligent, easy going, indifferent	18	8.9	10	3.7	11	20.4
Loss of concentration	18	8.9	14	5.3	5	9.3
Forgetfulness	15	7.4	14	5.3	3	5.6
Not being able to communicate well	12	5.9	18	6.8	2	3.7
Sore throat, coughing, pain in lungs	13	6.4	16	6.0	1	1.9
Introvert, introspective, self critical	16	7.9	13	4.9		
Hungry	4	2.0	21	7.9	2	3.7
Smoking tobacco	16	7.9	8	3.1	1	1.9
Unpredictable, it can have unpleasant ef	9	4.4	4	1.5	8	14.8
Amplifies feelings	7	3.4	3	1.1	7	13.0
Hangover	9	4.4	4	1.5	4	7.4
It is not accepted everywhere	4	2.0	12	4.5	1	1.9
Other	109	54	94	35	41	76
Total	454(203)	223.6	503(265)	189.8	142(54)	263.0

Table 7.5: Does the amount used influence the disadvantages?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	155	78	166	67	38	76
No	43	22	81	33	12	24
Total	198	100	247	100	50	100

χ^2 = 7.10; df = 2; p=.029, sign.

Table 7.6: Do the circumstances influence the disadvantages?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	99	51	136	55	34	68
No	95	49	112	45	16	32
Total	194	100	248	100	50	100

χ^2 = 4.62; df = 2; p=.099, not sign.

difference.

Respondents in Amsterdam and Bremen were asked to grade various drugs on a ten-point-scale, weighing their advantages and disadvantages. On this scale "1" meant "all disadvantages, no advantages", while "10" meant "all advantages, no disadvantages". The average scores for all drugs were relatively low (Table 7.7). Marijuana scored highest, hashish slightly lower; there was no difference between the two cities in the rating of either form of cannabis. Alcohol in Amsterdam scored slightly higher than hashish, all other drugs were scored lower. The ratings of most drugs other than cannabis were slightly lower in Bremen than in Amsterdam. In all, marijuana and hashish, and alcohol in Amsterdam, were the only

Table 7.7: Average appreciation of different drugs by cannabis users

	Amsterdam	*Bremen*	t-test		
			t	df	Sign.
Rating marijuana	6.5	6.4	0.11	68	0.914
Rating hash	5.9	6.3	-1.07	72	0.286
Rating alcohol	6.1	4.4	5.51	268	0.000
Rating tobacco	4.8	3.6	3.09	268	0.002
Rating cocaine	3.5	2.7	2.61	107	0.010
Rating ecstasy	3.6	2.3	4.20	103	0.000
Rating amphetamine	2.8	2.2	1.69	240	0.093

drugs that had more advantages than disadvantages according to the respondents, but only barely.

7.2 Reasons to use cannabis

Besides questioning respondents about advantages and disadvantages, we also asked them how important they judged each of a series of potential reasons to use cannabis on a five-point-scale ("1" being "very important", "5" being "very unimportant"). Whereas with the questions on advantages and disadvantages respondents were restrained to a maximum of four, here they could give their view on each of the potential reasons; on the other hand they were restricted to the reasons mentioned on the list. By introducing multiple ways of indicating what grounds underlie consumption it was made possible to widen the observations and consolidate the findings.

Again, relaxation was most important (Table 7.8), followed by other reasons stressing the recreational nature of cannabis use. Striking is that the average scores do not suggest any of the reasons to be very important; only the top four have an average score of more than neutral. There are no big differences between the cities in the order of reasons: there are quite a few significant differences in scores between cities, but from these we can mostly conclude that the reasons mentioned are felt to be less important in San Francisco.

The questions on reasons summarized in Table 7.8 were followed by an open question to see whether any important reasons had been overlooked. Many of the reasons mentioned in answer to this question were reasons that did occur in the list presented to the respondents, and thus did not add to this. The most reported reasons to use cannabis that did not occur on the previous list were the wish to belong to a group or peer pressure (mentioned by around 16 percent of all respondents); experimenting and curiosity (mentioned by six percent); and acting tough or adventurous (mentioned by three per cent).

In the previous chapter we learned that cannabis users apply rules to their use. They might have experienced some disadvantages or unpleasant effects, or have heard about it, and take precautions to avoid this happening or happening again. Ideas about the balance between disadvantages and advantages determine the average appreciation for cannabis, and other drugs, as shown in Table 7.7 above. For better insight into the prevalence of effects and disadvantages of cannabis we also offered extensive standard lists of potential effects to our respondents, as an alternative way to trace the prevalence of negative and positive effects of cannabis in our sample. The reason we offered this alternative way of tracing effects is, that we do not know to which degree respondents underestimate or under report positive or negative effects in the open question set up.

Table 7.8: Reasons for use of cannabis, average scores (1 = very important, 5 = very unimportant)

	Amsterdam	*San Francisco*	*Bremen*	*Total*	*Sign.*
To relax	2.4	2.4	2.3	2.4	
To feel good	2.7	2.2	2.5	2.4	***AS *SB
To enjoy music, movies, o	2.6	2.3	2.7	2.5	**AS *SB
To be sociable with friend	2.4	2.6	2.6	2.6	
To get inspiration	3.1	3.1	2.8	3.1	
To see the world with fres	3.6	2.8	3.6	3.2	***AS SB
To forget worries	3.5	3.1	3.4	3.3	***AS
To blow off steam	3.3	3.3	3.7	3.3	*AB
As a cure for boredom	3.4	3.3	3.2	3.3	
To enhance sex	3.4	3.3	3.8	3.4	* AS SB
To help you sleep	3.3	3.6	3.4	3.4	*AS
To feel less inhibited	3.9	3.2	3.7	3.5	***AS SB
To feel less anxious	4.1	3.2	4.0	3.6	***AS SB
To slow yourself down	3.9	3.4	4.1	3.7	***AS SB
To communicate better	3.6	3.9	3.4	3.7	**AS SB
To cope with depression	4.0	3.6	3.9	3.8	**AS
As a symbol of defiance to	4.1	3.9	4.0	4.0	**AS
To get you through the da	4.1	4.1	4.1	4.1	
To fight fatigue	4.2	4.3	4.4	4.3	
For medical reasons	4.4	4.3	4.5	4.4	

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

Table 7.9: After I use cannabis I become... (1 = always, 5 = never)

	Amsterdam	*San Francisco*	*Bremen*	*Total*	*Sign.*
relaxed	2.1	2.0	2.0	2.0	
comfortable	2.2	2.3	2.2	2.2	
merry	2.4	2.3	2.2	2.3	
attentive to aesthetics	2.6	2.6	2.3	2.5	
slow	2.6	2.7	2.4	2.6	
talkative	2.7	2.6	2.4	2.6	
lazy	2.6	2.8	2.7	2.7	
optimistic	2.9	2.7	2.8	2.8	
intuitive	2.9	2.9	2.6	2.9	
absent-minded	2.9	2.9	3.2	2.9	*AB SB
passive	3.0	3.1	3.0	3.0	
horny	3.1	3.1	3.3	3.1	
soft	3.0	3.3	2.6	3.1	***AS SB *AB
extroverted	3.2	3.1	3.2	3.1	
mentally strong	3.3	3.1	3.3	3.2	
serious	3.2	3.3	3.3	3.2	
introverted	3.3	3.3	2.8	3.2	**AB SB
active	3.4	3.2	3.3	3.3	**AS
awake	3.7	3.0	3.2	3.3	***AS **AB
intelligent	3.6	3.1	3.4	3.3	***AS
better able to analyse/solv	3.5	3.3	3.2	3.3	*AS
nostalgic	3.6	3.3	3.2	3.4	***AS *AB
productive	3.5	3.4	3.3	3.5	
pessimistic	3.9	3.7	3.7	3.8	
lonely	3.8	3.8	3.6	3.8	
paranoid	4.1	3.5	4.3	3.8	***AS SB
mentally weak	4.0	3.8	3.6	3.8	*AB
aggressive	4.7	4.5	4.6	4.6	***AS

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

7.3 Effects of cannabis

Altogether we presented three lists of effects to our respondents. Two of these lists were identical to the lists we used in our survey of experienced cocaine users. The other list was copied from a German/Swiss cannabis survey (Arbeitsgruppe Hanf & Fuß 1994). To begin with we mentioned 28 effects that are often associated with the use of drugs. We asked the respondents to indicate if they experienced this effect never, seldom, sometimes, often or always after they use cannabis. The results are shown in Table 7.9. Most frequent experiences were becoming relaxed, comfortable and merry; least frequent occurrences were becoming paranoid, mentally weak and aggressive. There were some statistically significant differences between the average scores in the three cities, but the difference between the cities in the average score of any one of the effects mentioned was never more than 0.8 points, and the ranking order of the effects was very similar in all three cities.

Other effects of the use of cannabis were looked at in detail as well. Respondents were presented with two other lists of possible effects, adapted from earlier cocaine user surveys (Cohen 1989; Cohen & Sas 1993, 1995). Table 7.10 shows one of these lists: for each effect it is subsequently displayed what percentage of respondents ever experienced the symptom, what percentage of those attributed the symptom to cannabis use, and what percentage *of all respondents* attributed this symptom to cannabis. This way of asking does not exclude the possibility that described symptoms or effects are consequences not of the drug used, but of the circumstances of the user. For instance, reporting that use of cannabis 'makes one physically unfit for longer than one month' clearly relates to a certain life style in which cannabis may figure prominently. The table shows that only having an extra appetite for food is recognised by the majority of respondents as an effect of cannabis use. Anxiety, restlessness, feeling physically unfit for more than a month, insomnia and throat problems are other physical problems that respondents attribute to cannabis use. However, each of these symptoms seems to occur at least as often without the

Table 7.10: Physical effects ever experienced and ever attributed to cannabis use

	Amsterdam					*Bremen*					*San Francisco*					*% of all users ever experienced effect & attributed to*
	ever experienced		*attributed to cannabis*			*ever experienced*		*attributed to cannabis*			*ever experienced*		*attributed to cannabis*			
	n	*%*	*n*	*%* [1]	*%* [2]	*n*	*%*	*n*	*%* [1]	*%* [2]	*n*	*%*	*n*	*%* [1]	*%* [2]	
Extra appetite for food	183	85	165	91	77	46	84	42	91	76	230	87	212	93	80	78.2
Anxiety	101	47	64	63	30	24	44	17	71	31	177	67	64	37	24	27.1
Restlessness	117	54	37	32	18	30	55	16	57	31	164	62	42	26	16	17.7
Feeling physically unfit	106	49	40	39	19	18	33	6	38	12	152	57	43	28	16	16.6
Insomnia	91	42	38	44	19	24	44	11	48	21	125	48	31	25	12	14.9
Throat problems	112	52	27	25	13	25	45	2	8	4	83	31	40	48	15	12.9
Respiratory problems	72	33	19	28	9	23	42	10	48	20	90	34	24	27	9	9.9
Lack of sexual interest	69	32	23	34	11	17	31	3	18	5	88	33	18	20	7	8.2
Inability to reach orgasm	53	25	18	36	9	8	15	1	13	2	76	29	19	25	7	7.1
Drug overdoses	34	16	19	58	9	9	16	5	56	9	16	6	3	19	1	5.0
Depression	60	28	9	16	4	20	36	4	21	8	81	31	11	14	4	4.5
Injuries from accidents	82	38	3	8	3	21	38	2	25	10	110	42	14	13	5	3.5
High blood pressure	29	13	6	22	3	8	15	3	38	6	49	19	8	17	3	3.2
Impotence	11	9	1	11	1	2	6				20	14	7	35	5	2.7
Injuries from fighting	34	16	2	6	1	9	16	1	11	2	45	17	5	11	2	1.5
Heart problems	1	0				6	11	5	83	9	19	7	3	16	1	1.5
Venereal diseases	27	13				[3]	[3]	[3]	[3]	[3]	47	18	5	11	2	1.0
Pneumonia	28	13	2	8	1	4	7				59	22	2	3	1	0.7
Infections	60	28				30	55	2	7	4	99	38	1	1	0	0.6
Gynecological problems	26	29				7	30				47	38	1	2	1	0.4
Skin infections	37	17				13	24	1	8	2	39	15				0.2
Minor operations	89	41	1	1		23	42				99	37				0.2
Stomach ulcer	7	3				5	9				27	10	1	4	0	0.2

[1] % of all those reporting physical symptom; [2] % of all users in sample; [3] Not asked in Bremen.

