

Report 2

Amphetamine, ecstasy and cocaine: typology of users, availability and consumption estimates

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Abstract

To explore the European drug market from the demand side, we conducted web surveys in seven selected EU Member States (Bulgaria, Czech Republic, Italy, Netherlands, Portugal, Sweden and the United Kingdom) among last year users of (meth)amphetamine, ecstasy and cocaine. These users provided us with information on quantitative and qualitative aspects of their drug use such as their frequency of use and usual locations of purchase and use, thus offering us a window on patterns of drug use and availability. On the basis of past year use frequency, we divided users of each drug into three user type groups of infrequent (less than 11 use days), occasional (11-50 use days) and frequent (51-365 use days) users. We present findings per Member State as a whole and, wherever sample size allows, separately per user type. Our typology shows that infrequent users comprise the largest group for each drug and that the amount consumed on a typical use day increases with increasing frequency of use. We also estimated total annual consumption of (meth)amphetamine in the Czech Republic, the Netherlands and Sweden, and of ecstasy and cocaine in the Netherlands on the basis of the user type distinction. To this end, we calculated mean individual annual consumption within each user type group and combined these figures with absolute numbers of users of each type derived from general and targeted population survey data to arrive at estimates of total annual consumption. Individual annual consumption was higher among occasional than infrequent users and was highest among frequent users. In terms of total annual consumption, the smallest group of frequent users is responsible for the largest part of the total estimated amounts of each drug consumed. We discuss and compare our estimates to those from previous drug market research.

1 Introduction

In this report we will start with a brief summary of the latest figures on amphetamine, ecstasy and cocaine use, focusing on the Member States participating in this study (chapter 2). In chapter 3 we explain how we have defined different user groups in the present study. The remainder of that chapter and chapter 4 describe the findings of the web survey conducted in the seven Member States with regard to characteristics of users, especially their consumption patterns, and the availability of the three substances to different user groups. For cocaine, chapter 3 and 4 will deal specifically with cocaine powder due to very limited numbers of crack users in the web survey (a total of only 90 in all seven Member States). This was expected beforehand, since crack users generally belong to the population of marginalized drug users who are not likely to be captured in (population and web) surveys. In chapter 5 we will integrate existing data on the prevalence of amphetamine, ecstasy and cocaine use and web survey data on consumption patterns in order to estimate the total amount of each drug consumed annually per user group. We will also complement these estimates for cocaine and amphetamine with data on the use of (crack) cocaine and amphetamine from the face-to-face interviews. Finally, please note that while our surveys focused on amphetamine in most sample Member States, the Czech survey examined methamphetamine. We will use the term (meth)amphetamine throughout our text when talking about the combined sample Member States, and will occasionally use the term amphetamines when we do not differentiate between these two substances.

2 Prevalence of use in the population

In this paragraph we will present figures on use and use patterns of (meth)amphetamine, ecstasy and cocaine in the 7 sample Member States and compare our samples from these countries to these figures from previous research. As reported in report 1 on cannabis, figures on the prevalence of amphetamine, ecstasy and cocaine use for Bulgaria, the Netherlands, Portugal,

Sweden and England & Wales are based on the most recent population surveys. For the Czech Republic, figures from the 2008 survey have been used instead of those from the more recent surveys in 2009 and 2010 (see chapter 4), as the sample sizes of the latter surveys were much lower compared to 2008 (n=1,487 and 1,749 against 4,200) (Mravcik et al. 2011). Moreover, in contrast to the 2008 survey, the two most recent surveys did not assess (or report) data on frequency of use in the past month. Also note that in the Czech Republic, methamphetamine (pervitin) is used instead of amphetamine.

In Italy, figures from the 2008 survey have been given, but the response rate was fairly low (32%), posing questions on the representativeness of the data. Therefore, for making annual consumption estimates, figures from indirect methods will be used to estimate the size of the Italian population using amphetamine, ecstasy and cocaine. Also note that in England & Wales figures refer to age group 16-59 years.

Table 2.1 shows the proportion of last year and last month use prevalence for all three drugs in each of the seven Member States (EMCDDA 2012c). Last year users have used at least once in the last year (or 12 months), while part of these users have also used at least once in the past month (or 30 days).

The data in table 1 show that among our sample Member States, (meth)amphetamine is most prevalent in the Czech Republic and England & Wales. Ecstasy use is also relatively high in these countries, together with the Netherlands, while cocaine use is most prevalent in Italy and England & Wales. Finally, ecstasy use seems to be virtually nonexistent in Sweden.

Table 2.1: Prevalence of (meth)amphetamine, ecstasy and cocaine use in the general population per Member State

Country	Year	Age range	Sample size	Amphetamine		Ecstasy		Cocaine	
				Last year	Last month	Last year	Last month	Last year	Last month
Bulgaria	2008	15–64	5,139	0.9	0.2	0.7	0.5	0.7	0.2
Czech Republic	2008	15–64	4,500	1.7	0.7	3.7	1.2	0.7	0.4
Italy	2008	15–64	10,940	0.4	0.1	0.7	0.2	2.1	0.7
Netherlands	2009	15–64	5,779	0.4	0.2	1.4	0.4	1.2	0.5
Portugal	2007	15–64	12,202	0.9	0.2	0.4	0.2	0.6	0.3
Sweden	2008	15–64	22,095	0.8	0.3	0.1	0.0	0.5	0.1
England & Wales	2010/2011	16–59	27,452	1.1	0.4	1.4	0.4	2.2	0.8

Source: EMCDDA, *Statistical Bulletin 2012*.

Table 2.2 shows the prevalence rates from table 2.1 converted to the last month prevalence among last year users to allow for comparison with our samples from the current study, which – due to our inclusion criteria – consist exclusively of last year users. It is immediately clear that the last month prevalences for (meth)amphetamine are higher in our study than derived from EMCDDA data. With the exception of Bulgaria, this is also the case for the last month prevalence of ecstasy use. Last month prevalences of cocaine use from our study and the EMCDDA data are a bit closer together, and differences are less consistent, that is, for some countries last month prevalence is higher in our study and for some countries it is lower than in the EMCDDA data. These findings suggest that, especially for (meth)amphetamine and ecstasy, our strategies of recruiting drug users (see the Introduction to part I) are likely to draw relatively high numbers of past month users.

Table 2.2: Last month prevalence of (meth)amphetamine, ecstasy and cocaine use among last year users in the general population and the current study per Member State

Country	Amphetamine		Ecstasy		Cocaine	
	EMCDDA	This study	EMCDDA	This study	EMCDDA	This study
Bulgaria	22.2	50.7	71.4	42.5	28.6	25.0
Czech Republic	41.2	53.8	32.4	40.2	57.1	32.8
Italy	25.0	37.5	28.6	45.6	33.3	40.8
Netherlands	50.0	67.4	28.6	65.2	41.6	57.0
Portugal	22.2	60.0	50.0	69.2	50.0	46.4
Sweden	37.5	40.4	0.0	33.8	20.0	34.6
England & Wales	36.4	62.5	28.6	46.0	36.4	34.1

Source: EMCDDA, *Statistical Bulletin 2012*.

2.1 Trends in use

In its 2012 report on the stimulant market, the EMCDDA concluded that Europe is facing an increasingly complex stimulant market, where consumers are confronted with a wide variety of substances (EMCDDA 2012a). While amphetamines, ecstasy and cocaine continue to be the main players on the stimulant scene, they are now competing with a growing number of emerging synthetic drugs. Some relevant highlights from this report and from the national reports of the sample Member States concerning amphetamines, ecstasy and cocaine are summarized below.

Amphetamines

Use of amphetamines remains overall lower than that of cocaine in Europe. Around 13 million Europeans (15–64 years) have tried amphetamines in their lifetime, around 2 million in the last year. Latest trend data show last-year use of amphetamines among young adults (15–34 years) to be overall stable or declining. Although amphetamine is more commonly used, methamphetamine use now appears to be spreading. Availability has risen in the north of Europe, where it has partially been replacing amphetamine as the stimulant drug of choice.

Ecstasy

Around 11.5 million Europeans (15–64 years) have tried 'ecstasy' in their lifetime, around 2 million in the last year. MDMA — the best-known member of the 'ecstasy' group of drugs — seems to be making a comeback following a shortage of MDMA in recent years when tablets sold as 'ecstasy' often contained other substances. While the contents of tablets sold as 'ecstasy' remain diverse, powders and tablets containing high doses of MDMA appear to be becoming more common.

Cocaine

Over the last decade, cocaine has established itself as the most commonly used illicit stimulant drug in Europe, although most users are found in a small number of western EU countries. Around 15.5 million Europeans (15–64 years) have tried cocaine in their lifetime, around 4 million having used it in the last year. While cocaine use remains a major part of the stimulant drug problem, its popularity and image as a 'high-status drug' may be declining. While some countries still report rising cocaine consumption (e.g. Bulgaria), several high-prevalence countries including Italy and the UK report some decline in last-year cocaine use among young adults (15–34 years). Potential users may now be more aware of the negative consequences that can accompany cocaine consumption. Note that in population surveys, users of cocaine are predominantly (integrated) cocaine powders users who snort the drug, while socially marginalized problem users usually smoke 'crack' (or cocaine base) or inject cocaine powder (EMCDDA 2012b; Prinzleve et al. 2004). The latter group may also or mainly include former or current heroin users. Crack use is not widespread in Europe. It has been reported to be mainly an urban phenomenon, in a limited number of cities, although in the Netherlands it is common among problem hard drug users in general, not only in cities.

Low cocaine purity may also be causing some users to switch to other stimulants. Of the 23 countries providing trend data on cocaine purity, 20 reported a decline between 2005 and 2010. The EMCDDA index of average cocaine purity in the EU fell by 22 % in this period. Falling numbers of cocaine seizures and quantities of cocaine seized in Europe, and declining numbers of drug users seeking treatment for cocaine problems also suggest that its popularity may be waning.

2.2 Frequency of use (general population)

The EMCDDA model questionnaire for population surveys includes questions on the number of use days in the past 30 days among past year users. For cannabis these data have been reported repeatedly for a selection of countries. For other substances with much lower prevalence rates of use, data on frequencies have not been reported, which is most likely due to the very low number of absolute cases of last month use on which such a distribution is based, and the accordingly high level of uncertainty about the true values. Nonetheless, we have frequency data for two sample Member States, the Czech Republic and Netherlands, which will be presented as 'proxy' frequency measures.

Table 2.3 shows the distribution of frequency of use among last month users of amphetamine, ecstasy and cocaine in the Netherlands (Van Rooij et al. 2011).

Table 2.3: Frequency of ecstasy, amphetamine and cocaine use among last month users in the general population of 15-64 years in the Netherlands (2009)

	Frequency	N	%
Ecstasy (LMP=0.4%)	(Almost) daily	3	11%
	Several times/week	0	
	At least once a week	3	12%
	Less than once a week	19	77%
	Total	25	100%
Amphetamine (LMP=0.2%)	(Almost) daily	4	28%
	Several times/week	0	
	At least once a week	2	16%
	Less than once a week	7	56%
	Total	13	100%
Cocaine (LMP=0.5%)	(Almost) daily	2	5%
	Several times/week	1	5%
	At least once a week	5	16%
	Less than once a week	22	74%
	Total	30	100%

LMP= last month prevalence.

Source: Statistics Netherlands.

Table 2.4 shows the distribution of frequency of use among users of methamphetamine, ecstasy and cocaine in the Czech Republic.

Table 2.4: Frequency of ecstasy, methamphetamine and cocaine use in the general population of 15-64 years in the Czech Republic (2008)

	Frequency	% of population	% of last month users
Methamphetamine	Never used	95.70	
	Used but not in the last year	2.66	
	Last year but not last month	0.92	
	Last month	0.73	100% (n=33)
	Last month but not last week / „less than once a week in the last 30 days“	0.22	30%
	Once a week or more	0.19	26%
	Several times per week	0.22	30%
	Every day or almost every day	0.10	14%
Ecstasy	Never used	90.41	
	Used but not in the last year	5.96	
	Last year but not last month	2.46	
	Last month	1.17	100% (n=53)
	Last month but not last week / „less than once a week in the last 30 days“	0.69	59%
	Once a week or more	0.38	32%
	Several times per week	0.08	7%
	Every day or almost every day	0.02	2%
Cocaine	Never used	97.97	
	Used but not in the last year	1.29	
	Last year but not last month	0.38	
	Last month	0.36	100% (n=16)
	Last month but not last week / „less than once a week in the last 30 days“	0.17	47%
	Once a week or more	0.15	42%
	Several times per week	0.04	11%
	Every day or almost every day	0.00	0%

Source: General population survey on psychoactive substance use and related attitudes (Běláčková 2008).

Frequency data based on the 2003 Household Survey in Italy suggest that among past-year cocaine users, 78% used up to once in a month, 13% used 2-4 times in a month, 6% used 2-3 times in a week, and 4% used 4 times or more in a week. A 2009 Spanish general population survey, using frequency of use measures, estimated 140,525 intensive users of cocaine, defined as those who were over the age of 20 and had used cocaine on at least 30 days in the last year or at least 10 days in the last month (125,981), or those who were 20 or under and had used cocaine 10 or more days in the last year and at least one day in the last month (14,544). This would suggest that about 16.5% of last year users of cocaine are intensive users. A city study in Oslo, Norway, also based on a frequency of use measure in a set of four different surveys (among the general population, prison inmates and injecting drug users), identified some 12,000 last year users of cocaine. Of these cocaine users, 15% were identified as problem users (defined as using the drug more than once a week), 35% as recreational users (limited use, not specified further) and just over 50% as experimental users (only one to four times during the last 12 months).

The research presented in this paragraph suggests that the majority of last year users of (meth)amphetamine, ecstasy and cocaine as sampled through population surveys are not intensive users, in terms of frequency of use. It must be, noted, however, that while daily use may not be the norm, use of especially stimulants may occur in binges, during which huge amounts may be consumed within short time periods lasting up to a few days.

2.3 Data on prevalence and frequency of use in other (targeted) populations

Amphetamines and ecstasy are associated with attending nightclubs and dance events (EMCDDA, 2012a). Targeted studies provide a view on 'recreational' use of these stimulant drugs by young adults attending a range of different nightlife venues. Information on last year prevalence of ecstasy use among young people attending dance and nightlife settings in 2010/11 is available for two countries: the Czech Republic (43%) and the Netherlands (Amsterdam, 33%). Ecstasy use was more common than amphetamines use in the two samples.

Table 5 shows results from a survey in 2008/2009 which examined substance use among visitors at large scale parties and among clubbers and disco-goers in the Netherlands (Van der Poel et al. 2010). Respondents of 15-35 years were recruited 'on the spot' and asked to answer questions on their substance use in the past month, and to complete a longer questionnaire (on paper or through internet) the day after going out. A total of 920 visitors of parties and 2,044 and visitors of clubs and discos completed the longer questionnaire. The response rate was fairly low (19% for both settings), but this is not uncommon for research in this type of setting. Visitors of parties were on average older than visitors of clubs (24 and 22 years, respectively). While the prevalence of drug use was higher among visitors of large-scale parties compared to clubs, the frequency distribution among past month users was more or less the same. Table 3 shows the combined frequency of use of amphetamine, ecstasy and cocaine among visitors from both settings combined, divided into past year (but not past month) users and past month users.

These data show that also in this relatively 'high risk' sample, the large majority of respondents was an infrequent user and/or limited their use to special occasions. This pattern is supported by more recent qualitative and quantitative studies in the nightlife scene in Amsterdam (Benschop et al. 2011; Nabben et al. 2012). For example, among last year users of ecstasy recruited in pubs, no one was a (near) daily user, 1% used a few days per week, 4% used only in the weekend, 79% now and then or only at special occasions, and 16% used seldom/hardly ever. For last year users of cocaine nobody used (near) daily or a few times per week, 15% used only in weekends, 56% used now and then/only at special occasions and 27% used seldom. For amphetamine, these proportions were 0% (daily or near daily), 8% (several times per week), 8% (only during weekends), 50% now and then/at special occasions and 33% (seldom).

Table 2.5: Frequency of use among past month users and past year/not past month users of ecstasy, amphetamine and cocaine among visitors of parties and festivals in the Netherlands (15-35 years)

		Past month users		Past year – not past month users	
		n	%	n	%
Ecstasy	(Almost) daily	2	0.6%	0	0%
	Several times/week	1	0.3%	0	0%
	Only in weekend	35	9.6%	0	0%
	Only at special occasions	247	68.0%	84	42.6%
	Seldom	78	21.5%	113	57.4%
	Total	363	100%	197	100%
Amphetamine	(Almost) daily	5	4.0%	3	3.2%
	Several times/week	6	4.8%	0	0%
	Only in weekend	23	18.4%	3	3.3%
	Only at special occasions	62	49.6%	26	28.6%
	Seldom	29	23.2%	59	64.8%
	Total	125	100%	91	100%
Cocaine	(Almost) daily	5	2.5%	1	0.6%
	Several times/week	6	3.1%	0	0%
	Only in weekend	32	16.5%	3	1.9%
	Only at special occasions	104	53.6%	44	27.7%
	Seldom	47	24.2%	111	69.8%
	Total	194	100%	159	100%

Source: Van der Poel et al. 2010; National report *The Netherlands 2010*.

The 2009 Belgian Partywise Study in different nightlife settings in the Flemish Community (Rosiers 2010) provides data similar to those from the Dutch study by Van der Poel and colleagues (2010). In this study, questionnaires were completed by ca. 650 respondents (mainly between 15-30 years old) who were selected randomly at a variety of venues. Table 2.6 presents the findings from this study on the frequency of use for amphetamine, ecstasy and cocaine in Flemish nightlife settings.

Table 2.6: Frequency of use of amphetamine, ecstasy and cocaine among visitors of clubs, parties and festivals in Flanders (n=607; mean age=22.2 years)

	Frequency	% of target population	% of last year users
Amphetamine	Never used	81.4	
	Used but not in the past year	13.0	
	Used in the past year	5.7	100%
	Once a month or less	3.7	64.9%
	Several times a month	0.8	14.0%
	Once a week	0.5	8.8%
	Several times a week	0.5	8.8%
	Daily	0.2	3.5%
Ecstasy	Never used	74.1	
	Used but not in the past year	15.6	
	Used in the past year	10.2	100%
	Once a month or less	7.1	69.6%
	Several times a month	2.0	19.6%
	Once a week	0.8	7.8%
	Several times a week	0.3	2.9%
	Daily	0.0	0.0%
Cocaine	Never used	76.6	
	Used but not in the last year	10.9	
	Used in the past year	12.5	100%
	Once a month or less	7.0	56.0%
	Several times a month	3.2	25.6%
	Once a week	1.5	12%
	Several times a week	0.5	4.0%
	Daily	0.3	2.4%

Source: Rosiers 2010; National Report Belgium 2011.

A study on cocaine use in nine European cities collected data among three subgroups: users in addiction treatment (n=632), socially marginalized users not in treatment (n=615), and socially integrated users (n=608) (Prinzleve et al. 2004). Mean number of use days in the last 30 days for cocaine powder and crack cocaine were respectively 11.2 and 5.5 days for users in treatment, 13.9 and 7.9 days for marginalized users and 7.0 and 0.2 days for integrated users. There are no reports of the amounts consumed per typical use day for these different populations, Note also that the selection criterion for inclusion in the study was use of cocaine at least once in the past month, so relatively infrequent users have not been included.

3 Drug use and classifications or typologies of users

3.1 Definition of user types

As with cannabis, we classified in this study users of (meth)amphetamine, ecstasy and cocaine on the basis of the number of use days in the past 12 months (annual frequency). We, however, could not match the division into four user type groups because in particular the numbers of (highly) frequent users (especially those using near daily or daily) were too small. There are two explanations for this. First, with the exception of the Netherlands, the overall sample sizes in our web survey for (meth)amphetamine, ecstasy and cocaine users were far smaller than the ones for cannabis. With increasing frequency of use the number of users per group (category) size decreases (see figures 3.1 to 3.3). This resulted in especially small groups of the more frequent user types. Second, as population surveys yield few to no daily or near daily users of these drugs, daily

or near daily use of these drugs may be much rarer than it is for cannabis. In fact, for ecstasy there may be hardly any daily users at all (see for example Sterk et al. 2006). Therefore, we opted to combine the categories of regular and intensive users into a single category that we labelled frequent users.

This resulted in a differentiation between the following three main groups of user types:

- **Infrequent users** = people using on less than 11 days in the past year (≈ 'less than once a month')
- **Occasional users** = people using on 11-50 days (≈ 'less than once a week but at least once a month')
- **Frequent users** = people using cannabis on 51 to more than 350 days (≈ 'once a week or more').

Only the Dutch samples consisted of sufficient respondents per user type across the three drugs to provide reliable figures for these three user types. Of the other Member States, the Czech Republic and Sweden provided sufficient respondents in the three user types for (meth)amphetamine, but not for ecstasy and cocaine. We therefore decided to differentiate between the three user types only for those drugs in the selected Member States where we had sufficient numbers of respondents (20 or more) in each user type group (i.e., the Netherlands for all three drugs and the Czech Republic and Sweden for (meth)amphetamine). For the other drugs in the selected Member States, we will report only on the total sample per drug, not differentiating between different user types.¹

As with cannabis, the number of use days is not equally distributed over the different groups. With its combination of regular and intensive users, especially the frequency range for the category 'frequent users' is quite wide (51 - >350 days in the past 12 months) and may be heterogeneous, although conceptually this group can be seen as those who consume at least weekly.

Using the three category classification (infrequent, occasional and frequent), 55% of the respondents in the total (meth)amphetamine sample could be classified as infrequent user, 26% as occasional user and 19% as frequent user (figure and table 3.1). The average number of use days in the past 12 months within these categories was 4.3, 25 and 172, respectively. Table 3.1 shows that this distribution varied across the Member States, but that a pattern of decreasing category size with increasing frequency category could be found in all countries. This means that the proportion of infrequent users was highest while the proportion of frequent users was lowest in all countries.

