Patterns of Drug Use Among Drug Misusers in Sweden. Gender Differences

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The goal of the article is to provide information about polydrug abuse and drug misuse patterns in Sweden among women and men. The data has been taken from a 1998 national survey of “Heavy” severe drug misuse in Sweden, project “MAX-98” (Olsson, Adamsson-Wahren, & Byqvist, 2001). The drug misusers were reported by various government agencies, including health services, social services, police, and correctional treatment facilities on a special form. One of the significant gender differences that emerged was that a greater percent of the women in the survey used and injected amphetamines, injected opiates, and used tranquilizers/sedatives, while a greater percent of the men smoked cannabis, smoked heroin, and misused alcohol. Furthermore, the most common combinations for both genders was amphetamines + cannabis, followed by amphetamines + heroin + cannabis. Alcohol played a large role for the narcotics users. Heroin as a primary drug has grown in the age groups under 35. The trends document that the use of ecstasy as well as chemical CNS-stimulating/hallucinogenic drugs has grown, that polydrug use has increased compared with earlier surveys, and that the methods of ingestion have changed. It is therefore more precise today to speak of different types of polydrug users than about users of exclusively one drug.

Keywords drug misuse; gender; polydrug use; problem drug use; trends

Introduction

Narcotics use has increased in many European countries; estimates are therefore being sought for the extent of the drug misuse in Sweden. The first survey was carried out in 1979, project “UNO-79” (Ministry of Health and Social Affairs, 1980). A second survey was carried out in 1992, “UNO-92,” to find out if the problem has become better or worse and whether the trends have changed over time (Olsson Byqvist, & Gomér, 1993, 1994). A third survey was done in 1998, “MAX-98” (Olsson, et al., 2001). The 1979 survey was a complete study in all of the country’s municipalities, the one in 1992 covered 100 municipalities, and the 1998 survey included 47 municipalities (Table 1). The metropolitan areas of Sweden are covered in all three surveys. This article is based on the most recent survey.

A combination of the case-finding and capture-recapture method was used in the three Swedish investigations in order to estimate the extent of problem drug use. This article describes all drug users manifesting “heavy”/severe drug use, defined as a person who has

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1The journal’s style utilizes the category substance abuse as a diagnostic category. Substances are used or misused; living organisms are and can be abused. Editor’s note.
Table 1

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of heavy/severe</td>
<td>15,000</td>
<td>19,000</td>
<td>26,000</td>
</tr>
<tr>
<td>drug misusers after</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>capture-recapture</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>estimations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average age</td>
<td>27 years</td>
<td>32 years</td>
<td>37 years</td>
</tr>
<tr>
<td>Substance misused: (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CNS drugs</td>
<td>77</td>
<td>82</td>
<td>73</td>
</tr>
<tr>
<td>Opiates</td>
<td>30</td>
<td>34</td>
<td>47</td>
</tr>
<tr>
<td>Cannabis</td>
<td>61</td>
<td>66</td>
<td>54</td>
</tr>
<tr>
<td>Hallucinogenes</td>
<td>2</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Cocaine</td>
<td>—</td>
<td>5</td>
<td>2*</td>
</tr>
<tr>
<td>Brown heroin (smoke-)</td>
<td>—</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Predominant substance:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CNS drugs</td>
<td>47</td>
<td>48</td>
<td>32</td>
</tr>
<tr>
<td>Opiates</td>
<td>15</td>
<td>26</td>
<td>28</td>
</tr>
<tr>
<td>Cannabis</td>
<td>33</td>
<td>17</td>
<td>8</td>
</tr>
</tbody>
</table>

*Predominant.

injected narcotics during the preceding 12-month period (regardless of frequency) or has used drugs daily or nearly daily for the preceding four weeks. One consequence of this definition is that many reported drug users are not counted as heavy users.

Review of the Literature

Patterns of drug and polydrug use do not form a unified construct. It is therefore difficult to compare different studies. The results are affected by the population under study, by the questions that are posed, and by measurement methods that are used. Polydrug misuse is most often described as the use of an illegal drug plus an additional one or more illegal or legal drugs, the latter principally being alcohol and non-prescribed tranquilizers/sedatives taken in large amounts. For some people, their first drug (drug of initial use) can become their "primary drug" for the rest of their lives, while others later use their drug of initial use in combination with other drugs or switch completely over to one or several other drugs. Polydrug misuse often develops gradually and, as one Swedish study was able to establish, the majority of drug users become polydrug users after about 10 years of drug misuse (Byqvist, 1996).

Sometimes it is the drug of initial use or the user’s primary drug that is the point of departure for a polydrug habit and sometimes it is a substance that delivers a special effect that the person desires. In the research on polydrug misuse one finds classifications such as time categories (polydrug misuse in a time perspective: simultaneously, alternately, or cumulatively), effect categories (the effect of mixing drugs), and combination categories (how drugs are combined). Some authors study all of these categories, while others study one or two.

Pharmacological research documents that the effects of one drug can be increased with the use of a second (Bührs, 1993). This phenomenon was called synergy effects by
Cohen (1981). Cohen also described effects as being antagonistic (two drugs have an opposite effect), additive (two drugs with the same effect used together so that the effect is doubled), or supra-additive (the combined effect of two synergy drugs that is greater than the sum of their doses). The phenomenon of an "exchangeable multiple effect" means that one substance can be replaced by another with a similar effect, according to Le Dain (1973).