Table 7.11: Percentage of users who have experienced effect more than five times

	Amsterdam		San Francisco		Bremen		Total		Sign.
	n	%	n	%	n	%	n	%	(χ2)
Bouts of laughter	173	80	225	85	41	75	439	82	
Cotton mouth	182	85	217	82	19	35	418	78	***
Having a sense of well-being or feeling euphoric	144	67	205	77	37	67	386	72	*
Talkativeness	135	63	202	76	34	62	371	69	**
Mind wandering	114	53	222	84			336	70	***
Absentmindedness	116	54	178	67	25	45	319	60	**
Forgetting worries	115	53	175	66	21	38	311	58	***
Having no cares	144	67	140	53	24	44	308	57	**
Forgetfulness	94	44	165	62	25	45	284	53	***
Being pre-occupied with meaningless tasks	88	41	159	60	16	29	263	49	***
Higher self confidence	106	49	140	53	16	29	262	49	***
Sexual stimulation	104	48	133	50	19	35	256	48	*
Feeling energetic	99	46	149	56			248	52	*
Clear thinking	101	47	124	47	22	40	247	46	
Thinking faster	105	49	110	42	15	27	230	43	*
Having a sens of perfectness	117	54	93	35	14	25	224	42	***
Loss of motivation	53	25	138	52	20	36	211	39	***
Lacking ambition	69	32	119	45	19	35	207	39	**
Prolonged sex	84	39	105	40	14	25	203	38	*
Feeling overly suspicious or paranoid	42	19	144	54	14	25	200	37	***
Unusual sensitivity to light	62	29	89	34	21	38	172	32	
Feeling separated from body or environment	53	25	96	36	15	27	164	31	***
Restlessness or nervousness	51	24	92	35	15	27	158	29	***
Visual distortions	65	30	77	29	15	27	157	29	
Anxiety	40	19	94	35	10	18	144	27	***
Having mystical experiences	49	23	79	30	12	22	140	26	*
Faster or irregular heartbeat	61	28	63	24	7	13	131	25	
Dizziness	52	24	62	23	14	25	128	24	
Headache	47	22	59	22	9	16	115	21	
Feeling cold or impersonal	33	15	68	26	7	13	108	20	*
Feeling sense of power	22	10	83	31	2	4	107	20	***
Indifference to pain	19	9	76	29	7	13	102	19	***
Panic	26	12	58	22	11	21	95	18	*
Depressions	25	12	42	16	10	18	77	14	**
Sweating	44	20	19	7	11	20	74	14	***
Hallucinations	25	12	34	13	15	27	74	14	**
Breathing difficulties	30	14	30	11	12	22	72	13	
Insomnia	23	11	36	14	6	11	65	12	
Nausea	29	13	22	8	13	24	64	12	***
More frequent urination	20	9	35	13	5	9	60	11	**
Loss of appetite	26	12	26	10	4	7	56	10	
Any kind of tremor	30	14	13	5	7	13	50	9	***
Tightness or pain in chest	18	8	25	9	2	4	45	8	
Worrying over imagined enemies	4	2	31	12	5	9	40	7	***
Local numbness	15	7	18	7	2	4	35	7	
Difficulty achieving orgasms	12	6	12	5	3	5	27	5	
Allergies	4	2	14	5	1	2	19	4	***
Convulsions	11	5	2	1	2	4	15	3	***
Urge to cary weapons	6	3	4	2	2	4	12	2	1)
Menstrual changes	2	2	2	2	1	4	5	2	1)
Unconsciousness	4	2	5	2	1	2	10	2	
Violent behaviour	3	1	3	1	1	2	7	1	1)

*** p< .001; ** p< .01; * p< .05; 1) cell size too small to do statistical test

use of cannabis as a cause.

Table 7.11 looks at the direct effects of cannabis use. Respondents were asked if they had ever experienced an effect after using marijuana or hashish, and if so, if they had experienced this more than five times. The reason they were asked whether they had experienced the effect more often than five times

is to diminish the probability of chance effects (due to e.g. context or interaction with other drugs) being reported. The table shows that cannabis users ascribe a wide variety of effects to cannabis, but negative effects are experienced by only a small minority of the respondents. The effects that are reported most frequently tend to be of a positive nature.

Some of the effects mentioned on the list are rather strange, like 'fleeing for an imagined enemy', or 'urge to carry weapons'. The reason they occur here is that the list was taken from a previous cocaine study, with the intention in the future to carry out comparisons between effects reported with different drugs. Just listing drug effects will provoke affirmations in a large group of drug users, and the low frequency of these effects is an indication of either the low prevalence, or some sort of imaginative causal attribution.

Respondents were also given the possibility to list effects of cannabis use that were not mentioned in any of the lists. Not many respondents made use of this possibility. Those who did often mentioned effects that did occur in the lists presented to them earlier. Most effects mentioned that had not occurred were only mentioned by one or two respondents, suggesting that the lists had covered the main effects well.

7.4 Conclusion

Measured in several ways with different instruments, one of the most important advantages and functions of cannabis use mentioned by the respondents in all three samples of experienced cannabis users is relaxation. Other important functions are related to improvement of leisure time and sensual experience. The importance of relaxation has also been found in other studies. Kleiber & Soellner (1998, p.168) found relaxation ranking first as reason for use. An ample majority of 67 percent mention this reason for use in their recent snowball sample of 1,458 German users. In an Australian snow ball sample of 268 long term and current users Didcott et al. (1997, p.34) found that relaxation and relief of stress were 'the most popular reasons' to use cannabis for 61 percent of their sample. In his New York snowball sample of 204 current and experimental users in the sixties, Goode (1970, p. 153) found that 46 percent mentioned relaxation as reason for cannabis use, making this the most often mentioned one. In spite of rather large differences between the sampling procedures of the here mentioned studies, relaxation comes out as the prime function or effect of cannabis use in all these groups of relatively highly educated users. A Greek sample of 45 working-class chronic cannabis users also found that 23 users mentioned relaxation as the usual and pleasant effect of cannabis (Stefanis et al. 1977, p. 40).

Like any other drug, cannabis use is associated to disadvantages and negative effects. A wide variety of negative effects is mentioned, and but only having a cotton mouth is experience by a large number of people. Some serious negative effects are reported as the possible outcome of cannabis use, but they do not figure prominently. The most often mentioned disadvantage is that cannabis makes one dull and inactive, which may not truly be a negative effect. There exists some ambiguity here. If the most important positive reason/function for use is relaxation, inactivity and dullness are closely related to the desired function. Relaxation and its associated phenomena may turn from a positive to a negative evaluation (dullness and inactivity) if the context in which it is experienced, is not exactly right.

That negative effects are many, but not very prominent, may not only be explained by the mild properties of the substance but also to the relative success of the learning process of how to use cannabis. Rules and other regulatory mechanisms act like prevention of negative effects, and our data clearly show that for most users the positive effects outnumber the negative effects. Learning how to prevent

negative effects by 'listening' to sensory information and by relying on previous learning processes about what happens if this sensory information is not given its proper attention, may account for this. The findings reported here are important for a theory of how drug users control and structure their use. They show that users have a keen sense of advantages, disadvantages and effects. The previous report on the Amsterdam findings concluded from these findings that

> "users have instruments with which they can gauge if what they want of drugs (or definitely do not want) occurs or not. These sensory parameters act like directory beacons in a sea of sensations, and allow navigation. In that sense the experience with advantages, disadvantages and effects may be the most important regulatory mechanisms of drug use. People navigate to a course that gives them optimum advantages and acceptable disadvantages. This process is not unlike any other cost benefit consideration, regarding any type of behaviour. In order to reap benefits, one has to allow the occurrence of some cost. Looking at drug use this way defines the user as relatively autonomous; he is able to navigate and able to use navigational instruments. These instruments are internal regulatory mechanisms or context sensitive cues, results of individual and collective learning. We have no indication that the success of these mechanisms has much to do with external rules or institutionalised repression." (Cohen & Sas 1998)

The fact that the findings in each of the three cities studied are so similar only serves to confirm this conclusion.

8. Quitting and diminishing cannabis use

Included in this study were all those people encountered who had a lifetime experience with cannabis of 25 times or more. Thus respondents who experienced cannabis use in the past, but who are no longer current users, are also included in the study. In contrast to studies that concentrate on 'current users' with particular levels of consumption (e.g. Didcott et al. 1997) this makes it possible to get an insight into why people quit, or what their proportion is related to those who continue.

The concept of 'quitting' is not as straightforward as one might wish, something Kleiber et al. (1998) discuss as well. In their study of cocaine use, Waldorf et al (1991) named one chapter 'Making sense of cessation', thereby emphasizing the puzzling aspects of quitting. According to them quitting is 'a long and arduous process' (p. 213), although they also found examples of 'common sense quitting'. The study of quitting might be an important aspect of understanding drug use and its control. Also, quitting drug use has to be seen in relation to the pattern of use, its functions, and the social consequences of use. The most important reason why we introduced studying the process of quitting is to be able to give some depth to the phenomenon of 'non use' during last twelve and last three months (see chapter 4). Our main aim however was to establish what proportion of experienced users develop into non-users over the long career period we studied.

In the following paragraphs quitting, periods of abstinence, and diminishing amounts of use will be discussed. They show that the concept of quitting is indeed a complicated one, as users drift out of using without ever making a conscious decision to quit, whereas others consider themselves as having quit while leaving the option open to go back to using cannabis. Those who have quit using were on average around thirty years of age when they did so, with a remarkably similar pattern in the three cities studied. They didn't generally follow any strategy to help them quit. Period of abstinence are common and relatively frequent and on average last between a year and eighteen months. Usually people who quit or stop using cannabis temporarily simply didn't feel like using cannabis anymore; few have any real negative reasons for their decision. This is slightly different for those who decided to cut back on their use at some point; however, here again only few people experienced problems.

8.1 Quitting cannabis use

Chapter 4 showed that a substantial proportion of respondents did not report any cannabis use for the last twelve months preceding the interview. An even larger proportion of respondents have not used cannabis in the last three months preceding the interview. Can these people be seen as having quit using cannabis? Although the use of the verb 'to quit' seems to refer to an active and predetermined step towards abstinence from cannabis, in reality the process of quitting cannabis is not so straightforward. As shown in Table 8.1 around one fifth of respondents who did not use cannabis in the past 12 months in Amsterdam and a tenth of respondents in San Francisco and Bremen still have the intention to use cannabis in the future; even more respondents have no firm views on whether or not they will use cannabis again. Over half of respondents in Amsterdam who do not report any cannabis indicate they will or they may use again, versus only one fifth in Bremen. San Francisco finds itself in between. Despite these differences, we can conclude that a large number of users give up cannabis for a substantial period of time without the intention never to use again. The reasons they might have for doing this are

Table 8.1: Future cannabis use of those who did not use in the last 12 months

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	18	22	8	10	2	10
Maybe	29	35	23	28	2	10
No	36	43	50	62	16	80
Total	83	100	81	100	20	100

χ^2 = 12.55; df = 4; p=.014, sign.

Table 8.2: Why will you not use cannabis in the future?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Dont like it, not sociable anymore	13	38.2	15	31.9	3	18.8
No need for it	10	29.4	5	10.6	5	31.3
Different lifestyle, different friends	8	23.5	8	17.0	3	18.8
Negative feelings, bad experiences	2	5.9	6	12.8	7	43.8
It makes you stuffy, slow, lethargic	6	16.7	5	10.6		
I was addicted, I used too much	2	5.9	9	19.1		
Unhealthy	1	2.9	4	8.5		
Religious reasons	3	8.8	2	4.3		
Other	11	32.2	8	17.0	7	43.8
Total	56(34)	164.7	62(47)	131.9	25(16)	156.3

Table 8.3: Have you quit using cannabis totally now?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	73	34	91	34	23	43
No	143	66	174	66	30	57
Total	216	100	265	100	53	100

χ^2 = 1.83; df = 2; p=.400, not sign.

