Research and Practice of Health Promotion

Ecstasy: Use and Prevention

Empirical Research Results and Guidelines

Volume 2

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The Federal Centre for Health Education (FCHE) is a government agency, based in Cologne, responsible to the Federal Ministry of Health. Its remit is to design and implement measures aimed at maintaining and promoting health.

It develops campaign concepts and strategies, produces summaries of media and methods, cooperates with a variety of workers and agencies in the health education field, and carries out education measures both for the population as a whole and covering selected topics for specific target groups.

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These studies and assessments, along with the results of specialist meetings, are published by the FCHE in its specialist booklet series on "Research and Practice of Health Promotion". This is to be seen as a forum for scientific discussion. The aim of the series – like the existing series on sex education and family planning – is to further extend the dialogue between theory and practice.

Research and Practice of Health Promotion
Volume 2

Ecstasy: Use and Prevention

Empirical Research Results and Guidelines

Documentation of a FCHE status seminar
held in Bad Honnef from 15 to 17 September 1997

Federal Centre for Health Education (FCHE)
Cologne, 1998

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Preface

Illegal drugs, such as ecstasy, amphetamines and LSD, today have a substantial position in the youth and leisure culture of the Nineties, particularly at music and dance events. Since the drug ecstasy has in the recent past been increasingly singled out by the media as a central topic, the Federal Centre for Health Education commissioned a number of research studies. The aim of these studies was to obtain more accurate knowledge about the use of this drug, as well as to work out new approaches for prevention and to check the effectiveness of prevention measures which have already been carried out.

The results of these studies and other current research results were presented in September 1997 at a status seminar of 13 experts organised by the FCHE, and were discussed with the seminar participants. The participants, who were drawn mainly from the field of drug and addiction prevention, then formed working groups together with the speakers to compile and discuss fundamental principles, theories and conceptual approaches for promising prevention measures.

The results of this committed cooperation and discussion, and the papers of the individual speakers which formed the basis of the discussion, have been documented in detail in this volume of the FCHE series "Research and Practice of Health Promotion". We hope this will make an effective contribution to a problem which we all have to resolve together.

Cologne, November 1998

Dr. Elisabeth Pott
Director of the Federal Centre
for Health Education

Conference outline

Theme of the conference:	Prevention of the Use of Ecstasy Empirical Research Results and Guidelines.
Aims:	• To describe the present status of research and knowledge • To review the effectiveness of existing preventive measures and identify new approaches for prevention • To draw up guidelines for the prevention of the use of ecstasy
Conference dates:	15.–17. September 1997
Speakers:	Dr. Gerhard Bühringer *IFT Institut für Therapieforschung (Institute for Therapy Research), Munich* Dr. Marcus Freitag *Health Sciences Faculty of Bielefeld University* Prof. Dr. Karl-Artur Kovar *Pharmaceutical Institut of Tübingen University* Dr. Ludwig Kraus *IFT Institut für Therapieforschung (Institute for Therapy Research), Munich* Jutta Künzel *IFT Institut für Therapieforschung (Institute for Therapy Research), Munich* Andreas Maack *Federal Office of Criminal Investigation (Bundeskriminalamt) Wiesbaden* Margareta Nilson *European Monitoring Centre for Drugs and Drug Addiction, Lisbon* Stefan Nitschke *MIND ZONE, Munich* Dr. Manfred Rabes and Rainer Domes *Büro für Suchtprävention (Office for Drug Prevention), Hamburg* Gerhard Rakete and Dr. Udo Flüsmeier *Hamburgische Landesstelle gegen Suchtgefahren (Hamburg Office against the Dangers of Addiction)*

	Peter Schuster *Max-Planck-Institut für Psychiatrie, Munich* H. Peter Tossmann *SPI-Forschung gGmbH (SPI-Research), Berlin* Jens Wilhelm *HSL Information & Kommunikation, Haan*
Conference directors/ moderators:	Dr. Guido Nöcker, Jürgen Töppich (FCHE)
Organisation:	Dagmar Grundmann, Dirk Sandkühler (FCHE)
Sponsor:	Bundeszentrale für gesundheitliche Aufklärung (Federal Centre for Health Education – FCHE) Ostmerheimer Straße 220 D-51109 Köln Fon: +49 (0)2 21/89 92-2 42 Fax: +49 (0)2 21/89 92-3 00
Concept:	Dagmar Grundmann, Dr. Guido Nöcker, Jürgen Töppich

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Introduction

1.1. Some Notes on this Documentation

This volume in the Health Promotion Research and Practice series is a record of the guidelines for ecstasy prevention compiled at the conference, and of the details of the research results on which they are based. The chronological sequence of the conference has deliberately not been followed in this book which starts with the results compiled jointly by the participants. This is partly because of the interest which we have assumed on the part of the reader, who may first of all want to know "What was the outcome of the conference? What is the actual situation?" In addition, it is precisely the results of the seminar, based on the studies presented, which are intended to provide a guide for future preventive concepts and measures – both on a national level and in the German "Länder" and on the spot.

Finally, the documentation of the individual papers, which follows the joint results, will allow every reader to follow up the study results which are of particular interest and to get substantiated information on individual data.

1.2. Welcoming Address of the Federal Government Commissioner for Drugs

Eduard Lintner, Federal Government Commissioner for Drugs and Parliamentary State Secretary in the Federal Ministry of the Interior

For some years now, a marked increase has been seen in both the willingness to try and the actual use of synthetic drugs, particularly of ecstasy. This worrying development can be illustrated with a few figures:

In 1995, 2371 ecstasy users were recorded by the police for the first time. In 1996, the figure had already risen to 3609 first time users, in other words, an increase of about one-third. In 1997, again, the number of first time ecstasy users continued to be high with a figure of 2380 for the first eight months. This development is also reflected in the quantities of ecstasy seized by the police: in 1995, some 381,000 consumer units were seized while, in 1996, the quantities seized had almost doubled to over 692,000 consumer units. And in the first eight months of 1997, some 311,000 ecstasy units had already been seized. (...) This makes the subject of "ecstasy" one of the most important current challenges in the field of drugs policy. I am therefore delighted that the Federal Centre for Health Education is bringing together current research in this field at this status seminar. Intensive analysis of scientific knowledge on patterns of use and types of users, on the potential risks of the substances and the supplementary use of other drugs, is urgently required in order to develop effective strategies which can be used to stem the use of ecstasy. Here, as with other drugs, preventive efforts are the most important pillar for stopping young people, in particular, from risking their health and, all too often, their lives as well by turning to addictive substances. (...)

In the case of ecstasy, the prevention field faces special challenges arising from the user group: the mainly-young users do not fit the traditional picture of drug addicts, which is generally associated with physical neglect and social exclusion. Our current knowledge indicates that ecstasy users tend to be socially integrated and seek the performance-boosting, euphoria-inducing effect of the drug principally to escape at the weekend into their own world full of effusive activity and manipulated feelings of happiness.

We must therefore search for ways in which we can actually reach the target group of young people, which is chiefly at risk, and in which we can address them appropriately. Our particular concern must be to strengthen young people's self-confidence, their ability to deal with problems and their ability to say "No" to addictive substances. Prevention must start in childhood and must involve the family. Schools and circles of friends and acquaintances are also called upon here.

There is already a whole series of exemplary initiatives for drug prevention. However, these – and prevention as a whole – can only be successful if they gain a broad base of support. The whole of society must make a commitment to keep young people away from addictive substances. Politicians or the state cannot succeed alone. (...)

Thankfully, the Federal Centre for Health Education began to promote the intensive development of scientific foundations for preventive strategies at a very early stage. I am sure that further valuable knowledge regarding effective prevention and treatment concepts will also be acquired during the "Ecstasy Status Seminar" and I wish this event every success and, in particular, a productive exchange of views which will bring us forward in what is surely our common concern.

1.3. What is the Purpose of this Seminar?

Starting Point – Fundamental Principles – Expectations

An introduction by Jürgen Töppich

Starting point

Media reporting on the subject of ecstasy reached an all-time high in the Federal Republic in the last quarter of 1996.

The question of the health risk, i.e. the physical and mental effects of ecstasy use, and the question as to how this drug is spreading – particularly among the younger members of the population – moved further into public view.

In this situation and at the instigation of the Federal Ministry of Health, the Gesellschaft für Suchtforschung und Suchttherapie (Society for Addiction Research and Addiction Therapy) held a workshop led by Professor Kovar. "Ecstasy Today and in the Future" was the name of this workshop, which took place in Blaubeuren on 12 and 13 December 1996. Among other things, it demonstrated, that insufficient reliable data were yet available both with respect to the (medical) questions regarding the subsequent effects on health, and in terms of the epidemiology of ecstasy use. This was partly because, at that point, a number of research projects had not yet been completed or had only just been started.

Research projects on ecstasy use

As an example, five studies commissioned by the FCHE were conducted between the end of 1995 and September 1997. The aim of these studies was to provide answers to some of the questions raised, i.e. to close gaps in knowledge so as to create a scientific basis for planning preventive measures.

The chronology of events was as follows:

- *"Use and abuse of ecstasy"* (Dr. Udo Flüsmeier and Gerd Rakete from the Hamburgische Landesstelle gegen Suchtgefahren (Hamburg Office against the Dangers of Addiction))
- *"Drug affinity of young people in the techno-party scene"* (Peter Tossmann and Professor Wolfgang Heckmann from the Sozialpädagogisches Institut, Berlin)
- *"Representative survey of members of the techno scene in Bavaria"* (Dr. G. Bühringer of the IFT Institute for Therapy Research, Munich)
- *"Evaluation of the MIND ZONE prevention project of the Bavarian Landescaritas-*

verband" (Jutta Künzel, Dr. Christoph Kröger of the IFT Institute for Therapy Research, Munich)
- *"Analysis of the content of reports on ecstasy in the youth press and in national mass media"* (Jens Wilhelm, HSL Information & Kommunikation, Haan)
- *"Study of the drug affinity of adolescents and young adults in the Federal Republic of Germany"* (Gerhard Christiansen, Jürgen Töppich, FCHE in collaboration with an institute for data acquisition and data processing)

With the exception of the drug affinity study, all these studies have since been completed. But other research projects were (and are) running parallel to these, the results of which must also be incorporated in this stock-taking exercise of our knowledge about the use of ecstasy and other drugs, and in assessing the possibilities for prevention.