Drug combinations are described in different ways in the literature, sometimes as "multiple" and sometimes as normative. According to Chan (1991), normative means that a circle of users has set a norm for mixing drugs; for example, cannabis and alcohol. Another category was described as "at least two narcotic substances and alcohol" (Carrol, Mallory, & Kertesz, 1977; NIDA, 1982; Blihrs, 1993). Kreek (1991) described a strong association of alcohol and narcotics. Alcohol misuse was followed by the use of other drugs, and the use of narcotics is followed by alcohol misuse. Clayton (1986) concluded that polydrug misuse had replaced having a single favorite drug in a particular area, culture, and point in time.

Research on gender differences in the use of different substances and in polydrug misuse documents that there is no general pattern. Some studies find differences, other do not. Celentano and McQueen (1984) found, for example, that women were thought to be polydrug users to a greater extent than men, while Fiorentine, Anglin, Gil-Rivas, and Taylor (1997) and Weeks et al. (1998) found that the pervasiveness of polydrug use was the same for both genders.

The majority of authors have found that the percent of women who use heroin and who inject heroin is higher than the percent of men (Byqvist, 1996; Montgomery et al., 2002). Weeks et al. (1998) found, for example, that female narcotics users misused alcohol to a lesser extent than did men, while Fiorentine et al. (1997) found that there was no difference.

Age effects between the genders with regard to polydrug use was studied by Young et al. (2002). The similarities were striking in early adolescence, but began to change in the mid-adolescent period when the prevalence rose for all. The differences between the genders increased in late adolescence and although they were not so great, the prevalence of polydrug misuse was higher for men than for women.

The present study is a so-called combination study, which means that it describes how drugs are used in combination. It is not a time or effect study. The article also describes the connection between the use of CNS drugs (central nervous system drugs, primarily amphetamines), opiates, cannabis, hallucinogens, tranquilizers/sedatives, alcohol, and solvents. The analysis is made stepwise. First an accounting is made of the details of the drug use, ingestion method, and age distribution, followed by patterns of polydrug use and predominant form of use.

The main aim of this article is to provide information about polydrug use and drug use patterns by answering the following questions:

1. What is the character of drug use (narcotics, alcohol, tranquilizers/sedatives) in Sweden?
2. How can polydrug misuse be described?
3. Are there any gender and age differences in the patterns of drug misuse?
4. What role does alcohol misuse play for narcotics users?
5. Have polydrug misuse and patterns of drug misuse changed over time?

The reader is reminded of the need to distinguish between a drug's pharmacological effects, when used singly or in a combination and the "drug experience," which is the outcome of the interaction between the substance(s), the site of its use, and the user. Editor's note.
Method

A total of 14,249 reporting forms representing 11,029 drug misusers were submitted by reporting public agencies in the participating municipalities. A majority of the units reporting belonged to the social services and health services systems. The balance of the reports were submitted by the police, the correctional authorities, and residential treatment centers. Seventy-nine percent of the persons reported had only one form; that is, were reported by only one agency.

All government units (health, police, social services, probation, correctional authorities) as well as residential centers and other organizations at which workers/employees had contact with drug users were asked to fill out a form containing questions about home district, gender, age, substance used, misuse patterns, and social conditions (work, social contacts, housing situation, and criminality as a means of livelihood). A form was to be completed for each drug misuser with whom the respondent had had contact in the previous 6 months and who had misused drugs for the previous 12 months. The survey was intended to cover drug users who were in contact with the agency or organization in the period April 1 to October 1, 1998. In some cases the data collection was coordinated with other studies in progress. The Centre for the Evaluation of Social Service connected with the city of Stockholm's Social Welfare Service carries out annual surveys. The Stockholm questionnaire did not completely correspond with the one used in the MAX 98 project. The National Swedish Prison and Probation Administration carries out annual surveys of drug misusers in the correctional system, and the data collection that was done on October 1 was coordinated with MAX 98. Only those persons convicted of crimes registered at place of residence in any of the selected municipalities were included in the case-finding survey.

Processing of the data was carried out with the help of the quantitative analysis tools in the SPSS statistics program. In the statistical analysis chi-square was utilized for categorical variables and the Mann-Whitney test for nonparametric tests.

The goal of this national survey was, above all, to estimate the number of heavy drug users and not primarily to make a detailed description of the population of heavy drug users. Those who did not fit the designation "heavy" have been denoted as "others," because there is no information about "injection or daily or nearly daily use over the past four weeks." Considering the lack of information, the brief account of these others in the discussion should be treated with caution. The same applies to the analysis of the heavy users, since several factors cast a shadow of doubt on the validity of the data; for example, the uncertainty of the respondents concerning the substances used and whether or not clients injected, both of which factors bear upon whether a client should be described as a heavy drug user. The number of persons with a heavy drug use amounted to 5,539. Gender information was missing for 13 individuals. Of the heavy drug users 23% were women and 77% were men. After capture-recapture estimation of the extent of missing data and an upward adjustment to take in all the municipalities in the country, the number of heavy drug users amounted to about 26,000.

Reliability

In order to control for duplicates and to match the forms, when one person had two or more forms, a code was used consisting of first and last name initials, year of birth, and day of birth (but not month of birth).