Table 8.4: Reasons for quitting totally

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Did not need it, not interested anymore	47	66.2	17	18.5	8	36.3
Negative experiences	16	22.5	35	38.0	6	27.3
Does not fit in current life-style	16	22.5	16	17.3	1	4.5
Loss of concentration, absentminded	12	16.9	7	7.6		
Change of friends	4	5.6	10	10.9	4	18.2
Health related reasons	4	5.6	10	10.9	1	4.5
I quit smoking	5	7.0	1	1.1	3	13.6
Financial reasons	2	2.8	2	2.2	1	4.5
Other	5	7.0	10	10.9	9	40.8
Total	111(71)	156.3	108(92)	117.4	33(22)	150

Table 8.5: Have you ever consciously quit and gone back to using?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	69	32	87	33	11	21
No	146	68	177	67	42	79
Total	215	100	264	100	53	100

χ^2 = 3.13; df = 2; p=.209, not sign.

Table 8.6: Frequency of consciously quitting and going back to using

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
1-2 times	39	57	39	45	5	45
3-5 times	20	29	31	36	3	27
6-10 times	3	4	9	10	2	18
> 10 times	7	10	7	8	1	9
Total	69	100	86	100	11	100

further discussed in paragraph 8.2. If these people eventually do not use cannabis again, one could say that often they simply 'drifted' out of using cannabis.

Respondents who indicated that they had no intention to use cannabis in the future were asked whether they had any specific reasons for this. Most respondents mentioned one or more reason why they would not use in the future (Table 8.2). Most mentioned were the feeling that they simply did not like it anymore, or felt no need for it. Negative feelings or bad experiences were not mentioned by many respondents, although the proportion of respondents who mentioned this as a reason to not use again was substantially higher in Bremen than in the other two cities. One can only speculate why these large differences appear, something we will not do without any data to substantiate such speculations.

While only those who had not used cannabis for the past twelve months were asked whether they intended to use cannabis in the future, all respondents were asked whether they had quit using cannabis totally at the time of interview. As Table 8.3 shows, a much larger number of respondents had quit using cannabis than those who did not intend to use in the future. This was only to a very small extent the result of people who had used in the past 12 month but nevertheless felt they had quit. There were indeed a substantial number of people who felt they had currently quit using, but nevertheless felt that they would or might use again in future. These people clearly had given up cannabis with the idea that this would only be a temporary thing.

Similarity between the proportion of respondents who say to have quit in Amsterdam and San Francisco is striking, just over one-third in both cities. In Bremen the proportion of 'quitters' is even higher. Reasons for 'quitting totally' are very different between the cities (Table 8.4). In Amsterdam two thirds of those who say to have quit, report to have lost interest; in Bremen just over one third gives this argument and in San Francisco not even one-fifth reports to have lost interest. Very interesting is that financial reasons are rarely reported for quitting, as are health related reasons.

As well as people who stop using cannabis without ever making a conscious decision to do so, there are people who make the conscious decision to stop but nevertheless go back to it. Just under a third of all respondents reported they had ever decided to quit and gone back to using (Table 8.5). The majority of those respondents had done this just a few times; around ten per cent had done so more than ten times (Table 8.6). However, the large majority of respondents had never had this experience of intentionally quitting and then going back to cannabis use.

For practical purposes a subjective aspect of quitting and an objective one were combined in creating a variable defining respondents who can be considered as quitters; respondents were regarded as having quitted cannabis use:

1. if they report no use of hashish or marijuana during the last twelve months prior to the interview (the objective aspect), or
2. if they state that he or she had totally quitted the use of marijuana or hashish (the subjective aspect).

It is clear that this is a compromise in order to reach a usable definition. However, 'quitting cannabis use' is not an unambiguous concept and for our quantitative analysis we wanted to define quitting in a way that would take into account both actual use pattern and the opinion of the respondent.

Thus defined, 39 per cent of respondents in San Francisco, 43 per cent of respondents in Amsterdam and 49 per cent of respondents in Bremen could be considered as having quit using cannabis at time of the interview. There was no difference in the chances of having quit between those with a low, medium and high level of use during their top period (Table 8.7). Respondents in San Francisco had quit using cannabis at a slightly higher age than those in the other cities: they were on average 33 years old when they stopped using cannabis, compared to 28 years in Amsterdam and 30 years in Bremen. However, as Figure 8.1 shows, the distributions of age of quitting in the three cities are rather similar.

If respondents indicated that they had stopped using cannabis completely, they were asked whether they had followed any strategies in order to quit. Only a small percentage of respondents in any of the three cities had done so (Table 8.8). The strategies they referred to were diverse. In Bremen, six respondents mentioned they had started drinking more alcohol. This was mentioned by only one respondent in Amsterdam and was not mentioned at all in San Francisco. In Amsterdam, most respondents using strategies to quit had changed friends, gone abroad or otherwise moved to a different environment. Only two respondents in Amsterdam and none in Bremen referred to treatment, whereas in San Francisco this was the most common strategy mentioned. No less than 11 references were made in San Francisco to treatment, therapy or the 12-step-programme.

Table 8.7: Level of top use by having quit the use of cannabis

	Amsterdam						*San Francisco*						*Bremen*					
Quit?	*Yes*		*No*		*Total*		*Yes*		*No*		*Total*		*Yes*		*No*		*Total*	
Level	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
low	15	48	16	52	31	100	11	46	13	54	24	100			2	100	2	100
medium	40	40	60	60	100	100	35	34	69	66	104	100	13	59	9	41	22	100
high	27	38	44	62	71	100	45	41	66	59	111	100	10	40	15	60	25	100
	2 = 0.99; df = 2; p= .610, not sign.						2 = 1.76; df = 2; p= .415, not sign.						(too few cases in cells to do statistical test)					

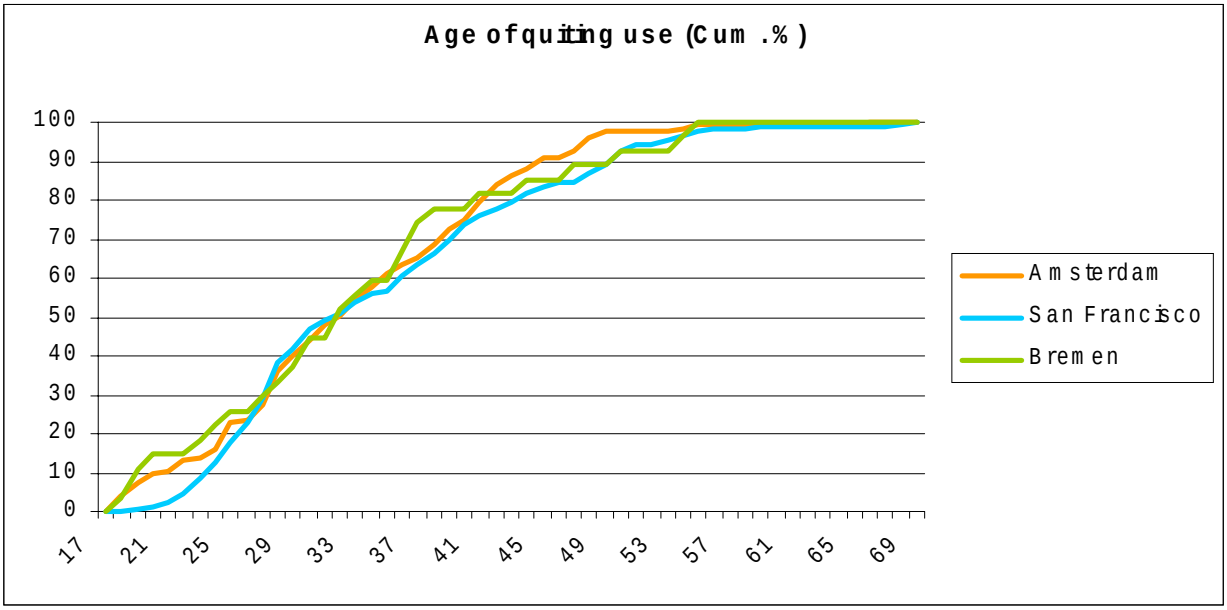

Figure 8.1: Average age of quitting use

Table 8.8: Have you used strategies to quit?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	11	15	12	13	1	11
No	62	85	79	87	8	89
Total	73	100	91	100	9	100

χ^2 = 0.18; df = 2; p=.914, not sign.

8.2 Periods of abstinence

It was already established that cannabis users not only stopped with the intention never to use again, but that it is also a frequent occurrence that users quit cannabis for a limited period of time. When asked whether they had ever stopped using cannabis for longer than a month, three-quarters of respondents in Amsterdam and four-fifth of respondents in San Francisco reported that they had (Table 8.9). Only one-fifth of those had done so once or twice, most respondents had stopped using cannabis for more than a month substantially more often (Table 8.10). This confirms that periods of non-use are indeed a frequent occurrence in a cannabis career.

Not only were respondents asked how often they had not used cannabis for a substantial period of time, they were also asked how long their longest period of abstinence had lasted. This showed that for most respondents their longest period of non-use had been much longer than a month, or even three months (Table 8.11). On average this period had lasted between 13 and 19 months, whereby the respondents in Bremen had been abstinent for shorter periods than those in Amsterdam and San Francisco although there was no statistically significant difference.

The reasons respondents had for this longest period of abstinence were very diverse (Table 8.12). Most important for respondents in San Francisco was cannabis not being available, which was not a significant reason in the other two cities. Other important reasons that were mentioned by many respondents was that they felt no need for it, simply didn't feel like it, work or study, or not having the right people around to use with. It is striking to find that there are few negative reasons related to the consequences of cannabis use mentioned by respondents.

Table 8.9: Have you ever not used cannabis use for more than one month?

	Amsterdam		*San Francisco*	
	n	%	*n*	%
Yes	163	75	212	80
No	53	25	53	20
Total	216	100	265	100

χ^2 (Yates correction) = 1.17; df = 1; p=.279, not sign.

Table 8.10: Frequency of more than one month no cannabis use

	Amsterdam		*San Francisco*	
	n	%	*n*	%
1-2 times	34	21	42	20
3-5 times	44	27	84	40
6-10 times	25	15	45	21
> 10 times	59	36	41	19
Total	162	100	212	100

χ^2 = 15.90; df = 3; p=.001, sign.

Table 8.11: Longest period of abstinence

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
< 3 months	35	22	37	17	9	27
3 - 6 months	34	21	42	20	4	12
6 - 12 months	47	29	67	32	11	33
> 12 months	45	28	66	31	9	27
Total	161	100	212	100	33	100
Average (months)	18.8		18.4		12.9	

F = 0.51; p=.603, not sign.

Table 8.12: Reasons for the longest period of abstinence

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
It was not around, did not buy it	5	3.1	59	27.8		
No need for	34	21.1	21	9.9	6	18.2
Did not feel like it, not interested	16	9.9	23	10.8	1	3.0
Work	10	6.2	16	7.5	1	3.0
Change of environment, moving	1	0.6	20	9.4	2	6.1
Met different friends	4	2.5	13	6.1	6	18.2
Study	8	5.0	14	6.6		
No particular reason	9	5.6	9	4.2	2	6.1
Did not meet any users	15	9.3	1	0.5	4	12.1
Pregnancy, brestfeeding, children	11	6.8	7	3.3	1	3.0
Did not like it anymore, less pleasant	6	3.7	12	5.7	1	3.0
No time, busy	4	2.5	12	5.7		
Financial reasons	6	3.7	8	3.8	1	3.0
Health considerations	5	3.1	10	4.7		
Going abroad	12	7.5	1	0.5	1	3.0
Relationship with partner, spouse	3	1.9	7	3.3	3	9.1
Change in life-style	5	3.1	6	2.8	2	6.1
It did not agree with me	5	3.1	5	2.4	2	6.1
Holiday	10	6.2				
Quit smoking tobacco, did not want to smoke	10	6.2				
Other	41	25.3	55	30.1	18	54.6
Total	230(161)	142.9	303(212)	142.9	56(33)	169.7

8.3 Decreasing cannabis use

Besides quitting cannabis use, or being abstinent for a certain period of time, cannabis users may decide to cut back on their use. Between one-third and half of all respondents had ever consciously cut back on their cannabis use (Table 8.13). Reasons for cutting back on cannabis use were similar to those for giving up or abstinence: many the same reasons appear in these lists (Table 8.14). Nevertheless, the overall tone of this last list is different, as the most important reasons for cutting back on use seem more negative than the previous lists.

