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Party drug use in techno nights: A field survey among French-speaking Swiss attendees

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Abstract

This study was designed to investigate the lifestyle and substance use habits of dance music event attendees together with their attitudes toward prevention of substance misuse, harm reduction measures and health-care resources. A total of 302 attendees aged 16–46 years (mean = 22.70, S.D. = 4.65) were randomly recruited as they entered dance music events. Rates for lifetime and current use (last 30 days) were particularly high for alcohol (95.3% and 86.6%, respectively), cannabis (68.8% and 53.8%, respectively), ecstasy (40.4% and 22.7%, respectively) and cocaine (35.9% and 20.7%, respectively). Several patterns of substance use could be identified: 52% were alcohol and/or cannabis only users, 42% were occasional poly-drug users and 6% were daily poly-drug users. No significant difference was observed between substance use patterns according to gender. Pure techno and open-air events attracted heavier drug users. Psychological problems (such as depressed mood, sleeping problems and anxiety attacks), social problems, dental disorders, accidents and emergency treatment episodes were strongly related to party drug use. Party drug users appeared to be particularly receptive to harm reduction measures, such as on-site emergency staff, pill testing and the availability of cool water, and to prevention of drug use provided via counseling. The greater the involvement in party drug use, the greater the need for prevention personnel to be available for counseling. General practitioners appeared to be key professionals for accessing health-care resources.

Keywords: MDMA; Cocaine; Drug use; Dancing; Adolescents; Young adults; Problem use; Prevention; Harm reduction; Access to health care

1. Introduction

Throughout the last two decades, epidemiological data have shown a worrying increase in the rates of substance use by young people in Switzerland, as in many other European countries (EMCDDA, 2005). Between 1992 and 2002, lifetime use of cannabis by Swiss 15- to 39-year-olds increased from 16.3% to 27.7% (ISPA, 2003). During the same period, similar trends were observed in 16- to 20-year-olds for amphetamine-type stimulants (from 2.0% to 8.2%), cocaine (from 2.4% to 6.2%) and hallucinogens (from 5.4% to 9.4%) with an increasing occurrence of problem use (Narring et al., 2004). Indeed, McCambridge and colleagues recently showed that despite an apparent reduction in the current prevalence of ecstasy use, the proportion of heavy users had more than doubled between 1999 and 2003 (McCambridge et al., 2005).

The emergence of the dance music culture in the late 1980s has been closely associated with this increase in drug consumption, particularly in 'party drugs' such as ecstasy (methylenedioxymethamphetamine, or MDMA), cocaine, speed and LSD (Lysergic acid diethylamide) (Feldman and Croquette-Krokar, 2001; McCambridge et al., 2005; Pedersen and Skrondal, 1999; Riley et al., 2001; Solowij et al., 1992).

Electronic dance music emerged in the mid-1980s as "Techno" and is characterized by percussive, synthetic and fast-beat sounds. In the early 1990s, innovative producers initiated new genres that have acquired their own identities, for example 'Detroit techno', 'Tech house', 'Trance', 'Hardcore', 'Gabber', 'Acid techno' and 'Minimal'. In this paper we refer to electronic dance music rather than the term "Techno" which is often mistakenly used in North America and Europe as a generic term for all forms of the genre.

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Dance music events progressively moved from open-air, free events to clubbing (private clubs and bars). This change resulted in a large variety of circumstances in terms of substance availability, safety and sanitary conditions, namely access to emergency staff, measures for prevention and harm reduction (such as information on psychoactive substances, pill testing and, last but not least, free availability of cool water) and toilets. It thus appears that the dance music culture is a specific but complex phenomenon that needs to be investigated before a coherent policy of prevention, treatment, repression and harm reduction can be proposed.

Our aim here was to investigate in greater detail the lifestyle habits of dance music event attendees, such as their 'bond' with the dance music culture and their patterns of substance use. We also observed their attitudes towards prevention and harm reduction measures, and asked them which professional they would turn to in case of substance-related problems.