Reliability was checked in two different ways. The first method involved collating information about individuals who were reported by more than one respondent. A random
A sample of 100 persons was examined. Of these, 50 had two forms, 25 three forms, and 25 four forms. The forms had all been filled out in the same 5 month period. For 35% of the individuals the information on the forms concerning narcotic substances was identical, while for 3% of the individuals the information was contradictory. For the remaining 61% the information regarding one or more narcotic substances was the same on all forms, but in addition one of the forms contained further information about the use of one or more substances. For other substances (alcohol, solvents, tranquilizers/sedatives, medicine) 81% of the persons in the sample were consistent in naming which substances they used, 13% had named an additional one or more substances on one of the forms, and 6% had given contradictory information on the forms.

The second method for checking reliability was to compare the answers from the same respondent regarding the same client. Altogether, 50 individuals were reported twice by the same respondent. For 56% of these clients, identical information was given for all the questions. No respondent had given completely contradictory information. In 24% of the cases an additional one or two substances were listed (narcotic substances, alcohol, solvents, tranquilizers/sedatives, or medicine), while 20% contained differing information about length of drug use, ingestion method, frequency, and predominant substance. The comparison documented that 78% of the respondents reported the exact same substance or combination of substances. All in all it can be said that the level of consistency was relatively high with respect to the different substances used.

Results

The types of data collected from the agencies sources of information, which are not described in this article (Olsson et al., 2001; Lander, Olsson, Rönnel, Skrinjar, 2002 and Byqvist, 2005), can be summarized as follows: The level of employment was low. 3/4 had a poor employment situation or no job at all. 37% used illegal incomes completely or to a great extent to support their drug habit. It was clear that they socialized with other drug users. Ninety percent socialized mostly with non-users, where the users can find their identity, sociability, and security, and by their drugs. The housing situation for many was relatively good, but 18% had no fixed residence.

Details of Drug Misuse

The drug misuse situation and the details of the misuse during the 12 months preceding the reporting varied according to the individual. The situation is described for persons who have a problem or established drug habit as well as for those who are not so far along in their drug abusing career. Four percent of the women and 2% of the men had used drugs for up to 2 years, and 53% of the women and 52% of the men had a drug use history of 10 years or more. Data are missing for 22%. Because the drug users have grown older at the time of each survey, the length of drug use has also grown over time. Comparing data for both genders taken together reveals that 19% had a drug use history of 10 years or more in 1979, 47% in 1992, and 52% in 1998. This does not mean that the persons in the study are exactly the same persons who have been older. We know from our investigation in 1992 (Skog, 1993) that 3% of the drug users disappear every year and that, in addition, new persons become addicted.

In the year under study the gender differences were more pronounced with regard to CNS drugs and cannabis (Table 2). A significantly greater percent of the women used CNS
Table 2
Distribution of used/misused substances for women and men with a problem habit. Number of women (1,279) and number of men (4,260)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Women n = 1279</th>
<th>Men n = 4,260</th>
<th>Total n = 5,539</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>CNS drugs*</td>
<td>972</td>
<td>76</td>
<td>3,082</td>
</tr>
<tr>
<td>Opiates</td>
<td>628</td>
<td>49</td>
<td>1,980</td>
</tr>
<tr>
<td>Cannabis***</td>
<td>618</td>
<td>48</td>
<td>2,615</td>
</tr>
<tr>
<td>Ecstasy</td>
<td>73</td>
<td>6</td>
<td>232</td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>66</td>
<td>5</td>
<td>224</td>
</tr>
<tr>
<td>Alcohol**</td>
<td>484</td>
<td>38</td>
<td>1,844</td>
</tr>
<tr>
<td>Tranquilizers/sedatives*</td>
<td>532</td>
<td>42</td>
<td>1,617</td>
</tr>
</tbody>
</table>

CNS (amphetamine, cocaine, crack, methamphetamine, etc); opiates (white and brown heroin, morphine, opium); cannabis (hashish, marijuana, hashish oil); hallucinogens (LSD, PCP, mescaline, phencyclidine); tranquilizers/sedatives (benzodiazepines).

Chi-square test, *p < .05, **p < .01, ***p < .001.

Drugs (p < .05) and a significantly greater percent of the men used cannabis (p < .001). A greater percent of the women used opiates, but the difference was not significant. CNS drugs were the most commonly occurring class of substance, followed by cannabis and opiates, alcohol, and tranquilizers/sedatives. A greater percent of the men misused alcohol (p < .01) and a greater percent of the women misused tranquilizers/sedatives (p < .05).

The reporting from the different municipalities documents that certain municipalities have rates over the national average as to the drugs being used. Over half of the country's municipalities are above the national average for CNS drugs, cannabis, and alcohol. When it comes to opiates, the city of Stockholm and 15 of Stockholm's surrounding municipalities, plus Malmö and Lund in the south and Skellefteå in the north of the country, are over the national average.

The observable patterns are that if a larger municipality has a higher percent than the national average, then closely situated smaller municipalities included in the survey also lie above the national average. To give some examples, the city of Eskilstuna with surrounding towns are far above the national average for the misuse of CNS drugs and cannabis, as are the city of Örebro with surrounding towns for CNS drugs; the city of Gävle and the nearest town for CNS drugs and ecstasy; and the city of Falun with surrounding towns for alcohol.

The percent of men and women who used opiates, tranquilizers/sedatives, and hallucinogens has grown compared with 1992, while the percent who used cannabis, CNS drugs, and alcohol is somewhat lower. Here there is no gender difference. Ecstasy is a drug that has appeared since the 1992 investigation. Tobacco and caffeine were not included in the survey.