In the total ecstasy sample, 67% of the respondents could be classified as infrequent user, 29% as occasional user and 5% as frequent user (figure and table 3.2). This picture supports our assumption that frequent or regular use of ecstasy is rather unusual. The average number of use days within these categories was 4.7, 22, and 133, respectively. Table 3.2 shows that these proportions varied across countries, but the proportion of infrequent users was highest while the proportion of frequent users was lowest in all countries.

In the total cocaine sample, 69% of the respondents could be classified as infrequent user, 21% as occasional user and 10% as frequent user (figure and table 3.3). The average number of use days within these categories was 4.1, 25, and 128, respectively. Again, the distribution varied across Member States, but the proportion of infrequent users was highest while the proportion of frequent users was lowest in all countries (see table 3.3).

¹ In the few instances where we do report on (sub)groups containing less than 20 cases, descriptive statistics will be placed between brackets.

Figure 3.1: Number of respondents in the total (meth)amphetamine sample per frequency category (= number of days used in the past 12 months)

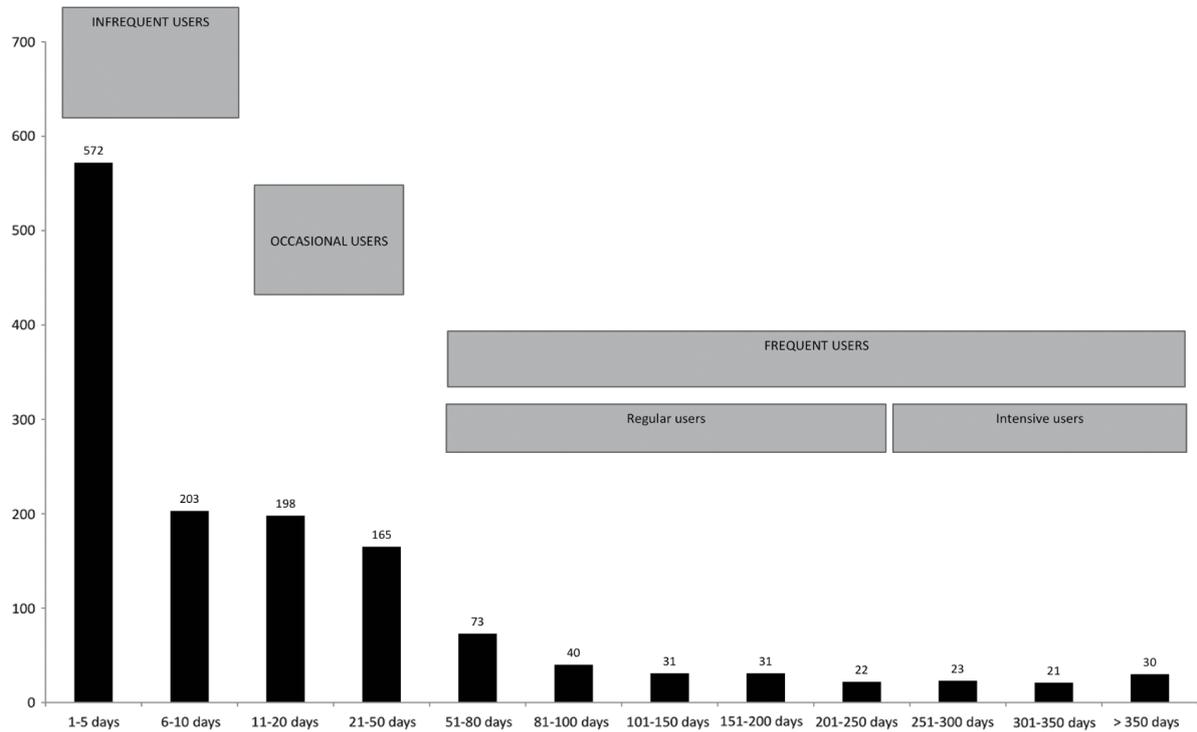


Figure 3.2: Number of respondents in the total ecstasy sample per frequency category (= number of days used in the past 12 months)

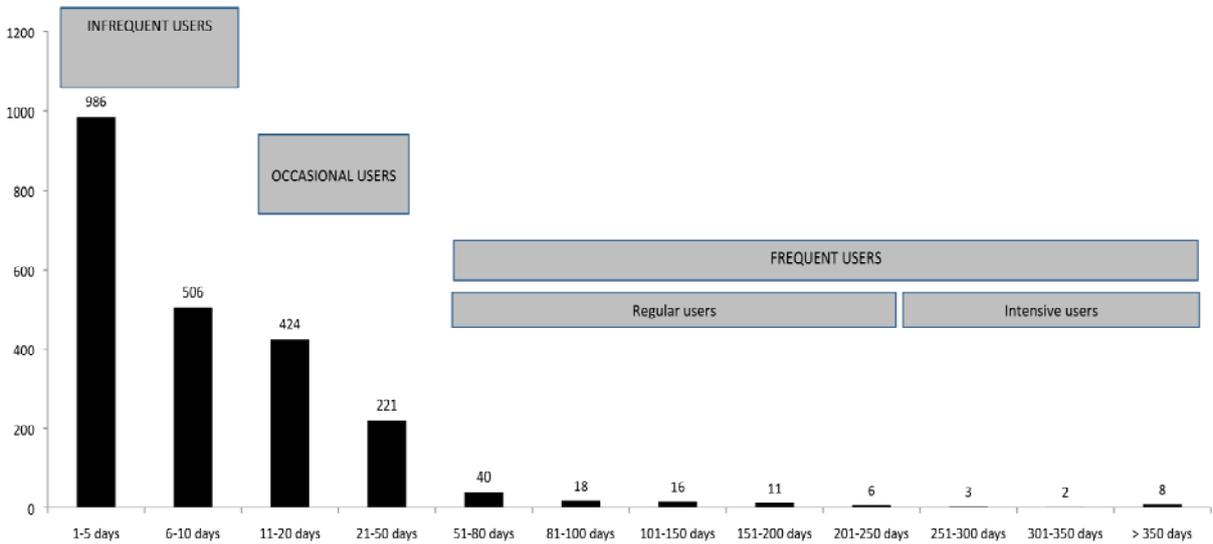


Figure 3.3: Number of respondents in the total cocaine sample per frequency category (= number of days used in the past 12 months)

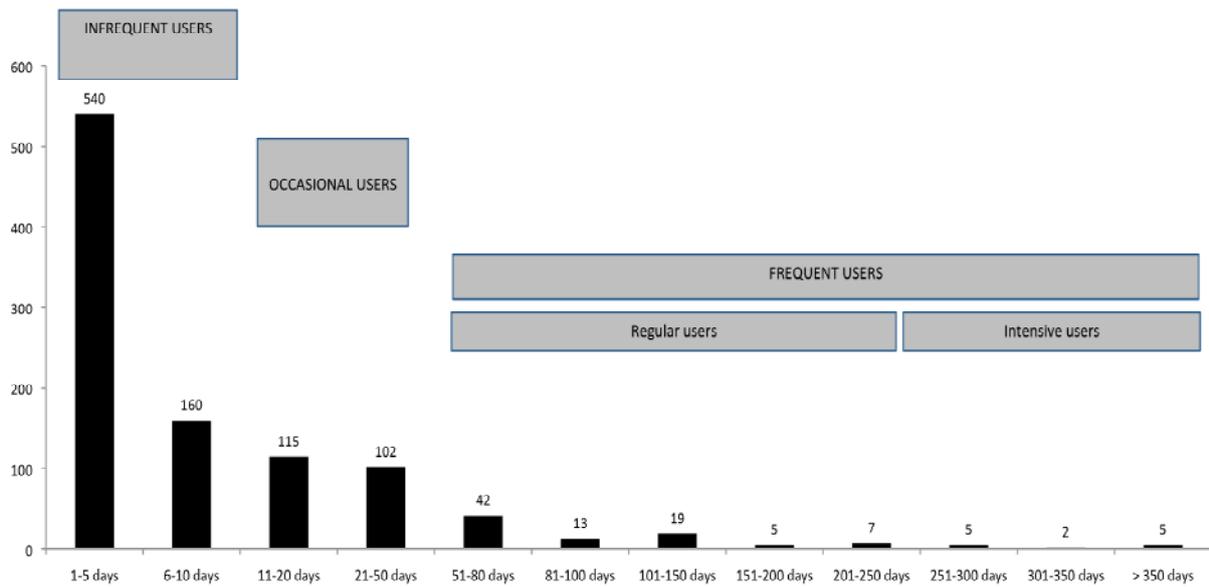


Table 3.1: Numbers and proportions of (meth)amphetamine users by user group and country

		Infrequent	Occasional	Frequent	Total
Bulgaria	Number	43	17	15	75
	%	57%	23%	20%	100%
Czech Republic	Number	72	37	34	143
	%	50%	26%	24%	100%
Italy	Number	49	8	7	64
	%	77%	13%	11%	100%
Netherlands	Number	450	263	182	895
	%	50%	29%	20%	100%
Portugal	Number	13	1	1	15
	%	87%	7%	7%	100%
Sweden	Number	134	30	29	193
	%	69%	16%	15%	100%
England & Wales	Number	14	7	3	24
	%	58%	29%	13%	100%
All countries	Number	775	363	271	1,409
	%	55%	26%	19%	100%

Table 3.2: Numbers and proportions of ecstasy users by user group and country

		Infrequent	Occasional	Frequent	Total
Bulgaria	Number	28	11	1	40
	%	70%	28%	3%	100%
Czech Republic	Number	104	21	7	132
	%	79%	16%	5%	100%
Italy	Number	51	11	6	68
	%	75%	16%	9%	100%
Netherlands	Number	1,111	579	87	1,777
	%	63%	33%	5%	100%
Portugal	Number	11	1	1	13
	%	85%	8%	8%	100%
Sweden	Number	137	9	2	148
	%	93%	6%	1%	100%
England & Wales	Number	50	13	0	63
	%	79%	21%	0%	100%
All countries	Number	1,492	645	104	2,241
	%	67%	29%	5%	100%

Table 3.3: Numbers and proportions of cocaine users by user group and country

		Infrequent	Occasional	Frequent	Total
Bulgaria	Number	13	4	3	20
	%	65%	20%	15%	100%
Czech Republic	Number	54	8	5	67
	%	81%	12%	8%	100%
Italy	Number	69	20	9	98
	%	70%	20%	9%	100%
Netherlands	Number	427	159	68	654
	%	65%	24%	10%	100%
Portugal	Number	17	6	5	28
	%	61%	21%	18%	100%
Sweden	Number	83	13	8	104
	%	80%	13%	8%	100%
England & Wales	Number	37	7	0	44
	%	84%	16%	0%	100%
All countries	Number	700	217	98	1,015
	%	69%	21%	10%	100%

In the next sections, user characteristics, use patterns and circumstances of use for each of the three drugs will be described on the basis of the total samples per sample Member State and user types where possible. We will examine whether there are differences between Member States and – where the data allow – between user types. We will – where the data allow - also examine whether there are differences between user groups in the total samples and whether these differences are consistent across countries. Note that data for all seven Member States combined are not weighted, so that countries with relatively large samples (in particular the Netherlands, but also Sweden, the Czech Republic and Italy) will contribute most to the overall averages. To deal with this overrepresentation of Dutch users in the total sample and the small numbers of (certain types of) users in some other Member States, we conducted many of our analyses while controlling for Dutch sample versus the combined other Member State's samples (instead of controlling separately for the Member States). This means that we include a dichotomous variable - coding each case as coming from the sample from the Netherlands or one of the other Member States' samples – as a factor in the analyses. If inclusion of this factor changes the results, this tells us something about whether a finding is present across countries or is solely driven by the large Dutch sample. For example, if a difference between groups is not present in the total sample but pops up when controlling for this factor, then the difference likely exists in the combined other Member States

but not in the Netherlands. Conversely, if a difference between groups exists in the total sample but disappears when controlling for this factor, then the difference likely exists in the Netherlands but not in the combined other Member States.

3.2 Demographics

3.2.1 Gender

Amphetamine

Table 3.4 shows the percentages of males and females per sample Member State. In total, 68% of all (meth)amphetamine users were male, but proportions varied significantly across countries, ranging from 49% in Bulgaria to 81% in Sweden. Table 3.5 shows the percentages of males per user group in the Czech Republic, the Netherlands and Sweden. There were no significant gender differences between user groups, but only a marginally higher proportion of males among infrequent compared to occasional users in the Czech Republic.

Table 3.4: Gender distribution of amphetamine users per Member State

	BG	CZ	IT	NL	PT	SE	E&W	Total
N (100%)	77	150	64	913	15	202	26	1,447
Male	49%	71%	70%	66%	[67%]	81%	54%	68%
Female	51%	29%	30%	34%	[33%]	19%	46%	32%

Table 3.5: Percentage of males among amphetamine user groups by Member State

	Infrequent	Occasional	Frequent	Total	P
Czech Republic	79% ^a	57% ^b	65% ^{a,b}	71%	.040
Netherlands	68%	62%	64%	66%	.255
Sweden	84%	83%	66%	81%	.076

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

Ecstasy

Table 3.6 shows the percentages of males and females among ecstasy users per sample Member State. In total, 69% of all ecstasy users were male, but proportions varied significantly across countries, ranging from 55% in Bulgaria to 89% in Sweden. There were no gender differences between user groups in the percentage of males in the Netherlands (P=.850).

Table 3.6: Gender distribution of ecstasy users per Member State

	BG	CZ	IT	NL	PT	SE	E&W	Total
N (100%)	40	137	69	1,814	13	151	64	2,288
Male	55%	71%	74%	68%	[77%]	89%	64%	69%
Female	45%	29%	26%	32%	[23%]	11%	36%	31%

Cocaine

Table 3.6 shows the percentages of males and females among cocaine users per sample Member State. In total, 73% of all cocaine users were male, but proportions varied significantly across countries, ranging from 53% in England & Wales to 83% in Sweden. Again, there were no gender differences between user groups in the percentage of males in the Netherlands (P=.432).

Table 3.7: Gender distribution of cocaine users per Member State

	BG	CZ	IT	NL	PT	SE	E&W	Total
N (100%)	23	70	112	695	30	113	49	1,092
Male	52%	73%	79%	73%	73%	83%	53%	73%
Female	48%	27%	21%	27%	27%	17%	47%	27%

3.2.2 Age

Amphetamine

Table 3.8 shows descriptive statistics for age groups per sample Member State. The majority of the respondents were in their early and mid twenties. The large majority of respondents fell in age group 15-34 years (91%, ranging from 87% in Sweden to 99% in Bulgaria). The low numbers of cases in the age group 35-64 years does not allow further analyses of use patterns when differentiating between two age groups, one of 15-34 and the other one of 35-64 years. We therefore chose to differentiate between the age groups 15-24 and 25-64 years. Table 3.8 gives the proportion of users in the age groups 15-24 and 25-64 years. Overall about six in ten respondents were between 15 and 24 years, while about four in ten respondents were aged between 25 and 64 years. The overall mean age in age group 15-24 years was 20.9 years (median 21) and in age group 25-64 years it was 31.4 years (median 29).

Table 3.9 shows descriptive statistics for age groups per user type in Czech Republic, the Netherlands and Sweden and in the total sample from all seven sample Member States. Overall, no differences between user types in mean age were found, even when controlling for differences between the seven sample Member States and between the Dutch sample and a combined sample of the other six Member States. There were also no age differences between user groups in the Czech Republic, the Netherlands and Sweden, in terms of mean age and proportions of younger and older users. The only exception is a slightly higher mean age of frequent users compared with infrequent users in Sweden.

Table 3.8: Age distribution of amphetamine users by Member State

	BG	CZ	IT	NL	PT	SE	E&W	Total
N (100%)	77	150	64	913	15	202	26	1,447
Age (yrs) – mean	23.1	23.8	23.3	25.3	[24.5]	26.3	27.5	25.1
Age (yrs)- median	22	23	23	23	[24]	23	26	23
%15-24 years	70%	63%	69%	59%	[60%]	55%	38%	60%
% 25-64 years	30%	37%	31%	41%	[40%]	45%	62%	40%

Table 3.9: Age distribution of amphetamine users by user group and Member State

	Infrequent	Occasional	Frequent	P
Czech Republic				
Age – mean	23.1	23.4	25.2	.086
Age- median	22	22	24	
%15-24 years	69%	65%	53%	.253
% 25-64 years	31%	35%	47%	
Netherlands				
Age – mean	25.7	25.2	24.6	.180
Age- median	23	23	23	
%15-24 years	58%	60%	63%	.525
% 25-64 years	42%	40%	37%	
Sweden				
Age – mean	25.5 ^a	26.8 ^{a,b}	30.1 ^b	.030
Age- median	23	23	27	
%15-24 years	57%	60%	41%	.247
% 25-64 years	43%	40%	59%	
All countries				
Age – mean	25.1	25.1	25.1	.999 / .363 ¹ / .746 ²
Age- median	23	23	23	
%15-24 years	60%	60%	60%	.997
% 25-64 years	40%	40%	40%	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

¹ P-value correspond to ANOVA controlling for Member State.

² P-value correspond to ANOVA controlling for Dutch sample.

Ecstasy

Table 3.10 shows descriptive statistics for age groups per sample Member State. As with (meth)amphetamine, the majority of the respondents were in their early and mid twenties. The large majority of respondents fell in age group 15-34 years (88%, ranging from 87% in the Netherlands to 100% in Bulgaria). The low numbers of cases in the age group 35-64 years does again not allow further analyses of use patterns when differentiating between the age groups of 15-34 and 35-64 years. Also here we therefore chose to differentiate between the age groups 15-24 and 25-64 years. Table 3.10 gives the proportion of users in age group 15-24 and 25-64 years. Overall about six in ten respondents were between 15 and 24 years, while about four in ten respondents were aged between 25 and 64 years. The overall mean age in age group 15-24 years was 20.8 years (median 21) and in age group 25-64 years it was 32.4 years (median 30).

Table 3.11 shows descriptive statistics for age groups per user type in the Netherlands and in the total sample (of all seven sample Member States). Overall, there were no significant differences between user types in mean age, also when controlling for differences among Member States and between Dutch and non-Dutch samples. No significant differences in the proportions of younger and older users between user groups were observed, although overall there was a slightly higher proportion of younger users in the frequent user group and this difference was significant at $p < .05$.

Table 3.10: Age distribution of ecstasy users by Member State

	BG	CZ	IT	NL	PT	SE	E&W	Total
N (100%)	40	137	69	1,814	13	151	64	2,288
Age (yrs) – mean	23.6	23.9	24.3	25.7	[23.8]	25.2	26.4	25.5
Age (yrs)- median	24	23	22	23	[24]	24	26	23
%15-24 years	63%	62%	65%	60%	[69%]	58%	39%	59%
% 25-64 years	38%	38%	35%	40%	[31%]	42%	61%	41%

Table 3.11: Age distribution of ecstasy users by user group for NL and total

	Infrequent	Occasional	Frequent	P
Netherlands				
Age – mean	25.5	26.1	24.5	.145
Age- median	23	23	21	
% 15-24 years	59%	60%	73%	.065
% 25-64 years	41%	40%	27%	
All countries				
Age – mean	25.4	26.1	24.2	.047/ .253 ¹ / .133 ²
Age- median	23	23	21	
% 15-24 years	59% ^a	59% ^a	74% ^b	.024
% 25-64 years	41%	41%	26%	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

¹ P-value correspond to ANOVA controlling for Member State.

² P-value correspond to ANOVA controlling for Dutch sample.

Cocaine

Table 3.12 shows again descriptive statistics for age groups per sample Member State. The majority of the respondents were also here in their mid twenties. The large majority of respondents fell in age group 15-34 years (89%, ranging from 70% in Portugal to 100% in Bulgaria). As with (meth)amphetamines and ecstasy the low numbers of cocaine users in the age group 35-64 years does again not allow further analyses of use patterns when differentiating between the age groups of 15-34 and 35-64 years. Also here we therefore chose to differentiate between the age groups 15-24 and 25-64 years. Therefore we decided again to differentiate between the age groups 15-24 and 25-64 years. Table 3.12 therefore gives the proportion of users in age group 15-24 and 25-64 years. Overall about half of the respondents were between 15 and 24 years, and the other half were aged between 25 and 64 years. The overall mean age in age group 15-24 years was 21.3 years (median 21) and in age group 25-64 years it was 31.1 years (median 29).

Table 3.13 shows descriptive statistics for age groups per user type in the Netherlands and in the total sample. Overall again, no differences between user types in mean age were found, both with and without controlling for differences between Member States. Only when controlling for the Dutch sample we discovered a difference: occasional users were older than infrequent users. However, as no difference between user groups was apparent in the Netherlands, this finding implies that such a difference exists in the combined other Member States. In other words, the absence of an overall difference was likely caused by the large share of the Dutch sample – in which no difference was present - in the total sample, but controlling for Dutch versus non-Dutch sample brought out a difference in the other Member States that was previously obscured by the larger contribution of the Dutch sample to the total. Unfortunately, we are unable to investigate this further because of insufficient sample sizes. No differences in the proportions of younger and older users between user groups were observed, neither in the total sample nor in the Netherlands.

Table 3.12: Age distribution of cocaine users by Member State

	BG	CZ	IT	NL	PT	SE	E&W	Total
N (100%)	23	70	112	695	30	113	49	1,092
Age (yrs) – mean	22.9	26.3	27.7	25.2	32.1	27.2	28.4	26.0
Age (yrs)- median	23	25	25	24	30	26	26	24
% 15-24 years	70%	49%	50%	56%	27%	42%	35%	52%
% 25-64 years	30%	51%	50%	44%	73%	58%	65%	48%

Table 3.13: Age distribution by cocaine user group for NL and total

	Infrequent	Occasional	Frequent	P
Netherlands				
Age – mean	24.9	25.8	25.9	.158
Age- median	23	24	26	
% 15-24 years	58%	53%	49%	.259
% 25-64 years	42%	47%	51%	
All countries				
Age – mean	25.7	26.9	26.3	.055 / .093 ¹ / .003 ²
Age- median	24	25	25	
% 15-24 years	53%	48%	50%	.380
% 25-64 years	47%	52%	50%	

¹ P-value correspond to ANOVA controlling for Member State.