For example, Professor Kovar from the Pharmaceutical Institute of Tübingen University will report on the *state of medical and pharmacological research*.
Additional epidemiological information on the use of ecstasy and other drugs is provided by a study from the Max Planck Institute of Psychiatry: *"Abuse of ecstasy and hallucinogens among young people in the Munich area"*, the results of which will be presented by Mr. Schuster.
Dr. Kraus will report on the representative Federal Study, commissioned by the Federal Ministry of Health and carried out by the IFT Institute for Therapy Research, on the subject of *Trends in the adult population with respect to the use of ecstasy and amphetamines*.
Mr. Maack from the Federal Office of Criminal Investigation will provide a review of the current results from the *police crime statistics*.
Ms. Nilson from the European Monitoring Centre for Drugs and Drug Addiction in Lisbon will provide us with a paper presenting the *results of a European comparison*, which will allow us to look beyond the boundaries of Germany.
Other results of evaluations of prevention projects are also available now and will be presented in the course of this seminar. For example, Dr. Freitag from Bielefeld University will report on a project for *in-school ecstasy prevention* and Dr. Rabes and Rainer Domes will present the results of the *evaluation of an European pilot project*.

Expectations and hopes

As you can see, we are attempting to illuminate the subject from various angles. Of course, we know that even this seminar will not be able to answer all the questions which have been raised. But, I think that the study results now available will make the outlines of the ecstasy problem clearer and the basis for planning preventive measures has become broader.
Let us move on to the way the seminar will run and to our expectations and hopes. The presentation of the study results and discussion of these will form the first part. The ques-

tion as to what we currently know on the subject should be answered by lunchtime tomorrow. Then, in the second part of the seminar, we should like to form working groups to work out with you what can be derived on the basis of this knowledge for the future prevention of addiction and drugs. We hope that, at the end of the conference, we shall be able to list some cornerstones or guidelines for future preventive measures, which will be equally acceptable to all sides.

This may sound naive, given the controversy surrounding drugs policy, but I should like to point out something we have learned from the evaluation of ten years of AIDS prevention:

Only if there is consensus on preventive strategies and basic messages does prevention become credible; only then can the synergistic effects develop that are the prerequisite for long-term success in prevention.

2

Starting at the End – The Results of the Seminar

2.1. Hopes Fulfilled

Summarising Words in the Concluding Discussion

Jürgen Töppich

I recently came across a letter from a sociologist friend, which started with a quotation from an American novelist saying something along the lines of "Facts are like cows. If you look them in the eye for long enough, they disappear". I received this letter many years ago. From it, I developed my own research philosophy, which states that I want to look at the cows from several angles before I will assert that it really is cows I am looking at.

This conference is an example of putting this philosophy into practice. We have looked at a problem from various angles and – to stay with the metaphor – a large numbers of cows are still there. Some have disappeared and, in those cases, we simply have to look again to see whether we were dealing with facts or maybe only with an illusion.

All the working groups clearly stated that we should continue researching, looking even more closely. For one very important question has emerged: has focusing on the techno scene not left too many blind spots? Have we not simply overlooked ecstasy use in other scenes?

For me, this conference was particularly productive because we got constructive feedback from you, which led to a constructive dialogue. This applies in particular to the individual theories, where the object of discussion was not to hold up ideological positions to one another, but to work on the subject together. It is encouraging to be able to say that we are on the way – regardless of the direction from which we have come – to building a platform on which we can proceed together. If everyone simply works on his or her own, it will be almost impossible, or at least extremely difficult, to actually achieve anything. On the other hand, with a common platform of this type there is an opportunity to genuinely create effects on prevention field in the future. This conference has been a good starting point in this context.

2.2. Guidelines for Prevention – An Introduction

Guido Nöcker

Guidelines – What for?

Anyone looking at the study results compiled in this volume will see that the various individual studies come together like tiles in a mosaic to provide a first overall picture which, however, still contains gaps and requires further completion.
Although the facts available form the starting point for planning prevention measures, they cannot be taken as they are to form instructions for action in the field of practical prevention.

It is precisely because the results are open to interpretation and because each of us must still connect them to our own planes of action, that there is a fundamental difficulty of avoiding inadmissible links or of not losing our bearings in the face of a wealth of details. In view of the various drugs policy positions which have already been mentioned, there is even a risk of mutually contradictory preventive strategies developing which would cast doubt on the credibility and persuasiveness of preventive messages.

Thus, the development of guidelines serves, on the one hand, the purpose of weighting the results of scientific studies. On the other hand, building on this, it also helps to work out joint baseline positions on prevention which grow out of a broadly based discussion geared to consensus, so that, as far as possible, all the protagonists can draw on these positions in practice.
A glance at the international level shows that increased efforts are being made at present, both in Europe and in North America, to use "guidelines" to arrive at modes of practice which are designed along similar lines and hence more effective. The most recent examples of this are the *"Handbook Prevention"* (J. van der Stel et al., 1998), published by the Pompidou Group, and the *"Research-based Guide"* (NIDA, 1997), drawn up by the National Institute on Drug Abuse, in which among other things prevention principles for municipal drug prevention programmes are formulated.

Guidelines of this type, which as long ago as 1994 were formulated for the first time by the FCHE and the German Länder as a basis for action in the field of primary prevention in Germany, are the results of expert discussions in which a wide variety of practical experience, political framework conditions and the knowledge acquired from empirical research are included. The quality of the guidelines "product" is thus dependent to a decisive extent on the way in which this process of discussion is prepared and on which experts are involved in the development work.

The development of guidelines – A multi-stage process

The guidelines documented here (cf. Section 2.3.) were developed in a multi-stage coordination process.

Firstly, the studies commissioned by the FCHE on the subject of ecstasy were examined by an in-house FCHE working group. By consulting other empirical findings from other studies, the results were condensed to form a statement paper. To supplement this, questions which appeared to be of importance for the development of prevention approaches were formulated. The statements and questions thus compiled were finally submitted to the scientists who had been commissioned to carry out the ecstasy studies. They were asked to make initial corrections and amendments to the texts.

The next stage was the discussion of the questions and statements in three parallel working groups at the status seminar. The broad discussion on content initially resulted in an interim result of three working-group recommendations. The different courses of the discussions in the working groups made it necessary to coordinate the revised texts with one another after the concluding plenary session. This stage was, again, carried out by an in-house FCHE working group which included a representative from each of the seminar working groups.

In the spring of 1998, the guideline text formulated in this way was forwarded with the request for approval to all the Länder Coordinators for Drug Prevention, with the involvement of the Länder Commissioners for Drugs. With one exception[1], all the Federal Länder, i.e. the Commissioners for Drugs and the Länder Coordinators for Drug Prevention[2], gave their approval.

The benefit of the guidelines – Basis and decision-making aid

Irrespective of the further use of the guidelines, it must first be stated that the intensive process of discussion and coordination among the participants at the seminar contributed to mutual understanding and to the objectification of a debate on drugs which is often emotionally charged. Precisely because ecstasy is a new problem, there is a risk that measures might be taken in response to this problem, rashly which could, on reflection, prove to be useless or even damaging.
By contrast, the present guidelines may be considered as a reliable starting point for planning measures and as an important practical aid to decision-making when committing

[1] Thuringia did not approve the text.
[2] Hamburg made qualifications in its approval with respect to points 5, 8 and 9. The Länder Rhineland-Palatinate and Saarland made minor editorial suggestions which could no longer be considered because the approval procedure had been completed.

resources or setting tasks. At the same time, they allow sufficient room to manoeuvre when they are transformed into concrete measures, to allow specific local features or responsibilities to be taken into account adequately.

2.3. Recommendations for the Prevention of the Use of Ecstasy: A Supplement to the FCHE Guidelines on Drug Prevention
Results of the Coordination Process

1. Drug prevention (particularly primary prevention) is a common responsibility of all groups and institutions in society and for everyone who may have an influence on the development and maturation of children and adolescents, and not solely a task for experts.

2. In this context, primary drug prevention is not initially aimed at an individual substance or group of substances, but follows a broad, i.e. comprehensive, strategy involving no specific drug, centred on promoting so-called protective factors, particularly individual "life skills" (cf. Künzel-Böhmer, 1993). The promotion of protective (personal and social) factors is the actual basis of drug prevention measures.

3. In addition to the non-substance-specific contents, substance-specific contents must also be included in drug prevention, depending on the target group (e.g. age, gender, etc.) and situation (location, occasion, etc.).

4. The ratio of substance-specific to non-specific content must in each case be defined precisely with reference to a concrete target group. However, it can be assumed that with increasing age and greater affinity for drugs increasing amounts of substance-specific content will be appropriate in a prevention strategy.

5. Young people who see themselves a part of the techno-party scene are currently a central target group for substance-specific prevention. The data collected in the studies by Tossmann & Heckmann (1997) and Künzel, Kröger & Bühringer (1997) – and with reservations in Rakete & Flüsmeier (1997) – show that the techno scene is conspicuous for a particularly high level of drug affinity. What is not known is whether other music settings (e.g. rock concerts), not associated with the techno culture, also reach similarly high drug affinity levels.

6. The substance-specific prevention measures must not take place at the expense of the non-substance-specific prevention efforts. In other words, substance-specific prevention must be supplementary to, and not a replacement for, non-substance-specific prevention.

7. The techno-party scene and, within this scene, especially the clubs seem to be particularly suitable as locations for substance-specific prevention, since they offer the potential for addressing a large number of drug users. The results of the study by Künzel, Kröger & Bühringer (1997) show that the acceptance of offers of information and support is high within the scene (70%).

8. "Ecstasy" prevention in the techno-party scene always means taking into account multiple drug use, particularly the use of cannabis and the use of alcohol and nicotine. Users of ecstasy alone are a major exception (1 to 4%). For this reason, it is plausible to speak not of ecstasy prevention in this context, but of drug and substance-specific prevention within the techno-party scene.

9. The studies also show that drug use increases with increasing involvement in the techno scene. Distinctions can be made here between various locations and groups of people with respect to the prevalence of drug and ecstasy use. The studies available allow various target groups to be formed within "the" techno party scene, on the basis of the following variables:

   – Intensity and duration of use (non-users, occasional users, regular users),
   – Age and gender,
   – Type of substances,
   – Willingness to use,
   – Purpose of use.

10. Addressing various target groups within the techno/rave setting using personal communication has proved to be feasible and very well accepted. It can be assumed that the acceptance of/response to different initiatives (e.g. MIND ZONE, Eve & Rave) will vary in the target groups, peer-group approaches being of particularly great importance. Differences in the target groups may sometimes also require differences in content/objectives.

11. Prevention in the techno-party scene requires close cooperation with the organisers of the scene business.

12. However, there is also a significant number of ecstasy users outside the techno-party scene, who cannot be addressed via the locations of events of this kind. Corresponding personal communication channels must be opened up for these people.