Means of Ingestion and Frequency
In all, 3,999 individuals (71% of the men 67% of the women) with heavy drug misuse had used narcotics in the previous four weeks; 2,846 used narcotics daily nearly daily; and 4,911 were reported to have injected.
Patterns of Drug Use Among Drug Misusers in Sweden

Figure 1. a. Ingestion method for CNS drugs (central nervous system stimulant, primarily amphetamines). (n = 4,057). b. Ingestion method for opiates (primarily heroin). (n = 2,610).

The method of ingestion is related to which one or which several drugs were used. Of those who used CNS drugs, 66% were reported to have injected the substance, 3% to have smoked, 6% to have sniffed, and 18% to have orally ingested the CNS drugs (Figure 1a). Of those who used opiates, 60% injected, 33% smoked, 2% sniffed, and 5% orally ingested opiates (Figure 1b). Cannabis was mainly smoked, while hallucinogens (LSD) and ecstasy were taken by mouth.

The method of ingestion showed differences according to gender. A higher percent of the women injected CNS drugs (p < .001) as well as opiates (p < .01), and a higher percent of the men smoked opiates (p < .001) as well as cannabis (p < .001).

The 1979 survey, project "UN0-79," describes the method of ingestion for different substances. Different methods of ingestion for CNS drugs and opiates appeared even then. Injection was the most common, but smoking and sniffing also occurred. But there was no
Table 3a

Drugs distributed by women’s ages for reported women with a heavy drug misuse

<table>
<thead>
<tr>
<th></th>
<th>13–24 yrs</th>
<th>25–34 yrs</th>
<th>35–44 yrs</th>
<th>&gt; 45 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( n = 243 )</td>
<td>( n = 441 )</td>
<td>( n = 461 )</td>
<td>( n = 129 )</td>
</tr>
<tr>
<td>( n )</td>
<td>( % )</td>
<td>( n )</td>
<td>( % )</td>
<td>( n )</td>
</tr>
<tr>
<td>CNS drugs</td>
<td>180</td>
<td>74</td>
<td>318</td>
<td>72</td>
</tr>
<tr>
<td>Opiates</td>
<td>152</td>
<td>63</td>
<td>236</td>
<td>55</td>
</tr>
<tr>
<td>Cannabis</td>
<td>175</td>
<td>72</td>
<td>203</td>
<td>46</td>
</tr>
<tr>
<td>Ecstasy</td>
<td>44</td>
<td>18</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>52</td>
<td>21</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Alcohol</td>
<td>90</td>
<td>37</td>
<td>138</td>
<td>31</td>
</tr>
<tr>
<td>Tranquilizers/sedatives</td>
<td>117</td>
<td>48</td>
<td>184</td>
<td>42</td>
</tr>
</tbody>
</table>

If an individual had used two or more substances, she is reported for each of these.

oral ingestion. It is difficult to compare the two studies, since the reporting formats do not allow for comparisons.

In the 1992 survey, 97% of those who used amphetamines injected the substance, and 98% of those who used heroin injected it. This documents that the methods of ingestion have changed over time as a result of partly what type of substance is available in the market and partly of user preference.

Table 3b

Drugs distributed by men’s ages for reported men with a heavy drug misuse

<table>
<thead>
<tr>
<th></th>
<th>12–24 yrs</th>
<th>25–34 yrs</th>
<th>35–44 yrs</th>
<th>&gt; 45 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( n = 2234 )</td>
<td>( n = 2529 )</td>
<td>( n = 2563 )</td>
<td>( n = 1075 )</td>
</tr>
<tr>
<td>( n )</td>
<td>( % )</td>
<td>( n )</td>
<td>( % )</td>
<td>( n )</td>
</tr>
<tr>
<td>CNS drugs</td>
<td>367</td>
<td>60</td>
<td>958</td>
<td>68</td>
</tr>
<tr>
<td>Opiates</td>
<td>379</td>
<td>62</td>
<td>760</td>
<td>54</td>
</tr>
<tr>
<td>Cannabis</td>
<td>449</td>
<td>81</td>
<td>895</td>
<td>63</td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>99</td>
<td>16</td>
<td>73</td>
<td>5</td>
</tr>
<tr>
<td>Ecstasy</td>
<td>128</td>
<td>21</td>
<td>70</td>
<td>5</td>
</tr>
<tr>
<td>Alcohol</td>
<td>188</td>
<td>31</td>
<td>547</td>
<td>39</td>
</tr>
<tr>
<td>Tranquilizers/sedatives</td>
<td>310</td>
<td>51</td>
<td>614</td>
<td>43</td>
</tr>
</tbody>
</table>

If an individual had used two or more substances, he is reported for each of these.
commonly used drugs in all age groups with the exception of cannabis among the youngest men.

The results show significant differences between the genders. The women had a significantly higher usage of CNS drugs in the age group 13–24 compared with the men ($p < .001$). The percent of women who misused tranquilizers/sedatives was significantly higher ($p < .05$) for the women in the age group 35–44 compared with the men. The results further show that a greater percent of the men used cannabis in all the age groups. The differences are significant (ages 13–24 $p < .01$, ages 25–44 $p < .001$, ages 45 and up $p < .05$). Alcohol misuse was significantly higher among men than among women in the age groups 25–34 ($p < .01$) and 35–44 ($p < .05$).