2. Methods

2.1. Population

The population was randomly recruited at the entrances of six dance music events which were held between June and July 2004 in a French-speaking canton of Switzerland comprising about 600,000 inhabitants. A total of 302 dance music event attendees, aged 16–46 years (mean=22.70, S.D.=4.65), were included in the sample. Although the age range was wide, three-quarters of the subjects were younger than 26. The sample comprised 60.4% men (n=177) and 39.6% women (n=116), a gender ratio that has been observed in other dance music population studies (Tossmann et al., 2001). Refusal rates ranged from 0 to 15% depending on the event, but there was no significant difference according to type of event. Locations for recruitment included various examples of the dance music scene: clubs and open-air raves, and both pure dance music and mixed styles. The recruitment focused on middle-sized events ranging from about 150 to 500 participants.

Participation was anonymous and, as an incentive, volunteers were offered a chance to win a ticket to a prominent dance music event.

2.2. Procedure

Nine interviewers were recruited among research and prevention staff. A short training session informed them about the recruitment procedure, and the material and information that were to be communicated to the participants about the study. They had to contact each person arriving at the party entrance and offer him or her the questionnaire. Each person declining the questionnaire was recorded to calculate refusal rates.

A short self-administered questionnaire was developed and tested among dance music event attendees prior to the actual data collection. This included general information such as age, gender, age at first attendance of a dance music event and current frequency of attending dance music and other events. Information on substance use was collected through a list of most frequently used substances and an 'other' category.

Items related to drug consumption investigated lifetime and current (last 30 days) substance use (five categories of response: every day, 3–6 days a week, 1 or 2 days a week, 1 to 3 times, never during the last month), mixed use of drugs (combined use of several substances on the same occasion) and substance-related problems. Participants' opinions regarding the need for prevention and harm reduction measures were collected ('How important is it for you that these things are available at parties?' with four categories of response: not (very) important, important, vital, don't know). Finally, an open-ended question asked what type of professional the participants would contact in case of a problem with their substance use.

Data analysis was performed using SPSS 12.0.

3. Results

3.1. Lifetime and current substance use

Lifetime and current prevalence rates of alcohol and illegal substance use are presented in Table 1.

Lifetime and current use prevalence rates were higher for all substances in the study population compared to the general population. The highest percentage was observed for alcohol,

Table 1
Prevalence rates of lifetime and current (last 30 days) substance use according to gender

	Alcohol	Cannabis	MDMA/ Ecstasy	Amphetamines	Methamphetamines	GHB	Nitrous oxide	Acid/ LSD	Other hallucinogens	Cocaine	Heroin	Medical drugs
Lifetime use												
Men (n=177)	93.8	68.3	37.6	25.9	20.7	16.5	24.5	23.0	36.2	33.9	12.7	18.0
Women (n=116)	97.4	69.6	44.6	27.0	20.5	22.3	24.1	21.4	34.8	38.7	9.8	23.6
Total (n=293)	95.3	68.8	40.4	26.4	20.7	18.8	24.4	22.4	35.6	35.9	11.6	20.3
Current use												
Men (n=177)	85.2	56.7	22.4	9.9	8.5	4.3	8.6	10.9	10.4	18.8	3.0	6.8
Women (n=116)	88.6	49.6	23.2	9.9	8.9	6.3	5.4	8.0	7.1	23.4	1.8	14.5
Total (n=293)	86.6	53.8	22.7	9.9	8.7	5.1	7.3	9.7	9.1	20.7	2.5	10.0

followed by cannabis, ecstasy, cocaine and hallucinogens. No significant difference was observed in lifetime and current use prevalence rates according to gender. The current use percentages were particularly high for alcohol, cannabis, ecstasy and cocaine; other substances were used more occasionally.

Alcohol and cannabis therefore appeared to have a strong presence in the everyday life of this population with 12.3% and 22.3% daily users, respectively (see Fig. 1). In contrast, daily users of ecstasy and cocaine were few (only 0.4% and 2.1% of the sample, respectively). Most current ecstasy and cocaine users reported using the drug one to three times during the last month (14.7% and 12.7%, respectively), which could be related to weekend events. About 16% reported having used substances other than those listed at some point, principally opium and amphetamine derivatives, with a few cases of ketamine use (0.1%). Several interviewees mentioned amphetamines or methamphetamines in the 'other' category, using one of their 'street' names to describe them. These responses were reassigned to the appropriate category.