² P-value correspond to ANOVA controlling for Dutch sample.

3.3 Characteristics of use

In the following paragraphs we will describe for each of the Member States and types of users the following aspects of drug use:

- Main location of use
- Route of administration
- Amount consumed on a typical day
- Estimate of annual consumption.

3.3.1 Main location of use

Amphetamine

Table 3.25 shows for all sample Member States (except Portugal because the sample was too small) where respondents usually consumed their (meth)amphetamine. The distribution of locations of use varied across the Member States ($p < .001$). Nevertheless, there is an overall pattern of substantial numbers of users across the Member States using at home or when going out ('places of entertainment', concert or festival). There were also differences between the different types of users in the Czech republic ($P = .026$), the Netherlands ($p < .001$) and Sweden ($P = .002$): the percentage of users who used at home was higher among frequent than infrequent users in all three Member States. In the Netherlands the percentage of users who used at a place of entertainment, concert or festival was higher among infrequent and occasional users than among frequent users.

Table 3.25: Location where (meth)amphetamine is usually consumed by Member State

	BG	CZ	IT	NL	SE	E&W	Total
N (100%)	65	125	56	799	172	22	1,239
At my own home	9%	27%	5%	16%	37%	18%	19%
At seller's home	0%	2%	4%	1%	1%	0%	1%
At someone else's home	8%	10%	14%	8%	16%	5%	10%
At a private party	17%	9%	5%	5%	20%	5%	8%
At my workplace	2%	0%	2%	1%	1%	0%	1%
At school, college or university	3%	1%	2%	0%	2%	0%	1%
On the street or in a park	5%	6%	5%	2%	2%	0%	3%
At a pub/bar	6%	8%	2%	2%	1%	9%	3%
Other place of entertainment	35%	17%	38%	25%	12%	50%	24%
At a music concert or festival	6%	14%	14%	36%	1%	14%	26%
Other	9%	6%	9%	4%	8%	0%	5%

Ecstasy

Table 3.26 shows for all Member States where respondents usually consumed their ecstasy. Also for ecstasy the distribution of locations of use varied across the Member States ($p < .001$). Across the Member States, places of entertainment (other than a pub or bar) and concerts and festivals were consistently popular among users. There were also differences between user groups in the Netherlands ($p < .001$): the percentage of users who used at home was higher among frequent users than among infrequent users and the percentage of users who used at someone else's home was higher among frequent users than among the other two user types.

Table 3.26: Location where ecstasy is usually consumed by Member State

	BG	CZ	IT	NL	SE	E&W	Total
N (100%)	39	112	52	1678	125	62	2,068
At my own home	5%	4%	4%	5%	16%	10%	6%
At seller's home	0%	0%	0%	0%	0%	0%	0%
At someone else's home	3%	3%	6%	4%	15%	5%	5%
At a private party	15%	4%	12%	3%	15%	18%	5%
At my workplace	0%	0%	0%	0%	1%	0%	0%
At school, college or university	0%	1%	0%	0%	0%	2%	0%
On the street or in a park	0%	2%	2%	1%	2%	2%	1%
At a pub/bar	5%	1%	6%	0%	0%	2%	1%
Other place of entertainment	56%	39%	42%	33%	26%	40%	34%
At a music concert or festival	13%	42%	19%	51%	16%	21%	46%
Other	3%	4%	10%	2%	10%	2%	3%

Cocaine

Table 3.27 shows for all Member States where respondents usually consumed their cocaine. Again, the distribution of locations of use varied across the Member States. Substantial numbers of users in the Czech Republic, the Netherlands, Portugal and Sweden reported using at places of entertainment. In Italy, using at someone else's home was mentioned most frequently, while using at one's own home was mentioned most frequently in England & Wales. Use at private parties was mentioned frequently in all countries except for the Netherlands. There were differences between user types in the Netherlands ($P = .027$): the percentage of users who used at home was again higher among frequent users than among infrequent users.

Table 3.27: Location where cocaine is usually consumed by Member State

	CZ	IT	NL	PT	SE	E&W	Total
N (100%)	62	82	601	24	94	42	905
At my own home	11%	18%	17%	13%	21%	24%	17%
At seller's home	2%	0%	0%	0%	0%	0%	0%
At someone else's home	5%	27%	18%	13%	12%	7%	17%
At a private party	23%	15%	8%	29%	26%	21%	12%
At my workplace	0%	1%	1%	0%	2%	0%	1%
At school, college or university	0%	0%	0%	0%	0%	0%	0%
On the street or in a park	2%	12%	2%	0%	4%	0%	3%
At a pub/bar	5%	6%	12%	13%	6%	21%	11%
Other place of entertainment	34%	12%	22%	29%	21%	19%	22%
At a music concert or festival	15%	1%	15%	4%	2%	0%	11%
Other	5%	7%	4%	0%	5%	7%	5%

3.3.2 Route of administration

For (meth)amphetamine and cocaine, we asked respondents how they usually consumed these drugs. We did not ask ecstasy users this question because ecstasy is virtually always ingested orally in tablet form. For cocaine, 98% of the total sample indicated that they snorted their cocaine and only a handful of users indicated injecting or other routes of administration. We

expected this outcome as injecting is rare among socially integrated cocaine users and studies like our web survey are unlikely to catch more marginalized users (EMCDDA, 2012a) (see report 2, chapter 1)

For (meth)amphetamine, the picture is more diverse. We presented six answer categories to (meth)amphetamine users regarding the usual route of administration (see table 3.14). Respondents could indicate multiple routes. Table 3.14 shows that overall the majority of the (meth)amphetamine users - 74% of the total sample – consumed their (meth)amphetamine by snorting. Thirty percent stated that they swallowed amphetamines. Other routes of administration were mentioned by not more than 6% of the respondents. Forty percent of those indicating other routes of administration used amphetamine dissolved in a beverage. Overall, the proportions of snorting and swallowing – though significantly different from each other - were significantly higher than those of all other categories. In the total sample smoking and injecting were more common among frequent users than among the other two user types. Snorting was more common among occasional users. The latter finding, however, may be due to a combination of a higher proportion of snorting among infrequent users in the Netherlands and a lower proportion of snorting among frequent users in Sweden.

There were also differences between the sample Member States in route of administration. For the two most common routes of administration we found the following differences. Swallowing was less common in Bulgaria and the Czech Republic (as is to be expected with methamphetamine) than in the other sample Member States, and less common in the Netherlands than in Italy and Sweden. Snorting was more common in Bulgaria than in the other sample Member States, and less common in Italy and England & Wales than in the other sample Member States.

Table 3.14: Most common routes of administration of (meth)amphetamine by user group

	Infrequent	Occasional	Frequent	Total	P
Swallowing	248 (32%)	105 (29%)	70 (26%)	423 (30%)	.141
Dissolving	51 (7%)	11 (3%)	10 (4%)	72 (5%)	.020
Smoking	18 (2%) ^a	6 (2%) ^a	20 (7%) ^b	44 (3%)	.000
Snorting	544 (70%) ^a	294 (81%) ^b	201 (74%) ^a	1,039 (74%)	.001
Injecting	21 (3%) ^a	12 (3%) ^a	33 (12%) ^b	66 (5%)	.000
Other	45 (6%)	15 (4%)	19 (7%)	79 (6%)	.278

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant. Categories do not sum to 100% within user groups because multiple routes could be indicated.

3.3.3 Amount consumed on a typical day

For the estimation of the total amount consumed we needed to obtain an estimate of the amount in grams consumed on a use day. For cocaine, we therefore asked respondents to indicate how many grams of cocaine powder they consumed on a typical use day or on the last day of use. For amphetamine and ecstasy things were more complicated. As indicated above, amphetamine is sometimes consumed as pills and ecstasy is primarily consumed as pills. Consequently we expected that many users would find it difficult to estimate the amount used in grams. Hence we assumed that it might be easier for them to indicate the number of pills they use. For that reason, amphetamine and ecstasy users could indicate their consumption in both grams and/or pills.

Respondents indicated the amount in grams and number of pills they consumed on 'the last consumption day' and on a 'typical consumption day'. As with cannabis, for our further analyses we used the questions on 'typical consumption' as we assumed that the answers to these questions better reflect the 'average' situation of users. Nonetheless, measures referring to last and typical use day were strongly correlated for amphetamine ($r=.79$, $p<.001$ and $r=.76$, $p<.001$ for grams and pills, respectively), for ecstasy ($r=.89$, $p<.001$ and $r=.73$, $p<.001$ for grams and pills, respectively) and cocaine ($r=.74$, $p<.001$).

With regard to the number of pills, respondents of the amphetamine and ecstasy questionnaire could answer in whole numbers ranging from one to '20 or more'. However, for our analysis we capped the number of pills at a maximum of 12 because higher numbers are assumed to be unlikely. For instance, even among those categorized as heavy ecstasy users, the median largest amount of pills they had taken during a binge was 7 (Sterk et al. 2006). This capping resulted in a small loss of cases (for the total sample $n=8$ for amphetamine and $n=7$ for ecstasy), while more than 95% of respondents indicating the amount they used in pills stated a number of pills well below this cut-off point (i.e., 7 or lower for amphetamine and 5 or lower for ecstasy).

In case respondents chose for stating the amount consumed in grams they could choose one of 13 options: 50 mg or less; 100 mg (1/10 gram); 125 mg (1/8 gram); 250 mg (1/4 gram); 500 mg (1/2 gram); 1 gram; 1.5 gram; 2 gram; 3 gram; 4 gram; 5 gram; 6 gram; more than 6 gram. Also here we decided to exclude the respondents indicating an amount of more than 6 gram from the analysis because we assumed this amount was rather unlikely. Only nine respondents of the total sample filling in the amphetamine questionnaire ticked this option. Well over 95% of those indicating the amount of amphetamine in grams listed an amount of 3 grams or less per typical use day. Note that we will use these amounts in grams as reported by respondents in this report to estimate consumption and that all estimates are thus in raw grams unadjusted for purity.

Amphetamine

For amphetamine, a large majority of 1,104 participants indicated the amount they use in grams and 268 in pills, with 870 users indicating only grams, 34 only pills and 234 indicating both grams and pills.

Overall, there was a clear connection between route of administration (involving pills, powder or both) and reporting in grams, pills or both ($\chi^2=190.3$, $p<.001$). Reporting in grams only was most frequent among those using only powder (86%), followed by those using both powder and pills (65%), and was least common among those using only pills (40%). Reporting in pills or in both pills and grams, on the other hand, showed the opposite pattern. These options were most frequently chosen by those using only pills (respectively 12% and 48%), followed by those using both pills and powder (5% and 31%), and were least common among those using only powder (1% and 13%).

Among the respondents indicating quantities in both grams and pills, the reported amount of grams and number of pills were weakly correlated ($r=.28$, $p<.001$). However, closer inspection revealed a stronger correlation among those consuming only pills ($r=.50$, $n=75$, $p<.001$), a weaker but significant correlation among those consuming by other routes of administration (e.g., snorting) ($r=.27$, $n=95$, $P=.009$), and no significant correlation among those consuming both by swallowing pills and by other routes ($r=.16$, $n=63$, $P=.215$). These findings suggest that those indicating only one route of administration are reporting their consumption in both number of pills and grams, that is, they are reporting one and the same amount twice (i.e. they are converting pills to grams or vice versa), while those that indicate consuming both by swallowing pills and by other routes are reporting two different amounts. While the number of pills reported did not vary significantly across groups, the reported amount consumed in grams did ($F=7.32$, $P=.001$): it was highest among those reporting both swallowing pills and other routes of administration. As it is unlikely that the size of pills differs between groups, this suggests that the latter group reports an amount of grams that combines their consumed amounts of pills and powder. This means, those who consume both by swallowing pills and other routes are separately reporting the number of pills they consume on a typical day and the total amount of pills and powder they consume in grams.

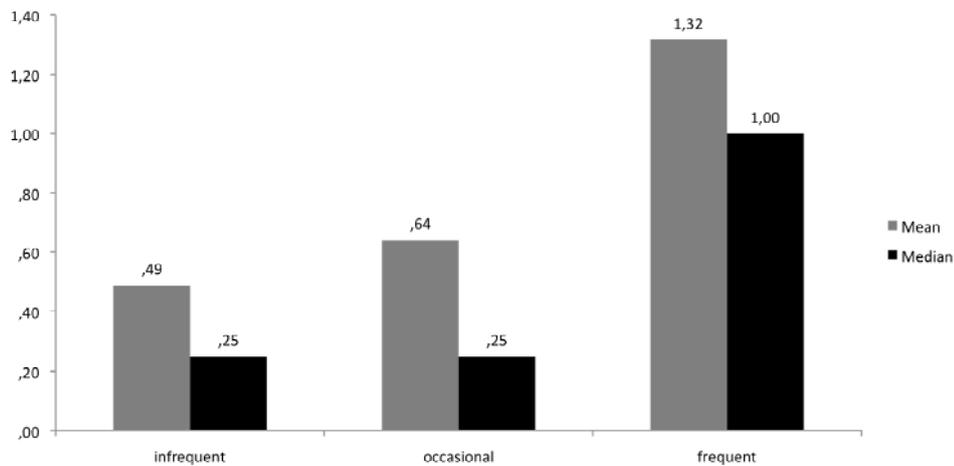
In terms of total consumption on a typical use day, we will therefore assume that all amounts reported in grams are total amounts consumed on a typical use day and use these figures where available. Because the numbers of respondents using only pills but reporting the quantity used in both pills and grams were too low to estimate mean weight per pill, we could not convert the consumption of those reporting only pills into grams. Because the numbers of respondents reporting their consumption only in pills were low ($n=34$ in the total sample), we decided not to include these in the consumption estimates. We will, however, show the mean numbers of pills consumed by user type and for the total sample for those consuming pills in the Netherlands (the numbers of respondents in the other member states were insufficient for reporting).

Table 3.15 shows the amount of (meth)amphetamine in grams consumed on a typical use day per Member State.

Table 3.15: Grams of (meth)amphetamine consumed on a typical consumption day by Member State

	BG	CZ	IT	NL	PT	SE	E&W	Total
Mean	.539	.408	.579	.757	[.540]	.766	[.736]	.704
Median	.250	.188	.250	.250	[.375]	.500	[.250]	.250
N	56	110	39	727	10	146	16	1,104

Overall, as we also found for cannabis use, the amount of (meth)amphetamine consumed per typical use day increased with increasing frequency of use ($r=.33$, $p<.001$). Figure 3.4 and table 3.16 show that for all countries combined, the mean amount in grams increased from .49 among infrequent users to 1.32 among frequent users.

Figure 3.4: Amount of (meth)amphetamine in grams consumed on a typical consumption day per user group

Statistical analyses shows that these overall differences between user types are significant. This overall pattern was found in the Czech Republic, the Netherlands and Sweden, although not all user groups differed significantly from each other in all of these countries (see table 3.16). Although differences existed between countries, there was no interaction effect between user type and Member State, indicating that the general pattern was not different between countries. However, it is clear that the daily doses in the Czech Republic are much lower (about half) than those reported in the Netherlands and Sweden. This may be associated with differences in type and potency (Zabransky 2007). Methamphetamine is more potent than amphetamine and the average purity in the Czech Republic is also quite high, due to the local production. Although no differences were found between infrequent and occasional users, these doses are fairly consistent with those assumed in the first EU drugs market study for the US in 2006: daily doses were assumed to range from 0.25 gram (low) to 0.7 gram (high) (Kilmer and Pacula 2009).

Table 3.16: Grams of (meth)amphetamine consumed on a typical consumption day per user group and Member State

		Infrequent	Occasional	Frequent	P
Czech Republic	Mean	.31 ^a	.30 ^a	.66 ^b	.006
	Median	.13	.13	.50	
	N	47	31	32	
Netherlands	Mean	.50 ^a	.67 ^a	1.49 ^b	.000
	Median	.13	.25	1.25	
	N	344	233	150	
Sweden	Mean	.59 ^a	.90 ^{a,b}	1.24 ^b	.000
	Median	.50	1.00	1.00	
	N	93	26	27	
All countries	Mean	.49 ^a	.64 ^b	1.32 ^c	.000 / .000 ¹ / .000 ²
	Median	.25	.25	1.00	
	N	561	315	228	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

¹ P-value correspond to ANOVA controlling for Member State.

² P-value correspond to ANOVA controlling for Dutch sample.

Table 3.17 shows the amount of amphetamine in number of pills consumed on a typical use day for the Netherlands. The mean amount in number of pills increased from 1.95 among infrequent users to 2.89 among frequent users, and our analysis showed that frequent users used more pills on a typical use day than occasional or infrequent users, but that the two latter groups did not differ from each other.

Table 3.17: Amount of amphetamine in number of pills consumed on a typical consumption day in the Netherlands per user group

	Total	Infrequent	Occasional	Frequent	P
Mean	2.13	1.95 ^a	2.11 ^a	2.89 ^b	.016
Median	2	2	2	3	
N	134	78	37	19	

Ecstasy

For ecstasy, 1,945 participants indicated their use amount in pills and 1,512 indicated this in grams, with 565 users indicating only pills, 132 only grams, and 1,380 indicating both grams and pills. Among those indicating both grams and pills, these measures were correlated ($r=.36$, $p<.001$). This finding suggests that (at least a good portion of) these respondents are reporting their consumption in both number of pills and grams, that is, they are reporting one and the same amount twice. Because of this and because ecstasy is most commonly consumed in the form of pills (e.g., Sterk et al. 2007), we will assume that all amounts reported in number of pills are total amounts consumed on a typical day and use these values as estimates of total consumption on a typical day where available. For respondents reporting only grams, we assume that they consume ecstasy (MDMA) in powdered form and will show their consumption in grams.

Table 3.18 shows the mean and median number of ecstasy pills consumed on a typical use day per sample Member State. An earlier study among American young adult ecstasy users (18-25) found a median of 2 pills typically taken at a time (Sterk et al. 2007), which matches our figure for the Netherlands and England & Wales.

Table 3.18: Amount of ecstasy in number of pills consumed on a typical consumption day by Member State

	BG	CZ	IT	NL	PT*	SE	E&W	Total
Mean	1.32	1.39	1.23	2.19	[1.64]	1.89	1.99	2.10
Median	1.00	1.00	1.00	2.00	1.00	1.50	2.00	2.00
N	36	99	26	1,648	7	92	37	1,945

* Figures for Portugal are given between brackets; due to the low number of cases, data are not considered reliable.

Table 3.19 and figure 3.5 show the mean and median number of ecstasy pills consumed on a typical use day. Overall and in the Netherlands separately, the amount of ecstasy consumed in pills increased significantly from infrequent users to frequent users. Overall, the amount of ecstasy consumed per typical use day increased with increasing frequency of use in terms of 12-month frequency of use ($r=.27$, $p<.001$).

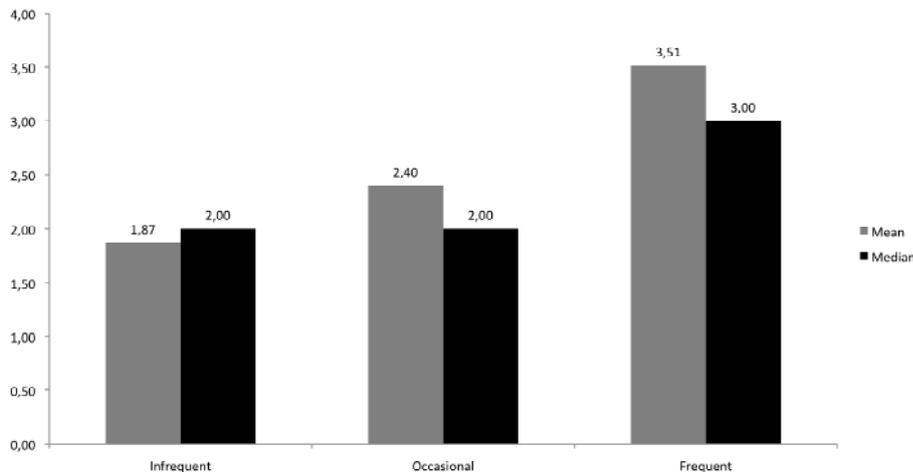
Table 3.19: Number of ecstasy pills consumed on a typical consumption day per user group for the Netherlands and all Member States combined

		Infrequent	Occasional	Frequent	P
Netherlands	Mean	1.95 ^a	2.43 ^b	3.56 ^c	.000
	Median	2.00	2.00	3.00	
	N	1,018	553	77	
All countries except NL	Mean	1.51 ^a	1.93 ^{a,b}	2.83 ^b	.007
	Median	1.00	2.00	2.00	
	N	247	44	6	
All countries	Mean	1.87 ^a	2.40 ^b	3.51 ^c	.000 / .000 ¹ / .000 ²
	Median	2,00	2,00	3,00	
	N	1,265	597	83	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant; where p-value is absent, differences were not tested due to insufficient cell sizes.

¹ P-value correspond to ANOVA controlling for Member State.

² P-value correspond to ANOVA controlling for Dutch sample.

Figure 3.5: Amount of ecstasy pills consumed on a typical consumption day per user group

In a study among American young adult users (Sterk et al. 2007) a distinction was made between moderate users (use on less than 10 of the past 90 days; 52.5%) and heavy users (use on 10 or more of the past 90 days). The former group reported a median number of pills of 1 while this was 3 among the latter group.

Averages for the Netherlands seem to be fairly high, especially for the infrequent users, which might be related to the fact that many respondents were recruited through a website for visitors of large scale parties and festivals (Partyflock), which are probably associated with more intensive use compared to other settings, although music preference or type of music may also play a major role (Van der Poel et al. 2010). Another explanation might be that answer categories in the current web survey did not allow decimals and (especially) infrequent users may consume less than one pill at a time.