13. The information young people get via the radio and the youth media is inadequate in terms of both quantity and content. Young target groups can be addressed via the media of the youth press, on the Internet and by means of specific formats or programmes on TV and radio, and the information gaps can be filled in a targeted manner in this way. The dissemination of reliable information should be understood as a necessary but insufficient condition for effective prevention. Mass communication approaches should always be accompanied by the offer of personal communication.

14. The prerequisite for effective drug and substance-specific prevention is a coordinated distribution of responsibilities among the various professional protagonists (drug prevention, drugs counselling, youth welfare and others). This allows the optimum use of existing resources and the development of new ones.

2.4. This is Important to Us! A Review of the Key Topics

On the basis of the research results now available which will be presented in the second part of this documentation corresponding to the papers presented the individual working groups and the final discussion by the participants in the seminar led to the key results given below. They form the basis for the recommendations described in section 2.3. for the prevention of ecstasy use, as formulated by the FCHE in coordination with the Länder Co-ordinators in the spring of 1998.

Guidelines for prevention
The existing FCHE guidelines for prevention will remain as they are and continue to be applicable. They are supplemented by the knowledge and results gained in the context of the status seminar and the working groups on ecstasy and its use (cf. section 2.3.). Both substance-specific and target group-specific elements are involved here.

Substance-specific/target group-specific elements
Everyone was in agreement that ecstasy is basically no more than a new illegal drug. At the same time, the participants also agreed that there are certain specific characteristics in connection with ecstasy, which require new approaches and concepts for prevention. These include:

- The fact that the drug is firmly embedded in specific youth-culture scenes,
- Greater consideration and incorporation of target group-specific elements,
- The multiple use of drugs in connection with ecstasy,
- The function of ecstasy in boosting performance,
- The clear overlap between primary and secondary prevention.

Target group problems
All three working groups considered the target group question as problematic since the studies so far have concentrated entirely on the techno scene. A group of users outside the techno scene must also be assumed to exist. The strong focus on the techno scene has meant that the other users have so far remained largely unconsidered. This results in uncertainties – with respect to both the quality and quantity of this group and to the possibilities for, and the nature of, prevention measures. As a result there was an unanimous demand from all participants at the seminar for further studies, particularly for an expansion of these studies into other music scenes and fields of youth culture.

The integration of ecstasy in youth-culture scenes
The high level of integration of ecstasy into specific youth-culture scenes and areas requires new approaches in the field of prevention and the development of new concepts. This includes:

- Greater incorporation of peer-group approaches,
- Support and promotion of local efforts,
- Abandonment of structures requiring people to approach the prevention organisers in favour of outreach work,
- Giving greater weight to personal communication measures.

The function of ecstasy use
The performance-boosting function of ecstasy use is seen as an expression of a general trend towards performance-boosting agents. This means that it is necessary to take more into account the motives and expectations of the users and integrate these in primary prevention measures. The conclusions in this context are as follows:

- Promotion of protective measures,
- Alternatives and functional equivalents to the experiences gained with substance use,
- Giving greater weight to prevention based on personal circumstances,
- Well-founded qualification of multipliers.

Primary/secondary prevention interface
A central topic, both in the working groups and in the final discussion, was the interface between primary and secondary prevention. The techno scene, in particular, provides a clear example of an interface where non-users and a clientele with a high level of drug affinity meet. The need for increased "on-site" measures is pushing the interface work of primary and secondary prevention further into the foreground. The following conclusions can be derived for future prevention work:

- The basic principle of all prevention work – including secondary prevention – is and must remain primary prevention.
- Substance-specific prevention is becoming more important, but must never be al-

lowed to force primary prevention measures into the background or even replace them.
– Secondary prevention and primary prevention must supplement one another; the drug prevention models of primary prevention used to date must be expanded and supplemented by substance-specific and target group-specific elements.
– The overlaps between primary and secondary preventive measures, which are becoming increasingly clear, mean that agreement on responsibilities at Federal, Länder and regional levels is essential.
– Drug prevention and drugs counselling must cooperate with one another.
– Both the specialist prevention agencies and the drug services must open up to new channels, approaches and concepts.
– Important aspects of primary prevention, such as personality development and skills promotion, must also have a part in secondary prevention.
– Existing cooperative relationships must be reinforced and new ones created, particularly with youth welfare, health and education authorities.
– Prevention requires the involvement and responsibility of everyone with responsibility for children and adolescents.
– Useful and effective cooperation requires a greater degree of networking, which also means better utilisation of existing resources, and qualified continuing education measures for those involved.

Personal communication/mass communication strategies

The example of ecstasy clearly shows that personal communication strategies are of particular importance in the context of substance-specific prevention. This is, on the one hand, because of the close juxtaposition of non-users and users in the techno scene, and on the other hand because of the uncertainty regarding the user group outside this scene. From this emerge the following weightings and assessments for preventive measures based on mass communication and personal communication:

– Personal communication strategies have acquired greater importance because of the scene,
– Facts and information should increasingly be passed on via personal communication,
– Peer-group approaches must be used and supported,
– Personal communication channels must also be opened up for user groups outside the techno scene,
– Mass communication measures must support the personal communication work,
– The mass media can play a supporting role in the run-up to specific prevention strategies particularly personal communication strategies.

Allocation of responsibilities

The participants agreed that the rapid development and changes on the ground within the scene necessitate an equally rapid response. This presupposes the necessary closeness to the target groups and the possibility for more flexible action. The following expectations were made of the FCHE as a matter of priority:

– The development of mass communication materials, particularly information and education material for multipliers,
– The development of models for continuing education and training – of peers, for example,
– The development of models for the evaluation of drug prevention measures
– The elaboration of innovative concepts,
– The expansion of research to other youth-culture scenes and areas.

Research into trends

The participants were unanimous in believing that it would be useful and beneficial to conduct some sort of "research into trends", so as to detect changes and developments promptly and to be able to react to these quickly. This would also correspond to the decision of the European Council to set up a kind of "early warning system" in the individual Member States.

2.5. The Fundamental Principles

The following section of this book reproduces the study and research results presented at the seminar in accordance with the documentation provided by the speakers. Editorial changes have been made primarily with a view to achieving largely uniform presentation in terms of form, and in order to improve understanding. The bibliographies of the individual papers have been compiled in Section 7.2. of this volume.

3

Substance-specific Information on Ecstasy

3.1. Ecstasy: The Status Quo of the Situation in Pharmacological/Medical Research

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Ecstasy is one of the "designer drugs", more accurately described as second-generation synthetic drugs. These are fashion drugs which have been designed by underground chemists using a great deal of imagination, primarily in order to circumvent statutory regulations, such as the Narcotics Act. They are generally produced very simply from cheap basic chemicals and sold at a profit. Detection in body fluids (serum or urine) is difficult since some of these drugs take effect in very small quantities and newer, unfamiliar variations are constantly appearing.
The designer drugs include some which act in the same way as cocaine, LSD, cannabis, mescaline or heroin, and which may have many times the effect of these. Medicinal substances, such as amphetamine, fentanyl or pethidine, are also used as the models for designer drugs, with a wide variety of effects even within a sub-group. Amphetamines, phencyclidines, tryptamines, prodines and fentanyls are all designer drugs.

Ecstasy and its classification in the amphetamine group

Ecstasy (chemical designation: 3,4-methlyenedioxy-N-methamphetamine or N,α-dimethyl-3,4-methylenedioxyphenethylamine) appears on the drug scene under a variety of names, such as MDMA, XTC, Adam and Cadillac.
Sometimes, MDA (3,4-methylenedioxyamphetamine or α-methyl-3,4-methylenedioxyphenethylamine) and MDE/Eve (3,4-methlyenedioxy-N-ethylamphetamine or N-ethyl-α-methyl-3,4-methylenedioxyphenethylamine), which differ only slightly from MDMA (by substitution at the nitrogen), are also called ecstasy. Ecstasy/MDMA is also occasionally confused with MMDA (3-methoxy-4,5-methylenedioxyamphetamine/3-methoxy-α-methyl-4,5-methylenedioxyphenethylamine) as well.
This ecstasy group is a subgroup of amphetamines which are not themselves a uniform group in pharmacological terms:

- Amphetamine or methamphetamine has a stimulant effect on the central nervous system and thus increases performance.
- The hallucinogenic amphetamines are similar to LSD.
- The CNS-stimulant and hallucinogenic characteristics have almost disappeared in the so-called "entactogens" (see below).

The ecstasy group has a middle position among these three subgroups.
Ecstasy (MDMA) and MDA date from 1914 and 1910, respectively, and, according to the

definition above, should not be classed as designer drugs. MDE was only developed later. Californian hippies used ecstasy and MDA as "love drugs" in the Sixties. Doctors in Switzerland used ecstasy (MDMA) in therapeutic sessions until the end of 1993, with the permission of the authorities (cf. also below). MDMA, MDA and MDE were included in Annex I to the German Narcotics Act as non-marketable narcotics in 1986, 1984 and 1991, respectively.

Abuse

The salts (hydrochlorides) of ecstasy (MDMA), MDA and MDE are white, crystalline powders, supplied in capsule or tablet form. They are occasionally mixed with amphetamine in order, for example, to increase the weak CNS-stimulant action. The simultaneous use of Red Bull or Guarana, both of which contain high levels of caffeine, is also popular. The drugs are taken at "raves" and techno parties with loud techno music. These generally start on Friday evenings, carry on all night and start again the next evening.
The dosages and durations of action of the individual substances in the ecstasy group vary, but the onset of action occurs within an hour with all three compounds (cf. Table 1).

Overview of the ecstasy group

MDA (3,4-methylenedioxyamphetamine)	
Single dose, oral	80–160 mg
Onset of action	30–60 min. (max. effect after 2 hours)
Duration of action	8–12 hours
Legal aspects	A non-marketable and non-prescribable narcotic since 1984
MDMA (3,4-methylenedioxy-N-methamphetamine)	
Single dose, oral	80–150 mg
Onset of action	30–60 min.
Duration of action	4–8 hours
Legal aspects	A non-marketable and non-prescribable narcotic since 1986
MDE (3,4-methylenedioxy-N-ethylamphetamine)	
Single dose, oral	100–140 mg
Onset of action	30 min.
Duration of action	3–5 hours
Legal aspects	A non-marketable and non-prescribable narcotic since 1991
MBDB (N-methyl-1-(1,3-benzodioxol-5-yl)-2-butanamine)	
Single dose, oral	180–210 mg
Onset of action	20 min.
Duration of action	4–6 hours
Legal aspects	A non-marketable and non-prescribable narcotic since 1995
BDB (1-(1,3-benzodioxol-5-yl)-2-butanamine)	
Single dose, oral	150–230 mg
Onset of action	30–60 min.
Duration of action	4–8 hours
Legal aspects	A non-marketable and non-prescribable narcotic since 1997

Table 1

Effects

Ecstasy (MDMA) and MDE possess "entactogenic" properties. Entactogens are substances whose effects can be described as creating "a feeling inside", an "oceanic feeling". They act on the neurotransmitter systems of the brain, particularly on the serotonin system. The effect decreases on repeated intake, which can be explained by the necessary regeneration of the serotonin system.