Only a small proportion of those who had even consciously cut back on their use had experienced problems in doing so (Table 8.15). The proportion in Bremen was relatively high, but considering the high number of missing values on this variable (only eighth out of 16 who said they had cut back indicated whether they had had problems) this figure is not reliable. Length of user career did not seem

Table 8.13: Have you ever consciously cut back on cannabis use?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	86	40	132	50	16	31
No	130	60	133	50	35	69
Total	216	100	265	100	51	100

χ^2 = 8.47; df = 2; p=.014, sign.

Table 8.14: Reasons for cutting back on cannabis use

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Financial reasons	15	18.1	17	12.9	1	6.7
I used too much	8	9.6	17	12.9	3	20.0
Health considerations	12	14.5	12	9.1	1	6.7
Study	9	10.8	13	9.8		
Work	6	7.2	15	11.4		
Did not like it anymore, less pleasant	9	10.8	10	7.6		
Did not feel like it, not interested	8	9.6	4	3.0	1	6.7
I was addicted, dependent	8	9.6	5	3.8		
Becoming dazed, fussy	6	7.2	7	5.3		
Lethargy, less performance			11	6.0	2	13.3
To be able to function better	3	3.6	4	3.0	4	
No time, busy	1	1.2	9	6.8		
Had bad experiences, depressed	2	2.4	5	3.8	1	6.7
Quit tobacco, did not want to smoke	4	4.8	1	0.8	1	6.7
Lack of concentration	3	3.6	3	2.3		
Too keep control	6	7.2				
Other	29	34.9	51	39.0	10	66.9
Total	129(83)	155.4	184(132)	139.4	24(15)	160.0

Table 8.15: Did cutting back cause problems?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	15	17	14	11	3	38
No	71	83	118	89	5	63
Total	86	100	132	100	8	100

χ^2 = 5.72; df = 2; p=.057, not sign.

Table 8.16: Level at top period of use by experiencing problems in cutting back

	Amsterdam				*San Francisco*				*Bremen*			
Problems?	*Yes*		*No*		*Yes*		*No*		*Yes*		*No*	
Level	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
low			6	9			10	9				
medium	6	40	30	45	3	25	51	47			1	25
high	9	60	31	46	9	75	48	44	3	100	3	75
Total	15	100	67	100	12	100	109	100	3	100	4	100

χ^2 = 1.88; df = 2; p=.390, not sign.

related to whether or not users had experienced problems in cutting back on cannabis use. However, it seemed that those who had experienced problems had more often had higher user levels during their period of top use than those who had no problems, although no statistically significant relationship could be established (Table 8.16).

9. Other drug use

From previous analyses of the data of household surveys in Amsterdam and the Netherlands it is known that respondents who never used alcohol only very rarely report the use of cannabis. Similarly, if respondents do not report experience with cannabis the chances that they have some lifetime experience with other drugs are negligible. Furthermore, in Amsterdam the probability of having experimented with illicit drugs other than cannabis increases with increasing experience and use levels of cannabis (Cohen and Sas 1997). Similar patterns have been found in studies outside the Netherlands. This chapter looks at other drug use patterns of the experienced cannabis users studied in the survey, and concludes that although lifetime prevalence of other drug use is relatively high, frequent use of other illicit drugs is rare even within this group. It is furthermore concluded that cannabis is rarely combined with drugs other than tobacco and, to a lesser extent, alcohol, and that the vast majority of users have no experience with intravenous drug use.

9.1 Prevalence of other illicit drug use

Lifetime prevalence of alcohol and tobacco within all three samples of experienced cannabis users is very high (Table 9.1). Almost all in each sample had experience with alcohol, and most of those had continued to use alcohol in the three months previous to the interview. The only difference between the three cities was in the last-three-months discontinuation rate (the percentage of people who have ever experimented with the drug who have not used this drug in the past three months): more people had not used alcohol in Amsterdam and San Francisco than in Bremen. Between 94-98 per cent of respondents had experience with tobacco; differences between the three cities were not significant. However, there were substantial differences between cities in last three months use: significantly more people had given up tobacco in San Francisco than in the other two cities, suggesting that the anti-smoking culture in

Table 9.1: Life time prevalence, last three months prevalence and last three months discontinuation (in percentages)

	Amsterdam			*San Francisco*			*Bremen*			*Significance (χ2)*		
	LTP	*L3MP*	*L3M discontinuation*	*LTP*	*L3MP*	*L3M discontinuation*	*LTP*	*L3MP*	*L3M discontinuation*	*LTP*	*L3MP*	*L3M discontinuation*
alcohol	99	90	9	100	87	13	100	98	2	1)	1)	*
tobacco	94	75	20	95	48	49	98	75	24		***	***
cocaine	48	9	81	73	8	90	*	*	*	***	***	*
hallucinogens	37	4	90	77	4	95	47	4	92	***	***	
amphetamine	38	2	95	60	5	92	31	2	94	***	***	
hash oil	34	1	96	*	*	*	49	4	93		1)	
sedatives	25	5	79	39	7	82	33	9	72	**	*	
ecstasy	25	9	64	40	6	84	16	4	78	***	***	*
sleeping pills	25	5	79	38	8	80	18	2	90	***	**	
opiates	22	0	98	35	3	92	17	4	78	***	1)	1)
crack	4	0	88	18	1	94	*	*	*	***	1)	1)
solvents	8	1	88	13	0	97	15	0	100		1)	1)

*** p<.001; ** p<.01; * p<.05; 1) Too few cases in cells to compute statistical test

California has its effects. Lifetime prevalence rates for other drugs than alcohol amongst experienced cannabis users are high in all three cities as well. The lifetime prevalence rates in San Francisco tend to be much higher than in the other two cities, which reflects differences in lifetime prevalence in the population as a whole, as was described in Chapter 1. Nevertheless, discontinuation rates are high as well, and there seems to be little differences between the cities on this account. Table 9.1 shows that during the last three months in Amsterdam and San Francisco, of the illicit drugs only cocaine and ecstasy were used by more than five per cent of the sample; in Bremen none of the illicit drugs recorded was used by more than five per cent of the sample in the last three months. Thus, although cannabis users are relatively likely to experiment with other illicit drugs, they are not so likely to continue using these drugs.

Table 9.2 shows in another way that the respondents' experience with other illicit drugs is modest when compared to their experience of cannabis. For each of these drugs it is shown that more than half of respondents who reported lifetime experience used these substances less than 50 times; the group reporting ten times or less use is largest for each of the substances. This again suggests that although experienced cannabis users tend to experiment with other drugs, or sometimes use other drugs on a regular basis (for instance a few times per month, or on special occasions) they rarely engage in using these drugs with a high frequency.

Table 9.2: Number of times drug use, in percentages

	Amsterdam						*San Francisco*						*Sign. (χ2)*
	1-10x	*11-50x*	*51-100x*	*101-1000x*	*>1000x*	*N*	*1-10x*	*11-50x*	*51-100x*	*101-1000x*	*>1000x*	*N*	
alcohol	2	1	2	18	77	*214*	0	2	4	35	59	*265*	***
tobacco	0	1	1	5	93	*203*	10	9	11	17	54	*251*	***
cocaine	48	21	14	10	8	*103*	38	29	14	12	7	*194*	
hallucinogens	72	15	9	3	1	*79*	49	29	11	10	1	*202*	**
amphetamine	63	19	15	4	0	*81*	38	21	19	16	6	*159*	***
hash oil	75	14	5	5	0	*73*	-	-	-	-	-	-	-
sedatives	43	26	11	15	6	*54*	52	21	12	8	7	*103*	
ecstasy	73	20	4	4	0	*55*	76	20	1	3	0	*106*	
sleeping pills	43	30	9	13	4	*53*	48	27	13	8	4	*100*	
opiates	70	11	2	4	13	*47*	63	17	9	6	4	*93*	
crack	38	13	0	13	38	*8*	48	21	17	8	6	*48*	1)
solvents	82	6	6	6	0	*17*	70	21	0	6	3	*33*	1)

*** p<.001; *** p<.01; * p<.05; 1) Too few cases in cells to compute statistical test

Table 9.3: Average age of initiation

	Amsterdam		*Bremen*		*San Francisco*		*Total*	*Sign.*
	Average	*n*	*Average*	*n*	*Average*	*n*	*Average*	
alcohol	14.2	214	13.7	55	13.1	265	13.6	***AS
tobacco	15.0	203	13.4	54	14.7	251	14.7	*AB
cannabis	*17.0*	*216*	*16.9*	*55*	*16.4*	*265*	*16.7*	
solvents	22.4	17	15.6	8	16.4	33	18.0	**AB *AS
hallucinogens	21.7	79	19.2	26	19.5	202	20.0	**AS *AB
hash oil	20.5	71	20.5	27	.		20.5	
amphetamine	21.2	81	20.1	17	20.7	159	20.8	
sedatives	22.9	52	19.1	18	23.0	103	22.6	**SB *AB
opiates	22.5	47	22.1	9	22.7	93	22.6	
cocaine	24.5	104	.		21.9	194	22.8	***
ecstasy	25.5	55	22.3	9	24.2	106	24.5	
sleeping pills	25.8	52	20.9	9	25.2	100	25.2	
crack	23.8	8	.		26.6	48	26.2	

Table 9.4: Frequency combined drug use

	Amsterdam	*San Francisco*	*Bremen*	*Total*	*Sign.*
tobacco	2.7	3.0	1.6	2.7	***AB SB *AS
alcohol	3.3	2.8	3.4	3.0	***AS SB
hallucinogens	3.6	3.8	3.5	3.7	
cocaine	3.5	3.8	.	3.7	*AS
amphetamines	3.6	3.8	3.7	3.7	
ecstasy	3.5	4.1	3.8	3.9	*AS
crack	3.1	4.1	.	4.0	*AS
opiates	3.7	4.1	4.0	4.0	
sedatives	4.5	4.4	4.8	4.5	**SB
sleeping pills	4.8	4.6	4.8	4.6	
solvents	4.4	4.7	5.0	4.6	**SB

The average age of initiation for each of the substances recorded is fairly similar in the three cities (Table 9.3). Respondents in San Francisco started drinking at a relatively early age, whereas respondents in Bremen started smoking younger than those in the other cities, but in each of the three cities the age of initiation of alcohol and tobacco was a few years before the initiation into cannabis use. The initiation into other (illicit) drug use tends to be a few years later again. Users in Amsterdam start using solvents, hallucinogens and cocaine significantly later than cannabis users in the other cities. Respondents in Bremen on average had begun using sedatives at a relatively young age. Despite these differences, the order in which respondents are initiated into the various drugs is very similar. The most striking difference is in the use of solvents. In Amsterdam – with a lifetime prevalence of 8 percent versus 13 per cent in San Francisco and 15 per cent in Bremen - the average initiation age into solvents is 22,4 years of age, compared to 16,4 in San Francisco and 15.6 in Bremen. A possible explanation is that in Amsterdam many respondents will have referred to the inhaling of laughing gas, a fad that was popular in disco circles in the mid nineties. Usually solvents are typically lighter fuel, thinners and such, inhaled by the very young.

9.2 Combining cannabis use with other drugs

Respondents who reported any experience with a substance were asked if and how frequently they used this substance in combination with cannabis. Their answers were scored from 1 (always) to 5 (never) (Table 9.4). For a good understanding of this table it is important to realize that respondents were asked how frequently they used a particular substance in combination with cannabis. Thus someone who reports to 'always' combine cocaine with cannabis always uses cannabis if he uses cocaine; this does not mean that this person never uses cannabis without using cocaine. As expected, tobacco was combined with cannabis most often. The average score of alcohol was three, suggesting that on average respondents only sometimes combined alcohol use with cannabis. Those who used those substances at all only combined hallucinogens, cocaine, amphetamines and Ecstasy with cannabis sometimes to seldom, whereas the remaining substances were seldom to never combined with cannabis.