3.2. Combined substance use

Mixed use was explored using a yes-or-no item asking participants which substance(s) they had taken the last time they had used substances at a dance music event. Among the 267 participants who mentioned any substance, 46.8% mentioned one substance, either alcohol or cannabis, 25.8% mentioned two, 15.0% three, 5.6% four and 6.7% between five and ten substances. The most frequently combined substances were alcohol, cannabis and psychostimulants such as ecstasy and cocaine. Hallucinogens and other types of substances were also mentioned by 'heavy mixers' (those using between five and ten substances at the same event).

3.3. Substance use patterns

Four patterns of substance use could be identified, based on the type and number of substances used and the frequency of use: 52% of respondents were alcohol and/or cannabis only users (hereafter referred to as the 'alcohol-THC group'); 42% corresponded to what Tossmann and colleagues called 'poly-drug occasional users' (Tossmann et al., 2001), among which we distinguished two subgroups (20% formed a poly-occasional 'light' group, having used up to three party drugs, a maximum of once weekly, and 22% formed a poly-occasional 'heavy' group, having used more than three party drugs or having using drugs more frequently) and 6% were daily poly-drug users (poly-regular group).

No significant difference was observed between substance use patterns according to gender [$\chi^2=1.5$, $p=0.68$] and age [$F(3,286)=0.64$, $p=0.59$]. However, the age at first dance music event attendance differed across substance use groups [$F(3,286)=3.53$, $p<0.05$], with mean age at first attendance of the alcohol-THC group being significantly higher compared to the poly-occasional 'heavy' group (mean=17.6, S.D.=3.8 and mean=16.1, S.D.=2.1, respectively). Moreover, the involvement of respondents in the dance music culture, measured as the ratio between attendance at dance music events and total outings during the last month, was significantly higher in poly-regular users compared to alcohol-THC users [$F(3,290)=5.61$, $p<0.01$].

The poly-occasional heavy and poly-regular groups had higher frequencies of use for every substance, including alcohol [$F(3,280)=3.55$, $p<0.05$] and cannabis [$F(3,283)=35.87$, $p<0.001$]. Furthermore, mixed drug use behavior paralleled the severity of party drug use, with the mean number of substances combined on the last occasion decreasing significantly from poly-regular users through the poly-occasional heavy users to the poly-occasional light users [$F(2,140)=34.65$, $p<0.001$].

The patterns of substance use were disproportionately represented across the dance music events depending on the type of event and the style of music [$\chi^2=51.3$, $p<0.001$]; pure techno and open-air events attracted more heavy users.

3.4. Substance-related problems

Fig. 2 presents the prevalence rates of substance-related problems experienced at any time by the dance music event attendees.

Experiences of psychological distress related to party drug use were particularly frequent. Problem occurrence differed depending on the pattern of substance use. The poly-occasional heavy and poly-regular groups more often reported

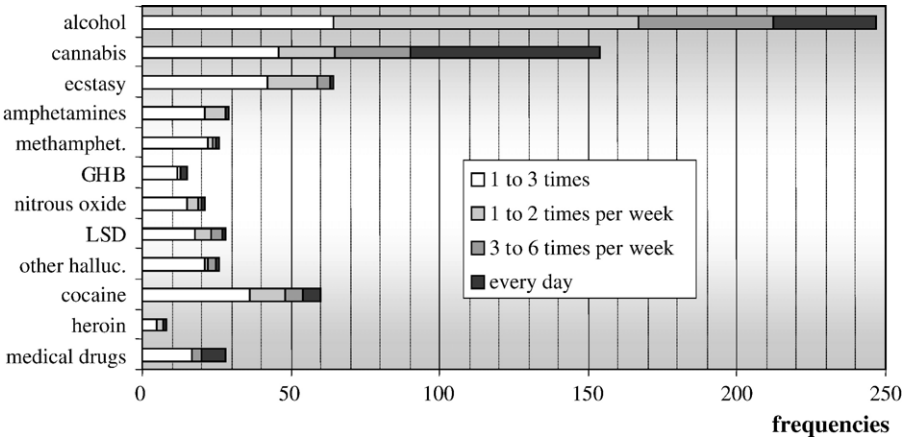


Fig. 1. Frequencies of current (last 30 days) substance use ($n=302$).