In addition to the effect of increasing drive, this group of substances causes unique psychotropic effects which, unlike those of the hallucinogens or stimulants, affect the emotions (entactogenic action).
In detail, entactogens cause a euphoric state with increased empathy for oneself and one's surroundings. The capacity for differentiating between "self" and "non-self" is diminished. They encourage the ability to recognise and tackle personal problems and markedly increase the desire to communicate and be sociable.[1]

Users report emotional balance and enhanced perceptive faculties, freedom from anxiety and contented acceptance of self. However, in some cases there may be a rapid switch of mood from euphoria to anxiety and depression. Table 2 gives a detailed list of the profile of action of entactogens.

Psychotropic profile of action of entactogens

Empathy – increased drive – euphoria, but also dysphoria – freedom from anxiety – rarely: feelings of anxiety – increased self-confidence – peaceful feeling of contentment – feeling of inner warmth – retention of self-control – communicative openness – reduced delimitation of self – intensified visual/acoustal impressions – impaired visual perception (e.g. distortions) – increased vigilance and readiness to react – altered experience of time – subjective impression of reduced concentration

Table 2

It should be noted that the circumstances accompanying drug use (setting/mood) have a decisive influence on the nature of the effect (more details on this can be found under Toxicology, below). The effect is strongly dose-dependent with MDA, in particular. While low doses primarily increase drive, higher doses result in impaired perceptions/hallucinations. Thus, unlike the "pure" entactogens, MDMA, MDE, BDB and MBDB, MDA has an intermediate position between the hallucinogens and the entactogens.

The most important physical effects are increased blood pressure and heart-rate, trismus (lockjaw), bruxism (grinding of the teeth), mydriasis, dryness of the mouth, loss of appetite, hyperhidrosis (excessive perspiration) and tremor (cf. Table 3). Hyperthermia

[1] These characteristic actions were utilised by psychotherapists in the USA and Switzerland in the field of what was known as "psycholytic therapy". Treatment of this type has been banned since 1985 in the USA and since the end of 1993 in Switzerland.

should also be mentioned, although it is of clinical relevance only in the event of extreme physical exertion.
The neurobiological effects are largely similar to those seen with amphetamines. They include increases in cortisol and prolactin, a reduction in overall sleep time, sleep effectiveness and REM period. Loss of libido has been reported under the influence of MDMA.
The sub-acute effects caused by entactogens last for up to 24 hours. These chiefly involve adverse reactions and have thus been listed in the section on toxicology, below.

Entactogenic effects

Acute neuroendocrine effects:
Increase in cortisol – increase in prolactin – reduction in overall sleep time – reduction in REM sleep – acute vegetative effects – muscle tremor and tension – mydriasis – dry mouth – loss of appetite – hyperhidrosis – hyperthermia – sleep disorders – hyperreflexia – nausea – trismus (tonic spasm of the masticatory muscles) – bruxism (gnashing, clenching and grinding of the teeth) – increased desire to urinate – mild nausea – paraesthesia (prickling skin, numbness, formication)

Sub-acute effects:
Sleepiness/exhaustion – headache – nausea – depressed moods – aching muscles – impaired concentration/absent-mindedness – dry mouth – restlessness – nervousness – anxiousness

Table 3

Adverse reactions
The health risks inherent in the use of amphetamines are primarily attributable to the toxicity of the substances themselves and not - as is often assumed - to toxic contamination during synthesis or to being blended with toxic substances.

After-effects on the day following drug use can be regarded as harmless. These include sleepiness, depressive moods, aching muscles, impaired concentration, dry mouth, restlessness and anxiousness (cf. Table 3). The ability to drive motor vehicles and operate machinery is impaired.

Serious effects and fatalities (15 have been published to date) have occurred only after taking very high doses of MDMA, in individuals with relevant existing problems, when the drug was taken during excessive techno parties or in combination with other psychotropic substances. The number of fatalities is small in comparison with the large number of users. As noted above, the setting is decisive for the quality of the effect. Thus, the effects of group dynamics and acoustic overload change the nature of the effects; restlessness and aggression have been reported.

Dehydration as a result of dancing for hours without sufficient fluid intake plays a decisive role in the pathogenesis of the following complications (cf. Table 4): hyperthermia (>40°C), disseminated intravascular coagulation (DIC) as the most frequent cause of death, rhabdomyolysis and kidney failure.

Acute intoxication

In the event of dehydration, in particular:
Hypertension – tachycardia and cardiac arrhythmia – hyperthermia (overheating of the body) – disseminated intravascular coagulation (DIC) – rhabdomyolysis (breakdown of striated musculature) – acute renal failure

In the event of relevant vulnerability, in particular:
Cerebral seizures – mental disorders (e.g. induced atypical or protracted psychoses, panic attacks, depression) – intracranial haemorrhages (bleeding in the brain) – cerebral infarction – cardiovascular collapse – central sinus thrombosis

Table 4

The risk of a fatal circulatory collapse is increased in the event of existing cardiovascular and respiratory diseases or if other drugs are taken at the same time. Three deaths involving the former and four involving the latter have been recorded to date.
The most dangerous effects occurring in the CNS with a potentially fatal outcome can likewise be attributed to pre-existing individual vulnerability or to excessive loss of fluid; cerebral infarction, central sinus thrombosis, intracranial haemorrhages and cerebral seizures have all been reported.

The unpredictable nature of the psychotropic acute effects results in risks which are difficult to classify (cf. Table 2) because the mild affective/emotional psychotropic effects may become uncontrolled in exceptional cases. For example, there have been reports of atypical and paranoid psychoses, depression and panic attacks. These may disappear as the effects of the substance wear off or they may occur as after-effects, spontaneously disappear after a lengthy period or, more rarely, become chronic in nature. Adverse reactions such as these have so far generally occurred in cases of overdose or when drugs have been combined. The possibility cannot be ruled out that ecstasy abuse can cause protracted psychiatric disorders (with delayed onset) if there is a – presumably individual – predisposition in the person involved.
It is only with difficulty that a direct dose/effect relationship can be demonstrated in the case of the adverse reactions described above. This suggests that there is a large inter-individual range with respect to the damage.

Symptoms of dependence and patterns of use

The age of ecstasy users is generally between 14 and 26 years. The young people involved are usually integrated socially and are in secure educational or employment situations. Ecstasy is typically taken between once and three times a month as a "recreational drug", almost exclusively at weekends. The tolerance phenomenon (tachyphylaxis) is avoided as a result of the long intervals between uses (one to four weeks). (See also papers 4.1., 4.2. and 4.3. in this context).

Like the parent substance, amphetamine, the entactogens must be classed as having a moderate potential for psychological dependence. An evaluation of case reports shows that, despite the shift in the profile of action towards adverse reactions, such as headache, fatigue and "hangover", both the frequency of use and the dose have been increased to extreme levels in some cases. It would be useful to check the extent to which the individuals involved here had unstable personality profiles. Physical dependence in accordance with the WHO definition does not occur. Ecstasy users generally tend to take other narcotics as well, such as cannabis, and, more rarely, to take combinations with other hallucinogens or cocaine. Cannabinoids are used for "calming down", while the gradually waning effect of ecstasy is intended to be intensified by cocaine or hallucinogens.

Long-term effects and risks

Little is yet known of the peripartal effects of ecstasy in humans. Animal experiments have indicated lower birth weights and unusual behaviour in the neonates. Embryo development, on the other hand, appeared to be unaffected.

Hepatotoxicity resulting from MDMA has been discussed in recent years as ecstasy use increases. The clinical picture is similar to that of viral or toxic hepatitis. The only pathogenetic factor which could be found was the use of ecstasy some days previously. The disease has had a good outcome in most cases, developed into fulminant liver failure requiring a liver transplant in rare cases, and actually ended in death in one case. The pathogenetic mechanism has not yet been explained. Both the metabolite MDMA and contaminations toxic to the liver might have been triggers. Existing liver damage is likely to increase the risk. No hepatotoxicity on the part of MDMA could be detected in animal experiments in dogs.

Other animal experiments in mice, rats and primates have shown that, at high doses and after repeated administration, ecstasy causes changes in the field of the central serotoninergic neurons. Neurotoxicity increases in the following order: MDE – MDMA – MDA. The extent is dose-dependent, but major inter-individual variability can again be noted here, both with respect to sensitivity to the toxic agent and in terms of the capacity for spontaneous regeneration. There are also major differences between the various species, with primates generally reacting more strongly to the noxa than rats or mice.

The extent to which these results from animal experiments can be transferred to humans has not yet been clarified. Nonetheless, the possibility of long-term neurofunctional effects in man, too, cannot be ruled out, even though no functional changes have yet been found.

4

Epidemiological Data on the Use of Ecstasy and Other Drugs

4.1. The Use of Ecstasy – An Empirical Study of the Patterns and Psychosocial Effects of Ecstasy Use

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Introduction

Many observations and statistics (Federal Office of Criminal Investigation (BKA) Annual Narcotics Report 1993 and 1994; BKA Half-Yearly Report 1995; German Federal Ministry of the Interior (BMI) 1997; cf. also paper 4.6.) suggest that the use of synthetic drugs – particularly the use of ecstasy – has increased in recent years (Hurrelmann, 1995; FCHE, 1994). The notion that ecstasy use was a phenomenon which would be a rapidly passing phase (Solowij et al., 1992), has proved to be incorrect.

To date, there are virtually no reliable empirical data relating to patterns of ecstasy use and to the use of drugs and narcotics prior to taking ecstasy for the first time. The Australian investigation by Solowij, Hall and Lee in 1992 is still fundamental with respect to the patterns of use in this area. A recent survey in French-speaking Switzerland (Ayer, Gmel & Schmid, 1996) regarding the use of drugs and narcotics prior to taking ecstasy for the first time shows that people who take ecstasy exhibit a higher lifetime prevalence of using other drugs than people who do not use ecstasy.

Widely differing statements have been made with respect to the effects of ecstasy use. For instance, beneficial aspects for personality development have been seen (e.g. by the Berlin Eve & Rave Office), but premorbidity has also been observed (cf. Spohr, 1994). Medical assessments of the risks also vary (cf. for example Thomasius, 1997; Gouzoulis-Mayfrank et al., 1996; cf. also paper 3.1.). Some results in this paper bearing on the psychosocial and physical effects of ecstasy use will be added to the controversy.