9.3 Experience with intravenous use of drug

Finally, respondents in Amsterdam and San Francisco were asked whether hey had ever used a drug intravenously. A list of drugs was read aloud. In both cities, 84 per cent of respondents had never

injected themselves or received an injection with any of the drugs mentioned. Thirty-five respondents in Amsterdam (16.4 per cent) and 41 respondents in San Francisco (16.0 per cent) reported to have used any drug intravenously. Tranquillisers were mentioned by 11 respondents in Amsterdam and 10 in San Francisco; morphine was mentioned by 11 and 19 respondents respectively. In San Francisco, 17 respondents had injected heroin and 20 cocaine; in Amsterdam, this was only three and six respectively. Again, this finding corresponds with the higher lifetime prevalence of these drugs in San Francisco.

10. Dependence

In a study about the use of drugs some attention should be given to the concept of 'dependence'. Despite the many difficulties this concept entails, some findings will be presented based on a few different types of operationalisation of this concept.

10.1 Special or deviant behaviour to obtain cannabis

We might assume that people who are in some way or another 'dependent' on a certain substance will reveal this by activities that show the importance of the substance for their daily life. It was tried to measure this by asking respondents about 'activities to obtain cannabis', as was done by Morningstar and Chitwood (1983) and also used in previous cocaine studies (Cohen 1989). Table 10.1 shows how many people have ever engaged into various types of behaviour in order to obtain cannabis in the three cities. Deviant or criminal behaviour aimed at obtaining (money for) cannabis is rare in all three cities, and slightly more so in Amsterdam. Surprising for us is that selling cannabis in order to pay for one's own use happened to almost one in eight persons in Amsterdam. We should however not forget that some of our respondents lived through important phases of their cannabis use careers during the early days of the 'coffeeshops' and even before. However, selling cannabis to support one's own use is much more frequently happening in San Francisco and Bremen, where also stealing from friends and family is significantly more common. Also none deviant behaviour aimed at getting money for cannabis – such as taking on extra work or borrowing money or hanging around in unpleasant situations – is not very common in Amsterdam but seems to happen much more frequently in San Francisco and Bremen. Here we see some of the social effects of cannabis policy on acquisition behaviour, quite according to expectation.

Table 10.1: Ways to obtain cannabis

	Amsterdam		*San Francisco*		*Bremen*		*Sign.*
	n	*%*	*n*	*%*	*n*	*%*	
Taken on extra work	6	3	40	15	6	11	***
Borrowed money	6	3	100	38	20	36	***
Sold possessions	10	5	23	9	6	11	n.s.
Stolen from family or friends	4	2	24	9	4	7	**
Shoplifted	9	4	11	4	1	2	n.s.
Sold marijuana to pay for own cannab	28	13	82	31	11	20	***
Committed burglary	4	2	5	2			-
Forged or passed bad checks	3	1	5	2	2	4	-
Stealing cannabis	11	5			5	9	n.s
Engaged in prostitution	1	0	2	1			-
Stolen a car	2	1					-
Traded sex for marijuana	3	1	10	4			n.s
Hung around with people/situations you didn't like	35	16	129	49	17	31	***

Unknown is in how far the criminal behaviour that *is* reported is just to obtain cannabis, or extended to other needs as well. One person in Amsterdam 'engages in prostitution' to obtain cannabis, in spite of the fact that cannabis is easy to get and cheap in Amsterdam. Two persons steal cars to obtain cannabis. There is good reason to assume that these behaviours cannot be considered as serving to acquire cannabis only. When asked whether they had ever had recurring legal problems because of cannabis use, no more than 11 respondents in Amsterdam (5 per cent) and seven respondents in San Francisco (3 per cent) answered confirmatively. In Bremen the question was asked in a different way (whether respondents had had recurring problems in the last year), and this was not the case for any of the respondents.

Other indications of the importance of cannabis consumption can be derived from the prevalence of strong subjective attachment to the substance. Experience during life time with craving- a strong desire- for cannabis was known by 65 percent of all respondents in Amsterdam, but significantly less in San Francisco and Bremen (Table 10.2). For the majority of respondents craving for cannabis had only occurred after a considerable period of cannabis use (Table 10.3). Between 15-18 per cent of respondents in all three cities report that cannabis has meant some form of 'obsession' for them during some period of their career (Table 10.4) and an overwhelming majority (93-98 per cent) report that they have (had) cannabis use 'under control' (Table 10.5).

Table 10.2: Ever craving for cannabis

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Yes	141	65	109	41	19	35
No	75	35	156	59	36	65
Total	216	100	265	100	55	100

χ^2 = 33.75; df = 2; p=.000, sign.

Table 10.3: How long cannabis use before craving

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
< 1 week	7	5	5	5		
1-4 weeks	12	9	3	3	3	16
1-6 months	21	16	14	13	3	16
> 6 months < 2 years	46	35	37	34	6	32
> 2 years	46	35	50	46	7	37
Total	132	100	109	100	19	100

F = 2.08; p=.127, not sign.

Table 10.4: Ever felt obsessed with cannabis use

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Yes	32	15	10	18	40	15
No	183	85	45	82	225	85
Total	215	100	55	100	265	100

χ^2 = 0.39; df = 2; p=.823, not sign.

Table 10.5: Do you feel you are in control over cannabis use?

	Amsterdam		*San Francisco*		*Bremen*	
	n	*%*	*n*	*%*	*n*	*%*
Yes	210	98	245	93	53	96
No	5	2	18	7	2	4
Total	215	100	263	100	55	100

χ^2 = 5.56; df = 2; p=.062, not sign.

10.2 Dependence according to DSM-IV criteria

Besides questions about deviant or criminal behaviour, craving for cannabis, or cannabis being an obsession, respondents were also asked questions about dependence that were derived form the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).

DSM-IV describes 'substance dependence' as:

> A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at any time in the same 12-month period:
>
> 1. Tolerance, as defined by either of the following:
>   a. A need for markedly increased amounts of the substance to achieve intoxication or desired effect
>   b. Markedly diminished effect with continued use of the same amount of the substance
> 2. Withdrawal, as manifested by either of the following:
>   a. The characteristic withdrawal syndrome for the substance
>   b. The same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms
> 3. The substance is often taken in larger amounts or over a longer period than was intended
> 4. There is a persistent desire or unsuccessful efforts to cut down or control the substance use
> 5. A great deal of time is spent in activities necessary to obtain the substance (e.g., visiting multiple doctors or driving long distances), use the substance (e.g., chain-smoking), or recover from its effects
> 6. Important social, occupational, or recreational activities are given up or reduced because of substance use
> 7. The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (e.g., current cocaine use despite recognition of cocaine-induced depression, or continued drinking, despite recognition that an ulcer was made worse by alcohol consumption).
>
> (American Psychiatric Association (1994), p. 181)

DSM-IV distinguishes between substance dependence with physiological dependence (evidence of tolerance or withdrawal, i.e., either item 1 or 2 is present) and substance dependence without physiological dependence (no evidence of tolerance or withdrawal, i.e., neither item 1 nor 2 is present). According to DSM-IV, neither tolerance nor withdrawal is necessary or sufficient for a diagnosis of substance dependence (p. 178). In fact, withdrawal is not a criterion that is associated with cannabis in DSM-IV. Tolerance has an ambiguous status according to DSM-IV, it may or it may not develop in cannabis users (p.178), reasons why we left both withdrawal and tolerance out from the list of criteria we derived from it.

Further, instead of asking for the prevalence of the criteria mentioned above during <u>any</u> twelve-month period, respondents in Amsterdam and San Francisco were asked whether they had ever experienced certain DSM-IV items <u>during their entire use career</u>. This was done for two important reasons:

1. To increase the sensitivity of the items for signs of DSM-IV defined 'dependence'. Coupling these signs to a period of 12 months seemed arbitrary. In our way of asking any occurrence of an item could be mentioned.

2. To diminish artificial differences between respondents in this area. If we would have attached the items to any 12 month period one respondent might answer for 12 months long ago, another for 12 months before interview, another will have experience with these items but uncertain if this was during twelve months or less (and we risk that she negates these items). Moreover, we had to keep in mind that our inclusion criteria made it possible that experienced cannabis users who quit long ago would take part in our survey. By asking for any occurrence of

these items during all of the cannabis using career we discard these differences between respondents and get a more reliable view on the general prevalence of these items. Multiple occurrence of the items will give an indication of the seriousness of problems respondents ever had during their entire use career, and an approximation of the DSM-IV concept of dependence. Of course the disadvantage of this procedure is, that we are not able to give proportions of dependence strictly according to DSM-IV and compare our data to e.g. Kleiber et al, 1998. However, we feel that this is not a serious problem because DSM-IV is a way of thinking – applied in a treatment setting. It is not a strict community standardised and validated test (like e.g. the SF 36 Health Status Questionnaire, or the Addiction Severity Index, with standardised item selection, translation, validation etc.). So, there is no way at all of using the DSM-IV items as if it were a standardised test that is valid within a survey like ours done among a quite special sample.[1]

Nevertheless, respondents in San Francisco were *also* asked whether they had experienced any of the DMS-IV items in the past twelve months, whereas this was the only question asked to respondents in Bremen. The results of these questions can be found in Table 10.6.

Around half to a third of respondents had ever found him or herself using larger amounts of cannabis than he or she intended to, or used it for longer periods than he or she intended to, for more than a week (Table 10.6). Between a third and a quarter of respondents had ever felt a persistent desire to cut down on marijuana use or tried unsuccessfully to cut down, for more than a week. And between a quarter and a tenth had ever given up or reduced social, recreational or work activities because of their marijuana use for more than a week; had ever kept using marijuana for more than a week when they had a recurring physical or psychological problem that was either caused by or worsened by marijuana use; had ever failed to meet obligations at work or school or home for more than a week because of his or her marijuana use; or had ever kept using marijuana for more than a week when he or she was having recurring social or interpersonal problems that were caused or worsened by marijuana use. All those criteria were reported slightly more often in Amsterdam than in San Francisco, although on only two criteria a significant difference was found. Obviously these criteria were reported a lot less for the past 12 months, and seemed to occur slightly more in Bremen than in San Francisco.

Table 10.7 shows that between 21 and 24 per cent of respondents report a life time prevalence of three or more criteria (out of 6). It is not known whether these items were experienced during the same time for each respondent. We can, however, use this table as an indication of trouble respondents attribute to cannabis. A significant correlation was found between amount of cannabis use (in grams) during top period of use, and the number of DSM-IV items ever experienced (Amsterdam r= 0.40, p=.000; San Francisco r=0.34; p=.000); no correlation was found between the amount of cannabis used during top period of use and the number of DSM-IV items experienced in the last 12 months.

Table 10.6: DSM-IV criteria reported (lifetime prevalence or last year prevalence)

	Ever					Last 12 months				
	Amsterdam		*San Francisco*		*Sign*	*San Francisco*		*Bremen*		*Sign*
	n	*%*	*n*	*%*		*n*	*%*	*n*	*%*	
More use than planned > 1 week	97	45	92	35	*	16	9	8	25	*
Desire to cut down > 1 week	65	30	64	24	n.s.	17	9	8	25	*
Given up social activities > 1 week	51	24	29	11	***	2	1			-
Kept using despite problems > 1 week	35	16	40	15	n.s.	10	6	3	9	n.s.
Not met obligations > 1 week	48	22	44	17	n.s.	5	3	1	3	-
Kept using desp social probl > 1 week	37	17	41	15	n.s.	6	3	3	9	n.s.

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

Table 10.7: Number of positive DSM-IV answers

	Ever experienced				Last twelve months			
	Amsterdam		*San Francisco*		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%	*n*	%
0	85	39	129	49	233	88	43	78
1	37	17	53	20	17	6	5	9
2	43	20	30	11	9	3	4	7
3	19	9	28	11	3	1	2	4
4	15	7	15	6	3	1	1	2
5	9	4	7	3				
6	8	4	3	1				
Total	216	100	265	100	265	100	55	100
Average incl. 0	1.5		1.2		0.2		0.4	
	t = 2.52; df = 431; p=.012, sign.				t = 1.59; df = 66; p=.117, not sign.			
Average excl. 0	2.5		2.3		1.8		1.9	
	t = 1.52; df = 265; p=.130, not sign.				t = 0.50; df = 42; p=.620, not sign.			