In a qualitative study in 2011 on the nightlife scene in Amsterdam, it has been reported that most ecstasy users take one to two pills per time, with some exceptions to four or five pills. In the survey in 2008/2009 among club and party visitors described in §1.2, 6% of the last year users took less than half a pill of ecstasy per occasion, 33% took half to one pill, 43% took 1 to two pills, 15% took 3-5 pills and 3% said to consume more than 5 pills per occasion. If average amounts are computed from these data by frequency of use, the estimated number of pills consumed per occasion among last year ecstasy users is 1.37 for those who indicated using seldom, 1.87 among those who indicated using occasionally or once in a while, and 2.68 for those who indicated using once a week or more. Note that these categories do not exactly match the typology in the current study, which contains a lesser number of users who use seldom/very infrequently.

As mentioned above, 6% of last year users in this 2008/2009 survey indicated taking less than half a pill of ecstasy per occasion and 33% took half to one pill. If we assume a similar distribution among those indicating that they use 1 pill in our current study (where indicating less than 1 pill was not possible), our estimated numbers of pills consumed on a typical consumption day drop slightly to 1.84, 2.36, and 3.51 for infrequent, occasional and frequent users, respectively.

Table 3.20 shows the amount of ecstasy in grams consumed by those reporting their consumption only in grams, on a typical use day per sample Member State. The numbers of respondents reporting their consumption only in grams were too small to further split into user groups.

In the Netherlands, data from the DIMS project which monitors the content of drug samples handed in by (recreational) drug users to test services at addiction carer services, shows that the mean weight of 5,473 ecstasy pills was 279 mg (median 280 mg). However, variation was wide (140 and 600 mg). using the mean or median, this means that the users below would on average consume about 3 pills per use day, which points at a selective sample of frequent users.

Table 3.20: Grams of ecstasy consumed on a typical consumption day by Member State

	IT	NL	SE	E&W
Mean	.49	.85	.25	.24
Median	.25	.25	.25	.25
N	28	26	31	25

Cocaine

Table 3.21 shows the mean and median amounts of cocaine consumed on a typical consumption day per Member State.

Table 3.21: Grams of cocaine consumed on a typical consumption day by Member State

	BG	CZ	IT	NL	PT	SE	E&W	Total
Mean	[.85]	.42	.50	.67	.50	.71	.43	.63
Median	.63	.25	.25	.50	.50	.50	.25	.50
N	12	55	82	601	23	86	37	896

Figure 3.6 and table 3.22 shows the mean and median amounts of cocaine consumed on a typical use day per user type. Overall, also for cocaine the amount consumed per typical use day increased with increasing frequency of use, both in terms of 12-month frequency of use ($r=.23, p<.001$) and user group (see table 3.22). When excluding the Netherlands from the total sample, the pattern remained the same but the difference between occasional and frequent users was no longer statistically significant. Figure 3.6 shows that for all countries combined, the mean number of grams progressively increased from 0.49 among infrequent users to 1.18 among frequent users. Median values are consistently lower than the mean values, indicating that the distribution is skewed to the right and that a minority of users were thus using relatively high amounts of cocaine.

Figure 3.6: Amount of cocaine in grams consumed on a typical consumption day per user group

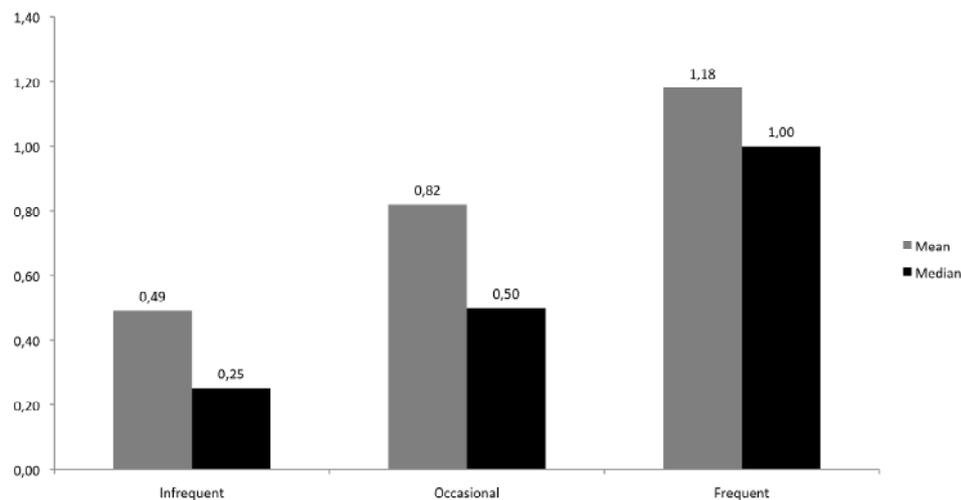


Table 3.22: Grams of cocaine consumed on a typical consumption day per user group and Member State

		Infrequent	Occasional	Frequent	P
Netherlands	Mean	.52 ^a	.80 ^b	1.28 ^c	.000
	Median	.50	.50	1.00	
	N	384	152	65	
All countries except NL	Mean	.43 ^a	.88 ^b	.94 ^b	.000
	Median	.25	1.00	.50	
	N	219	51	25	
All countries	Mean	.49 ^a	.82 ^b	1.18 ^c	.000 / .000 ¹ / .000 ²
	Median	.25	.50	1.00	
	N	603	203	90	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level.

¹ P-value correspond to ANOVA controlling for Member State.

² P-value correspond to ANOVA controlling for Dutch sample.

3.3.4 Estimated individual annual consumption

Because the user types we have distinguished differ in both frequency of use and amount consumed on a typical use day, we expect annual consumption to differ even more between these groups as it is a multiplication of these two variables. Estimating mean total annual amounts of (meth)amphetamine, ecstasy and cocaine consumed therefore only makes sense when this is done per user type. Therefore, we will only make these estimates for Member States where we have sufficient numbers of respondents to estimate consumption per user type. We will estimate the annual consumption per user type by multiplying the typical daily amounts with the number of use days. We will report both the means and 5% trimmed means, which exclude the extreme cases and outliers (the 2.5% of the respondents with the highest amounts and 2.5% of respondents with the lowest amounts). We will use the latter in chapter 5 to calculate estimates of total annual consumption per Member State, as they are expected to give the most representative estimates. Note that differences in the number of use days within user types will affect our estimates, but since we do not know how representative our samples are we will assume that they reflect actual distributions of the number of use days within user types. Finally, note that all consumption estimates in grams concern raw grams unadjusted for purity.

Amphetamine

Table 3.23 shows the estimated annual consumption of (meth)amphetamine per user by user type for the Czech Republic, the Netherlands and Sweden. As expected, consumption increased with increasing frequency of use, both in terms of daily and annual consumption in all three Member States. Although the annual consumption of the average infrequent user is substantially higher than that of the average occasional user, the two do not differ significantly. Both, however, are considerably and significantly lower than the annual consumption of the average frequent user. This is the case in all three Member States.

Table 3.23: Estimated individual annual consumption of (meth)amphetamine (gram) per user group and Member State

		Infrequent	Occasional	Frequent	P
Czech Republic	Mean	1.31 ^a	7.85 ^a	127.85 ^b	.000
	5% Trimmed mean	1.01	5.44	105.51	
	Median	0.40	3.55	60.94	
	N	47	31	32	
Netherlands	Mean	2.49 ^a	17.12 ^a	241.43 ^b	.000
	5% Trimmed mean	1.70	13.48	199.72	
	Median	0.75	7.75	133.38	
	N	344	233	150	
Sweden	Mean	2.38 ^a	23.93 ^a	297.52 ^b	.000
	5% Trimmed mean	2.04	22.45	276.07	
	Median	1.50	15.50	188.25	
	N	93	26	27	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

Ecstasy

Table 3.24 shows the estimated annual consumption of ecstasy per user by user type for the Netherlands. Again, as expected, consumption increased with increasing frequency of use, both in terms of daily and annual consumption. The estimated annual consumption increases from infrequent users to frequent users.

Table 3.24: Estimated individual annual consumption of ecstasy (pills) per user group in the Netherlands

		Infrequent	Occasional	Frequent	P
Netherlands	Mean	10.08 ^a	56.81 ^b	285.19 ^c	.000
	5% Trimmed mean	9.14	50.56	275.31	
	Median	8.0	46.5	196.5	
	N	1,018	553	68	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level.

In the earlier market study low and high estimates of the number of tablets consumed across Europe, Canada and the U.S. of respectively 30 and 154 pills (Kilmer and Pacula 2009).

Cocaine

Table 3.25 shows the estimated annual consumption of cocaine per user by user type for the Netherlands. In line with expectation, consumption increased with increasing frequency of use, both in terms of daily and annual consumption. The estimated annual consumption increases from infrequent users to frequent users.

Table 3.25: Estimated individual annual consumption of cocaine (grams) per user group in the Netherlands

		Infrequent	Occasional	Frequent	P
Netherlands	Mean	2.41 ^a	20.48 ^b	145.30 ^c	.000
	5% Trimmed mean	2.06	18.87	128.92	
	Median	1.50	15.50	98.25	
	N	384	152	65	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level.

3.4 Conclusions

In this chapter we have investigated a number of demographic and substance use related variables. Although the small sample sizes in some of our sample Member States limit our analyses, we found some interesting results.

Although the proportions of males and females in the sample varied across Member States for (meth)amphetamine, ecstasy and cocaine, there were no differences in gender distribution among user types. Similarly, we found no considerable age differences between user types. Given the low numbers of participants in some of the sample Member States, we were unable to investigate gender and age differences thoroughly and can only present reliable figures for a subset of our sample Member States.

For (meth)amphetamine, frequent users differed most strongly from occasional and infrequent users in clearly higher consumption quantities on a typical use day as well as regarding their estimated annual consumption. Frequent users also consumed (meth)amphetamine more often at home and less often at places of entertainment than occasional and infrequent users. For ecstasy and cocaine, consumption also tended to increase with increasing frequency of use, both in terms of use on a typical use day and annual consumption. For both drugs, the percentage of those using at home was again higher among frequent users than the other user type groups. For ecstasy, the percentage of users who used at someone else's home was also higher among frequent users. As expected, for all three drugs the frequent users' estimated annual consumption was much higher than that of occasional and infrequent users.

4 Availability

In this chapter we will describe for all seven sample Member States and for the different user types within the sample Member States for which we have sufficiently big sample size the following aspects related to the availability and accessibility of the three drugs, including buying behaviour:

- Way of obtaining drugs
- Usual location of purchase and reasons to buy there
- Ease of obtaining drugs and inability to buy
- Amount usually bought per purchase and price paid for it
- Estimated price per gram/pill
- Buying in the past 30 days: number of times and amount of money spent.

4.1 Way of obtaining drugs

Amphetamine

Table 4.1 shows how respondents usually obtained their (meth)amphetamine per sample Member State while table 4.2 shows this per user type for the Member States with sufficient sample sizes. There was an additional answer category in the Czech Republic – production of methamphetamine by the user – that was ticked by two respondents. The way of obtaining (meth)amphetamine varied significantly across Member States ($p < .001$), the difference being mainly in the proportion of users buying their (meth)amphetamine: this was highest in the Netherlands and lowest in Bulgaria. It also varied across user types in the Netherlands and Sweden, where a higher proportion of infrequent users got it for free.

Table 4.1: Usual way of obtaining (meth)amphetamine by Member State

	BG	CZ	IT	NL	SE	E&W	Total
N (100%)	69	130	58	820	181	23	1,281
I buy it	26% ^a	33% ^{a,b}	26% ^{a,b}	45% ^b	43% ^{a,b}	30% ^{a,b}	41%
People give or share it with me for free	28%	21%	19%	15%	19%	17%	17%
Sometimes I buy it, sometimes I get it for free	46%	44%	55%	40%	38%	52%	42%

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

Table 4.2: Way of obtaining (meth)amphetamine by user group and Member State

	Infrequent	Occasional	Frequent	P
Czech Republic				
N (100%)	65	34	33	
I buy it	28%	35%	42%	.085
People give or share it with me for free	31%	21%	3%	
Sometimes I buy it, sometimes I get it	40%	44%	52%	
Netherlands				
N (100%)	411	245	164	
I buy it	39% ^a	49% ^{a,b}	52% ^b	.000
People give or share it with me for free	23% ^a	6% ^b	7% ^b	
Sometimes I buy it, sometimes I get it	38%	45%	40%	
Sweden				
N (100%)	123	30	28	
I buy it	37%	50%	61%	.009
People give or share it with me for free	26% ^a	3% ^b	7% ^{a,b}	
Sometimes I buy it, sometimes I get it	37%	47%	32%	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

Ecstasy

Table 4.3 shows how respondents usually obtained their ecstasy per sample Member State while table 4.4 shows this per user type for the Netherlands. The way of obtaining ecstasy varied again significantly across Member States ($p < .001$): the proportion of users who buy their ecstasy was highest in the Netherlands and lowest in Bulgaria. It also varied across user types in the Netherlands, where a higher proportion of occasional users compared with the other user types buy their ecstasy and a lower proportion gets it for free.

Table 4.3: Way of obtaining ecstasy by Member State

	BG	CZ	IT	NL	SE	E&W	Total
N (100%)	39	119	56	1,703	133	63	2,113
I buy it	33% ^a	49% ^{a,b}	46% ^{a,b}	60% ^b	61% ^{b,c,d}	40% ^{a,d}	58%
People give or share it with me for free	5%	15%	7%	9%	14%	10%	9%
Sometimes I buy it, sometimes I get it	62% ^a	36% ^{a,b}	46% ^{a,b}	32% ^b	25% ^{b,c}	51% ^a	33%

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

Table 4.4: Way of obtaining ecstasy by user group for the Netherlands

	Infrequent	Occasional	Frequent	P
N (100%)	1,055	564	84	
I buy it	57% ^a	66% ^b	52% ^a	.000
People give or share it with me for free	11% ^a	4% ^b	13% ^a	
Sometimes I buy it, sometimes I get it	32%	30%	35%	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

Cocaine

Table 4.5 shows how respondents usually obtained their cocaine per sample Member State while table 4.6 shows this per user type for the Netherlands. Once again, the way of obtaining cocaine varied significantly across Member States ($p < .001$). It also varied across user types in the Netherlands, where the proportion of users buying their cocaine was lower among infrequent users while the proportion of users getting their cocaine for free was higher among infrequent users than among occasional and frequent users.

Table 4.5: Way of obtaining cocaine by Member State

	CZ	IT	NL	PT	SE	E&W	Total
N (100%)	64	84	620	26	100	43	937
I buy it	28% ^{a,b}	24% ^a	45% ^b	35% ^{a,b}	39% ^{a,b}	28% ^{a,b}	40%
People give or share it with me for free	36% ^a	30% ^{a,b}	19% ^b	38% ^{a,b}	29% ^{a,b}	42% ^a	23%
Sometimes I buy it, sometimes I get it	36%	46%	37%	27%	32%	30%	37%

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

Table 4.6: Way of obtaining cocaine by user group for the Netherlands

	Infrequent	Occasional	Frequent	P
N (100%)	399	154	67	
I buy it	38% ^a	58% ^b	54% ^b	.000
People give or share it with me for free	25% ^a	6% ^b	6% ^b	
Sometimes I buy it, sometimes I get it	37%	35%	40%	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

4.2 Usual location of purchase and reasons to buy there

Amphetamine

For those respondents who buy their (meth)amphetamine, table 4.7 shows the locations of purchase. The distribution of the locations of purchase varied across the sample Member States ($p < .001$). The seller's home was the most frequently mentioned location of purchase in the Czech Republic (42%), the Netherlands and Sweden, while their own or someone else's home were most frequently mentioned in England & Wales. On the street or in a park was most frequently mentioned in Bulgaria, and Italian respondents mentioned a place of entertainment most often. A remarkable finding is that respectively 15% and 13% of Italian and Swedish amphetamine users buy it at school, college or university, while these locations are virtually unmentioned in the other sample Member States. This difference may have to do with differences in recruitment strategies, as both Member States included university populations as targets. Differences between user types were only significant in the Netherlands ($P = .014$), where the proportion of users who purchase at the seller's home is higher among frequent than among infrequent users.

Table 4.7: Usual locations for purchasing (meth)amphetamine by Member State

	BG	CZ	IT	NL	SE	E&W	Total
N (100%)	43	90	41	652	134	19	979
At a pub/bar	5%	10%	0%	1%	1%	0%	2%
At a private party	9%	3%	5%	2%	6%	11%	3%
At a music concert or festival	2%	3%	12%	3%	0%	0%	3%
At other place of entertainment	12%	6%	34%	6%	1%	11%	6%
On the street or in a park	21%	12%	22%	11%	14%	11%	13%
At a public transport station	0%	1%	0%	1%	0%	5%	1%
At a community centre, youth club association	0%	0%	0%	0%	1%	0%	0%
At seller's home	14%	42%	10%	30%	34%	11%	29%
At my own home	0%	2%	2%	5%	4%	16%	4%
At someone else's home	14%	10%	0%	29%	16%	16%	23%
At a smart shop	0%	1%	0%	0%	8%	0%	2%
Through the Internet	0%	2%	0%	1%	1%	0%	1%
At my workplace	2%	1%	0%	0%	1%	0%	0%
At school, college or university	0%	1%	15%	1%	13%	0%	3%
Other	21%	4%	0%	11%	0%	21%	9%

Reasons for buying at a specific location

Respondents who buy their (meth)amphetamine were asked what the main reason was for buying at that specific location. Table 4.8 summarizes these reasons for each Member State. The reasons for buying varied across the sample Member States. Personal contacts were most frequently mentioned in all countries, with proportions varying from 44% in the Czech Republic and Italy to 74% in England and Wales. Risk of police detection was mentioned more frequently in Italy and Sweden than in the other Member States. There were no differences between user types in any of the Member States.

Table 4.8: Main reason for buying at a specific location by Member State

	BG	CZ	IT	NL	SE	E&W	Total
N (100%)	46	95	45	676	143	19	1,024
Local availability	20%	15%	16%	13%	18%	16%	14%
Price	7%	7%	4%	6%	6%	0%	6%
Opening hour	0%	3%	0%	1%	1%	5%	1%
Personal contacts	50%	44%	44%	56%	45%	74%	53%
Habits	11%	12%	11%	9%	3%	0%	9%
Risk of police detection	9%	6%	18%	4	15%	0%	6%
Other	4%	13%	7%	11%	11%	5%	11%

Ecstasy

For those who buy their ecstasy, table 4.9 shows the locations of purchase. Location of purchase varied again across the sample Member State. The seller's home was mentioned most frequently in all Member States except for Bulgaria, where places of entertainment and private parties were most popular. Similar to the findings for (meth)amphetamine, respectively 17% and 16% of Italian and Swedish ecstasy users buy it at school, college or university, while these locations are hardly mentioned in the other Member States. Differences between user types were marginally significant in the Netherlands ($P=.030$), where a higher proportion of frequent users buy on the street or in a park compared to infrequent users.

Table 4.9: Usual locations for purchasing ecstasy by Member State

	BG	CZ	IT	NL	SE	E&W	Total
N (100%)	34	89	47	1,455	97	52	1,774
At a pub/bar	3%	1%	2%	1%	1%	2%	1%
At a private party	15%	1%	2%	2%	6%	12%	3%
At a music concert or festival	3%	21%	6%	4%	4%	6%	5%
At other place of entertainment	29%	24%	21%	6%	11%	13%	9%
On the street or in a park	12%	2%	17%	12%	9%	10%	11%
At a public transport station	0%	0%	0%	1%	0%	0%	1%
At a community centre, youth club association	6%	0%	0%	0%	0%	0%	0%
At seller's home	12%	34%	28%	26%	27%	25%	26%
At my own home	0%	0%	2%	6%	3%	8%	5%
At someone else's home	9%	8%	0%	27%	9%	15%	24%
At a smart shop	0%	0%	4%	0%	10%	2%	1%
Through the Internet	0%	1%	0%	1%	1%	0%	1%
At my workplace	0%	1%	0%	0%	1%	0%	0%
At school, college or university	0%	1%	17%	1%	16%	4%	2%
Other	12%	6%	0%	14%	0%	4%	12%

Reasons for buying at a specific location

Respondents who usually buy their ecstasy were asked to indicate their main reason for buying at that specific location. Table 4.10 summarizes their responses per sample Member State. Reasons for buying at a specific location varied across the selected Member States ($p<.001$). Similar to the findings for (meth)amphetamine, personal contacts were most frequently mentioned in all countries except for Italy, with proportions varying from 29% in Bulgaria to 63% in the Netherlands. In Italy, personal contacts were second to local availability, while local availability was the second most frequently mentioned reason in all other Member States. Risk of police detection was mentioned more frequently in Bulgaria and Sweden than in the other Member States. There was a marginally significant difference between user types in the Netherlands ($P=.016$): pricing as a reason for buying at a specific location was mentioned by a higher percentage of frequent users compared to infrequent users.

Table 4.10: Main reason for buying at a specific location by country

	BG	CZ	IT	NL	SE	E&W	Total
N (100%)							
Local availability	26%	13%	31%	11%	26%	24%	13%
Price	9%	3%	6%	4%	2%	4%	4%
Opening hour	3%	0%	2%	0%	0%	0%	0%
Personal contacts	29%	60%	24%	63%	43%	58%	60%
Habits	6%	10%	18%	8%	2%	2%	8%
Risk of police detection	12%	4%	4%	3%	16% ^a	5%	4%
Other	15%	9%	14%	11%	12%	7%	11%

Cocaine

For those who buy their cocaine, table 4.11 shows the locations of purchase. Location of purchase varied across the sample Member States. Similar to the findings for ecstasy and to a lesser extent those for (meth)amphetamine, the seller's home was mentioned most frequently in all Member States except for the Netherlands, where the street or a park were mentioned slightly more often. Similar to the findings for both (meth)amphetamine and ecstasy, respectively 17% and 20% of Italian and Swedish ecstasy users buy it at school, college or university, while these locations are very uncommon in the other Member States. Differences between user types were significant in the Netherlands ($P=.006$), where buying on the street or in a park is reported by a higher proportion of occasional users compared to infrequent or frequent users.