Methodological procedure

A questionnaire with the following five subject areas was developed on the basis of a preliminary investigation (Rakete & Flüsmeier, 1995) and a literature review:

- Socio-demographic data of the sample,
- Patterns of ecstasy use,
- Effects of ecstasy use,
- Use of other drugs and narcotics,
- Information status and end of use.

The aim of the study was to record characteristic features of ecstasy use over the whole "scene" so as to obtain the broadest possible cross-section of various forms of ecstasy use. Consequently, access to the subjects also had to cover the whole scene. The activities required to achieve this were as follows:

- Flyers were distributed in discotheques, clubs and at large techno events. These flyers, designed in techno-style, gave information about the research project and asked for participants. Anyone interested could complete the questionnaires at the offices of the Hamburgische Landesstelle gegen die Suchtgefahren on weekdays between 10.00 a.m. and 6.00 p.m.
- Advertisements for participants in the research project were placed in daily papers (*Hamburger Abendblatt, taz*), event magazines (*Szene, Oxmox, Flyer*) and specific publications of smaller "scenes" (*Hinnerk, Mushroom, Frontpage, Partisan*) on a regional basis and throughout Germany. The questionnaires could be requested in writing or completed at the Landesstelle offices.
- A fixed group of interviewers was set up, who had experience of ecstasy but were no longer users. This group distributed the questionnaires to people from their social network and passed the collected questionnaires back to the study directors.
- The interviewers carried out face-to-face interviews[1] at techno events (e.g. L*ove Parade*) so as to minimise and largely rule out sources of error.
- Some test subjects were sought out by the interviewers at known techno-scene locations and in their own circles.

The sample

The sample of people who *had not used* ecstasy (n=238)

Access to people who had not used ecstasy was primarily achieved using identical strategies to those for approaching the users. Thus, it is highly probable that test subjects so obtained were in similar life situations to the users, e.g. closely involved with the techno scene.

With respect to socio-demographic data, the group of people who had not used ecstasy did not differ significantly from those people who had taken ecstasy. However, markedly greater use of drugs can also be seen in those people who had not used ecstasy in comparison with a representative group of adults (cf. Herbst, Kraus & Scherer, 1996) (see the results relating to lifetime prevalence in Table 6). This should be taken into account when assessing the results of the comparison of the two samples in this study. Presumably, the differences found here would become even greater if comparison with a representative sample had been chosen.

[1] The statistical analysis was carried out using "SPSS for Macintosh, Version 6.1.1" on a Power Macintosh 6100/60. Conventional inferential statistics procedures were used. All analyses of variance in this study are single-factor and univariate (one-way), and the Scheffé test was used for the multiple mean value comparisons.

Table 1 shows how the total number of participants in the study, n=765, is distributed over the sub-samples of people who had or had not used ecstasy.

Size and composition of the sub-samples and the total sample

	People who had used ecstasy	People who had not used ecstasy	Total
Women	204	109	313
Men	323	129	452
Total	527	238	765

Definitions: The group of people who had used ecstasy (n=527) consists of those participants in the survey who had taken at least one ecstasy tablet within the past year. The group of people who had not used ecstasy is made up of those who had never taken ecstasy to date (lifetime prevalence). However, the use of other drugs and narcotics is not an exclusion criterion for assignment to these groups.

Table 1

The sample of people who *had used* ecstasy (n=527)

Age and gender: The average age was 23 years (M=22.85; SD=5.21). The range was between 14 and 52 years. Some 80% of all respondents were over 18 years old.

About 29% of the women and 14% of the men were under 19 years old. Thus, women are substantially more frequently represented than men in the younger age groups. On the other hand, there are more men than women in the older age groups – particularly in the

Age and gender distribution of the people who had used ecstasy (n=527)

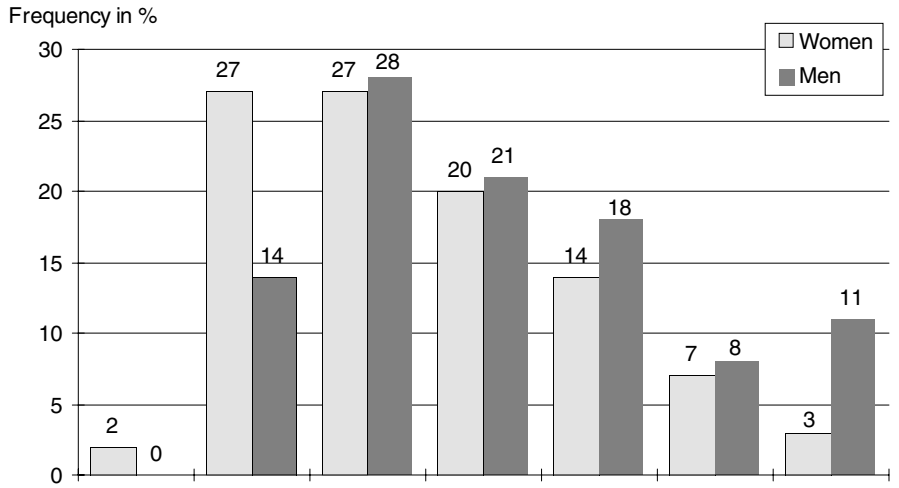


Fig. 1

group between 25 and 27 years old and in the group "aged over 30". 37% of the men were over 24 years old as compared to 24% of the women (see Fig. 1).
The comparison of the means shows that the female users (M=21.61, SD=4.51) were highly significantly younger (p(t)= .000, dF=525) than the male users (M=23.70, SD=5.46).

School-leaving qualifications: Some 65% of the interviewees had left school with the "mittlere Reife" (equivalent to GCSE O levels), "Abitur" (equivalent to GCSE A levels) or a vocational Abitur; about 15% had a certificate of secondary education. Thus, it can be assumed that the overall educational level of this sample was high. 21% did not yet have a school-leaving certificate, which can be explained by the young age of many of the participants in the survey. There were no significant differences from the reference sample.

Vocational training: The majority of the sub-sample (62.7%) had not yet completed vocational training – consistent with the young average age. 22% had completed an apprenticeship. There were no significant differences from the reference sample.

Overall, the group of people who had used ecstasy also did not differ from the reference sample with respect to the other socio-demographic characteristics recorded (age, gender, marital status, number of children, partnership situation, sexual orientation, financial situation, living situation, place of residence, religion, nationality).

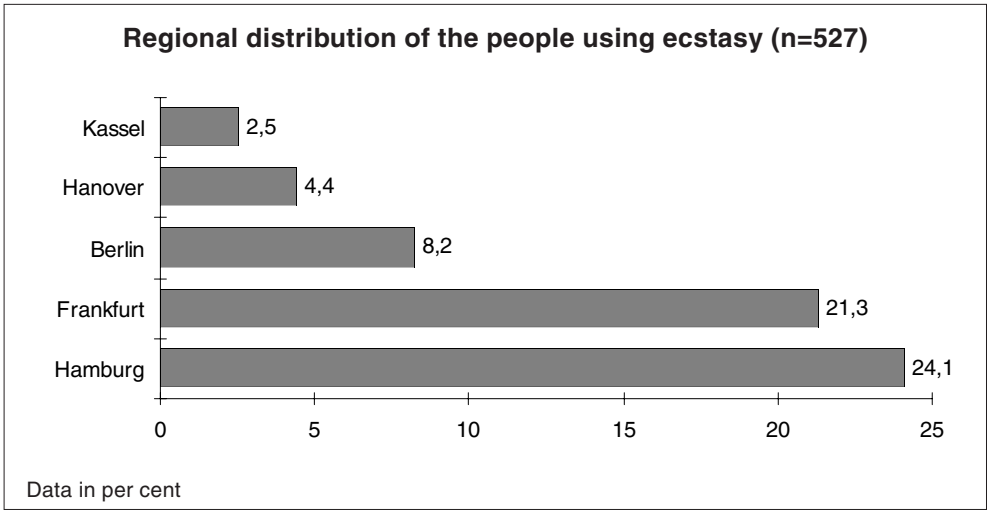


Fig. 2

Regional distribution: A total of 60.5% of the sub-sample of people who had used ecstasy came from the locations shown in the graph (the graph shows those locations from which at least 2% of the total number of participating ecstasy users came). The remaining 39.5% were distributed over the whole of the Federal Republic of Germany (cf. Fig. 2).

Patterns of ecstasy use

Age at which ecstasy was first used

The most common age for the first use of ecstasy was between 16 and 18 years. 35.4% of the sub-sample of people using ecstasy (n=527) started taking it during this period. A total of 59.6% of the respondents started taking ecstasy between the ages of 16 and 21 years. Just under 8% took it for the first time at the age of 28 years or above.

Total number of ecstasy tablets taken to date

Just under half of the sub-sample had taken over 50, and about one-third had taken over 100 ecstasy tablets; 15% had taken more than 200 ecstasy tablets.
The males in the sub-sample had significantly higher ecstasy use in the gender-based comparison (Mann-Whitney U-test; U=27793.5; p=.0075).

Frequency of ecstasy use

The greater part (44.7%) of the ecstasy users interviewed took ecstasy at weekends on an irregular basis, while 20.2% took ecstasy regularly at weekends. It was seldom used during the week: only 5.4% used ecstasy several times a week and only 0.6% (3 people) used it daily. Gender-based differences were not significant (Mann-Whitney U-test).

Period of ecstasy use to date

56.7% of the sub-sample had used ecstasy for more than one year and almost one-third for longer than two years. The Mann-Whitney U-test yielded no significant gender-based differences.

Context of use

Only 1.5% of the sub-sample preferred to take ecstasy when they were on their own. 72% preferred to be with a few other people when they took it and 26.4% preferred to be with a large number of others.
Locations: The users interviewed principally took ecstasy at raves (54.4%) and discotheques (52.7%). 32% also stated "at friends' homes" as the location of ecstasy use. Other locations given were "at home" (24.1%), "at large dance events" (24.7%) and "out in the open" (21.3%). Only 2.8% reported taking ecstasy in pubs. (Multiple responses were possible.)
Scene: 79.3% of the sub-sample of ecstasy users took ecstasy within a specific "scene", almost three-quarters of the interviewees seeing themselves as members of the techno scene.

Hard and soft patterns of use

Taking six or more than six ecstasy tablets over the previous six weeks was considered a *hard pattern of use*; taking up to three ecstasy tablets over the previous six weeks was regarded as a *soft pattern of use*.[2]

[2] This definition is derived from considerations regarding content and from the results relating to the frequency and dosage of ecstasy use.

Using this definition as a basis, the sample of ecstasy users (n=527; of which men: n=323, women: n=204) was made up as follows with respect to the characteristic "pattern of use":

– 23.8% of the men (n=77) and 21.6% of the women (n=44) made up the group of users with a soft pattern of use.
– 31.6% of the men (n=102) and 26% of the women (n=53) were allocated to the group with a hard pattern of use.