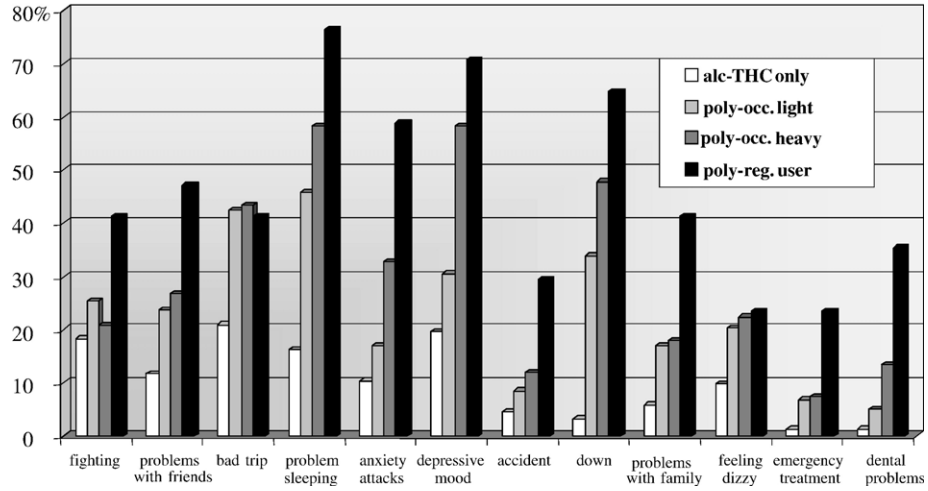


Fig. 2. Lifetime prevalence of substance-related problems according to substance use patterns.

anxiety attacks [$F(3,292)=11.98$, $p<0.001$], depressed mood [$F(3,292)=16.27$, $p<0.001$], 'down' syndrome (i.e. negative symptoms following the 'high') [$F(3,292)=34.55$, $p<0.001$] and dental disorders [$F(3,292)=12.71$, $p<0.001$] compared to the alcohol-THC and poly-occasional light groups, and also reported more problems with friends compared to the alcohol-THC group [$F(3,292)=5.92$, $p<0.01$]. The poly-regular user group mentioned more accidents [$F(3,292)=4.72$, $p<0.01$] and emergency treatment episodes [$F(3,292)=6.19$, $p<0.001$] compared to the alcohol-THC and poly-occasional light groups, and more problems with family [$F(3,292)=7.53$, $p<0.001$] compared to the other three groups.

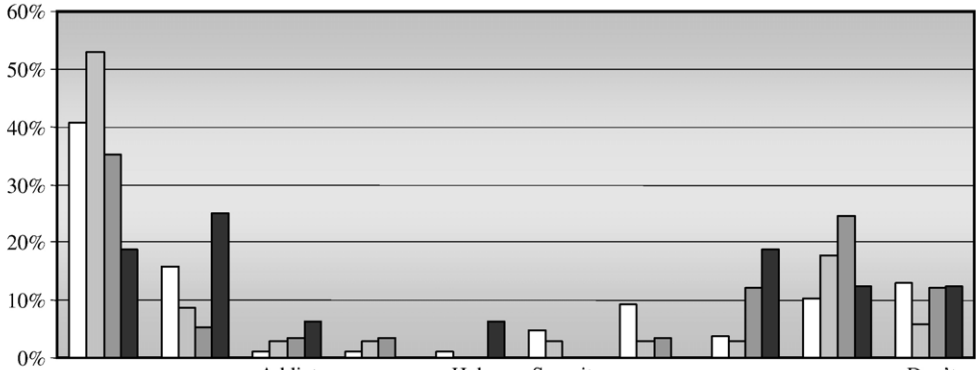
3.5. Access to health care

An open-ended question asked participants about which professional they would contact in case of difficulties related to substance use. Percentages of each type of professional cited are presented in Fig. 3 for the whole sample and as a function of group.