10.3 Treatment

It is clear that many cannabis users experience one or more negative influences of cannabis use at some point in their cannabis using career. Most are able to deal with these themselves as we described in the chapters 4, 6 and 8. We wanted to know what proportion of this representative sample of experienced users runs into problems they think they cannot deal with themselves. For that reason it was asked as well if respondents ever had contacted a treatment or counselling institution for a drug or alcohol problem in the last two years. Between 6 and 11 per cent of respondents reported having been in contact with treatment or counselling (Table 10.8), but only one person in Amsterdam and Bremen and four in San Francisco reported that this contact was in connection with his cannabis use. The others sought help in relation to their use of alcohol (18), heroin/other opiates (10), or cocaine (4).

Table 10.8: Treatment or counselling last 2 years

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	12	6	21	8	6	11
No	204	94	244	92	49	89
Total	216	100	265	100	55	100

χ^2 = 2.19; df = 2; p=.335, not sign.

Table 10.9: Considered treatment for use

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Yes	19	9	16	6	3	6
No	196	91	245	94	51	94
Total	215	100	261	100	54	100

χ^2 = 1.53; df = 2; p=.465, not sign.

It was considered relevant as well to ask if people had ever during their career 'considered' going into treatment or to ask for professional assistance in relation to their cannabis use. On top of the people who indeed had treatment contacts for use of cannabis, between six and nine percent of respondent reported that they ever had considered treatment or other help in connection with their use of marijuana or hashish (Table 10.9). Reasons given were 'difficulty to quit on my own', 'sense that I was addicted', 'negative physical or psychological effects of cannabis', 'other unpleasant experiences', and 'the influence of parents'.

Those respondents who report they have considered asking assistance in connection with their cannabis use report significantly more lifetime and last year prevalence of DSM-IV items (Table 10.10). However, of those reporting lifetime prevalence of three or more DSM-IV items, in both cities a clear majority had never considered some form of assistance. This shows very clearly that in individual cases reporting 3 or more items does not necessarily lead to the subjective appraisal of 'needing' assistance. Also, of those respondents who did feel this need at one point in their life, around a third reported less than three DSM-IV items. On the aggregate level however there is a significant relationship between the number of DSM-IV items reported and 'considering' some form of treatment. Both in Amsterdam and in San Francisco respondents who considered treatment 'ever during lifetime' mention also more 'ever during lifetime' DSM-IV criteria then respondents who had not considered treatment. This difference is visible only for lifetime prevalence of DSM-IV criteria. When we look at the prevalence of those criteria during the last 12 months before interview, as we were able to do in San Francisco and Bremen, this difference does not appear. This shows the volatility of DSM-IV criteria. Apparently, over a lifetime

Table 10.10: Number of DSM-IV criteria met by ever having considered treatment

	Number of DSM criteria ever experienced								Number of DSM criteria experienced in last twelve months							
	Amsterdam				*San Francisco*				*San Francisco*				*Bremen*			
	Considered treatment				Considered treatment				Considered treatment				Considered treatment			
	Yes		*No*		*Yes*		*No*		*Yes*		*No*		*Yes*		*No*	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
0	2	11	83	42	1	6	128	52	7	44	222	91	1	33	41	80
1	1	5	36	18	2	13	51	21	3	19	14	6			5	10
2	3	16	40	20	3	19	27	11	2	13	7	3	1	33	3	6
3	3	16	16	8	4	25	24	10	2	13	1	0			2	4
4	4	21	11	6	3	19	11	4	2	13	1	0	1	33		
5	2	11	7	4	2	13	3	1								
6	4	21	3	2	1	6	1	0								
Total	19	100	196	100	16	100	245	100	16	100	245	100	3	100	51	100
Average	3.5		1.3		3.0		1.0		1.3		0.1		2.0		0.3	
	t = 5.70; df = 213; p= .000, sign.				t = 5.83; df = 259; p= .000, sign.				t = 3.12; df = 15; p= .007, sign.				t = 1.44; df = 2; p= .285, not sign.			

Table 10.11: Level of use at top period by ever having considered treatment

	Amsterdam				*San Francisco*				*Bremen*			
	Considered treatment				Considered treatment				Considered treatment			
	Yes		*No*		*Yes*		*No*		*Yes*		*No*	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
low			31	17	1	6	23	11			2	4
medium	3	17	96	52	4	25	99	45			22	49
high	15	83	56	31	11	69	97	44	3	100	21	47
Total	18	100	183	100	16	100	219	100	3	100	45	100
	2 = 20.21; df = 2; p= .000, sign.				2 = 3.59; df = 2; p= .166, not sign.							

career of substance use these criteria can appear only to disappear later. They can be there one period, and the next they are gone. This shows how carefully we have to apply these diagnostic criteria.

The respondents who report to have considered asking assistance in connection with their cannabis use were almost never low or medium level users during their top period (Table 10.11). Their amount of cannabis used per month during their top period of use was also considerably higher than top-level use of those who never considered treatment for cannabis in all three cities, although no statistically significant difference was found in San Francisco (Table 10.12). However, the persons who ever considered some form of assistance reported much lower use during last 12 months before interview, and the difference with those not having considered help is less clear: in Amsterdam there is no difference between the two groups in level of use during the last 12 months, and in both Amsterdam and San Francisco there is no difference in amount of cannabis used (Table 10.13 and Table 10.14). So, in respect to amount of use these respondents differ greatly from the rest during their top period of use, but they are fairly similar to the rest during their last twelve months.
Another area where those respondents who have ever considered treatment differ conspicuously from all others is in the type of cannabis related problems they report as most prominent. Table 10.15 shows some data on 'ever having had problems' in a certain field of life associated to the use of cannabis. It shows, that if problems occur, they occur mostly in personal relations, or at school. It is not known whether the problems they refer to are caused by cannabis, aggravated or just associated (attributed) to it. Those who have considered treatment seem to have had more problems on almost any account, but the only significant difference is found with problems in relationships: around two-thirds of the persons that ever considered asking for some kind of assistance report to have had cannabis related problems in the area of personal relationships, compared to only a third of those who have never considered treatment.

Because the persons who report considering assistance for their cannabis use have a very high level of use during top period, it was decided to compare them on a number of other variables with respondents who do not report to have considered asking for some form of assistance. They were compared on age at time of interview, educational level, monthly income, length of cannabis using career, age at beginning of top period of use and length of this top period (Table 10.16 to Table 10.21). Only a few differences were found. In Amsterdam, those who considered seeking help were lower educated. Also, those respondents who had considered treatment were on average older than those who had not, although again only in Amsterdam this difference was significant. On the whole, the two groups seemed remarkably similar though.

Table 10.12: Amount used per month during top period by ever having considered treatment

	Amsterdam				*San Francisco*				*Bremen*			
	Considered treatment				Considered treatment				Considered treatment			
	Yes		*No*		*Yes*		*No*		*Yes*		*No*	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
< 2 gr			31	17	3	21	50	43			2	4
2-4 gr			34	19	2	14	27	23			8	18
4-7 gr	1	6	26	14	4	29	18	16			6	13
7-11 gr	2	11	36	20	2	14	10	9			8	18
11-14 gr	4	22	6	3			1	1			3	7
14-18 gr			7	4	1	7	1	1			7	16
18-21 gr	1	6	9	5					1	33	5	11
21-28 gr			7	4							2	4
> 28 gr	10	56	27	15	2	14	9	8	2	67	4	9
Total	18	100	183	100	14	100	116	100	3	100	45	100

t = 4.51; df = 199; p=.000, sign. t = 1.81; df = 128; p=.072, not sign. t = 2.64; df = 46; p=.011, sign.

Table 10.13: Level of use during last year by having considered treatment

	Amsterdam				*San Francisco*				*Bremen*			
	Considered treatment				Considered treatment				Considered treatment			
	Yes		*No*		*Yes*		*No*		*Yes*		*No*	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
low	3	21	50	43	4	33	85	55			9	33
medium	8	57	55	47	3	25	56	36			13	48
high	3	21	11	9	5	42	14	9	2	100	5	19
Total	14	100	116	100	12	100	155	100	2	100	27	100

χ^2 = 3.34; df = 2; p=.188, not sign. χ^2 = 11.78; df = 2; p=.003, sign.

Table 10.14: Amount per month used during last year by ever having considered treatment

	Amsterdam				*San Francisco*				*Bremen*			
	Considered treatment				Considered treatment				Considered treatment			
	Yes		*No*		*Yes*		*No*		*Yes*		*No*	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
< 2 gr	3	21	50	43	4	33	85	55			9	33
2-4 gr	2	14	27	23	2	17	29	19			8	30
4-7 gr	4	29	18	16			16	10			2	7
7-11 gr	2	14	10	9	1	8	11	7			3	11
11-14 gr			1	1	1	8	7	5			1	4
14-18 gr	1	7	1	1			2	1	1	50	1	4
18-21 gr					1	8					2	7
21-28 gr							2	1			1	4
> 28 gr	2	14	9	8	3	25	3	2	1	50		
Total	14	100	116	100	12	100	155	100	2	100	27	100

t = 1.18; df = 128; p=.072, not sign. t = 2.16; df = 11; p=.053, not sign. t = 3.03; df = 27; p=.005, sign.

Table 10.15: Problems caused by cannabis use in certain situations by ever having considered treatment

	Amsterdam					*San Francisco*					*Bremen*				
	Considered treatment					Considered treatment					Considered treatment				
	Yes		*No*		*Sign*	*Yes*		*No*		*Sign*	*Yes*		*No*		*Sign*
	n	*%*	*n*	*%*		*n*	*%*	*n*	*%*		*n*	*%*	*n*	*%*	
Problems at school	7	37	58	30	n.s.	6	38	57	23	n.s.			15	31	-
Problems at workplace	2	11	7	4	-	3	19	19	8	n.s.	1	33	4	9	-
Problems in relationships	13	68	52	27	***	10	63	63	26	**	2	67	19	38	n.s.
Problems in public places	1	5	18	9	n.s.	3	19	38	16	n.s.	1	33	7	14	-

Table 10.16: Age at time of interview by ever having considered treatment

	Amsterdam				*San Francisco*				*Bremen*			
	Considered treatment				Considered treatment				Considered treatment			
	Yes		*No*		*Yes*		*No*		*Yes*		*No*	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
18-25	3	16	37	19	1	6	33	13	1	33	10	20
26-35	7	37	76	39	5	31	81	33	1	33	20	39
36-45	8	42	65	33	7	44	72	29			16	31
46-55			17	9	3	19	48	20	1	33	4	8
> = 56	1	5	1	1			11	4			1	2
Total	19	100	196	100	16	100	245	100	3	100	51	100
Average	36.9		33.9		36.9		37.2		33.7		33.7	

t = 1.42; df = 213; p= .158, not sign. t = -0.12; df = 259; p= .902, not sign. t = -0.01; df = 52; p= .992, not sign.

Table 10.17: Level of education by ever having considered treatment

	Amsterdam				*San Francisco*			
	Considered treatment				Considered treatment			
	Yes		*No*		*Yes*		*No*	
	n	%	*n*	%	*n*	%	*n*	%
Low	8	42	37	19	4	25	31	13
Middle	8	42	65	33	3	19	56	23
High	3	16	93	48	9	56	158	64
Total	19	100	195	100	16	100	245	100
	χ^2 = 8.72; df = 2; p= .013, sign.				χ^2 = 1.98; df = 2; p= .372, not sign.			