There were no significant *gender-based differences* with respect to the pattern of use.

Pattern of use and period of ecstasy use to date

There was no difference between people with a hard pattern of use (n=155) and people with a soft pattern of use (n=121) as regards the mean period of ecstasy use to date (Mann-Whitney U-test, p=.119).

The following picture emerges after forming several sub-samples corresponding to different periods of use:

Relationship between patterns of use and period of ecstasy use to date

Frequency of hard and soft patterns of use in groups with different periods of use (n=276). (0–6 months) n=47; (7–12 months) n=69; (13–18 months) n=49; (19–24 months) n=33; (over 24 months) n=76

Result of the chi^2-test: * = p < .05.

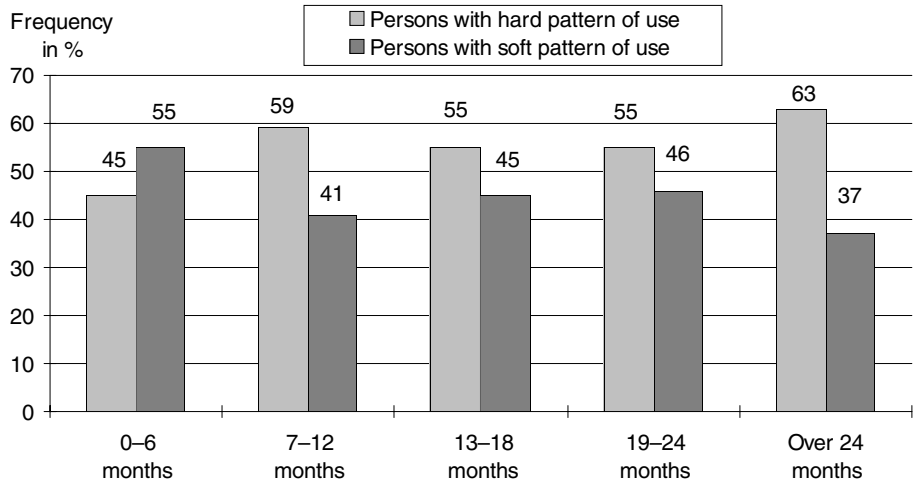


Fig. 3

No significant differences were found in the patterns of use in the first four groups (period of use to date up to 24 months). On the other hand, in the group of people who had already been using ecstasy for over two years, there was a significantly greater frequency of people with hard patterns of use than of those with soft patterns of use.

Effects of ecstasy use

Motives for using ecstasy

The interviewees who used ecstasy were asked to rate a series of possible motives for taking ecstasy as "highly applicable", "applicable", "not really applicable" or "not at all applicable" to themselves. The motives given as "highly applicable" and "applicable" were, in particular, *feelings of happiness* (92%), *mood of elation* (85.2%) and *more intense hearing and feeling* (81.2%). In addition, over 50% of the ecstasy users questioned also rated *expanded consciousness* (58.4%), *greater ease of making contact* (56.8%), *relaxation* (56.1%) and *overcoming personal inhibitions* (55%) as being applicable to themselves.

Effects on the circle of acquaintances

The circle of acquaintances had altered for 55.7% of the ecstasy users (n=527) since they had been taking ecstasy. In contrast, in the reference sample of people who did not use ecstasy (n=238), this was true in only 19.9% of all cases for the period since starting to take (other) illegal drugs.

Recreational behaviour of people using and not using ecstasy

Highly or very highly significant differences in 14 of 21 leisure activities were found in some cases between people using and not using ecstasy (cf. Table 2). Users had higher figures in the three activities *"going to a disco"*, *"going to parties"*, *"doing something with good friends"*. Non-users had higher figures in a further eleven activities (including *"reading books and novels"*; *"going to the cinema"*; *"playing sport in a club"*; *"playing sport privately"* etc.). Thus, in overall terms, the non-users had more marked recreational behaviour than users of ecstasy.

Recreational behaviour of people using ecstasy (n=527) and people not using ecstasy (n=238)

Comparisons of means (t-tests) of the self-assessment scales for recreational activities

		People using ecstasy		People not using ecstasy		Significance	
		M	SD	M	SD	df	p(t)
1	Going to a disco	1.59	.88	1.20	.75	521	**.000**
2	Reading comics	0.86	.95	0.98	.98	754	**.102**
3	Reading books, novels	1.81	1.24	2.09	1.23	757	**.005**
4	Going to parties	1.68	.86	1.54	.73	758	**.033**
5	Going to the cinema	1.09	.54	1.17	.54	754	**.051**
6	Playing sport in a club	0.54	.98	0.88	.98	441	**.000**
7	Playing sport privately	1.21	1.13	1.53	1.19	750	**.000**
8	Doing something with good friends	2.68	.89	2.53	.95	426	**.044**
9	Going to rock, pop or jazz events	0.69	.68	0.95	.63	488	**.000**
10	Talking to a good friend	3.04	.93	2.93	.97	754	.123
11	Going to the theatre, opera or classical concerts	0.48	.58	0.59	.57	754	**.023**
12	Taking an active part in a club, political party, action group or social association	0.41	.89	0.74	1.07	391	**.000**
13	Going to pubs, bars, cafés	1.82	.99	1.98	.95	756	**.040**
14	Simply lazing around or relaxing at home	2.67	1.01	2.56	1.04	756	.174
15	Doing something with parents, at home or elsewhere	0.84	.78	0.82	.80	756	.706
16	Going to museums or exhibitions	0.61	.57	0.71	.59	750	**.036**
17	Going to youth clubs/ youth centres	0.45	1.00	0.71	1.16	403	**.003**
18	Reading the daily paper	2.39	1.34	2.37	1.36	756	.833
19	Reading magazines	2.33	1.02	2.27	1.08	758	.402
20	Listening to the radio	2.70	1.40	2.92	1.37	755	**.043**
21	Watching television	3.17	1.06	3.14	1.10	758	.660

Table 2

Self-image of the users and non-users of ecstasy

There were significant differences between ecstasy users and non-users in the means for two scales (cf. Table 3): non-users give higher assessments of their self-worth and their ability to deal with problems than ecstasy users.

Self-image of people using ecstasy (n=527) and people not using ecstasy (n=238)

Comparisons of means (t-tests) from the Frankfurt self-image scales (Deusinger)

Frankfurt self-image scales		People using ecstasy		People not using ecstasy		Significance	
		M	SD	M	SD	df	p(t)
1	Efficiency	3.46	.36	3.45	.38	740	.651
2	General dealing with problems	2.91	.51	3.03	.47	743	**.004**
3	Self-worth assessment	3.79	.48	3.88	.42	513	**.013**
4	Sensitivity and mood	3.06	.65	3.07	.67	743	.891
5	Ability to make contact and sociability	3.14	.45	3.15	.51	743	.811
6	Emotions and relationships with others	3.97	.57	3.99	.61	741	.553

Table 3

Adverse effects connected with the use of ecstasy

People who use ecstasy differ significantly from those who do not with respect to the following symptoms: loss of appetite, mood swings, tenseness of the facial muscles, more rapid heartbeat, loss of libido, subdued mood, problems with the teeth, inner coldness, dryness in the mouth, reduced willingness to take action, weight loss, sleep disorders, feeling of dizziness, digestive problems/constipation, and circulatory problems. Users have higher values for these symptoms, in other words they suffer from them more frequently than non-users of ecstasy (see Table 4).

Symptoms in people using ecstasy (n=527) and people not using ecstasy (n=238)

Comparison of means for the items in the list of symptoms (FCHE)

		People using ecstasy		People not using ecstasy		Significance	
		M	SD	M	SD	df	p(t)
1	Headaches	2.53	1.45	2.56	1.44	758	.732
2	Loss of appetite	2.23	1.81	1.43	1.64	498	**.000**
3	Mood swings	3.53	1.74	3.03	1.79	759	**.000**
4	Tenseness of the facial muscles	1.51	1.71	0.69	1.29	582	**.000**
5	Forgetfulness	3.42	2.02	2.52	1.94	756	**.000**
6	More rapid heartbeat	2.35	1.93	1.50	1.71	505	**.000**
7	Loss of libido	1.61	1.61	1.28	1.42	505	**.001**
8	Nervousness/restlessness	3.19	1.86	3.03	1.96	756	.279
9	Subdued mood	3.21	1.60	2.94	1.67	754	**.030**
10	Problems with the teeth	1.57	1.53	1.21	1.30	523	**.001**
11	Inner coldness	1.98	1.84	1.49	1.77	756	**.001**
12	Dryness in the mouth	2.81	2.04	1.80	1.97	471	**.000**
13	Reduced willingness to take action	2.84	1.90	2.22	1.94	750	**.000**
14	Weight loss	1.53	1.47	0.80	1.18	554	**.000**
15	Sleep disorders	2.34	1.87	1.87	1.75	758	**.001**
16	Menstrual problems	0.76	1.20	0.85	1.24	745	.387
17	Anxiety states/dyspnoea	0.99	1.45	0.86	1.48	753	.240
18	Feelings of apprehension	1.11	1.43	0.99	1.61	753	.328
19	Allergies	1.04	1.62	0.96	1.58	753	.512
20	Skin problems (e.g. acne)	1.85	1.99	1.63	1.96	754	.156
21	Stomach ache	2.18	1.57	1.97	1.51	756	.076
22	Backache	2.73	2.91	2.36	1.81	757	.072
23	Tiredness/exhaustion	3.56	1.66	3.41	1.76	757	.239
24	Colds/flu	1.79	1.08	1.66	0.84	569	.064
25	Hangover (from alcoholic drinks)	1.39	1.40	1.25	1.31	754	.186
26	Feeling of dizziness	2.11	1.74	1.71	1.59	756	**.002**
27	Nausea	1.67	1.38	1.58	1.38	752	.387
28	Digestive problems/ constipation	1.52	1.55	1.25	1.28	538	**.012**
29	Circulatory problems	2.43	1.85	1.97	1.70	489	**.001**

Table 4

Use of other drugs and narcotics among ecstasy users

Prevalence of the use of drugs and narcotics prior to using ecstasy for the first time

Between 82.1% and 96.4% of the users (n=527) had already had experience of nicotine (82.1%), cannabis (90.3%) and alcohol (96.4%) prior to using ecstasy for the first time. Between 37.5% and 41.7% of the interviewees had experience with speed, cocaine and LSD. Experience of psilocybin (12.4%) and heroin (11.1%) was found only very rarely.