Table 4.11: Usual locations for purchasing cocaine by Member State

	CZ	IT	NL	SE	E&W	Total
N (100%)	33	52	455	65	24	629
At a pub/bar	6%	6%	5%	2%	8%	5%
At a private party	3%	4%	2%	6%	4%	2%
At a music concert or festival	3%	0%	2%	0%	0%	1%
At other place of entertainment	12%	4%	4%	2%	4%	4%
On the street or in a park	3%	29%	25%	25%	8%	23%
At a public transport station	0%	0%	0%	0%	0%	0%
At a community centre, youth club association	3%	0%	0%	0%	0%	0%
At seller's home	48%	37%	19%	31%	25%	23%
At my own home	0%	4%	8%	5%	8%	7%
At someone else's home	9%	0%	23%	6%	25%	19%
At a smart shop	0%	0%	0%	2%	0%	0%
Through the Internet	0%	0%	0%	2%	0%	0%
At my workplace	0%	0%	0%	2%	0%	0%
At school, college or university	0%	17%	0%	20%	0%	3%
Other	12%	0%	12%	0%	17%	10%

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

Reasons for buying at a specific location

Reasons for buying cocaine at a specific location varied across the sample Member States and are summarized in table 4.12. While personal contacts were most frequently mentioned in almost all countries as a reason for buying at a location for (meth)amphetamine and ecstasy, they were hardly mentioned by cocaine users in any of the countries. Instead, habits were mentioned most frequently as a reason by cocaine users in all countries, ranging from 43% in Sweden to 65% in England & Wales. There were no differences between user types in the Netherlands ($P=.378$).

Table 4.12: Main reason for buying cocaine at a specific location by country ($P=.004$)

	CZ	IT	NL	SE	E&W	Total
N (100%)	36	54	475	68	25	658
Local availability	14%	6%	8%	9%	0%	8%
Price	8%	24%	18%	24%	28%	19%
Opening hour	6%	11%	4%	3%	0%	5%
Personal contacts	0%	2%	1%	0%	4%	1%
Habits	53%	46%	52%	43%	64%	51%
Risk of police detection	11%	6%	12%	4%	0%	10%
Other	8%	6%	4%	18%	4%	6%

4.3 Ease of obtaining drugs and inability to buy

Amphetamine

Table 4.13 summarizes respondents' estimates of the time it would take them to obtain the amount of (meth)amphetamine that they usually buy. Although the most frequently mentioned category was either 'less than half an hour' or 'half an hour to an hour' in all sample Member States except for Sweden, the estimates varied across Member States. Most notably, Swedish users reported more frequently longer times than users from the other sample Member States. There were no differences found between user types in the Czech Republic, the Netherlands or Sweden in the estimated time needed to get (meth)amphetamine.

Table 4.13: Estimated time needed to buy the amount of (meth)amphetamine usually purchased per Member State

	BG	CZ	IT	NL	SE	Total
N (100%)	44	93	44	660	136	977
Less than half an hour	38.6%	23.7%	34.1%	35.5%	20.6%	32.3%
0,5-1 hour	38.6%	23.7%	27.3%	19.5%	15.4%	20.6%
1-2 hours	6.8%	19.4%	11.4%	13.3%	26.5%	15.4%
Between 2 and 12 hours	9.1%	14.0%	2.3%	10.6%	14.7%	11.1%
Between 12 and 24 hours	2.3%	5.4%	6.8%	7.9%	9.6%	7.6%
More than 24 hours	4.5%	14.0%	18.2%	13.2%	13.2%	13.1%

Figure 4.1 shows the proportions of users indicating that there had been times in the past year when they had been unable to buy (meth)amphetamine despite having enough money. Significant differences were found in inability to buy: the proportion of those to whom this had happened was smaller in the Netherlands than in all other sample Member States except for Italy. No further differences between the sample Member States were observed. Differences between user types were found in the Czech republic ($P=.044$) and the Netherlands ($p<.001$), where a lower proportion of infrequent users than occasional or frequent users had been unable to buy.

Figure 4.1: Proportion users who indicated that there were times they had cash but were not able to purchase (meth)amphetamine in the past 12 months

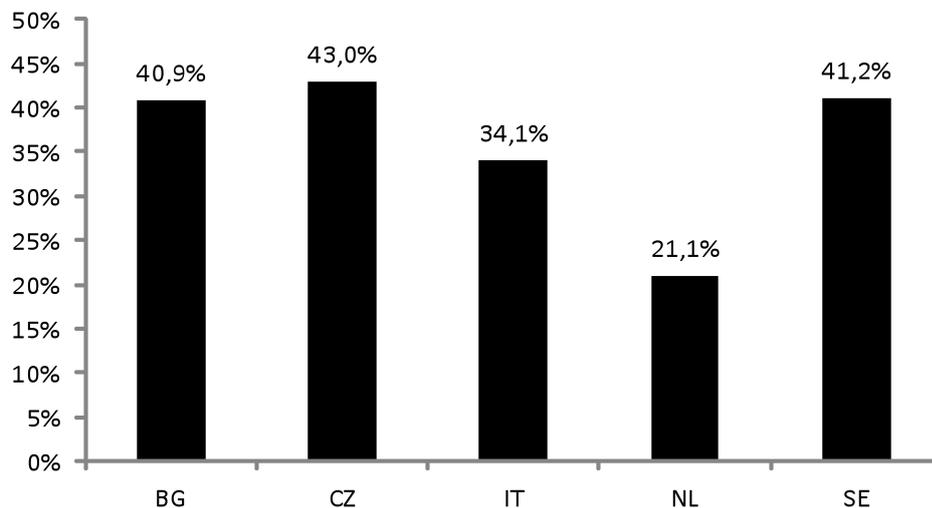


Table 4.14 provides an overview of the reasons given for being unable to purchase (meth)amphetamine. There were no significant differences between the Czech Republic, the Netherlands and Sweden, nor were there differences between user types in these three Member States. Unavailability of the seller and sellers not having any (meth)amphetamine available were the two most frequently mentioned reasons for not being able to buy (meth)amphetamine.

Table 4.14: Reasons for not being able to buy (meth)amphetamine

	CZ	NL	SE	P
N (100%)	40	139	56	.100
No sellers were available	32.5%	32.4%	46.4%	
Sellers did not have any	45.0%	35.3%	42.9%	
Sellers did not have the quality I wanted	2.5%	12.9%	7.1%	
Sellers were charging too much	.0%	1.4%	.0%	
Police activity kept me from the sellers	.0%	2.9%	.0%	
Don't know	10.0%	5.8%	3.6%	
Other	10.0%	9.4%	.0%	

Ecstasy

Table 4.15 summarizes respondents' estimates of the time it would take them to obtain the amount of ecstasy that they usually buy. Across Member States, obtaining ecstasy tended to take more time than obtaining (meth)amphetamine, but estimates varied across Member States. Most notably, the most frequently mentioned time in Sweden was more than 24 hours (37% of the respondents). There were no differences found between user types in the Netherlands regarding the estimated time needed to get ecstasy.

Table 4.15: Estimated time needed to buy the amount of ecstasy usually purchased per Member State

	BG	CZ	IT	NL	SE	E&W	Total
N (100%)	33	92	47	1,453	99	55	1,779
Less than half an hour	12%	20%	38%	34%	13%	16%	31%
0,5-1 hour	45%	24%	30%	18%	14%	20%	19%
1-2 hours	12%	12%	9%	11%	13%	18%	11%
Between 2 and 12 hours	12%	11%	0%	11%	12%	16%	11%
Between 12 and 24 hours	3%	8%	2%	8%	10%	11%	8%
More than 24 hours	15%	26%	21%	18%	37%	18%	20%

Figure 4.2 shows the proportions of users indicating that there had been times in the past year when they had been unable to buy ecstasy despite having enough money. Significant differences were found in inability to buy ($p < .001$): the proportion of those to whom this had happened was smaller in the Netherlands than in all other Member States. No further differences between Member States were observed. Differences between user types were found in the Netherlands ($p < .001$), where a lower proportion of infrequent users than occasional or frequent users had been unable to buy.

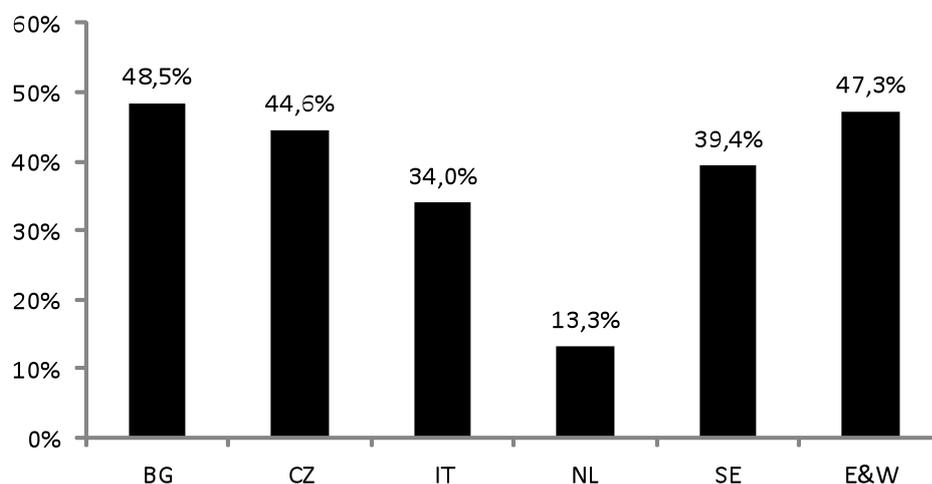
Figure 4.2: Proportion of users who indicated that there were times they had cash but were not able to purchase ecstasy in the past 12 months

Table 4.16 provides an overview of the reasons given for being unable to purchase ecstasy. The distribution of these reasons varied between the Czech Republic, the Netherlands and Sweden, although unavailability of the seller and sellers not having any ecstasy available were the two most frequently mentioned reasons for not being able to buy in all three countries. There were no differences between user types.

Table 4.16: Reasons for not being able to buy ecstasy

	CZ	NL	SE	P
N (100%)	41	194	39	
No sellers were available	29%	40%	56%	.005
Sellers did not have any	39%	26%	28%	
Sellers did not have the quality I wanted	17%	13%	3%	
Sellers were charging too much	2%	1%	0%	
Police activity kept me from the sellers	0%	1% ^a	8% ^b	
Don't know	10%	8%	5%	
Other	2%	11%	0%	

Cocaine

Table 4.17 summarizes respondents' estimates of the time it would take them to obtain the amount of cocaine that they usually buy. These estimates varied across the sample Member States. Most notably, 26% of Czech users indicated that it would take them more than 24 hours to obtain cocaine and 40% of users from England & Wales indicated needing 1-2 hours. There were differences found between user types in the Netherlands regarding the estimated time needed to get cocaine ($p < .001$): a higher proportion of frequent users compared to the other user types indicated that they could obtain cocaine in less than half hour.

Table 4.17: Estimated time needed to buy the amount of cocaine usually purchased per Member State

	CZ	IT	NL	SE	E&W	Total
N (100%)	34	52	456	66	25	633
Less than half an hour	26%	35%	39%	23%	16%	35%
0,5-1 hour	15%	25%	31%	23%	24%	28%
1-2 hours	15%	15%	14%	21% ^a	40%	16%
Between 2 and 12 hours	9%	6%	8%	15%	16%	9%
Between 12 and 24 hours	9%	8%	3%	3%	0%	4%
More than 24 hours	26%	12%	5%	15%	4%	8%

Figure 4.3 shows the proportions of users indicating that there had been times in the past year when they had been unable to buy cocaine despite having enough money. Significant differences were found in inability to buy ($p < .001$): the proportion of those to whom this had happened was smaller in the Netherlands than in all other Member States except for Italy. No further differences between Member States were observed. Differences between user types were found in the Netherlands ($P = .009$), where a lower proportion of infrequent than occasional users had been unable to buy.

Figure 4.3: Proportion of users who indicated that there were times they had cash but were not able to purchase cocaine in the past 12 months

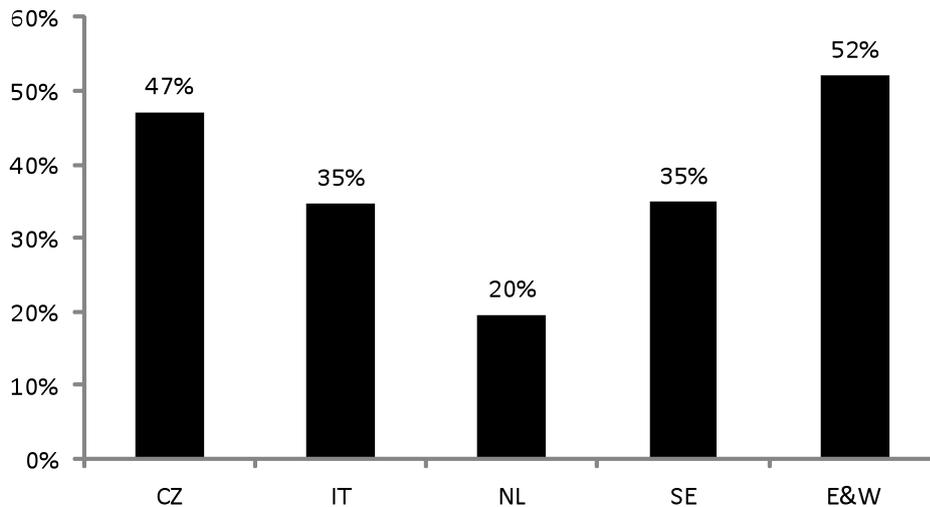


Table 4.18 provides an overview of the reasons given for being unable to purchase cocaine. The distribution of these reasons differed between the Netherlands and Sweden. A higher proportion of Swedish users than Dutch users indicated sellers not having any cocaine available as a reason for being unable to buy it. There were no differences between user types in the Netherlands ($P=.553$).

Table 4.18: Reasons for not being able to buy cocaine

	NL	SE	P
N (100%)	88	23	
No sellers were available	47%	43%	.004
Sellers did not have any	11% ^a	43% ^b	
Sellers did not have the quality I wanted	9%	4%	
Sellers were charging too much	3%	0%	
Police activity kept me from the sellers	0%	0%	
Don't know	6%	9%	
Other	24%	0%	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

4.4 Amount usually bought per purchase and amount of money paid for it

Amphetamine

We asked respondents to indicate the amount of amphetamine they usually buy in either pills or grams. Because only the Dutch sample contained enough respondents who indicated the amount in pills to obtain a reliable estimate, we will focus in our analysis exclusively on the amount in grams.

Table 4.19 shows the mean and median amount of (meth)amphetamine usually bought per purchase per Member State, while table 4.20 shows these figures per user group in the Czech Republic, the Netherlands and Sweden. The figures for Sweden and the Netherlands are remarkably similar, but those for the Czech Republic are much lower.

Table 4.19: Mean and median amount of (meth)amphetamine (grams) usually bought per purchase per Member State

	BG	CZ	IT	NL	SE	Total
Mean	1.66	.82	.93	2.46	2.33	2.19
Median	1.00	.50	.50	1.00	1.00	1.00
N	34	78	28	544	111	795

Table 4.20: Mean and median amount of (meth)amphetamine (grams) usually bought per purchase per user group

		Infrequent	Occasional	Frequent	P
Czech Republic	Mean	.97	.50	.90	.343
	Median	.50	.25	1.00	
	N	31	21	26	
Netherlands	Mean	1.63 ^a	2.55 ^b	3.95 ^c	.000
	Median	1.00	2.00	4.00	
	N	240	180	124	
Sweden	Mean	1.61 ^a	2.71 ^{a,b}	4.14 ^b	.000
	Median	1.00	2.00	5.00	
	N	68	20	23	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

Respondents were also asked how much they usually paid for this purchase. For non-Euro countries (Bulgaria, Czech Republic, Sweden and England & Wales) the national currencies were converted to Euro's using currency exchange rates of March 31 2012, the period in which the survey was implemented (retrieved from www.xe.com).

Tables 4.21 and 4.22 show the amount of money spent per purchase per Member State and per user type, respectively. The amount of (meth)amphetamine bought and the amount of money paid were correlated across countries ($r=.48$ in the total sample). Frequent users tended to spend more per purchase than less frequent users, but differences between user types were only significant for the Netherlands. The figures presented in tables 4.21 and 4.22 are meaningless by themselves because they pertain to purchases of varying sizes, but will be used to calculate the price per gram in the next paragraph.

Table 4.21: Mean and median amount paid (Euro) per purchase per Member State

	BG	CZ	IT	NL	SE	Total
Mean	12.3	23.7	23.4	27.9	41.8	28.5
Median	10.2	20.0	20.0	10.0	27.5	15.0
N	38	80	39	568	119	844

Table 4.22: Mean and median amount paid (Euro) per purchase per user group

		Infrequent	Occasional	Frequent	P
Czech Republic	Mean	22.2	19.1	29.3	.093
	Median	20.0	12.0	24.0	
	N	32	22	26	
Netherlands	Mean	20.6 ^a	22.0 ^a	52.6 ^b	.000
	Median	10.0	10.0	25.0	
	N	260	187	121	
Sweden	Mean	36.1	45.0	58.3	.109
	Median	27.5	27.5	33.0	
	N	75	22	22	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

Ecstasy

As with amphetamine, users were asked to indicate the amount of ecstasy they usually buy in either pills or grams. Because again only the Dutch sample contained enough respondents who indicated the amount in grams to obtain a reliable estimate, we will focus exclusively on the amount in pills.

Table 4.23 shows the mean and median amount of ecstasy usually bought per purchase per Member State, and table 4.24 shows these figures per user group in the Netherlands. The number of pills bought per purchase is highest among occasional users, but note that only the difference between infrequent and occasional users is statistically significant.

Table 4.23: Mean and median amount of ecstasy usually bought per purchase per Member State

		BG	CZ	IT	NL	SE	E&W
Pills	Mean	2.0	3.9	[3.3]	9.4	4.1	5.2
	Median	2.0	3.0	2.0	5.0	2.0	4.0
	N	25	72	13	1,210	54	28

Table 4.24: Mean and median amount of ecstasy (pills) usually bought per purchase per user group in the Netherlands

	Infrequent	Occasional	Frequent	P
Mean	7.6 ^a	12.4 ^b	8.7 ^{a,b}	.000
Median	5.0	10.0	5.0	
N	740	422	48	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level.

Tables 4.25 and 4.26 show the amount of money spent per purchase per sample Member State and per user type, respectively. Number of ecstasy pills bought and amount of money paid were correlated across countries ($r=.73$ in the total sample). The figures presented in tables 4.25 and 4.26 are meaningless by themselves because they pertain to purchases of varying sizes, but will be used to calculate the price per pill in the next paragraph.

Table 4.25: Mean and median amount paid (Euro) per purchase per Member State

	BG	CZ	IT	NL	SE	E&W	Total
Mean	10.1	11.4	26.1	42.2	46.0	30.4	39.3
Median	5.1	8.0	25.0	20.0	27.5	30.0	20.0
N	28	86	44	1,280	86	51	1,575

Table 4.26: Mean and median amount paid (Euro) per purchase per user group in the Netherlands

	Infrequent	Occasional	Frequent	P
Mean	33.2 ^a	55.6 ^b	59.6 ^b	.000
Median	20.0	25.0	20.0	
N	775	447	58	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level.

Cocaine

Table 4.27 shows the mean and median amount of cocaine usually bought per purchase per Member State, and table 4.28 shows these figures per user type in the Netherlands. Note that the median amount of cocaine bought per purchase is 1 gram in all countries. The median is also 1 for all user type groups, but the mean among frequent users is slightly higher at 1.5 grams than the gram usually bought by occasional and infrequent users.

Table 4.27: Mean and median amount of cocaine usually bought per purchase per Member State

		BG	CZ	IT	NL	PT	SE	E&W	Total
Grams	Mean	[1.7]	1.1	0.8	1.0	[1.0]	1.7	1.1	1.1
	Median	[1.5]	1.0	1.0	1.0	[1.0]	1.0	1.0	1.0
	N	9	29	37	411	14	49	23	572

Table 4.28: Mean and median amount of cocaine usually bought per purchase per user group in the Netherlands

	Infrequent	Occasional	Frequent	P
Mean	0.9 ^a	1.1 ^a	1.5 ^b	.000
Median	1.0	1.0	1.0	
N	243	122	46	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level.

Tables 4.29 and 4.30 show the amount of money spent per purchase per member State and per user group, respectively. The amount of cocaine bought and amount of money paid were correlated across countries ($r=.57$ in the total sample). The figures presented in tables 4.29 and 4.30 are meaningless by themselves because they pertain to purchases of varying sizes, but will be used to calculate the price per gram in the next paragraph.

Table 4.29 Mean and median amount paid (Euro) per purchase per Member State

	BG	CZ	IT	NL	PT	SE	E&W	Total
Mean	65.8	62.8	61.3	46.7	41.1	120.7	55.3	56.2
Median	63.8	80.0	50.0	45.0	47.5	88.0	60.0	50.0
N	10	32	44	411	14	56	23	590

Table 4.30: Mean and median amount paid (Euro) per purchase per user group in the Netherlands

	Infrequent	Occasional	Frequent	P
Mean	44.6 ^a	46.2 ^a	59.3 ^b	.019
Median	45.0	45.0	50.0	
N	243	121	47	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level.

4.5 Estimated price per gram and per pill

Table 4.31: Price per gram (meth)amphetamine from different sources at retail level

Country	EMCDDA			This study		
	N	Mean	Median	N	Mean	Median
Bulgaria	27	11.0	10.0	29	12.6	10.2
Czech Republic*	491	51.4	39.5	70	41.1	40.0
Italy	:	16.7	:	21	38.3	30.0
Netherlands	969	6.0	6.0	467	11.1	6.3
Portugal	:	:	:	7	[30.0]	[30.0]
Sweden	42	26.6	26.2	99	23.8	22.0
England & Wales	:	11.7	:	21	38.3	30.0

Table 4.32 shows the price per ecstasy pill as reported by the EMCDDA and as estimated in the current study. For Bulgaria, the Netherlands and Sweden, these two estimates match quite nicely. For the Czech Republic, our estimate is somewhat lower than that reported by the EMCDDA, especially the median. Note, however, that EMCDDA figures are based on police data.