General practitioners were the most frequently mentioned professionals both in the whole sample and within three groups, the exception being the poly-regular group. The latter more frequently mentioned specialized professionals, such as psychotherapists and care providers addressing substance abuse. More than one in four participants said that they would not contact anybody, or that they did not know who they would contact, were they to experience difficulties.

3.6. Demand for prevention and harm reduction measures

Dance music event attendees appeared to be particularly receptive to harm reduction measures such as the presence of emergency staff and cool water availability on the site (see Fig. 4).



	GPs	Psy	Addict. Prof	Prevtech	Help groups	Security staff	Family	Friends	Nobody	Don't know
alc-THC only	40.7	15.7	0.9	0.9	0.9	4.6	9.3	3.7	10.2	13.0
poly-occ light	52.9	8.8	2.9	2.9	0.0	2.9	2.9	2.9	17.6	5.9
poly-occ heavy	35.1	5.3	3.5	3.5	0.0	0.0	3.5	12.3	24.6	12.3
poly-reg. user	18.8	25.0	6.3	0.0	6.3	0.0	0.0	18.8	12.5	12.5
Total	39.5	12.6	2.3	1.9	0.9	2.8	6.0	7.0	15.3	11.6

Fig. 3. Percentages of help providers reported according to substance use patterns and overall.

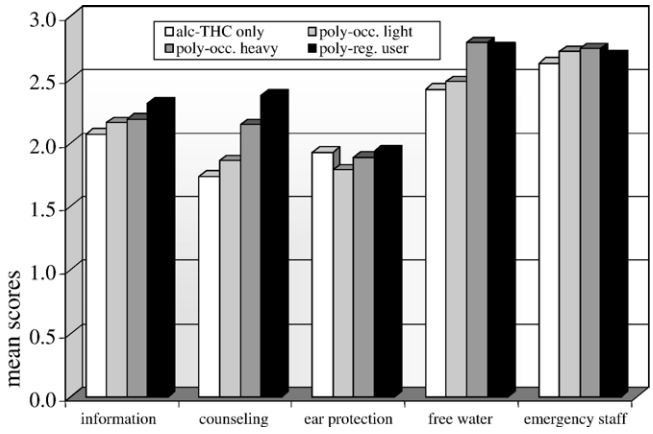


Fig. 4. Mean scores of participants' opinions of the need for prevention measures (0=not important at all to 3=very important).

They seemed unaware of the risk of hearing loss as a result of loud music because they thought it not so important to have free ear protection available on prevention stands. Participants had different perceptions of the various prevention and harm reduction measures depending on their experience of drug use. Compared to the alcohol-THC and poly-occasional light users, poly-regular users felt it more important to have freshwater available [$F(3,283)=6.27$, $p<0.001$], and poly-regular and poly-occasional heavy users considered it more important to have the opportunity to talk to somebody at a prevention stand than did the alcohol-THC and poly-occasional light users [$F(3,270)=7.91$, $p<0.001$].

On-site pill testing has been developed in several European countries and in several cantons of Switzerland as a way to approach hard-to-reach groups in clubs and raves and to target the specific information needed in relation to synthetic drugs. Two categories of pill testing are performed on-site, simple color reagent test kits (which mostly indicate the presence of ecstasy-like substances) and high-performance liquid chromatography (which provides reliable identification and quantification of psychoactive constituents and potential additional components) (Winstock et al., 2001). When party drug users ($n=146$) were asked about their intention to use pill testing if it were available, 27.4% responded that they would never use it, 31.1% would use it systematically before taking a pill and 41.6% would not use it unless they did not know the substance, the dealer or both.

4. Discussion

The aim of this study was to investigate in greater detail the lifestyle habits and attitudes of those attending dance music events towards prevention, health-care and harm reduction measures. The impulse came from Prevtech, an association that organizes prevention stands with voluntary teams at dance music events. The main objective was to obtain reliable information about party drug users' characteristics and attitudes towards prevention and harm reduction measures in order to improve these measures and to facilitate contacts with the target population.