Gender-based differences

Compared to women, men consumed alcohol and cannabis significantly more frequently prior to the first use of ecstasy. The same trend was evident, although less marked, in the figures relating to cocaine, LSD, psilocybin and speed. Hence, in overall terms, men took other drugs before using ecstasy for the first time significantly more frequently than women (cf. Table 5).

Gender-based differences in the use of other drugs and narcotics before using ecstasy for the first time

Comparison of the frequency means for drug and narcotic use prior to using ecstasy for the first time (n=527)

	Men (n=323)	**Women** (n=204)		
	M	M	dF	p(t)
Alcohol	2.35	2.02	435.28	.000
Cannabis	2.67	2.28	523	.001
Cocaine	0.57	0.47	523	.131
LSD	0.77	0.51	464.40	.001
Psilocybin	0.24	0.09	515.26	.001
Speed	0.66	0.49	452.97	.034

Table 5

Lifetime prevalence of the use of illegal drugs

A comparison of the lifetime prevalence of the use of illegal drugs between the samples in this study and a representative reference sample of equivalent age (Herbst, Kraus & Scherer, 1996) showed that the lifetime prevalence for ecstasy users is sharply increased in comparison with the average population (cf. Table 6).

Lifetime prevalence of the use of illegal drugs

Lifetime prevalence of drug and narcotic use in selected age groups for ecstasy users (n=527) and people who did not use ecstasy (n=238) in comparison with adults in Germany interviewed in a representative survey*
(Cannabis, n=878; LSD, n=129; cocaine, n=138; speed, n=176; Heroin, n=40)

				Age groups		
	Total	**Men**	**Women**	**18–20**	**21–24**	**25–29**
Cannabis						
Ecstasy users	91.7	91.3	92.2	91.3	90.6	94.0
Non-users of ecstasy	71.5	69.8	73.4	66.1	63.6	73.2
Representative survey	13.9	18.4	9.4	22.6	26.3	24.4
LSD						
Ecstasy users	73.6	75.9	70.1	70.5	73.2	76.9
Non-users of ecstasy	13.4	14.7	11.2	14.3	9.1	14.6
Representative survey	2.1	2.8	1.2	4.5	2.5	2.5
Cocaine						
Ecstasy users	65.3	67.2	62.3	55.7	67.1	84.6
Non-users of ecstasy	15.1	15.5	14.7	14.3	13.6	17.1
Representative survey	2.2	3.2	1.2	4.0	5.1	4.8
Speed						
Ecstasy users	75.1	78.0	70.6	73.2	73.8	82.1
Non-users of ecstasy	13.0	14.7	11.0	12.5	10.6	17.1
Representative survey	2.8	3.9	1.7	7.1	6.5	4.4
Heroin						
Ecstasy users	18.2	20.1	15.2	12.1	18.8	23.9
Non-users of ecstasy	5.9	7.0	4.6	8.9	6.1	7.3
Representative survey	0.6	0.8	0.4	2.1	0.9	1.0

Data in per cent

* Herbst, Kraus & Scherer, 1996

Table 6

With respect to the use of cannabis, LSD, cocaine and speed, a sharp increase in lifetime prevalence can be seen with increasing age among ecstasy users, whereas, in comparison, the figures for the representative reference sample decrease with increasing age of the users – with the exception of the prevalence values for cocaine and cannabis.

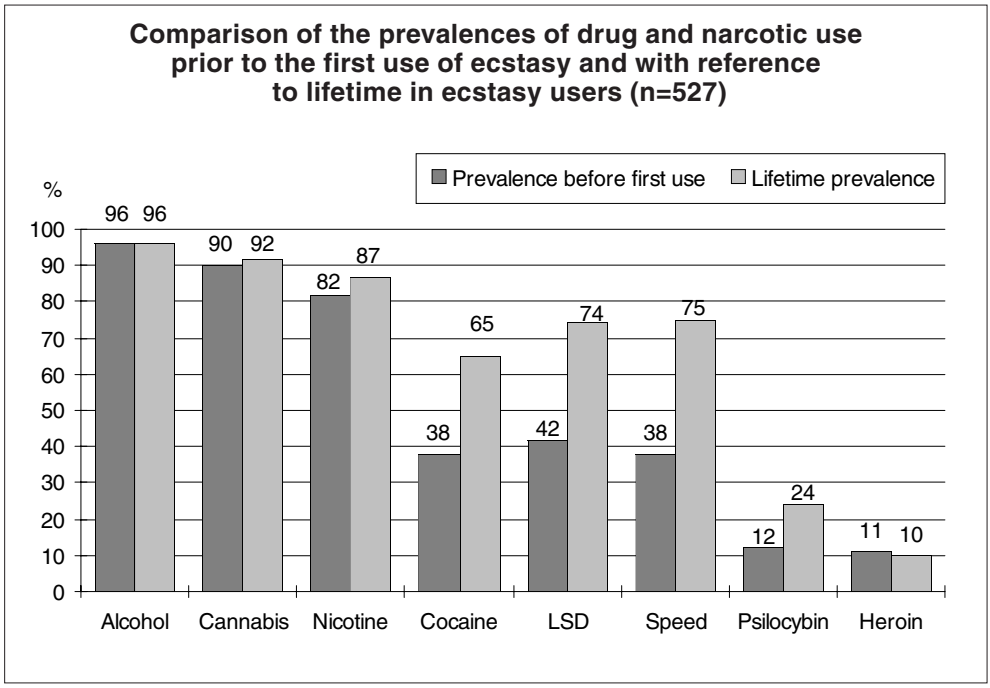


Fig. 4

In ecstasy users, there is little or no difference between the prevalence of alcohol, nicotine and cannabis use prior to the first use of ecstasy and the lifetime prevalence. Since almost all the interviewees had already taken these drugs and narcotics prior to taking ecstasy for the first time, virtually no increase is possible in the figures for the "lifetime prevalence" characteristic. However, among the illegal drugs cocaine, LSD, speed and psilocybin, there is a highly significant increase in the prevalence values after taking ecstasy for the first time (chi-squared goodness of fit test).

Pattern of multiple use in ecstasy users

The majority of the ecstasy users (n=527) also takes other drugs and narcotics in addition to ecstasy. The group who took only ecstasy consists of 32 users, while the group of "multiple users" comprises 495 individuals.

The combined use of ecstasy and other drugs and narcotics is referred to below as *multiple use*. A distinction is made here between what is known as *supplementary use*, meaning the use of other drugs immediately prior to or during the ecstasy high and/or towards the end of it, and what is known as *alternative use*, the use of drugs during the period when ecstasy is not taken – generally during the week.

Frequency and patterns of multiple use

Over 85% of the ecstasy users drank alcohol or smoked cannabis (cf. Table 7). Some 60% took speed and LSD in addition to ecstasy, and almost 50% had taken cocaine – at least occasionally – over the past year. By way of comparison: the group of people who used only ecstasy consisted of 32 individuals.

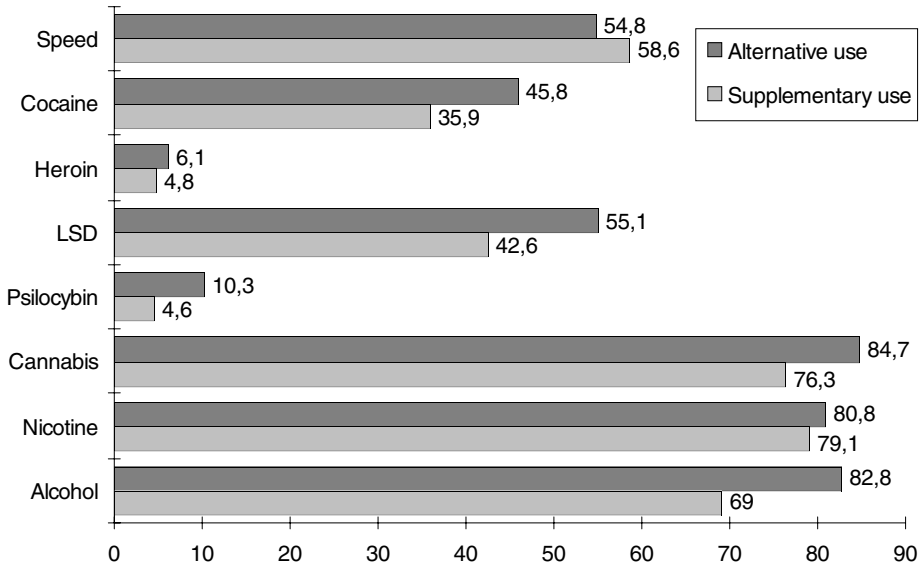
Frequency of use of other drugs and narcotics by ecstasy users (n=527)

Period of use: within the previous year. Frequency of use: at least "rarely" on a five-step response scale (never, rarely, sometimes, often, always)

Alcohol	455 people	86.3%
Cannabis	451 people	85.6%
Speed	339 people	64.3%
LSD	315 people	59.8%
Cocaine	262 people	49.7%
Psilocybin	62 people	11.8%
Heroin	38 people	7.2%

Table 7

Proportion of ecstasy users (n=527) taking various drugs and narcotics either as supplements or as alternatives



Data in per cent

Fig. 5

Ecstasy was most frequently taken in combination with cannabis (in addition to nicotine and alcohol). There were also three other frequent combinations:

– One sub-group took LSD and speed as well, in order to intensify the psychotropic and activity-stimulating effects of ecstasy.
– A second sub-group took only LSD in addition, in order to intensify the psychotropic effect.
– A third sub-group intensified the activity-stimulating aspect of ecstasy by the additional use of cocaine.

It is clear, in overall terms, that the various drugs and narcotics are taken both as supplements and as alternatives. However, cocaine, LSD, cannabis and psilocybin are to a highly significant extent used more frequently as alternatives than as supplements. There were no significant differences between alternative and supplementary use with respect to the other drugs and narcotics.

Knowledge regarding ecstasy

Self-assessment by the users

78% of the ecstasy users interviewed (n=527) assessed their own level of knowledge as *"fairly good"* to *"very good"*, while only 42% of the non-users of ecstasy (n=238) assessed themselves has having good or very good knowledge relating to the substance.

Sources of information

The users had drawn the majority of their knowledge from their own experience with ecstasy and from talking to other users (cf. Table 8). "Scene" magazines were also an im-

Information sources regarding ecstasy for ecstasy users

Comparison of women (n=204) and men (n=323). Multiple responses were possible.
Chi^2-test not significant.

	Frequency	
	Women	**Men**
Talking to other users	93.2	87.0
"Scene" magazines	61.9	63.8
Daily papers	42.0	33.5
Own experience with ecstasy	91.5	90.9
Official information leaflets	55.7	50.4
Talking to counselling centres	13.6	13.8
School lessons	6.3	4.3

Data in per cent

Table 8

portant source of information. In contrast, the subject of ecstasy is obviously not dealt with sufficiently in schools. Over 50% drew their information from official information leaflets. There were no significant gender-based differences (chi-squared test).