For England & Wales, our estimated mean is higher than that reported by the EMCDDA, but our median matches the mean reported by the EMCDDA. For Italy and Portugal, our samples are too small to allow for comparisons.

Table 4.32: Price per ecstasy pill from different sources at retail level

Country	EMCDDA			This study		
	N	Mean	Median	N	Mean	Median
Bulgaria	26	6.5	6.0	24	5.2	5.1
Czech Republic	34	7.8	7.9	68	4.5	2.7
Italy	:	16.6	:	13	[10.7]	[7.5]
Netherlands	1,994	4.0	3.5	1,170	4.1	3.8
Portugal*	:	3.7	:	2	[3.0]	[3.0]
Sweden	42	12.2	12.6	53	11.9	11.0
England & Wales	:	3.5	:	28	7.2	3.6

*Ecstasy data may not be representative of the retail level of the market.

Table 4.33 shows the price of cocaine per gram as reported by the EMCDDA and as estimated in the current study. For Italy and the Netherlands, these two estimates match quite nicely. For Sweden, our estimate is considerably lower than that reported by the EMCDDA. For England & Wales, our estimate is somewhat higher than that reported by the EMCDDA. For Bulgaria, the Czech Republic and Portugal, our samples are too small to allow for comparisons.

Table 4.33: Price per gram cocaine from different sources at retail level

Country	EMCDDA			This study		
	N	Mean	Median	N	Mean	Median
Bulgaria	23	60.0	60.0	9	[41.9]	[51.0]
Czech Republic	14	79.1	79.1	19	[54.1]	[50.0]
Italy	:	69.2	:	27	72.8	75.0
Netherlands	979	45.0	50.0	369	45.5	50.0
Portugal*	:	46.0	:	13	[44.8]	[50.0]
Sweden	42	94.8	94.3	33	69.8	77.0
England & Wales	:	46.7	:	22	54.4	60.0

*Cocaine data may not be representative of the retail level of the market.

4.6 Buying in the past 30 days: number of times and amount of money spent

In general, there should be a link between the frequency with which one uses a drug and the buying of this same drug in terms of frequency and/or size of purchases and amount of money spent. Because our user typology is based on the frequency of use in the past 12 months, we can expect differences in buying behaviour in the past 30 days between user types. We decided to examine our data concerning the past 30 days only for the sample Member States where we have sufficient numbers in all three user types (i.e., the Netherlands for all three drugs and the Czech Republic and Sweden for (meth)amphetamine).

Amphetamine

Figures 4.4a, b and c present the number of times that respondents had purchased (meth)amphetamine in the last 30 days. As the figure illustrates, the number of purchases of (meth)amphetamine varied significantly across user types in the Czech Republic ($P=.001$), the Netherlands ($p<.001$) and Sweden ($p<.001$). In each of the three Member States, increasing use frequency was linked with increasing number of purchases.

As can be seen in table 4.34, the mean amount of money spent in the past 30 days was higher among frequent users than among occasional and infrequent users in the Czech Republic, the Netherlands and Sweden.

Thus, both the number of times that (meth)amphetamine was purchased and the amount of money spent on (meth)amphetamine in the past 30 days showed a pattern of increase from infrequent to frequent users.

Figure 4.4a: Number of purchases of methamphetamine in the past 30 days by user group for the Czech Republic

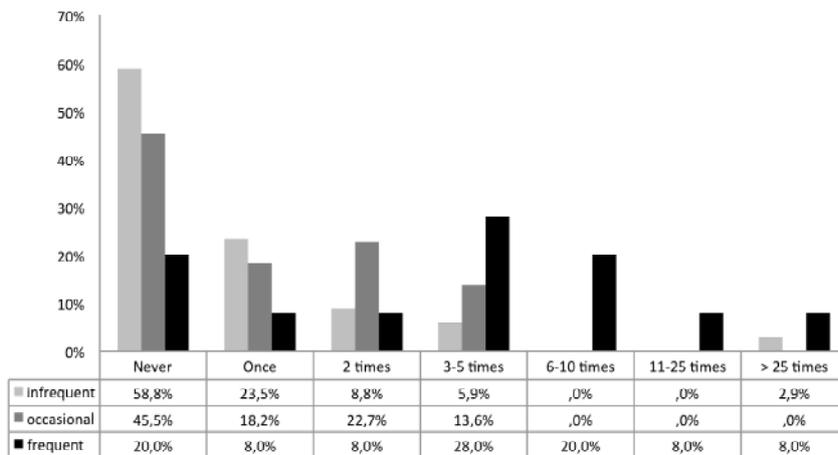


Figure 4.4b: Number of purchases of amphetamine in the past 30 days by user group for the Netherlands

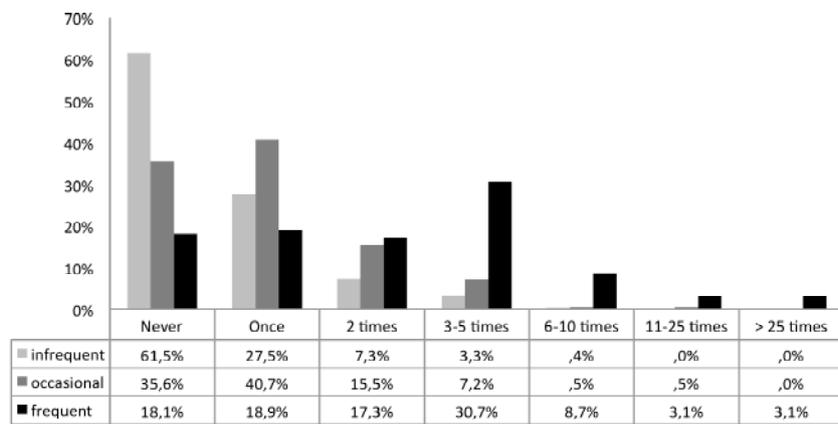


Figure 4.4c: Number of purchases of amphetamine in the past 30 days by user group for Sweden

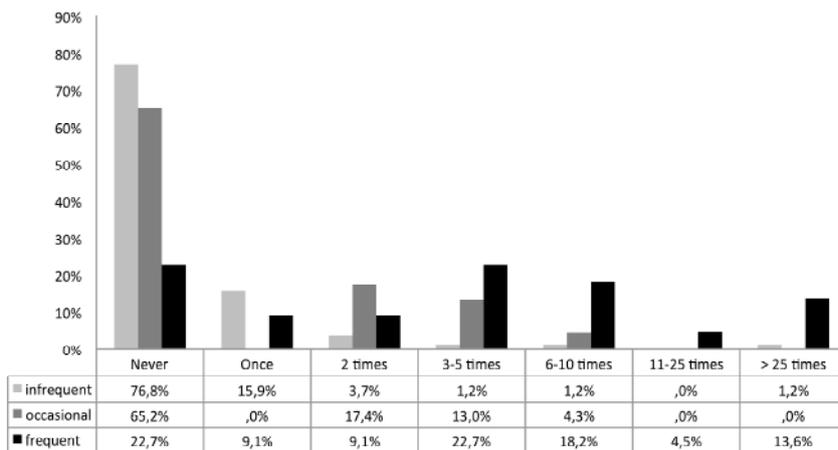


Table 4.34: Mean and median amount of money (Euro) spent on (meth)amphetamine in the past 30 days by user group and Member State

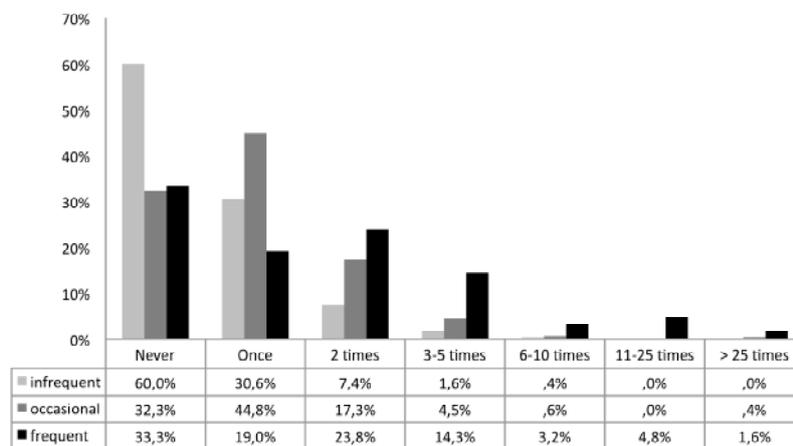
		Infrequent	Occasional	Frequent	Total	P
Czech Republic	Mean	13.6 ^a	18.2 ^a	78.9 ^b	31.8	.000
	Median	2.0	6.0	60.0	8.0	
	N	30	22	18	70	
Netherlands	Mean	31.2 ^a	22.4 ^a	90.8 ^b	45.5	.000
	Median	10.0	15.0	50.0	20.0	
	N	107	123	97	327	
Sweden	Mean	20.2 ^a	35.3 ^a	168.3 ^b	47.5	.000
	Median	11.0	11.0	38.5	11.0	
	N	82	24	21	127	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

Ecstasy

Figure 4.5 presents the number of times that users from the different user types in the Netherlands had purchased ecstasy in the last 30 days. As the figure illustrates, the number of purchases of ecstasy varied significantly across user type groups ($p < .001$) and increasing use frequency was linked with increasing number of purchases. Similarly, the mean amount of money spent in the past 30 days was bigger among frequent users than among occasional and infrequent users in the Netherlands (see table 4.35).

Thus, both the number of times that ecstasy was purchased and the amount of money spent on ecstasy in the past 30 days showed a pattern of increase from infrequent to frequent users.

Figure 4.5: Number of purchases of ecstasy in the past 30 days by user group in the Netherlands**Table 4.35: Amount of money (Euro) spent on ecstasy in the past 30 days by user group in the Netherlands**

	Infrequent	Occasional	Frequent	Total	P
Mean	37.1 ^a	45.4 ^a	104.9 ^b	45.3	.000
Median	15.0	25.0	62.5	20.0	
N	306	300	42	648	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

Cocaine

Figure 4.6 presents the number of times that users from the different user groups in the Netherlands had purchased cocaine in the last 30 days. As the figure illustrates, the number of purchases of cocaine varied significantly across user type groups ($p < .001$) and increasing use frequency was again linked with increasing number of purchases. Similarly, the mean amount of

money spent in the past 30 days increased from infrequent to occasional users and from occasional to frequent users in the Netherlands ($p < .001$, see table 4.36).

Thus, both the number of times that cocaine was purchased and the amount of money spent on cocaine in the past 30 days showed a pattern of increase from infrequent to frequent users.

Figure 4.6: Number of purchases of cocaine in the past 30 days by user group in the Netherlands

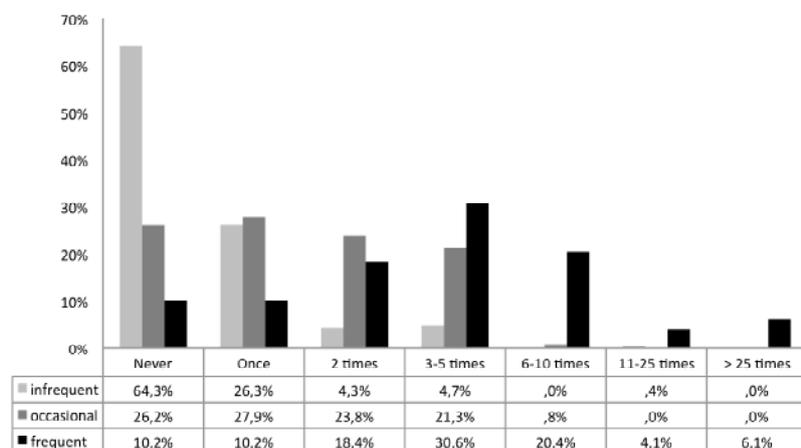


Table 4.36: Amount of money (Euro) spent on cocaine in the past 30 days by user group

	Infrequent	Occasional	Frequent	Total	P
Mean	58.3 ^a	94.7 ^b	195.8 ^c	97.7	.000
Median	40.0	50.0	187.5	50.0	
N	93	90	40	223	

Note: Figures marked with different subscripts (a, b etc.) denote subsets of categories whose proportions differ significantly from each other at the .05 level; in rows without markings no differences are significant.

4.7 Conclusions

We found some similarities as well as differences between the sample Member States concerning the selected availability indicators. Similar to the findings on user characteristics and consumption patterns, there are differences between user types regarding the availability indicators.

Way of obtaining drug

There were few differences between the sample Member States in the way users obtain (meth)amphetamine, ecstasy and cocaine. For (meth)amphetamine and ecstasy, the proportion of users buying the drugs was highest in the Netherlands and lowest in Bulgaria. For cocaine, the proportion of users buying was highest in the Netherlands and lowest in Italy. In general, the proportion of users who buy their (meth)amphetamine was highest among frequent users and lowest among infrequent users. For ecstasy, the proportion of users who buy was higher among occasional users than among the other two user types and for cocaine it was lower among infrequent users than among the other two user types.

Locations of purchase

The usual location of purchase varied somewhat across Member States for all three drugs. For all three drugs, buying at school, college or university was highest in Italy and Sweden. Buying at the seller's home was highest in the Czech Republic, while buying at someone else's home was highest in the Netherlands. Buying cocaine on the street or in a park was high in Italy, the Netherlands and Sweden (25 to 29%). Differences between user types were found in the Netherlands, where purchasing (meth)amphetamine at the seller's home was more common among frequent than among infrequent users, purchasing ecstasy on the street or in a park was more common among frequent than infrequent users, and buying cocaine on the street or in a park occurred more frequently among occasional than among frequent or infrequent users.

Reasons to buy at a specific location

Personal contacts played a role in all seven sample Member States for buying (meth)amphetamine and ecstasy (44-74% of (meth)amphetamine users; 24-63% of ecstasy users). Among cocaine users, habit was the most mentioned reason to buy at a specific location (43-64%).

Time to obtain drug

The distribution of estimated time needed to obtain (meth)amphetamine, ecstasy and cocaine varied across the seven sample Member States, but there were no major differences between Member States between (meth)amphetamine and ecstasy. In all seven Member States, the proportion of (meth)amphetamine users estimating they would be able to buy their usual amount 'within half an hour' was highest, followed by 'half an hour to an hour'. For ecstasy, the highest proportion varied between 'less than half an hour' and 'half an hour to an hour', and these two categories scored the highest in all seven Member States. For cocaine, higher proportions of users indicated longer times needed to obtain it. Most notably, a quarter (26%) of users from the Czech Republic indicated that it would take them more than 24 hours, and in England & Wales, 40% of users indicated that it would take 1-2 hours. Overall, obtaining cocaine tended to take longer than obtaining (meth)amphetamine or ecstasy. There were no differences between user types in the time needed to obtain (meth)amphetamine or ecstasy, but Dutch frequent users needed less time to obtain cocaine than occasional or infrequent users.

Inability to buy

The proportion of users who now and then were unable to buy (meth)amphetamine in the past 12 months was lower in the Netherlands (21%) than in the other six sample Member States (41-43%) except for Italy (34%). Differences between user types in inability to buy were observed in the Czech Republic and the Netherlands, where a lower proportion of infrequent users had been unable to buy compared to occasional and frequent users. The reasons for being unable to buy did not vary across the Czech Republic, the Netherlands and Sweden, nor were there differences between user types in reasons given. In all countries the main reasons for not being able to buy (meth)amphetamine were that no sellers were available or sellers did not have (meth)amphetamine. The proportion of users who was now and then unable to buy ecstasy in the past 12 months was lower in the Netherlands (13%) than in the other Member States (34-49%). As with amphetamine, a lower proportion of Dutch infrequent users had been unable to buy ecstasy compared to occasional or frequent users. The reasons for being unable to buy varied across the Czech Republic, the Netherlands and Sweden; unavailability of sellers was mentioned most often in Sweden and least often in the Czech Republic. There were no differences between user types in reasons for being unable to buy.

Also for cocaine the proportion of users who was now and then unable to buy the drug in the past 12 months was lower in the Netherlands (20%) than in the other Member States (35-52%) except for Italy (35%). Similar to amphetamine and ecstasy, a lower proportion of Dutch infrequent users had been unable to buy cocaine compared to occasional or frequent users. Reasons for inability to buy differed between the Netherlands and Sweden; a higher proportion of Swedes indicated unavailability of seller as a reason. Finally, there were no differences between user groups in reasons for being unable to buy.

Amounts bought and prices

In the Netherlands and Sweden, the amount of amphetamine usually purchased increased from infrequent to frequent users. Accordingly, in the total sample, prices and amounts of amphetamine bought per purchase were significantly correlated. In the Czech Republic, neither the amount usually bought nor the price paid for it varied between user types.

Money spent on drugs

For all three drugs, the number of purchases increased with increasing use frequency. In the past 30 days, frequent users spent more money on (meth)amphetamine than occasional and infrequent users in the Czech Republic, the Netherlands and Sweden. Dutch frequent users of ecstasy also spent more money on ecstasy than occasional and infrequent users. Finally, among Dutch cocaine users, the amount of money spent on cocaine increased from infrequent to occasional users and from occasional to frequent users. Thus, especially frequent users stand out regarding the amount of money they spent on their drugs and thus contribute most to the total expenditure on drugs.

5 Estimating annual consumption

Estimates on the annual consumption of (meth)amphetamine, ecstasy and cocaine will be much more fragmented and fraught with uncertainty compared to those for cannabis for several reasons. To make these estimates, figures on the amounts of (meth)amphetamine, ecstasy and cocaine consumed annually per user type, as presented in chapter 3.3.4, should be multiplied with the number of users per user type. Therefore, total consumption can only be estimated for those Member States that provide sufficient cases per user type group to warrant estimates of annual consumption. This appeared to be the case only in the Czech Republic, the Netherlands and Sweden for (meth)amphetamine, and for ecstasy and cocaine (powder) in the Netherlands.

A further drawback is the general lack of reliable data on the frequency of use (number of use days) of these substances in the general population. As mentioned in chapter 2.2 this is due to the overall low absolute number of last month users of (meth)amphetamine, cocaine and ecstasy, which may make any further differentiation into frequency categories unreliable. For example, in the Netherlands, the number of last month amphetamine users in the 2009 survey was 13, and there are no frequency data at all for Sweden. Nonetheless, we will use the limited population data available and add data from other sources as well.

Moreover, it is likely that this web survey as well as population surveys largely captured fairly integrated users, while excluding most marginalized problem users. In the Czech Republic and Sweden, indirect estimates are available on the size of populations of problem users of (meth)amphetamine users (EMCDDA 2012b). Moreover, limited data on use patterns among these users have been collected in the face-to-face interviews, which will be taken into account in the estimates as well. In the Netherlands, amphetamine use is relatively uncommon among populations of problem hard drug users, where heroin and crack cocaine dominate the scene.

The data reported in this paragraph refer to 'raw' grams or pills, uncorrected for purity.

Table 5.1 shows the population size for the three eligible Member States. By multiplying the population sizes in table 5.1 by the prevalence rates listed in table 2.1, we obtain the numbers of last year and last month users per Member State as listed in table 5.2. We will use these figures for estimating total annual consumption for each drug.

Table 5.1: Population size by Member State (2011)

Member State	15-64 years
Czech Republic	7,378,802
Netherlands	11,153,778
Sweden ¹	6,113,365

¹ 16-64 years (6,003,293). Source: Eurostat (2011).

Table 5.2: Numbers of last year and last month users of (meth)amphetamine, ecstasy and cocaine per Member State

Member State	(Meth)amphetamine		Ecstasy		Cocaine	
	Last year	Last month	Last year	Last month	Last year	Last month
Czech Republic	125,439	51,652	273,016	88,546	51,652	29,515
Netherlands	44,615	22,308	156,153	44,615	133,845	55,769
Sweden	48,907	18,340	6,113	0	30,567	6,113

In order to estimate the number of users per user type we have to match available prevalence and frequency data from population surveys with the classification of user types in the current study. We will do this by (1) adapting our categories of use in the last 30 days to match those used in general population surveys (see chapter 2), (2) calculating the absolute numbers of users in each category by combining prevalence data with population size data, and (3) applying the distribution of users across user groups obtained in step 1 to the absolute numbers obtained in step 2. This will yield the absolute number of infrequent, occasional and frequent users of a drug in a country. We will multiply these three figures by the corresponding estimated (5% trimmed) mean annual consumption per user from our data to obtain total estimates of annual consumption of each user type group. Finally, we will sum these three estimates and add data on the amounts consumed by problem users (if available), to obtain an estimate of the total annual consumption of a drug in a country.

5.1 Amphetamine

Netherlands

As reported before, the absolute number of last month amphetamine users in the 2009 general population survey was very low (n=13), which make data on the frequency of use, expressed as the number of use days, highly imprecise (table 5.3). It is not likely that over one-quarter of these users would be (almost) daily users while zero users would be in the lower frequency category. Another survey among a (national) non-probability sample of almost 3,000 people attending clubs and parties included a higher number of last month users of amphetamine. The corresponding frequency data (see table 5.3) is more likely to reflect the true distribution, although the frequency categories were not exactly the same (table 5.3) and the sample is to a large extent self-selected. As we have no better data, we will calculate estimates under both frequency distributions.

We have first calculated the distribution of users over user groups in our Dutch web sample on the basis of their use frequency in the past month (table 5.4). This frequency of use has been adapted from our original number of use days in the last 30 days to match the categories used in the (population) surveys as reported in table 5.3.