Table 10.18: Nett income (in Euro's) by ever having considered treatment

	Amsterdam				*San Francisco*				*Bremen*			
	Considered treatment				Considered treatment				Considered treatment			
	Yes		*No*		*Yes*		*No*		*Yes*		*No*	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
< 700	6	32	63	32	1	6	16	7	1	33	16	34
701-1000	7	37	27	14	2	13	36	15	2	67	9	19
1001-1500	4	21	59	30	2	13	16	7			14	30
1501 - 2000	2	11	29	15	4	25	60	25			4	9
2001 - 2500			10	5	4	25	45	19			2	4
> 2500			8	4	3	19	68	28			2	4
Total	19	100	196	100	16	100	241	100	3	100	47	100
Average	2.1		2.6		4.1		4.2		1.7		2.4	
	t = -1.95; df = 25; p= .062, not sign.				t = -0.30; df = 255; p= .763, not sign.				t = -0.94; df = 48; p= .352, not sign.			

Table 10.19: Length user career by ever having considered treatment

	Amsterdam				*San Francisco*				*Bremen*			
	Considered treatment				Considered treatment				Considered treatment			
	Yes		*No*		*Yes*		*No*		*Yes*		*No*	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
= < 5 years	5	26	46	24			31	13			12	24
6-10 years	3	16	53	27	6	38	57	23	2	67	8	16
11-15 years	4	21	44	23	3	19	49	20	1	33	8	16
16-20 years	1	5	20	10			39	16			14	28
21-25 years	4	21	19	10	4	25	29	12			3	6
> = 26 years	2	11	12	6	3	19	39	16			5	10
Total	19	100	194	100	16	100	244	100	3	100	50	100
Average	14.9		11.8		15.8		15.2		11.0		13.2	
	t = 1.56; df = 211; p= .120, not sign.				t = 0.23; df = 258; p= .817, not sign.				t = -0.45; df = 51; p= .657, not sign.			

Table 10.20: Age at beginning of period of heaviest use by ever having considered treatment

	Amsterdam				*San Francisco*				*Bremen*			
	Considered treatment				Considered treatment				Considered treatment			
	Yes		*No*		*Yes*		*No*		*Yes*		*No*	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
< 18 years	3	16	59	31	2	13	54	22	1	33	19	37
18-20 years	2	11	51	26	4	25	80	33	1	33	18	35
21-25 years	7	37	54	28	4	25	64	26			8	16
26-30 years	1	5	21	11	4	25	26	11			2	4
> 30 years	6	32	8	4	2	13	21	9	1	33	4	8
Total	19	100	193	100	16	100	245	100	3	100	51	100
	25.6		21.0		23.9		21.9		26.3		19.9	
	t = 2.63; df = 20; p= .016, sign.				t = 1.18; df = 259; p= .240, not sign.				t = 0.68; df = 2; p= .565, not sign.			

Table 10.21: Duration period heaviest use (averages in months) by ever having considered treatment

	Amsterdam				*San Francisco*				*Bremen*			
	Considered treatment				Considered treatment				Considered treatment			
	Yes		*No*		*Yes*		*No*		*Yes*		*No*	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
< 1 year	2	11	26	13	4	25	39	16			6	12
1 year	2	11	35	18	3	19	61	25			14	27
=< 2 years	3	16	59	31	4	25	73	30			12	24
=< 3 years	5	26	24	12			33	14			5	10
4+ years	7	37	49	25	5	31	38	16	3	100	14	27
Total	19	100	193	100	16	100	244	100	3	100	51	100
Average	53.7		37.3		34.8		30.3		100.0		42.0	
	t = 1.48; df = 210; p=.141, not sign.				t = 0.46; df = 258; p=.643, not sign.				t = 1.79; df = 52; p=.079, not sign.			

10.4 Conclusion

In this chapter some of the cannabis related problems users can run into were discussed. Deviance and criminality, related to obtaining cannabis occur, but for very few respondents. Other methods of obtaining money for cannabis were more common, especially in San Francisco and Bremen.

Dependence was operationalised more or less along the lines of DSM-IV, but asked for signs of 'dependence' for the full career, not for the last twelve-month period (as DSM-IV does) in Amsterdam and San Francisco. In DSM-IV three or more positive scores on 'criteria of dependence', out of a total of seven, legitimise the diagnosis of cannabis dependence. A substantial proportion of respondents report to have ever had experience on three or more signs of dependence. What comes out as well is, that during a career of cannabis use, average amount of use – during top period – can be very high, this top period may last 4 years or longer, and need for assistance can be felt so clearly that it is even memorised till long after it has disappeared. We found the combination of very high levels of use during top period, and a subjective need for some form of assistance in a small proportion of the respondents. But this does not mean that these very high level users that consider treatment for themselves cannot change their behaviour without outside help. In fact, they can, and all of those respondents lowered their use level in drastic ways without calling in the assistance they at some time did consider.

The data show that user careers are dynamic, but this can be seen only when reviewing a long stretch of career. Diagnostic tools, applied and followed up upon at just one moment of a use career, may give a distorted view. If that happens they can destroy potential for change that users themselves have. The data also show that within an environment – as in Amsterdam – that does not marginalise heavy users and push them towards drug treatment institutions, such institutions are rarely used. However, they do not seem to be used any more in the other two cities studied. Still without treatment those with very high use level do cut down ultimately. This means that some ad hoc results of a diagnostic tool, like DSM-IV, have to be interpreted with a great deal of background knowledge about cannabis use careers in general[2]. In other words, even very high scores on the DSM IV criteria will disappear further on in a user career without any outside interference.

Another prudent interpretation of these data is that some high level users perceive parts of their behaviour as signs of being 'in need of treatment'. These signs, and this need are socially constructed interpretations (or attributions), as Davies (1992) would put it. These interpretations are continuously offered and

reinforced by the very existence of these assistance institutions and the well known conventional drug use perspectives they are based on. Also, because the data show that cannabis related problem behaviours are felt, and often located in the area of personal relations, we assume that intimate or close persons of high-level users of cannabis will make the same inferences about the 'need for treatment' as some users do themselves. This causes extra pressure into the direction of treatment institutions on moments that do not look as if the 'problem' will be taken care of by the user herself! Also, we saw that top period of use averages 38 months (see chapter 4) and that this period averages 54 months for those who considered treatment for themselves. This is a long time. About ten percent of all experienced users run into this self-perceived need for treatment.

We might therefore hypothesise that under certain conditions of social imaging of drug use, actual use of treatment institutions for cannabis related behaviour would rise. Since treatment organisations cannot survive without a clientele, we cannot expect them to say to potential clients that 'data show that heavy use patterns are often mitigated or halted over time without any institutional involvement'.
If potential clients are not self referred but referred to treatment institutions by legal or other medical experts, they have to learn to see themselves in help-need terms, if they do not already do so. Also in third party referrals, treatment institutions do not have the nature to refuse such cases.

Once such a process of treatment growth has started, it becomes more and more a vicious circle. As more and more (high level, heavy or ultimately just frequent) users will be handled by assistance institutions, they will all learn to see and interpret themselves inescapably in terms of needing help. The data that register treatment will show rises. After some time there is no way out from the 'conclusion' that (high level) use of cannabis produces dependence and need for help. Users say so themselves! This type of artefactual 'scientific' conclusions will meet insufficient opposition in societies or professional circles where cannabis use is seen as deviance or potential pathology from the start. In *Diseasing of America, addiction treatment out of control* Stanton Peele says:
"People's belief that they have a disease makes it less likely that they will outgrow the problem. For this reason, disease approaches are most inappropriate and dangerous for the young. Treatment programs for chemical dependence stress to young substance abusers that they will always have a drug-taking or drinking problem. This almost guarantees that relapses will be frequent, when under ordinary conditions the vast majority would outgrow their youthful excesses" (Peele 1989, p. 27).

We have empirically shown that Peele, in the last phrase of this quote, is quite right in as far as we deal with outgrowing high use levels of cannabis.[3] The problem is of course, how long the 'ordinary conditions' that we still have in the Netherlands, will hold. Or, to be more precise, how long will Dutch society postpone or even not allow too early medicalisation of certain cannabis use patterns? In the USA a strong movement to 'treat' cannabis users instead of imprisoning them may create exactly the conditions that are necessary to 'find' empirically, that treatment for cannabis users is necessary. The time for cannabis users to outgrow their use or particular pattern for use will not be given to them. This will feed a quasi-empirical spiral of perceived 'need' for treatment.

[1]In earlier research we introduced a standardised test in a survey. We used the SF 36 Health Survey as the standardised instrument to measure Health Perception of our respondents in the 1994 Amsterdam household survey (cf. Sandwijk et al, 1995). When available, a standardised test is far superior to a list of items, because a test is validated for the population in which it is used. No validation process is known for any type of DSM-IV related list of items for any type of community-based population. This entails that whatever the concept of 'dependence' means, DSM-IV is not (yet) a proper instrument for measuring it.

[2] For instance, scoring cannabis 'dependence' with the help of DSM-IV should be done very cautiously. High-level use, and negative influences of cannabis, may last on average 54 months and still disappear!

[3] For cocaine, see Cohen & Sas (1993)

11. Drugs and Drug Policy

Little is known about the relationship between drug use prevalence and drug policy. However, there is a feeling that criminalisation - or the lack of criminalisation – has an impact on drug use and its consequences. In the previous chapters we found that many of the patterns and consequences of cannabis use were very similar in the three cities studied, suggesting that policy is not a key determining factor when it comes to the usage patterns of experienced users. In this chapter, a number of questions are discussed that shed a light on the users views on the role of cannabis policy on variables such as other drug use, preferences for drug policy, and contacts with law enforcement.

Not surprisingly, most cannabis users would like to see cannabis laws relaxed. However, the majority does not feel it really matters. There is easy accessibility to cannabis, and even in San Francisco and Bremen, most users say it would take them less than a day to obtain a gram of cannabis. Although the proportion of respondents with a criminal record is slightly higher in San Francisco and Bremen, it is still a small minority, and the chances of being arrested are nowhere estimated to be very high. Nevertheless, more users take precautions against being arrested in those cities than in Amsterdam.

Finally, some attention is being given to the gateway function of cannabis. The main way in which cannabis is felt to lead to other drug use, is that it might bring you into contact with people using other drugs. Most respondents did not feel that cannabis had made them more curious or inclined to use other drugs, whereas many of those who did use other drugs felt they would have done so if they had never used cannabis as well. Fact remains that use of other drugs amongst experienced cannabis users is largely experimental and that frequent use is rare also amongst this group.

11.1 Drug policy preferences

Whereas cannabis in the Netherlands has been decriminalised, heroin is considered a drug with an 'unacceptable risk', its distribution system thus being clandestine, spread over apartment and street dealing contacts. In no way is heroin distribution comparable to the distribution system of cannabis, nor is its social and cultural image anywhere near the images of cannabis. Nevertheless, it is not part of police policy to arrest users, buyers and small sellers of heroin as long as they refrain from being highly visible or causing street level nuisance. In San Francisco and Bremen, not only is cannabis policy different from the Netherlands, also the attitude towards heroin users and small-scale sellers is much different. Thus it is clear that when respondents were asked the question whether cannabis policy should change in the direction of alcohol policy or heroin policy, their answers are not comparable. Nevertheless, they give some insight in users views on the current policy in their country. Cannabis users in Amsterdam are clearly most satisfied with the current situation (Table 11.1); however, there as in the other two cities the majority of users would like cannabis laws to go in the direction of alcohol policy. It would be interesting to have known what percentage of respondents in San Francisco and Bremen would have opted for the Dutch cannabis policy instead of one resembling the current alcohol policy – however, this was not included in the question. Only a small percentage of users would prefer cannabis policy to become stricter; nevertheless, there were still 19 respondents who expressed this preference.

Table 11.1: Preferred cannabis policy

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
As they are	76	36	29	11	8	16
Like heroin laws	13	6	6	2		
Like alcohol laws	122	58	229	87	42	84
Total	211	100	264	100	50	100

χ^2 = 55.55; df = 2; p=.000, sign.

Table 11.2: Is the current legal situation advantageous or disadvantageous?

	Amsterdam		*Bremen*	
	n	%	*n*	%
Advantageous	59	27	2	4
Disadvantageous	20	9	10	19
Does not matter	136	63	42	78
Total	215	100	54	100

χ^2 = 15,39; df = 2; p=.000, sign.