The use of ecstasy appeared principally in the younger age groups. Earlier research indicates that ecstasy does not occur in the so-called career of older drug misusers (Yacoubian, 2003), but Tables 2a and 2b reveal that in this survey ecstasy was used by both genders even in the older age groups although to a lesser degree. Age effects do appear, since every fifth individual in the 12–24 age range used ecstasy. The use of hallucinogens (LSD), anabolic androgene steroids (AAS), and solvents occurred above all among the youngest individuals, but these substances were also used in the other age groups. In the age group 25–34 the percent of men was higher than the percent of women for the use of ecstasy and hallucinogens ($p < .05$).

Age differences in the use of various drugs depends on trends, norms, availability, introduction of new substances on the market, and use of the Internet. The use of multiple drugs increases with age as one learns how to combine different substances to achieve certain effects. Shifting from one substance to another also occurs.

In 1992 the distribution of substances was quite the same over the age groups. The occurrence of opiates and tranquilizers/sedatives were, however, somewhat lower in the group over 45 years of age.

Immigrants' Narcotics Use and Polydrug Use

Twenty-three percent of the sample had a “foreign background.” This means that they were born in another country or had parents born in another country or both the individual and his/her parents came from another country. Applied to the general population the proportion is somewhat higher.

Nearly every fourth reported individual, then, had a foreign background and most of them were born in another country. Of these, one third were from a Nordic country and two thirds from a non-Nordic country.

A considerably greater percent of people with a foreign background than others used opiates, as well as cannabis and tranquilizers/sedatives. The misuse of CNS drugs and alcohol occurred to a lesser extent in this group than among persons with a Swedish background.

Of the drug misusers who were born in a different country, 93% lived in the metropolitan areas of Stockholm, Göteborg, and Malmö.

The percent of women with a foreign background was 16% and the percent of men was 84%. The results indicate that the percent of women with a foreign background who misused CNS drugs was significantly higher compared with the percent of men ($p < .001$). The percent of men who used opiates was significantly higher compared with the percent of women ($p < .05$).

There were no differences between the genders with respect to the extent of polydrug misuse. In contrast, the results show that the combinations that include CNS drugs
predominated among the women and the combinations that include opiates predominated among the men. When opiates appeared in the combinations, polydrug misuse was higher for individuals with a foreign background than for persons with a Swedish background.

Patterns of Polydrug Misuse

The analysis continues with a description of the most common combinations of narcotics (Table 4). The table does not include combinations with drugs other than narcotics.

The most common combination for all the reported users irrespective of main substance was CNS drugs + cannabis, followed by CNS drugs + opiates + cannabis. After these, the misuse of CNS drugs + cannabis + alcohol was common.

The designation "party drugs" refers mainly to ecstasy, hallucinogens (LSD), and cocaine. For example, one combination of CNS drugs + opiates + cannabis + hallucinogens + ecstasy occurred. Polydrug use among the young in the age group 18–24 consisted mainly of combinations where opiates was a component plus party drugs. There were no gender differences in the use of party drugs.

There were a number of gender differences ($p < .001$). The prevalence of polydrug use was greater among the men. In the men's combinations cannabis appeared more often, whereas for the women it was opiates. Combinations of narcotics was somewhat more prevalent among the men.

Going further in the analysis reveals that of those who used only one narcotic substance, more than half were also reported to misuse alcohol and/or tranquilizers/sedatives.

In 1992 as well, the most common combination was CNS drugs + cannabis (Olsson et al., 1993). The role of alcohol was important even then. Forty-seven percent had misused alcohol, 44% tranquilizers/sedatives, and 1% solvents. Alcohol was more usual as a

Table 4

Combinations of narcotics/patterns of misuse. Substances used among reported heavy drug misusers ($n = 5,539$)

<table>
<thead>
<tr>
<th></th>
<th>Women $n = 1279$</th>
<th>Men $n = 4260$</th>
<th>Total $n = 5539$</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNS drugs</td>
<td>357 28</td>
<td>852 20</td>
<td>1219 22</td>
</tr>
<tr>
<td>Opiates</td>
<td>201 16</td>
<td>568 13</td>
<td>769 14</td>
</tr>
<tr>
<td>Cannabis</td>
<td>12 1</td>
<td>147 4</td>
<td>159 3</td>
</tr>
<tr>
<td>CNS drugs + opiates</td>
<td>97 8</td>
<td>183 4</td>
<td>280 5</td>
</tr>
<tr>
<td>CNS drugs + cannabis</td>
<td>260 20</td>
<td>1165 27</td>
<td>1425 26</td>
</tr>
<tr>
<td>Opiates + cannabis</td>
<td>90 7</td>
<td>431 10</td>
<td>521 9</td>
</tr>
<tr>
<td>CNS drugs + opiates + cannabis</td>
<td>171 13</td>
<td>593 14</td>
<td>764 14</td>
</tr>
<tr>
<td>CNS drugs + opiates + one or more narcotics</td>
<td>65 5</td>
<td>183 4</td>
<td>248 5</td>
</tr>
<tr>
<td>Opiates + other narcotics</td>
<td>4</td>
<td>22 1</td>
<td>26 1</td>
</tr>
<tr>
<td>Party drugs incl. CNS drugs</td>
<td>22 2</td>
<td>96 2</td>
<td>118 4</td>
</tr>
<tr>
<td>Party drugs excl. CNS drugs</td>
<td>-</td>
<td>9</td>
<td>9 1</td>
</tr>
</tbody>
</table>

Party drugs means mainly ecstasy, hallucinogens (LSD), and cocaine.
Chi-square $p < .001$.}


supplementary drug among men than among women, while tranquilizers/sedatives were more dominant for women than for men. Gender comparisons showed that men and women were polydrug misusers to the same degree. There was, however, one exception. Female opiate users used more other drugs than all other groups in the 1992 survey (Olsson et al., 2001).