Table 5.3: Frequency of amphetamine use among last month users in the general population (16-64 years) and in a survey among visitors of parties (15-35 years)

Last month users in GPS (2009) (N=13)			Last month users in survey on club and party visitors (2008/2009) (N=125)		
Every day or almost every day	4	28%	(Almost) daily	5	4.0%
Several times per week	0	0%	Several times/week	6	4.8%
Once a week or more	2	16%	Only in weekend	23	18.4%
Last month but not last week / „less than once a week in the last 30 days“	7	56%	Only at special occasions or seldom	91	72.8%

Table 5.4: Distribution of users over user groups on the basis of their use frequency in the past month

	No use	Less than once a week	At least once a week	Several times a week	(Almost) daily
Infrequent user	78.8%	44.7%	8.3%	4.5%	2.9%
Occasional user	15.1%	43.2%	20.8%	4.5%	2.9%
Frequent user	6.2%	12.2%	70.8%	90.9%	94.1%

Table 5.5 shows the numbers of amphetamine users per prevalence category derived from table 5.2 and per frequency category derived from the combination of GPS prevalence data, and frequency data from the two surveys in table 5.3, with EUROSTAT population size. It is clear that the distribution of user types is different between both estimates, with the second estimate revealing a higher proportion of infrequent users. As this distribution was based on a higher number of last month users it might seem to provide more reliable data, although the study was not based on a probability sample.

Table 5.5: Numbers of amphetamine users in the Netherlands (15-64 years)*

	Number of users Estimate 1**	Number of users Estimate 2**
Last year	44,615	44,615
Last year – not last month	22,308	22,308
Last month	22,307	22,307
• less than once a week	12,492 (56.0%)	16,240 (72.8%)
• at least once a week	3,569 (15.9%)	4,105 (18.4%)
• several times a week	0 (0.0%)	1,071 (4.8%)
• (almost) daily	6,246 (28.0%)	892 (4.0%)

* Prevalence data from 2009 GPS; population size data from EUROSTAT 2011.

** Estimate 1 is based on the frequency distribution of last month use as assessed in the general population survey. Estimate 2 is based on the frequency distribution among last month users in a (national) targeted survey among visitors of clubs and parties.

Table 5.6 shows the number of amphetamine users in the Netherlands for each of the user categories as defined in the web survey (infrequent, occasional, and frequent users) by applying the proportions given in table 5.4 to the number of users listed table 5.5. The differences in frequency of use distributions had relatively little impact on the distribution of user groups. For both estimates, over half of all last year users were infrequent users, while the one quarter of slightly less was formed by the occasional and frequent user groups.

Table 5.6: Numbers of last year amphetamine users per user group in the Netherlands (15-64 years)

	Estimate 1*		Estimate 2**	
	Total	% of all users	Total	% of all users
Infrequent user	23,640	53%	25,253	57%
Occasional user	9,689	22%	11,312	25%
Frequent user	11,311	25%	8,084	18%
Total	44,640***	100%	44,648***	100%

* Estimate 1 is based on the frequency distribution of last month use as assessed in the general population survey.

** Estimate 2 is based on the frequency distribution among last month users in a (national) targeted survey among visitors of clubs and parties.

*** Differences due to rounding of sub-estimates.

Finally, table 5.7 provides the estimates of the total amount of amphetamine consumed per year, per user type group and in total for the Netherlands. We based these estimates on the 5% trimmed mean of the amount of amphetamine consumed per user. These trimmed means per user type group were multiplied by the size of the user type group to arrive at the total amount consumed by each user type group at population level. These totals were then summed to arrive at the final total estimate of the annual consumption of amphetamine in the Netherlands.

Table 5.7: Amount of amphetamine consumed per user type (gram) and total amount consumed per year (kg) in the Netherlands*

		Amount per user per year	Amount consumed at population level	Amount consumed at population level
Infrequent user	95% CI - lower bound	1.46	34.5	36.9
	95% CI - upper bound	1.94	45.9	49.0
	5% trimmed mean	1.70	40.2	42.9
Occasional user	95% CI - lower bound	11.52	111.6	130.3
	95% CI - upper bound	15.28	148.0	172.8
	5% trimmed mean	13.40	129.8	151.6
Frequent user	95% CI - lower bound	166.59	1,884.4	1,346.7
	95% CI - upper bound	229.91	2,600.6	1,858.5
	5% trimmed mean	198.25	2,242.5	1,602.6
Total	95% CI - lower bound		2,176.6	1,513.8
	95% CI - upper bound		2,794.5	2,080.3
	5% trimmed mean		2,412.5	1,797.1

* 5% trimmed means, excluding the 2.5% lowest and 2.5% highest values. CI=confidence interval.

** Estimate 1 is based on the frequency distribution of last month use as assessed in the general population survey. Estimate 2 is based on the frequency distribution among last month users in a (national) targeted survey among visitors of clubs and parties.

Because the number of problem drug users who use amphetamine on a regular basis is low in the Netherlands (opiates and crack cocaine are the primary concern), we will not adjust our estimates to account for this group. As expected on the basis of the relative small differences between user group distributions for the two estimates, the resulting differences in total annual consumption were fairly small as well.

The estimates in the current study are within the range reported in the first drugs markets study (between 1.3 and 5.4 ton of raw amphetamine), although they lie more in the lower range. However, the estimates in both studies were based on different assumptions. More specifically, Kilmer and Pacula (2009) assumed – for all countries - a consumption of 0.8 gram per day and 50.4 use days per year for the low estimate, and 1.2 gram per day and 67.8 use days for the high estimate. No distinction was made between heavy and light users or other user groups. The range in use days was based on the 95% confidence intervals around the mean number of use days for past year amphetamine users in the 2005 US population survey.

The amount of amphetamine consumed per use day in our study varied from 0.5 gram for infrequent users to 0.7 gram for occasional users and 1.5 gram for frequent users, which is a wider range but not so extremely different.

Taken the assumptions and data together, Kilmer and Pacula arrived at an average of 40 gram of amphetamine consumed per past year users for the low estimate and 81 grams for the high estimate. In our study, based on the extremes for both estimates, the 'average' user would consume between 34 and 63 grams per year, which is overlapping with the amounts in the first drugs market study, albeit in the lower range.

However, in their final estimate of the amphetamine consumption at country level, Kilmer and Pacula (2009) also corrected for underreporting by increasing the number of users by 20% for the low estimate and by 50% for the high estimate. If we would do the same, our estimates might match better (1,817 – 4,192 kg), although it is difficult to make a comparison because of the different methods applied.

Limitations

As our web sample of amphetamine users was recruited to a large extent from social media sources relating to the club and party scene, it is not known whether the findings are representative for the total population of amphetamine users, in spite of their large number (N=895) and analyses within use frequency categories. Moreover, as indicated before, there is much uncertainty with regard to the numbers of users in the population within frequency categories (in many or most EU countries), due to the low number of last month users. It is not known how this problem could be solved easily, except for increasing sample sizes or oversampling of specific age groups with higher prevalence rates. In countries where surveys are conducted with short time intervals (annually or bi-annually), a frequency distribution might be based on aggregated data sets. Finally, there is a general lack of knowledge on underreporting of use. We do not know for example, whether especially heavy users are missed or underreport their (frequency) of use. Increasing consumption estimates with 20% or 50% is probably based on 'the best educated guess', but it would be useful if there would be more studies (cross-country) to support these percentages.

Czech Republic

To estimate total annual consumption of methamphetamine in the Czech Republic, we have first calculated the distribution of users over user groups in our Czech web sample on the basis of their use frequency in the past month (table 5.8). This frequency of use has been adapted from our original number of use days in the last 30 days to match the categories used in the (population) surveys as reported in table 2.4.

Table 5.8: Distribution of methamphetamine users over user groups on the basis of their use frequency in the past month

	No use	Less than once a week	At least once a week	Several times a week	(Almost) daily
Infrequent user	72.7%	46.2%	0.0%	0.0%	0.0%
Occasional user	18.2%	40.4%	26.7%	0.0%	0.0%
Frequent user	9.1%	13.5%	73.3%	100.0%	100.0%

Table 5.9 shows the numbers of methamphetamine users per prevalence category derived from table 5.2 and per frequency category derived from the combination of GPS prevalence data, and frequency data from table 2.4, with EUROSTAT population size.

Table 5.9: Numbers of methamphetamine users in the Czech Republic (15-64 years)*

	Number of users
Last year	125,439
Last year – not last month	73,787
Last month	51,652
• less than once a week	15,496
• at least once a week	13,430
• several times a week	15,496
• (Almost) daily	7,231

* Prevalence data from 2009 GPS; population size data from EUROSTAT 2011.

Table 5.10 shows the number of methamphetamine users in the Czech Republic for each of the user categories as defined in the web survey (infrequent, occasional, and frequent users) by applying the proportions given in table 5.8 to the number of users listed in table 5.9.

Table 5.10: Numbers of last year methamphetamine users per user group in the Czech Republic (15-64 years)

	Estimate	
	Total	% of all users
Infrequent user	60,802	48%
Occasional user	23,275	19%
Frequent user	41,378	33%
Total	125,455	100%

Finally, table 5.11 provides the estimates of the total amount of methamphetamine consumed per year, per user type group and in total for the Czech Republic. We based these estimates on the 5% trimmed mean of the amount of methamphetamine consumed per user. These trimmed means per user type group were multiplied by the size of the user type group to arrive at the total amount consumed by each user type group at population level. These totals were then summed to arrive at the final total estimate of the annual consumption of methamphetamine in the Czech Republic.

Table 5.11: Amount of methamphetamine consumed per user type (gram) and total amount consumed per year (kg) in the Czech Republic*

		Amount per user per year	Amount consumed at population level
Infrequent user	95% CI - lower bound	0.69	42.0
	95% CI - upper bound	1.31	79.7
	5% trimmed mean	1.01	61.4
Occasional user	95% CI - lower bound	2.95	68.7
	95% CI - upper bound	7.52	175.0
	5% trimmed mean	5.44	126.6
Frequent user	95% CI - lower bound	63.4	2,623.4
	95% CI - upper bound	139.1	5,755.6
	5% trimmed mean	105.51	4,365.8
Total	95% CI - lower bound		2,734.0
	95% CI - upper bound		6,010.3
	5% trimmed mean		4,553.8

* 5% trimmed means, excluding the 2.5% lowest and 2.5% highest values. CI=confidence interval.

Problem methamphetamine users

Problem users of methamphetamine are grossly underrepresented in population surveys. Therefore, data from other sources, using indirect estimation methods, should be applied to estimate the annual consumption by this user group. Using the treatment multiplier method, the number of problem methamphetamine users in the Czech Republic in 2010 was estimated at between 27, 300 and 29,100 (midpoint 28,200). This was more than double the estimated number of problem opioid users and an increase compared with previous years.

Data on use patterns among problem methamphetamine users in the Czech Republic are available from two sources. The first are the face-to-face interviews in spring 2012 among 29 users, recruited in two cities through drop-in centres, substitution treatment and advertising about the study in a private online discussion board focused on addiction (see part 1 Introduction). The second source is a study in 2004 among regular methamphetamine users recruited also in low threshold facilities (drop-in centres and outreach programmes) (Petros et al., 2005; Vopravil, 2011). Findings on consumption patterns differ widely between both studies.

In the face to face interviews, the average number of use days in the past month was 12 (median 7) and the daily dose typically consumed was 0.38 gram, yielding an average monthly dose of 5 grams. As this population is assumed to represent long term (and fairly intensive) users, this amount is multiplied by 12 to yield an annual estimate of 59.83 gram methamphetamine per

problem user. Note that the amounts consumed annually in this population of problem users in the face to face interviews is much lower compared to that reported for the frequent users in the current web survey (0.38 against 0.66 gram). Possibly, this difference is associated with the fact that most (95%) problem amphetamine users inject their drug, which is a highly 'efficient' route of administration while the users in the web survey mainly snort their drug (78%).

On the other hand, the study in 2004 found an the average dose of 0.3 grams (not necessarily per day) and a mean value of the weekly consumption of 3.53 grams (Petros et al., 2005). Multiplying this estimate with 52 weeks, the annual amount consumed per user is 183.56 grams, about three times more compared to the most recent estimate.

It is hard to say whether the first or second estimate is best. The methamphetamine market may have changed between 2004 and 2012, in that purity might have been reduced recently, which made the drug less attractive to users, and there are signs that pseudoephedrine is now used instead of ephedrine as a precursor. Moreover, the economic crisis may play a role, the age of respondents and their use career (there may be some more elderly and former intensive users who do not use heavily any more in the 2012 sample), and the co-use of buprenorphine in the 2012 sample. All these factors may play a role and there are no clear arguments to interpret the differences between 2004 and 2012 as a change on the market, or a bias in the sample. We will therefore make estimates based on both studies.

Taking the indirect estimates on the number of problem methamphetamine users into account, the estimated annual consumption of this population ranges between 1,633 and 1,741 kg per year for the first estimate and between 5,011 and 5,341 kg per year for the second.

Table 5.12 summarises the estimates for the total population of methamphetamine users, which assumes that overlap between general population samples and problem users estimated by indirect methods is negligible. Moreover, data from two previous studies are added.

In one of these, it was estimated that in 2008, a total of 4.5 tons of methamphetamine was consumed in the Czech Republic (Vopravil, 2011). Moreover, in the first drugs markets study Kilmer and Pacula (2009), arrived at an estimate between 1.9 and 7.8 tons. The assumptions underlying this last estimate have been described in the paragraph before (on the estimate for the Netherlands). Note, however, that in this study prevalence data from the 2004 population survey was used, in which last year prevalence of methamphetamine in the general population was much lower: 0.7% against 1.7% in 2008. Moreover, data on problem users not reached by general population surveys was not explicitly taken into account, although the number of users was increased with 20% (low estimate) or 50% (high estimate). It is clear that the estimate 3 of our study is clearly in the high range, while the other two (estimate 1 and 2) seem to be more in line with those of prior studies, although they are based on different data and assumptions.

Table 5.12: Estimates of the amount (tons) of methamphetamine consumed per year in the Czech Republic in different studies

	This study Estimate 1*	This study** Estimate 2	This study*** Estimate 3	Kilmer and Pacula (2009)	Vopravil (2011)
Low estimate	2.7	4.4	7.8	1.9	
High estimate	6.0	7.8	11.4	7.8	
Midpoint/best estimate	4.6	6.2	9.7		4.5

* Based on GPS data (2008), see table 5.10.

** Based on GPS data (2008) and additional data on problem users (a.o. face to face interviews in 2012).

*** Based on GPS data (2008) and additional data on problem users (a.o. from a study in 2004 by Petros (2005)).

Sweden

For Sweden we do not have any data on the use frequency of last month amphetamine users from the general population or from targeted populations. We will therefore use the data from the Netherlands and the Czech Republic as a proxy. While this approach is highly debatable, we are not aware of other studies that are representative for the Swedish population.

We have first calculated the distribution of users over user groups in our Swedish web sample on the basis of their use frequency in the past month (table 5.13). This frequency of use has been adapted from our original number of use days in the last 30 days to match the categories used in the (population) surveys from the Netherlands and the Czech Republic (as reported in tables 2.3 and 2.4).

Table 5.13: Distribution of amphetamine users over user groups on the basis of their use frequency in the past month

	no use	less than once a week	at least once a week	several times a week	(Almost) daily
Infrequent user	82.6%	67.3%	40.0%	0.0%	0.0%
Occasional user	13.9%	23.6%	20.0%	0.0%	0.0%
Frequent user	3.5%	9.1%	40.0%	100.0%	100.0%

Table 5.14 shows the numbers of amphetamine users per prevalence category derived from table 5.2 and per frequency category derived from the combination of GPS prevalence data, and frequency data from the Netherlands and the Czech Republic with EUROSTAT population size for Sweden.

Table 5.14: Numbers of amphetamine users in Sweden (15-64 years)*

	Number of users estimate 1 (NL)	Number of users estimate 2 (NL)	Number of users estimate 3 (CZ)
Last year	48,907	48,907	48,907
Last year – not last month	30,567	30,567	30,567
Last month	18,340	18,340	18,340
• less than once a week	0,270 (56%)	11,921 (65%)	5,502 (30%)
• at least once a week	2,934 (16%)	4,585 (25%)	4,768 (26%)
• several times a week	0 (0%)	1,100 (6%)	5,502 (30%)
• (Almost) daily	5,135 (28%)	917 (5%)	2,568 (14%)

* Prevalence data from 2009 GPS; population size data from EUROSTAT 2011.

Table 5.15 shows the number of amphetamine users in Sweden for each of the user categories as defined in the web survey (infrequent, occasional, and frequent users) by applying the proportions given in table 5.14 to the number of users listed in table 5.14.

Table 5.15: Numbers of last year amphetamine users per user group in Sweden (15-64 years)

	Estimate 1 (NL)		Estimate 2 (NL)		Estimate 3 (CZ)	
	Total	%	Total	%	Total	%
Infrequent user	33,334	68%	35,105	72%	30,858	63%
Occasional user	7,259	15%	7,979	16%	6,501	13%
Frequent user	8,313	17%	6,006	12%	11,548	24%
Total	48,906	100%	49,090	100%	48,907	100%

Finally, table 5.16 provides the three estimates of the total amount of amphetamine consumed per year, per user type group and in total for Sweden. We based these estimates on the 5% trimmed mean of the amount of amphetamine consumed per user. These trimmed means per user type group were multiplied by the size of the user type group to arrive at the total amount consumed by each user type group at population level. These totals were then summed to arrive at the final total estimate of the annual consumption of amphetamine in Sweden.

Table 5.16 Amount of amphetamine consumed per user type (gram) and total amount consumed per year (kg) in Sweden*

			Estimate 1	Estimate 2	Estimate 3
		Amount per user per year	Amount consumed at population level	Amount consumed at population level	Amount consumed at population level
Infrequent user	95% CI - lower bound	1.65	55.0	57.9	50.9
	95% CI - upper bound	2.37	79.0	83.2	73.1
	5% trimmed mean	2.04	68.0	71.6	63.0
Occasional user	95% CI - lower bound	15.01	109.0	119.8	97.6
	95% CI - upper bound	28.76	208.8	229.5	187.0
	5% trimmed mean	22.45	163.0	179.1	145.9
Frequent user	95% CI - lower bound	177.40	1,474.7	1,065.4	2,048.6
	95% CI - upper bound	374.74	3,115.2	2,250.6	4,327.4
	5% trimmed mean	276.07	2,295.0	1,658.0	3,188.0
Total	95% CI - lower bound		1,638.7	1,243.1	2,197.1
	95% CI - upper bound		3,403.0	2,563.2	4,587.5
	5% trimmed mean		2,525.9	1,908.7	3,396.9

* 5% trimmed means, excluding the 2.5% lowest and 2.5% highest values. CI=confidence interval.

The estimate based on the population frequency distribution for the Czech Republic is 1.3 to 1.8 times higher compared to the two versions for the Netherlands, which is probably due to the higher proportion of frequent users in the former country. Also remember that methamphetamine is the main type of amphetamines consumed in the Czech Republic.

Problem amphetamine users

There are no recent estimates on the total number of problem amphetamine users in Sweden. In 2007 the overall size of the population problem drug users was estimated at 29,513. No distinction is made between (primary) users of amphetamine or other substances. The EMCDDA defines problem drug use as intravenous drug use (IDU) or long duration/regular use of opiates, cocaine and/or amphetamines. Ecstasy and cannabis are not included in this category. Amphetamines and opiates dominate in the population of problem drug users in Sweden. In a study among criminal justice populations, the proportions of users with amphetamines, heroin and cocaine as their primary drug was 24%, 7% and 2%, respectively. This yields a ratio of amphetamines to opiates/cocaine of about 3:1, suggesting that some 73% of the population of problem users is a primary amphetamine user, which is 21,544 in absolute numbers. However, looking at treatment data and taking also opiates other than heroin into account (e.g. buprenorphine and analgesics), the ratio would be more 1:1, resulting in a number of 14,757 problem amphetamine users.

Data on consumption patterns in this population have been collected in the face-to-face interviews among respondents recruited at the local needle exchange program and at a private opiate substitution treatment program in Malmö. In addition, two buprenorphine patients ('the seeds'), who recruited respondents through their personal network among active users, who in turn referred other respondents (chain referral). The results revealed a mean number of use days of 23 in the past month (median 27) and an average amount consumed per day of 2.05 gram (median 1.5). In a study on 1,710 amphetamine users in prison, confirmed the number of days in the past month (23 on average; Håkansson 2009). According to experts, the amounts consumed on a typical day are indeed 1.5 – 2 gram, although occasionally during binges amounts as high as 5 gram may occur. Based on an average of 23 days per month and an average of 2 grams per day, the amount of amphetamine consumed annually is estimated at 598 gram per problem user. If we use the median values for the number of use days and daily doses, the amount consumed annually per user is estimated at 465 gram.

With the number of problem amphetamine users ranging between 21,544 and 14,757, the first estimate for the amount consumed at population level per year ranges from 8.8 to 12.9 tons, and the second between 6.9 tons and 10.0 tons.

Adding these data to those of the population survey under the assumption that the overlap between populations in the GPS and problem users estimated indirectly is negligible, we arrive at the lowest possible estimate of 8.1 tons and the highest possible estimate of 17.47 ton, which is quite a huge range and much higher compared to the estimate in the first drugs market study (between 0.47 ton and 1.92 ton) (Kilmer and Pacula 2009). However this estimate was mainly based on a much lower number of amphetamine users in the general population of 11,791 (based on the GPS in 2000, against about 49,000 in our study, based on the 2008 population survey). Moreover, the population of problem users was not specifically included, and our data suggest that they have quite a significant share in the annual amphetamine consumption.

5.2 Ecstasy

Netherlands

As with amphetamine, the absolute number of last month ecstasy users in the 2009 general population survey was low (n=25), which make data on the frequency of use, expressed as the number of use days, highly imprecise (table 2.3 and 5.17). We will therefore once again make two separate estimations based on the frequency distributions of (1) the GPS data and (2) data from a (national) non-probability sample of almost 3,000 people attending clubs and parties (table 5.17).

We have first calculated the distribution of users over user groups in our Dutch web sample on the basis of their use frequency in the past month (table 5.18; see also chapter 1.5). This frequency of use has been adapted from our original number of use days in the last 30 days to match the categories used in the (population) surveys as reported in table 5.17.