Level of use during top period was not found to be related to policy preference. Only in San Francisco was policy preference related to whether or not respondents had quit using cannabis: of those who still used cannabis at the time of interview 93 per cent felt that the policy with regard to cannabis should resemble the alcohol policy. Of those who had given up cannabis only 78 per cent shared this view, most of the remained felt that the laws should stay as they are.

Respondents in Amsterdam and Bremen were asked whether they regarded the current legal situation advantageous, disadvantageous or indifferent for them (Table 11.2). The majority in either city felt that the legal situation was indifferent to them. However, as expected, relatively more respondents in Amsterdam felt the situation was advantageous, whereas relatively more respondents in Bremen felt it was disadvantageous.

11.2 Legal complications

When asked how much time respondents would need to obtain at least one gram of cannabis, 99 percent of respondents in Amsterdam answered it would take them less than one hour (Table 11.3). This confirms the easy accessibility of cannabis in Amsterdam through a system of licensed shops. As expected, it would take respondents in San Francisco and Bremen much longer to obtain a gram of cannabis: 44 percent of respondents in Bremen said it would take them an hour or less, only 24 per cent of respondents in San Francisco would succeed in that time.

Only very few respondents in Amsterdam feel they have contact with real criminals to obtain their cannabis (Table 11.4), another result of the system of licensed coffeeshops. As expected, this percentage is much higher in Bremen, although there as well the majority of respondents did not feel they had contact with real criminals when buying cannabis.

Only four respondents in Amsterdam - two percent of the sample – had ever been arrested for possession of cannabis. Two of them eventually got convicted on this charge. Since getting convicted for possession of cannabis is almost impossible nowadays, one must assume that this either happened a long time ago,

Table 11.3: How much time to get one gram of cannabis?

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
Less than half an hour	204	94	40	18	10	20
Half to one hour	10	5	14	6	12	24
1-2 hours	1	0	44	20	10	20
Half a day			39	17	6	12
1-2 days			56	25	8	16
3 days-1 week	1	0	24	11	5	10
> 1 week			6	3		
Total	216	100	223	100	51	100

Table 11.4: Have contact with real criminals to buy cannabis

	Amsterdam		*Bremen*	
	n	%	*n*	%
Yes	5	2	19	35
No	206	98	36	65
Total	211	100	55	100

2 = 51.17; df = 1; Yates correction, p= .000, sign.

Table 11.5: Estimated likelihood of being arrested for cannabis possession or use

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
1 = very unlikely	133	93	131	75	19	63
2	7	5	33	19	8	27
3	1	1	6	3		
4	1	1	1	1	1	3
5	1	1			1	3
6 = very likely			3	2	1	3
Total	143	100	174	100	30	100
Average	1.11		1.36		1.67	

A-S: t = -3.34; df = 289; p= .001, sign.
S-B: t = 1.30; df = 34; p= .204, not sign.
A-B: t = -2.41; df = 31; p= .022, sign.

or that the charge was attached to trafficking or other distribution charges. In San Francisco and Bremen eight and nine per cent respectively of respondents had ever been arrested for cannabis possession, significantly more than in Amsterdam. Thirty-five percent of those in San Francisco and 43 percent in Bremen were convicted. It is clear that more people end up with a criminal record with cannabis charges in San Francisco and Bremen than in Amsterdam, although it is still a minority of all users. Contact with the justice system due to drugs other than cannabis is rare as well. Of those who had a lifetime prevalence of other drug use, seven percent of respondents in Amsterdam, six per cent in San Francisco and 3 per cent in Bremen had ever been arrested or convicted for other drugs.

The likelihood of being arrested is not estimated to be very high: on a scale from 1 to 6 the average score was just below 1.5, "1" being "very unlikely" (Table 11.5). Users in Amsterdam felt it was most unlikely to be arrested for cannabis. Similarly, most users in Amsterdam were not afraid of being arrested: only four per cent were sometimes afraid, one per cent said they were always afraid (Table 11.6). Users in San Francisco were afraid to be arrested more than those in Bremen, but still less than ten per cent in either

Table 11.6: Are you afraid of being arrested?

	Amsterdam		San Francisco		Bremen	
	n	%	*n*	%	*n*	%
Never	206	95	70	27	25	45
Sometimes	8	4	173	66	25	45
Often	2	1	21	8	5	9
Total	216	100	264	100	55	100

χ^2 = 233.05; df = 4; p=0, sign.

Table 11.7: Do you take precautions to avoid being arrested?

	Amsterdam		San Francisco		Bremen	
	n	%	*n*	%	*n*	%
No	199	93	45	17	29	53
Yes	16	7	220	83	26	47
Total	215	100	265	100	55	100

χ^2 = 271.38; df = 2; p=0, sign.

city said they were afraid often. It is therefore not surprising that a higher proportion of users in San Francisco and Bremen say they take precautions to avoid being arrested (Table 11.7). There is a wide variety of precautions taken and nature of those precautions varies by city. In San Francisco 62 per cent of users do not use in public or on the street; 24 per cent use it discretely; and 14 per cent hide their cannabis. In Bremen 42 per cent hide their cannabis; 38 per cent do not use in public or out in the open; and 15 per cent are extra alert. Finally in Amsterdam of the 14 people who mention any precautions at all, four people (29 per cent) only carry for their own use, while three people (21 per cent) do not take it outside the Netherlands, three are extra alert, and another three clear their tracks and do not leave evidence.

11.3 Gateway effect of cannabis use

Chapter 9 showed that a sizeable majority of respondents have lifetime experience with other drugs. In order to establish the perceived relevance of the role of cannabis in deciding to try other drugs respondents were asked five simple questions which could be answered by a mere 'yes' or 'no'. Table 11.8 shows how respondents responded to those five items. A comparison has been made between the number of people who answered with 'yes' in each of the three cities. In addition, those who did use other drugs are compared to those who did not use other drugs.

Table 11.8 shows that the influence of cannabis in deciding to try other drugs is considered to be present by relatively more people in San Francisco, and relatively least in Amsterdam. The one exception to this is the wish for a more powerful high, which is felt to be present by least people in Bremen. In line with the expectations, those with a lifetime prevalence of other drugs attach consistently more value to the influence of cannabis than those without a lifetime prevalence of other drugs. The strongest influence of cannabis is on meeting people who use other drugs. On all other items more than half of respondents felt than cannabis had no influence. It is particularly interesting to find that around half of the respondents felt that they would still have tried other drugs also if they hadn't used cannabis. But perhaps most surprising is to see that a small number of those who never used other drugs indicated that they thought they would have done so if they had never used cannabis.

Table 11.8: The role of cannabis in trying other drugs

Do you think your use of cannabis made you more curious about other drugs?							
	Amsterdam		*San Francisco*		*Bremen*		
	n	%	*n*	%	*n*	%	sign. between cities
"Yes" all respondents	55	26	119	45	19	35	2 = 19,28; df = 2; p= .000, sign.
"Yes" LTP other drugs	44	30	118	48	13	39	
"Yes" no LTP other drugs	11	16	1	5	6	27	
sign. between LTP		*		***			
Do you think your use of cannabis made you more inclined to try other drugs?							
	Amsterdam		*San Francisco*		*Bremen*		
	n	%	*n*	%	*n*	%	sign. between cities
"Yes" all respondents	62	29	126	48	19	35	2 = 18.57; df = 2; p= .000, sign.
"Yes" LTP other drugs	57	39	125	51	15	45	
"Yes" no LTP other drugs	5	7	1	5	4	18	
sign. between LTP		***		***			
Do you think your use of cannabis brought you into contact with people using other drugs?							
	Amsterdam		*San Francisco*		*Bremen*		
	n	%	*n*	%	*n*	%	sign. between cities
"Yes" all respondents	119	55	215	81	37	67	2 = 37.98; df = 2; p= .000, sign.
"Yes" LTP other drugs	87	59	204	84	24	73	
"Yes" no LTP other drugs	32	46	11	52	13	59	
sign. between LTP				**			
Do you think your use of cannabis gave you the desire for more powerful highs?							
	Amsterdam		*San Francisco*		*Bremen*		
	n	%	*n*	%	*n*	%	sign. between cities
"Yes" all respondents	27	13	70	26	3	5	2 = 22.22; df = 2; p= .000, sign.
"Yes" LTP other drugs	25	17	70	29	2	6	
"Yes" no LTP other drugs	2	3	0	0	1	5	
sign. between LTP		**		**			
Do you think you would have been likely to try other drugs if you had never used cannabis?							
	Amsterdam		*San Francisco*		*Bremen*		
	n	%	*n*	%	*n*	%	sign. between cities
"Yes" all respondents	81	39	161	61	19	37	2 = 27.57; df = 2; p= .000, sign.
"Yes" LTP other drugs	72	51	160	66	14	45	
"Yes" no LTP other drugs	9	13	1	5	5	24	
sign. between LTP		***		***			

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

Table 11.9: The role of cannabis in trying other drug use: number of positive answers

	Amsterdam		*San Francisco*		*Bremen*	
	n	%	*n*	%	*n*	%
0	27	13	17	6	3	5
1	72	33	67	25	19	35
2	67	31	63	24	16	29
3	22	10	50	19	10	18
4	21	10	51	19	5	9
5	7	3	17	6	2	4
Total	216	100	265	100	55	100
Average nr. of positive answers	1.8		2.4		2.0	
	AS: t = -4.77; df = 473; p= .000, sign.; SB: t = 2.00; df = 86; p= .049, sign.; AB: t= -1.10; df = 269; p= .272, not sign.					
LTP other drugs	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*
Average nr. of positive answers	1.9	1.6	2.5	1.6	2.2	1.8
	t = 2.10; df = 208; p= .037, sign.		t= 5.11; df = 37; p= .000, sign.		t = 1.00; df = 53; p= .321, not sign.	

Pretending that the five items are a scale one can compute a score on this scale for each person (Table 11.9). The highest possible score is 5 if a respondent reports that on all five items cannabis plays a role for using other drugs. Only a small percentage of all respondents have a score of five. The average score in San Francisco was slightly higher than in the other two cities. Also, in each city the average score was slightly higher for those who had reported lifetime prevalence for other drugs than for those who had not reported lifetime prevalence for other drugs. Although the difference was statistically significant in Amsterdam and San Francisco, it is only small: even for those who report lifetime prevalence of other drugs the average score is still low.

The conclusion is not so straightforward. Cannabis plays a role for using other drugs, in varying degrees for different persons, and almost only for those who indeed have used other drugs. For those who have not used other drugs, cannabis is almost always perceived as not 'pulling them' into other drug use.

Most respondents deny a role of cannabis in the sense that they want to acquaint themselves with 'stronger' substances or that cannabis made them curious for other drugs. However, cannabis use as a social activity occurs among drug users in general, and a majority of respondents report to have learned to know other drug users via cannabis. This social process may still remain one of the most important avenues into learning to know about other drugs and developing a motive for trying them. Knowing about drugs from users themselves is an important part of the initiation route, as we saw with cannabis itself (see chapter 3) and with cocaine (Cohen 1989; Cohen & Sas 1993, 1995). This implies there may be some spurious relation in play here where we discuss the perceived importance of cannabis use for the occurrence other drug use experience. We know that the probability to have used illicit drugs increases with education, and with outgoing behaviour (visiting cafe's, bars, disco's, theatre). Cannabis users are far more outgoing than non cannabis users, so their chance to see and meet other drug users is much larger than of non outgoing people. So, outgoing behaviour- and not cannabis use per se- may be the common determinant of the probability of any drug use experience. Dominant local drug policy may play a role here: the more drug use is marginalized and concentrated into definite sub cultural groups, the higher the probability that cannabis users meet users of other drugs. This may result into higher prevalence levels of other drug use experience. This might be shown by the fact that the relationship between cannabis and other drug use seems to be stronger in San Francisco than in Amsterdam.

Moreover, the importance of lifetime experience with other drugs should not be exaggerated. Trying other drugs than cannabis happens relatively often among our sample, but frequent use of other drugs is far less prevalent. We repeat here our finding in chapter 9 that the number of experienced cannabis users in our sample that reports frequent use of other illicit drug use is small. So, independently of the role of going out, or of cannabis use is for creating cultural and physical possibilities to try other drugs, other drug use remains largely experimental.

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The appendices to this report will be added shortly...