The results confirmed that substance use was relatively widespread among dance music event attendees. Prevalence rates were higher not only for party drugs such as ecstasy, cocaine, amphetamine and hallucinogens, but also for alcohol and cannabis, as compared to use in the general population. Substance use prevalence showed no difference as a function of gender or age, contrary to observations in other studies (Fendrich et al., 2003). Poly-drug occasional use, characterized by the occasional use of party drugs, was the predominant substance use pattern. However, risky behavior, such as high usage rates and the combination of many types of substances, were relatively widespread as it was observed elsewhere (Copeland et al., 2006). Experiences of psychological distress related to party drug use were particularly frequent and seems to be related to the intensity of use (Parrott, 2001; Parrott et al., 2002).

Party drug users appeared to be particularly receptive to harm reduction measures such as on-site emergency staff, pill testing and cool water availability, and to prevention delivered through interpersonal relationships. These characteristics were reminiscent of adolescents who explore themselves through risky behavior while expecting external guards to keep them safe. In this regard, adopting a neutral position, such as the use of motivational interviewing, would be an appropriate way to support the self responsibility and self reflection of party drug users to prevent harmful use (Gamma et al., 2005; White et al., 2006). Single-session motivational interviewing proved to reduce drug consumption efficiently in young people (McCambridge and Strang, 2004), although the effectiveness of intervention showed a decline after 12 months (McCambridge and Strang, 2005). Further field studies should explore the feasibility and efficacy of supplying party drug users with motivational interviewing in various settings.

Patterns of substance use were disproportionately represented among dance music events, with pure techno and open-air events attracting more heavy users. This finding addresses the appropriateness of providing harm reduction measures such as pill testing at any dance music event, particularly since the risk that non-users might be incited to try pills is still questioned (Winstock et al., 2001). However, most negative experiences with ecstasy are attributable to factors involving setting (McElrath and McEvoy, 2002; Parrott, 2004), underlying the need for an integrated, multidisciplinary and balanced approach to drugs combining demand and supply reduction (The Council of the EU, 2004). In this regard, pill testing, if integrated with the health-care system and coupled with prevention interventions, is likely to enhance prevention efforts aimed at heavy party users (Samitca et al., 2005). Moreover, high-quality pill testing, such as high-performance liquid chromatography, would contribute to an 'early-warning system', identifying new synthetic drugs as they appear on the black market and thus allowing the monitoring of new substances that could impact on public health (Council Decision, 2005; Zobel and Arnaud, 2002).

Except for the heaviest party drug users, the general practitioner was the key professional used to access the health-care system. In this regard, general practitioners have a key role in early detection and intervention, not only in engaging the users and exploring their drug use behavior but also in promoting harm reduction strategies (Khong and Wain, 2004). Psychological difficulties, emergency treatment episodes and dental disorders,

probably as a result of repeated oral intake of acid, were frequently reported problems related to party drug use, a fact that emphasizes the need to widely involve health-care providers in early detection efforts (Ricaurte and McCann, 2005).

Although party drug use may, at least in some cases, evolve into natural recovery (Khong and Wain, 2004), the proportion of party drug users adopting heavy patterns of drug use is increasing, leading to growing concerns about the health risks and potential long-term damage (Brookhuis et al., 2004).

There are several limitations to this study. First, the quantity and quality of the information collected was voluntarily restricted to guarantee satisfactory response rates. The responses for most items had a multiple-choice format (except for age and type of professional contacted in the case of substance-related problems) to limit the completion time and to encourage participation. Second, self-administered questionnaires were completed by the interviewees, which did not provide the opportunity to control for their adequate understanding of the questions. Since poly-drug use and uncertainty concerning pill composition make it difficult to discriminate proper effects and consequences of separate and combined substances using the self-reported data, there is a need to develop translational studies that would allow the patterns of poly-drug use and other party drug use that are observed in humans to be modeled in animals to further explore their specificities.

Acknowledgments

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