Table 5.17: Frequency of ecstasy use among last month users in the general population (16-64 years) and in a survey among visitors of parties (15-35 years)

Last month users in GPS (2009) (N=25)			Last month users in survey on club and party visitors (2008/2009) (N=125)		
Every day or almost every day	3	11%	(Almost) daily	2	0.6%
Several times per week	0	0%	Several times/week	1	0.3%
Once a week or more	3	12%	Only in weekend	35	9.6%
Last month but not last week / „less than once a week in the last 30 days“	19	77%	Only at special occasions/ seldom	325	89.5%

Table 5.18: Distribution of last year users over user groups on the basis of their use frequency in the past month

	No use in past month	Less than once a week	At least once a week	Several times a week	(Almost) daily
Infrequent user	85.6%	52.1%	10.3%	8.3%	14.3%
Occasional user	12.3%	43.6%	41.4%	50.0%	28.6%
Frequent user	2.1%	4.3%	48.3%	41.7%	57.1%

Table 5.19 shows the numbers of ecstasy users per prevalence category derived from table 5.2 and per frequency category derived from the combination of GPS prevalence data, and frequency data from the two surveys in table 5.17, with EURO-STAT population size.

Table 5.19: Numbers of ecstasy users in the Netherlands (15-64 years)*

	Number of users Estimate 1**	Number of users Estimate 2**
Last year	156,153	156,153
Last year – not last month	111,538	111,538
Last month	44,615	44,615
• less than once a week	34,354 (77%)	39,930 (89.5%)
• at least once a week	5,354 (12%)	4,283 (9.6%)
• several times a week	0 (0%)	134 (0.3%)
• (Almost) daily	4,908 (11%)	267 (0.6%)

* Prevalence data from 2009 GPS; population size data from EUROSTAT 2011.

** Estimate 1 is based on the frequency distribution of last month use as assessed in the general population survey. Estimate 2 is based on the frequency distribution among last month users in a (national) targeted survey among visitors of clubs and parties (Van der Poel et al. 2010).

Table 5.20 shows the number of ecstasy users in the Netherlands for each of the user categories as defined in the web survey (infrequent, occasional, and frequent users) by applying the proportions given in table 5.18 to the number of users listed table 5.19.

Table 5.20: Numbers of last year ecstasy users per user group in the Netherlands (15-64 years)

	Estimate 1*		Estimate 2**	
	Total	% of all users	Total	% of all users
Infrequent user	114,628	73%	116,771	75%
Occasional user	32,318	21%	33,045	21%
Frequent user	9,208	6%	6,336	4%
Total	156,154	100%	156,152	100%

* Estimate 1 is based on the frequency distribution of last month use as assessed in the general population survey.

** Estimate 2 is based on the frequency distribution among last month users in a (national) targeted survey among visitors of clubs and parties (Van der Poel et al. 2010).

Finally, table 5.21 provides the estimates of the total amount of ecstasy consumed per year, per user type group and in total for the Netherlands. We based these estimates on the 5% trimmed mean of the amount of ecstasy consumed per user. These trimmed means per user type group were multiplied by the size of the user type group to arrive at the total amount consumed by each user type group at population level. These totals were then summed to arrive at the final total estimate of the annual consumption of ecstasy in the Netherlands.

Table 5.21: Amount of ecstasy consumed per user type (pills) and total amount consumed per year (pills*100,000) in the Netherlands*

		Amount per user per year	Amount consumed at population level**	Amount consumed at population level***
Infrequent user	95% CI - lower bound	8.73	10.01	10.19
	95% CI - upper bound	9.51	10.90	11.10
	5% trimmed mean	9.14	10.48	10.67
Occasional user	95% CI - lower bound	47.88	15.47	15.82
	95% CI - upper bound	52.98	17.12	17.51
	5% trimmed mean	50.56	16.34	16.71
Frequent user	95% CI - lower bound	233.33	21.48	14.78
	95% CI - upper bound	317.29	29.22	20.10
	5% trimmed mean	275.31	25.35	17.44
Total	95% CI - lower bound		46.97	40.80
	95% CI - upper bound		57.24	48.72
	5% trimmed mean		52.17	44.82

* 5% trimmed means, excluding the 2.5% lowest and 2.5% highest values. CI=confidence interval.

** Estimate 1 is based on the frequency distribution of last month use as assessed in the general population survey. Estimate 2 is based on the frequency distribution among last month users in a (national) targeted survey among visitors of clubs and parties (Van der Poel et al. 2010).

Note that the annual consumption among frequent users seems to be unrealistically high, but also remember that they only make up 4% to 6% of the total population of last year users.

Other studies – summarised by Kilmer and Pacula (2009) - suggested that the average typical number of pills consumed per year per last year user may vary from 100 to 154 (UNODC 2008), 47 to 123 (Pudney et al. 2006), or 20 to 40 (Blickman 2004).

Using the lowest and highest estimate in table 5.21, our data suggest a range of 26 to 37 pills per user per year, but also shows the huge variation between user types.

Sensitivity analyses

We have carried out two sensitivity analyses. First, a few cases among the frequent users yielded unrealistically high consumption amounts per year (upwards of one thousand pills). Although it is difficult to say where to draw the line, we believe it is safe to assume that an annual consumption of over 500 pills is unrealistic. Table 5.22 reports the recalculated estimate while capping the amount consumed per user per year at 500 (i.e. higher values are removed). Capping reduces our estimates of total annual consumption by 650,000 pills (12.5%) for estimate 1 and 1,182,000 pills (22.7%) for estimate 2.

Second, answer categories for reporting the number of ecstasy pills consumed on a typical use day did not allow for decimals. Hence, the lowest number respondents could indicate, was '1'. However, as mentioned in chapter 3.3.3, some users – especially infrequent users - may consume less than one pill at a time. We will therefore examine how estimates change if we assume that a portion of those indicating that they use 1 pill in our current study would actually have used less than 1 pill. We will assume that that the distribution would be the same as reported for the survey in 2008/2009 among club and party visitors as described in chapter 3.3.3. The recalculated estimate is shown in table 5.22. Adjusting for consumption of less than 1 pill per use day reduces our estimate of total annual consumption by 161,000 pills (3.1%) for estimate 1 and 149,000 pills (3.3%) for estimate 2.

Table 5.22: Adjusted amounts of ecstasy consumed per user type (pills) and total amount consumed per year (pills*100,000) in the Netherlands*

	Adjusted for capping at a maximum of 500 pills per user per year			Adjusted for those consuming less than 1 pill on a typical use day		
	Amount per user per year	Amount consumed at population level**		Amount per user per year	Amount consumed at population level**	
Infrequent user	9.14	10.48	10.67	8.58	9.84	10.01
Occasional user	50.56	16.34	16.71	49.16	15.89	16.24
Frequent user	204.75	18.85	12.97	269.71	24.83	17.08
Total		45.67	40.35		50.56	43.33

*5% trimmed means, excluding the 2.5% lowest and 2.5% highest values.

** Left value is based on the frequency distribution of last month use as assessed in the general population survey; right value is based on the frequency distribution among last month users in a (national) targeted survey among visitors of clubs and parties.

The estimates in the current study are on the low end or just below the range reported in the first drugs markets study (between 5,003,464 and 41,095,118). However, the estimates in both studies were based on different assumptions. More specifically, Kilmer and Pacula (2009) made no distinction between heavy and light users or other user groups, and assumed – for all European countries – a mean individual consumption of 30 pills per year for the low estimate and 154 pills per year for the high estimate. The low estimate was derived from a study by the Dutch National Criminal Investigation Services that reported a range of 20-40 pills (Van der Heijden 2003). Based on our highest and lowest estimates, mean individual annual consumption would be between 26 and 37 pills, suggesting that our numbers are more in line with this low estimate.

5.3 Cocaine

Netherlands

In the Netherlands, cocaine is used in different populations which can be roughly divided into socially integrated cocaine powder users who snort the drug and marginalised crack (or basecoca) users who smoke or inhale their drug. The latter population overlaps to a large extent with the population of PHUs, although there is also a group of crack cocaine users who have never (or not recently) used opiates. Our web survey was expected to capture mainly cocaine powder users, which was confirmed by the very low number of crack users completing the survey (16 crack users against 698 cocaine powder users). For the estimates based on population surveys, only consumption data for cocaine powder are included.

As with amphetamine and ecstasy, the absolute number of last month cocaine users in the 2009 general population survey was low (n=30), which make data on the frequency of use, expressed as the number of use days, imprecise (table 2.3 and 5.23). We will therefore once again make two separate estimations based on the frequency distributions of (1) the GPS data and (2) data from a (national) non-probability sample of almost 3,000 people attending clubs and parties (table 5.23).

In spite of the different methodologies, the frequency distribution in these surveys is quite similar.

We have first calculated the distribution of users over user groups in our Dutch web sample on the basis of their use frequency in the past month (table 5.24; see also chapter 1.5). This frequency of use has been adapted from our original number of use days in the last 30 days to match the categories used in the (population) surveys as reported in table 5.23.

Table 5.23: Frequency of cocaine use among last month users in the general population (16-64 years) and in a survey among visitors of parties (15-35 years)

Last month users in GPS (2009) (N=30)			Last month users in survey on club and party visitors (2008/2009) (N=194)		
Every day or almost every day	2	5%	(Almost) daily	5	2.5%
Several times per week	1	5%	Several times/week	6	3.1%
Once a week or more	5	16%	Only in weekend	32	16.5%
Last month but not last week / „less than once a week in the last 30 days“	22	74%	Only at special occasions or seldom	151	77.8%

Table 5.24 Distribution of users over user groups on the basis of their use frequency in the past month

	No use	Less than once a week	At least once a week	Several times a week	(Almost) daily
Infrequent user	87.2%	53.9%	4.3%	18.2%	0%
Occasional user	11.0%	35.8%	26.1%	9.1%	28.6%
Frequent user	1.8%	10.2%	69.6%	72.7%	71.4%

Table 5.25 shows the numbers of cocaine users per prevalence category derived from table 5.2 and per frequency category derived from the combination of GPS prevalence data, and frequency data from the two surveys in table 5.23, with EUROSTAT population size.

Table 5.25: Numbers of cocaine users in the Netherlands (15-64 years)*

	Number of users Estimate 1**	Number of users Estimate 2**
Last year	133,845	133,845
Last year – not last month	78,076	78,076
Last month	55,769	55,769
• less than once a week	41,269 (74%)	43,388 (77.8%)
• at least once a week	8,923 (16%)	9,202 (16.5%)
• several times a week	2,788 (5%)	1,729 (3.1%)
• (Almost) daily	2,788 (5%)	1,394 (2.5%)

* Prevalence data from 2009 GPS; population size data from EUROSTAT 2011.

** Estimate 1 is based on the frequency distribution of last month use as assessed in the general population survey. Estimate 2 is based on the frequency distribution among last month users in a (national) targeted survey among visitors of clubs and parties.

Table 5.26 shows the number of cocaine users in the Netherlands for each of the user categories as defined in the web survey (infrequent, occasional, and frequent users) by applying the proportions given in table 5.24 to the number of users listed table 5.25. The differences in frequency of use distributions had relatively little impact on the distribution of user groups. For both estimates, almost 70% of all last year users were infrequent users, while some 20% and 10% were formed by respectively the occasional and frequent user groups.

Table 5.26: Numbers of last year cocaine users per user group in the Netherlands (15-64 years)

	Estimate 1*		Estimate 2**	
	Total	% of all users	Total	% of all users
Infrequent user	91,217	68%	92,179	69%
Occasional user	26,743	20%	27,079	20%
Frequent user	15,843	12%	14,488	11%
Total	133,803	100%	133,746	100%

* Estimate 1 is based on the frequency distribution of last month use as assessed in the general population survey. Estimate 2 is based on the frequency distribution among last month users in a (national) targeted survey among visitors of clubs and parties.

**Difference due to rounding of sub-estimates.

Finally, table 5.27 provides the estimates of the total amount of cocaine consumed per year, per user type group and in total for the Netherlands. We based these estimates on the 5% trimmed mean of the amount of amphetamine consumed per user. These trimmed means per user type group were multiplied by the size of the user type group to arrive at the total amount consumed by each user type group at population level. These totals were then summed to arrive at the final total estimate of the annual consumption of cocaine in the Netherlands.

Table 5.27: Amount of cocaine consumed per user type (gram) and total amount consumed per year (kg) in the Netherlands*

		Amount per user per year	Amount consumed at population level Estimate 1**	Amount consumed at population level Estimate 2**
Infrequent user	95% CI - lower bound	1.84	167.8	169.6
	95% CI - upper bound	2.28	208.0	210.2
	5% trimmed mean	2.06	187.9	189.9
Occasional user	95% CI - lower bound	16.33	436.7	442.2
	95% CI - upper bound	21.08	563.7	570.8
	5% trimmed mean	18.87	504.6	511.0
Frequent user	95% CI - lower bound	101.41	1,606.6	1,469.2
	95% CI - upper bound	154.25	2,443.7	2,234.7
	5% trimmed mean	128.92	2,042.4	1,867.8
Total	95% CI - lower bound		2,211.2	2,081.0
	95% CI - upper bound		3,215.5	3,015.7
	5% trimmed mean		2,735.0	2,568.6

* 5% trimmed means, excluding the 2.5% lowest and 2.5% highest values. CI=confidence interval.

** Estimate 1 is based on the frequency distribution of last month use as assessed in the general population survey. Estimate 2 is based on the frequency distribution among last month users in a (national) targeted survey among visitors of clubs and parties.

The estimates in the current study are within the range reported in the first drugs markets study (between 0.6 and 5.8 tons of cocaine), and our two estimates are just a little bit higher than the previous study's best estimate of 2.3 tons. Thus, despite differences in estimation methods, we arrive at very similar estimates. Kilmer and Pacula (2009) divided cocaine users into light (less than three times a month) and heavy users and assumed that 17% of past year users would be heavy users. In our study, some 20% of past year users would be heavy users as defined by Kilmer and Pacula. They also assumed that light users will use on average once a month and that the average number of use days for a heavy user will be uniformly distributed between 85 and 169 days. They further assumed that light users consume an average amount of 0.55 gram of cocaine per use day and heavy users consume an average amount of 0.90 gram of cocaine per use day. These figures fit quite nicely with our figures of 0.52 gram for infrequent users and 0.80 and 1.28 gram for occasional and frequent users.

Crack cocaine

In the Netherlands, crack cocaine use is fairly common among problem users of opiates, a population which was estimated at 17,700 in 2008 (treatment multiplier method). It is assumed that the large majority of these users also consume crack (some 70 to 80%). However, the total population of crack users, also including those who do not co-use opiates, is not known. In a recent study in the three largest Dutch cities, the population of crack users has been investigated. Between 49% and 72% of the

respondents who were recruited by respondent driven sampling had used heroin in the past month. Between 43% and 50% of all crack users was a (near) daily user, who consumed crack on 6 to 7 days per week. It is not known whether those who only used crack had a different consumption pattern compared to those who also took heroin. If, for lack of better information, we assume - on the basis of these studies - that 75% of problem opiate users also consume crack and that some 60% of crack users also consume heroine, we can use the number of problem opiate users to estimate the number of crack users at roughly 22,125.

In the face-to-face interviews among heroin/crack users, the mean and median number of use days of crack per month were 20 and 28, and the mean and median daily dose 0.59 and 0.50 gram (see table 5.25). Mean and median monthly consumption were 13.98 and 7.50 grams and annual consumption 167.8 and 90 grams (assuming a population of chronic users and thus multiplying monthly consumption by 12). Given the low number of respondents, the median values may be better estimates and we will use both the mean and median values to estimate total annual crack consumption.

In a sample of chronic heroin users taking part in the efficacy trials of the Dutch medical heroin assisted treatment (Blanken et al. 2010; Blanken 2011), the average number of use days was 17 days for the heroin inhalers or smokers and 19 days for those who injected the drug. These averages fit quite well with those found in the face to face interviews among problem heroin/crack users. No data on amounts consumed per day are reported for this study.

Multiplying our estimated number of crack users by the mean and median individual annual consumption of crack from the face-to-face interviews yields estimates of annual crack consumption of 1.99 and 3.71 metric tons. Note, however, that these estimates combine crack consumption data from only 34 individuals with an absolute number of crack users estimated under questionable assumptions and are therefore to be treated as very rough and used with caution.

Table 5.25: Number of use days in the past month and amount of crack consumed on a typical use day among problem hard drug users (opioids/crack) in the Netherlands (n=34)*

	Number of use days	Grams on a typical day	Monthly consumption (grams)
Mean	19.82	0.59	13.98
Median	27.50	0.50	7.50
Min.	2	0.10	0.20
Max.	30	3.00	90.00

5.4 Conclusions and discussion

In this paragraph we have estimated (meth)amphetamine consumption for three countries, the Czech Republic, the Netherlands and Sweden. While figures for the Netherlands seemed to match those estimated before quite well, estimates for the Czech Republic were in the higher range, and those for Sweden were much higher than previous estimates, but the difference depended on the sources used for making the initial estimates and adjustments for problem drug users. It is clear that use patterns were different for methamphetamine users compared to amphetamine users, as figures of individual consumption were (much) lower for each user type in the Czech Republic compared with the Netherlands and Sweden.

Estimates of ecstasy and cocaine consumption were made only for the Netherlands. Our estimates for ecstasy consumption were in the low range of previous estimates. The previous low estimate was derived from a Dutch study and our numbers are more in line with this low estimate. Estimates for cocaine consumption aligned nicely with previous estimates; our estimates were well within previous ranges and close to the previous best estimate.

As indicated in the introduction of this paragraph and this chapter, there is much uncertainty with regard to the numbers of users in the population within frequency categories (in many or most EU countries), due to the low number of last month users. Perhaps increasing sample sizes or oversampling of specific age groups with higher prevalence rates may help solve this problem. Inquiring about last year frequency of use instead of or in addition to last month frequency of use may also help increase sample size because it captures all last year users. In countries where surveys are conducted with short time intervals (annually or bi-annually), a frequency distribution might be based on aggregated data sets. Using data from specific populations and settings where substance use is relatively common (like the dance scene), might add to our knowledge on consumption patterns if sample sizes are large enough, but at the cost of being not fully representative for the total population of users under study.

There is also a general lack of knowledge on underreporting of use. We do not know for example, whether especially heavy users are missed or underreport their (frequency) of use. Increasing consumption estimates with 20% or 50% is probably based on 'the best educated guess', but it would be useful if there would be more studies (cross-country) to support these percentages.

6 Conclusions and recommendations

This study explored consumption patterns, availability and annual consumption of (meth)amphetamine, ecstasy and cocaine from the demand side across several European Union Member States. It is the first study to attempt a distinction between different user types based on frequency of use and to use these types as a basis for estimating annual consumption. Although this effort was impeded by insufficient numbers of respondents for (meth)amphetamine, ecstasy and cocaine in most Member States and a lack of frequency of use data from general or targeted population surveys, our study yielded some interesting findings that show that it would be worthwhile to employ this approach in future drug market investigations.

Data collection through a web survey has its limitations (see report 1 on the cannabis market for a discussion), but our study shows that it also has great potential in drug research. Although the numbers of respondents obtained were often insufficient for the detailed analyses we had planned, we managed to recruit significant numbers of users of (meth)amphetamine, ecstasy and cocaine in the selected Member States. In a relatively short amount of time, we obtained data from nearly 5,000 users, including some 500 frequent users who are notoriously hard to capture in survey research.

Our typology of users shows that infrequent users, who take (meth)amphetamine, ecstasy or cocaine less than monthly, comprise the largest group of the past year users. Our study clearly shows that for all three drugs under investigation, the amount consumed on a typical use day generally increases with increasing frequency of use (number of use days). Accordingly, individual annual consumption was higher among occasional than infrequent users and was highest among frequent users. In terms of total annual consumption, the smallest group of frequent users is responsible for the largest part of the total estimated amounts of (meth)amphetamine, ecstasy and cocaine consumed.

Differences between user types in use intensity were corroborated by other findings such as higher rates of buying the three drugs and higher amounts of money spent on drugs among frequent users compared with occasional and infrequent users. Differences were also found in other aspects of consumption and availability. For instance, frequent users of (meth)amphetamine, ecstasy and cocaine consumed their drug more often at home than occasional and infrequent users.

For amphetamines and cocaine there are relatively large populations of problem drug users in many countries that are unlikely to be captured in general population surveys or targeted web surveys such as our study. However, like the frequent users in our study, these problem drug users will likely account for a major part of the total annual consumption because of their intensive use patterns. Estimates of total annual consumption are thus to a large extent dependent on the reliability of estimates of the size of PDU populations and their use patterns.

6.1 Recommendations for further research

We recommend that future drug market investigations distinguish between users of varying intensity of use, that they base this grouping on last year use frequency, and that they estimate individual annual consumption per user type and use these figures in conjunction with figures on the numbers per user type from population surveys to estimate total annual consumption.

In line with the previous recommendation, we suggest that future general and targeted population surveys inquire about drug use frequency in the past year. We believe that this is preferable to asking about past month use frequency because it captures all past year users and obtains valuable information.

In the current study respondents could indicate the number of ecstasy pills consumed on a typical use day only in whole numbers, while in fact people may take less than a whole pill, especially the less frequent users. More precise estimates of ecstasy consumption could be obtained in future studies by allowing numbers of pills to be indicated at one decimal or at least in halve or quarter pills.

Respondents indicated the amounts of (meth)amphetamine and ecstasy consumed on a typical use day by selecting among a list of specified amounts in grams. Unlike the corresponding answer categories for use of cannabis (see report 1), these amounts were not illustrated by picture cards, and respondents may have found it difficult to judge their consumption. It would be useful to test and develop a consistent format for measuring consumed amounts of drugs such as (meth)amphetamine and cocaine powder.

There is still insufficient knowledge of the degree of underreporting of drug use in population surveys, how it might be associated with the survey methodology and/or differ between countries and across different user groups. This issue is an important target for further research, as underreporting may be a relevant source of estimation uncertainty.

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