Predominant Form of Drug Use and Primary Drug Used

The question the respondents were asked concerning the predominant drug use in the previous 12 months was: "Which of all the substances above has been the predominant one?" (Table 4). Answers always depend on how questions are posed, and analysis is dependent on this pairing. In this case it turned out that alcohol was the main drug for many narcotics users. This can be regarded as an important result of the study. The point of the study was to survey narcotics users. All the response forms that referred only to alcohol misuse had been sorted out and put aside, but after that we still were left with two groups of misusers: narcotics users who misused alcohol, and alcohol misusers who used narcotics.

In this study, as compared with the 1979 and 1992 surveys, it has been more difficult to distinguish what was the dominant misused substance. This is probably due to the fact that polydrug misuse has increased, and so it is difficult to know what is predominant. Furthermore, the quality of information about the drug misusers has declined among the reporting agencies because of reorganizations and personnel turnover.

For 68% of the individuals narcotics was the predominant form of use, for 8% it was alcohol, for 3% tranquilizers/sedatives, and for 1% it was solvents. For 20% the answer was missing for the question of predominant form of use. If the question had been posed to the users themselves, possibly the answer would have been somewhat different. The difference between the genders was significant ($p < .001$). CNS drugs were the primary substance for a greater percent of the women than the men, and cannabis was the primary drug for a greater percent of the men.

The results show that it is difficult to speak of exclusively opiate or CNS drug or cannabis users, or of exclusively narcotics users. It would be more appropriate to speak of different types of polydrug users, some with narcotics as a primary substance, others with alcohol or tranquilizers/sedatives.

Table 5 presents the age distribution with respect to primary drug. Women and men were compared. For the women a greater percent were reported to have opiates as their chief substance in the age group 12–24, and in the age groups after that it is CNS drugs. For the men opiates were reported as the chief substance in the age groups up to age 34, and for the subsequent age groups the percent who misused CNS drugs was higher.

What used to be characteristic for Sweden was that CNS drugs (mostly amphetamines) were always the primary substance in all age groups. The picture has, however, changed, which can be seen in comparisons between the 1979, 1992, and 1998 surveys (Figure 2). Among problem users under age 35, heroin is now the most common primary drug. One cause for the growth of opiate use may be that the smoking of heroin has now come into the picture. The growth can also be partly explained by international trends, open borders, and the narcotics market (availability, prices, cultivation, smuggling, Internet commerce). The development of heroin use in Sweden can be described as a process of steady continuous growth.
Table 5
Predominant form of abuse and predominant narcotic substance (primary drug) distributed by age group for heavy misusers, \( n = 5,523 \)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Alcohol</th>
<th>Tranquilizers/sedatives</th>
<th>Combinations</th>
<th>CNS drugs</th>
<th>Opiates</th>
<th>Cannabis</th>
<th>Don’t know predominant substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-24 yrs</td>
<td>W = 243</td>
<td>M = 613</td>
<td>W = 441</td>
<td>W = 461</td>
<td>M = 1413</td>
<td>W = 129</td>
<td>W = 1274</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
</tr>
<tr>
<td>25-34 yrs</td>
<td>9</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>9</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>35-44 yrs</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>&gt; 45 yrs</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>16</td>
<td>34</td>
<td>27</td>
<td>42</td>
<td>36</td>
<td>31</td>
</tr>
</tbody>
</table>

Combination Patterns among Persons with Narcotics or Alcohol as a Predominant Substance

Polydrug use during the 12 months preceding the survey group’s contact with the reporting agency was studied for people with a heavy drug use. The predominant substance was used as a basal point of reference that was then associated with other substances the individuals used in this period. This data provides a basis for analyses of combination categories, which was described in the literature.

This step in the analysis of combination patterns is based on Figure 3, which includes both those who reported narcotics and those who reported alcohol as the predominant substance. A comparison between narcotics and alcohol as the predominant substance documents that the use of cannabis by alcohol misusers was high (65%), while 49% of cannabis users used alcohol together with cannabis. CNS drugs were the most used companion substance for alcohol misusers (90%). For cannabis users, CNS drugs were the most common (67%) companion, for CNS drugs users it was cannabis (54%), and for opiates users it was tranquilizers/sedatives (58%).

The survey further indicates (data not shown), that 12% of CNS drugs users were considered to have alcohol as the predominant substance, 11% of the cannabis users, and only 6% of the opiate users.

Comparisons were then made between women and men with regard to combination patterns. For women and men with alcohol as the predominant substance, there were no significant differences in the use of another substance.

In contrast, significant gender differences were found for those with CNS drugs as a primary drug. A greater percent of women who misused CNS drugs also used opiates \((p < .01)\) and tranquilizers/sedatives \((p < .001)\), while a greater percent of men with CNS drugs as the primary drug used cannabis \((p < .001)\) and alcohol \((p < .001)\). For those with opiates as a primary drug there was a significant gender difference, in that a greater percent of the men also used cannabis \((p < .01)\). Among the cannabis users, a greater percent
Patterns of Drug Use Among Drug Misusers in Sweden

Discussion

The results of this study document that the most usual combinations for both genders were CNS drugs + cannabis, followed by CNS drugs + opiates + cannabis. The women were fewer in number but weighted in more heavily than the men in certain respects. The significant differences that emerged between genders in this study document that a significantly higher percent of women used CNS drugs and injected amphetamines, or used tranquilizers/sedatives and injected opiates, whereas a greater percent of the men both smoked cannabis, misused alcohol, and smoked heroin. Most authors have found that a higher percent of women than men use heroin. This study found no significant difference in the use of heroin, but significant differences in the respect that a greater percent of women injected heroin and a greater percent of men smoked heroin. As for primary drug, a significantly higher percent of the women misused CNS drugs and a significantly higher percent of the men used cannabis. For individuals with an immigrant background, gender difference was significant in that the women chiefly used CNS drugs and the men opiates. There was a pattern in the use of drugs nationally. If a larger municipality was above the national average for a drug, the pattern extended into smaller adjacent communities.

The misuse of alcohol played an extremely large role for the narcotics miausers. It emerged that alcohol was the primary drug for many, which can be regarded as an important
result of the study. For 12% of those who used CNS drugs, alcohol was the predominant misused substance. The same applies to 11% of those who used cannabis and to 6% of those who used opiates. Also in an earlier Swedish investigation, in which the drug users reported their own drug consumption, fewer opioid users (10%) than cannabis and CNS drug misusers regarded alcohol misuse as a predominant habit (Byqvist, 1999).

The literature does not offer any uniform pattern for polydrug misuse. Some authors found that women were polydrug misusers to a greater extent than men, others that there was no gender difference. This survey found that the men were polydrug users to a somewhat greater extent than the women. The survey also found significant differences between the genders for those with CNS drugs as the primary drug. A greater percent of CNS drug-misusing women also used opiates and tranquillizers/sedatives, while a greater percent of CNS drug-misusing men used cannabis and alcohol. For those with opiates as the primary drug, a significantly greater percent of men also used cannabis. Among the cannabis users a significantly higher percent of women than men misused CNS drugs and ecstasy.

The patterns of polydrug misuse can in large part be verified by the 1992 national survey (Olsson et al., 1993) and the study of drug users receiving treatment (Byqvist, 1999). Clayton (1986) asked whether polydrug misuse had not replaced favorite drug misuse. This notion is
supported by the fact that the respondents in this study often did not know which substance was the predominant one.

The use of different drugs at different ages depends on trends, supply, prices, and so on. The use of one drug often leads to another, which accounts for the increase in polydrug misuse at higher ages. In the theory of drug use career, cannabis is most common for the young, but in an earlier study (Byqvist, 1999) it was seen that this is not true to the same extent for women as for men since many young women use opiates and CNS drugs. Such is the case in this study also. The significant differences that emerged were that, up to age 24, the women misused CNS drugs and men cannabis. After that, cannabis was dominant for men in all age categories. In the 25–34 age groups, a significantly higher percent of men had used alcohol, ecstasy, and hallucinogens. In the age group 35–44, a significantly higher percent of women had used tranquilizers/sedatives. The most common individual primary substance for the problem users under age 35 was heroin. This is a picture that departs from earlier Swedish studies that documented that heavy drug use at this age was dominated by amphetamines.

The drug users who were classified as "other" misusers are not well documented in the study. This is because it is very difficult to know what they represent. It is therefore not possible to compare them with the heavy drug misusers or with other groups of misusers who are described in other surveys. The persons from different government agencies who have provided information about other drug misusers know very little about them, as can be seen from the large percents of "don't know" responses and spaces left blank for this group. The method used in this study is not designed to cover regular and experimental drug misuse, and the case-finding method is not appropriate for this group. It is difficult to draw a boundary line between heavy drug misuse and non-heavy drug misuse. What unites these two groups is that they come to the attention of the public authorities. Of the 5,487 individuals who belonged to the group others, 21% were women and 79% were men. The average age of the women was 29 years and of the men 30. Ninety-one percent had been reported by only one agency. The women used CNS drugs, alcohol, and ecstasy to a significantly greater extent than the men, and a greater percent of the men misused cannabis. The distribution by age groups documents that it is mainly the young who use ecstasy and hallucinogens. For both women and men the percent who used cannabis was highest in the youngest age groups, and the percent who misused alcohol was highest in the highest age group. Besides the fact that many misused alcohol, tranquilizers/sedatives, and to a certain degree solvents and AAS (anabolic androgenic steroids), 36% of the women and 39% of the men also used two or more narcotic substances. The most common combination for both genders was CNS drugs + cannabis, and party drugs in combination with CNS drugs. Party drugs is a catchall term for ecstasy, LSD, and cocaine, for example. For a greater percent of the women CNS drugs were the primary drug, and for a greater percent of the men than the women cannabis was the primary drug. Opiates were the predominant drug for a few individuals.

The use of ecstasy has increased in the period after the 1998 survey was made. Tendency surveys done in Sweden between the spring of 2000 and the fall of 2002 document that ecstasy is the drug whose use has increased the most in society at large (CAN, 2000-2005). This is not to say that it is the most pervasive, but only that its use has increased the most. Tendencies have to be interpreted with great care. It is impossible to say whether the changes that are described constitute the start of a longterm development or whether they are only temporary.

At the end of the 1980s, warnings went out that the coming years would see many new drugs appearing, particularly new synthetic preparations. A goal of the new drugs is
to "custom tailor" for particular effects. Another goal is for them to circumvent the law, for any new chemical compound must undergo a classifying process before it can be declared illegal. At the end of the 1980s, warnings were raised in Sweden regarding crack, ecstasy, MDA (a variety of ecstasy), and weak, less addictive drugs whose deleterious effects take hold only gradually. The misgivings turned out to be justified. We now have ecstasy, crack, GHB, and many chemical variants of CNS stimulants and hallucinogens. New drugs crop up all the time and old ones have returned and then disappear again.

When the accessibility and supply of narcotics grows, polydrug use grows with it. It was shown in later tendency surveys (CAN, 2000-2005) that many new drugs have arrived in the new millennium to augment and complement established drugs. In addition to the growth of polydrug use, the survey documents that the methods of ingestion have changed. Earlier, amphetamines and heroin were routinely injected; now they are drunk, eaten, and smoked as well.

Study's Limitations

There are certain limitations in this article. Although the study describes persons from a large number of municipalities with a heavy drug use, the findings cannot be generalized to all the drug users in the country. There are also issues with regard to the definition of drug misuse and what substances should be included in the drug misuse. These issues must be taken into consideration when the results of this study are compared with findings from other countries. Some surveys restrict themselves to heroin users. Others deal only with drug users being treated in hospitals. For this reason the Swedish numbers look high. A contributing factor is that we have a large population of amphetamine misusers. This study has shown that there is a population of drug users and statistical calculations have given us a number. Any number indicates that there is a problem. This article has described the individuals behind this number, and the conclusion that can be drawn is that something must be done.

Conclusions

Polydrug use among problem drug misusers results in scientifically demonstrated health risks, first and foremost among the problem dmg users who inject narcotics (EMCDDA, 2002). Since the individuals described in this article primarily inject narcotics, they are often marginalized and in poor health. Their very lives are also considerably at risk. The large group of older drug users with deeply rooted problems should be given care, but something other than non-institutional care. For young people, long-term unemployment can be one of the underlying causes of drug use. It is therefore crucial that social policy—that is, the social welfare system—be interlinked with the concept narcotics policy.

The overriding purpose of this article was to provide basic data about patterns of drug use and polydrug use. It was possible to describe combination misuse and significant differences between women and men and between different age groups. It has also been possible to document that alcohol misuse plays a large role for many drug users. Since it has become ever more difficult to talk about exclusively opiate, CNS drug, cannabis or exclusively narcotics users, it would be more accurate to speak about different types of polydrug users. Some use narcotics as their main substance and others use alcohol or tranquilizers/sedatives. Lastly, we have been able to lend support to earlier research documenting that polydrug use and drug use patterns change over time.
Acknowledgement
This work was supported by The Swedish National Drug Policy Coordinator, Social Ministry, Sweden.

Glossary
Additive drug effects: two drugs with the same effect used together double the effect.
Antagonistic drug effects: two drugs have an opposite effect.
Exchangeable multiple effect: one substance can be replaced by another with a similar effect.
"Normative" drug combinations: a situation in which a circle of substance users has set a "norm" for mixing drugs; for example, cannabis and alcohol.
Polydrug use: combinations of substance use patterns.
Supra-additive: the combined effect of two synergy drugs which is greater than the sum of their doses.
Synergy drug effects: The effects of one drug can be increased with the use of a second.

RÉSUMÉ
Modes d’utilisation de Drogue parmi des Utilisateurs de Drogue en Suède
L’article fournit des informations sur les abus mixtes et les modes d’abus en Suède pour les femmes et les hommes. Des données ont été relevées à partir d’une recherche nationale sur l’abus de drogues dures en Suède en 1998. Des rapports sur les toxicomanes proviennent de différentes autorités comme le service médical, le service d’aide sociale, la police et le système pénitentiaire. Un taux significativement plus élevé de femmes utilise et injecte de l’amphétamine, des opiacés et utilise des tranquillisants/soms niferes tandis qu’un taux significativement plus élevé d’hommes fume du cannabis, de l’héroïne et abusé d’alcool. Les combinaisons les plus courantes pour les deux sexes sont amphetamine + cannabis, suivies de amphetamine + héroïne+cannabis. L’alcool joue un grand rôle pour les toxicomanes. La tendance montre que l’ecstasy, de même que les drogues de synthèse agissant sur le système nerveux central/les hallucinogènes et les mélanges, est en hausse en comparaison avec d’autres rapports précédents.

RESUMEN
Patrones del uso de la Droga entre Usuarios de Droga en Suecia
Este artículo proporciona información acerca del poliabuso y del patrón de abuso en mujeres y hombres en Suecia. Los datos han sido sacados de un mapeo nacional de abuso de drogas pesadas en Suecia en el año 1998. La información acerca de los consumidores ha sido suministrada por diferentes autoridades, p. ej. el servicio de salud pública, el servicio social, la policía y el sistema penitenciario. Una cuota significativa de mujeres ha utilizado o se ha inyectado anfetaminas, se ha inyectado opióeos y ha utilizado tranquilizantes o somníferos, mientras que una cuota significativa de hombres ha fumado cannabis y heroína o ha consumido alcohol. La combinación más habitual en ambos sexos ha sido anfetamina +
cannabis, seguida de anfetamina + heroína + cannabis. El alcohol juega un papel importante en el abuso de narcóticos. Las tendencias muestran que el consumo de ecstasy así como los estimulantes químicos del sistema central y las drogas alucinógenas ha aumentado en comparación con mapas anteriores.

THE AUTHOR

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References


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