Stopping use

Two groups were formed from the total group of ecstasy users for answering questions relating to stopping the use of ecstasy:

– Group (1) was made up of those ecstasy users who had taken ecstasy within the previous six weeks (n=368).
– Group (2) consisted of those ecstasy users who had not used ecstasy within the previous six weeks (n=159).

Willingness and ability to stop using ecstasy

Only very few of the people who had used ecstasy within the past six weeks (n=368) reported a willingness to stop using the drug. 83.5% of the women (n=138) and 88.9% of the men (n=230) in this group were not willing to stop.

With respect to their well-being if they went without ecstasy, 65.5% of the women and 56.3% of the men from this group answered yes to the question of whether they would find it hard to do without ecstasy from now on.

Support in stopping using ecstasy

More than 30% of the women (n=138) and men (n=230) who had used ecstasy during the previous six weeks thought that they would need help to stop using the drug.

There were no significant gender-based differences as regards the need for support, either among the users (n=368) or among those people who had stopped using ecstasy for at least six weeks (n=159) (chi-squared test). However, 41.3% of group (2), i.e. those people who had not used ecstasy for at least six weeks, had required help to stop using ecstasy.

Support already used to stop ecstasy use among those people who had used ecstasy in the previous six weeks (n=368)

	Women (n=138)	Men (n=230)
Help from friends or relations	11	22
More information	8	11
Medical support	3	2
Psychological support	4	7
Help from a drug counselling centre	5	9

Data in absolute frequencies

Table 9

In overall terms, support had been used only very rarely by those people who had taken ecstasy in the previous six weeks. The most frequent source of this support was friends or relations, and more information had also been used as a source of support.

Motives for stopping ecstasy use

The motives for stopping ecstasy use among those people who had already stopped using the drug for more than six weeks (n=159) can be seen from Table 10. The least frequent reasons given for stopping ecstasy use were lack of effect (7.7%) and fear of "judicial punishment" (6.3%). 61.9% of the interviewees stopped using the drug out of fear of harmful effects, 46.5% because of unpleasant side effects and 45.8% because they had only wanted to experience ecstasy and now knew about it. Fear of possible dependence was a motive for stopping use of the drug in only 27.1% of cases.

With respect to gender-specific differences in the motives for stopping ecstasy use among those people who had already stopped using the drug for more than six weeks, it can be seen that women give the reason *"Unpleasant side-effects"* significantly more often than men (women: M=1.61; men: M=1.13; dF=140; p(t)=.013), while, on the other hand,

Motives for not using ecstasy (FCHE scale)

People who had stopped using ecstasy for at least six weeks (n=159)

	Reasons:	Highly applicable	Fairly applicable	Not applicable	Not at all applicable
1	I was under a lot of stress at the time; this is no longer the case	3.5	11.9	23.1	61.5
2	I noticed no effect at all	2.1	5.6	22.5	69.7
3	Other people suggested that I take ecstasy; I am no longer involved with those people	5.6	14.7	21.0	58.7
4	Unpleasant side effects occurred	19.0	27.5	19.7	33.8
5	The effect does not live up to my expectations	9.2	24.8	25.5	40.4
6	Fear of harmful effects	23.2	38.7	15.5	22.5
7	Fear of becoming dependent	12.9	14.3	24.3	48.6
8	I wanted to experience ecstasy once, but now I know what it is like	17.9	27.9	21.4	32.9
9	Fear of drug use becoming known to the police, public prosecutor, youth welfare department, authorities.	0.7	5.6	23.8	69.9
10	Other reasons	29.9	26.8	5.5	37.8

Data in per cent

Table 10

men state *"Other reasons"* as their motive significantly more often than women (women: M=1.27; men: M=1.89; dF=125; p(t)=.008).

Discussion

If the frequency of use and the number of ecstasy tablets taken are considered in combination, the following fact emerges: *Ecstasy users are most frequently weekend users.* About half of these weekend users take up to one ecstasy tablet a week.
The observation by Saunders (1994) that ecstasy is used primarily within the techno scene is confirmed in this study. Discotheques and raves are thus the most frequent locations of use.

The decreased willingness to take action in ecstasy users can be interpreted as a characteristic of depression. Thomasius (1997) classes a depressed mood as an acute effect of the "ecstasy high". This provides additional evidence of a connection between *ecstasy use and depression*. Further studies could use specific scales to record depression (e.g. the Beck inventory of depression) so as to permit more differentiated statements to be made.

The *increased forgetfulness of ecstasy users* should give rise to further investigation of the effects of ecstasy on the central nervous system.

The *limited assessment of self-worth and the ability to deal with problems,* and the *narrowing of the range of recreational behaviour* show that ecstasy use may have an adverse effect on the mental health of the user.

The *limitations in recreational behaviour* are also interpreted in a similar manner: the user's potential for development is not expanded, rather he or she finds his or her possibilities restricted.

It should also be noted that the *circle of acquaintances changes radically in the course of ecstasy use* as compared to non-users of ecstasy. But if the circle of friends consists only of other users as a result of drug use, this will presumably make it more difficult to stop using the drug, since, in this event, the user will have to do without not only the drug but also his or her intimate circle of acquaintances.

Thus, a large number of negative effects can be seen overall in connection with ecstasy use. Nonetheless, the *use of ecstasy is often rated as a positive experience* (79%; n=527). This can be seen as suggesting that the positive effects also associated with use of ecstasy must be highly attractive.

The *high lifetime prevalence in the use of illegal drugs* found in ecstasy users by Ayer, Gmel and Schmid (1996) is confirmed in this study.

Evidently, in this sample, ecstasy is taken *very frequently in combination with other drugs and narcotics*, and in particular in combination with alcohol. The high significance of alcohol in this context is a contradiction of the ecstasy myth.

Since the frequent use of other drugs and narcotics by ecstasy users has already been shown in several studies (including: Ayer, Gmel & Schmid, 1996; Solowij et al., 1992), the following finding can be regarded as proven: *a major proportion of ecstasy users are multiple users*. Use of ecstasy alone would appear to be a fairly rare and fairly short-term phenomenon. It seems likely in this context that the risk to the user increases as a result of multiple use.

Significant differences exist between the prevalence prior to taking ecstasy for the first time and the lifetime prevalence. The highly significant increase in the prevalence values for the illegal drugs cocaine, LSD, speed and psilocybin following the first use of ecstasy may, on the one hand, be explained by the predominantly higher age of commencement of the use of these drugs. However, it should also be borne in mind that ecstasy may possibly encourage the use of other drugs and narcotics as a result of its effect of removing inhibitions.

Two groups can be set up on the basis of the "prevalence of use" characteristic. One group involves experience with illegal drugs prior to taking ecstasy for the first time, the other involves experience only of legal drugs and narcotics, and of cannabis. Here we see further interesting points of approach for research. Studies could demonstrate whether and how these differing previous experiences of drug use affect the course of ecstasy use.

How can supplementary use be explained?
Supplementary use can be interpreted as an attempt to reduce progressive tolerance development when using ecstasy.

At any rate, the motives for combined drug use can be explained along the following lines: supplementary use is intended to prolong, change and intensify the effects of ecstasy. On the other hand, supplementary use confirms a general trend away from the use of a single drug and towards the use of several drugs.

How can alternative use be explained?
Presumably, ecstasy is not used during the week because tolerance would quickly develop if the drug was used frequently. Furthermore, ecstasy use would appear to be closely linked to the possibilities of the weekend (party time, dancing the night away, few demands, being part of a group, etc.)

If we assume that a dependence problem has developed in most multiple users, the use of drugs and narcotics on the days between weekends becomes necessary in order to avoid "weaning" or withdrawal symptoms.

Aspects relating to prevention

Additional preventive efforts should be made because of the risks of ecstasy use.
The differences between the genders present a picture which is known from users of other drugs and narcotics: women start using drugs earlier than men and are younger overall than the male users.

The social context of the first use in women is not clear. Hypothetically, it can be assumed (if other research results relating to drug use are also considered) that women using drugs and narcotics for the first time are generally given them by their older male partners.

The specific situation of women when starting to use ecstasy (younger age of first use in comparison with men; hypothetical offer of drugs by a generally older partner) should be catered to when developing preventive material. It might possibly be suggested that the desire for closeness and intimacy with a partner does not mean that you have to take the same drugs as he does.

Many of the interviewees considered that they were well informed. However, this says nothing about the quality of the information, which is most often derived from talking to other users or from the user's own experiences. Presumably, the information referring to the direct effects of ecstasy use is very good. It is likely that information about long-term risks and dealing critically with the drug comes up less often.

Since the group of users considers itself well informed and is chiefly self-informed, a very united front against the outside environment can be assumed. Anyone wanting to provide this group with information must, therefore, have access to it. Preventive efforts should therefore be based on the *"peer-to-peer"* approach. Otherwise, there is a risk of not reaching the user group.

The rare willingness to stop using the drug should be taken into account when designing preventive strategies. These should be aimed, on the one hand, at increasing willingness to stop using the drug and, on the other hand, at minimising the damage in those who want to continue as users.

There is a yawning gap between the frequent desire for support and the infrequent use of the available support facilities. It is conceivable that the users do not see a form of support appropriate for them or that they are inhibited in taking up what is available. Drug support should begin at a practical level here by experimenting with possible support options appropriate for this client group.

Strategies aimed at promoting individual recreational behaviour and the ability to deal with problems would appear to be useful. Offerings from youth workers, as well as opportunities to learn in school how to deal with problems, may be effective for this target group as preventive measures.

Ecstasy users usually already have experience of drug use prior to taking ecstasy for the first time. Preventive strategies should be geared to the use of nicotine, alcohol and cannabis, in particular.

If the circle of acquaintances consists almost entirely of users, it would be easier for users if a drug-free area – designed to be as similar to the "scene" as possible – were available for the period in which they were stopping their drug use.

Users could be informed – in the sense of a *"safer-use"* campaign – of the risks of the combined use of other drugs and narcotics.

Prevention materials should not be primarily and exclusively aimed at the drug ecstasy.

4.2. Drug Affinity of Young People in the Techno-Party Scene

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Starting position

In many countries in Europe, the start of the Nineties saw the establishment of a new form of music culture, in which a constantly increasing number of young people is still participating. Dance and music events, such as the *Love Parade* and *May-Day Events*, are continuing to record ever greater numbers of people attending and a specific leisure (travel, discotheques, clubs, etc.) and consumer goods industry (music, magazines, etc.) has long since grown up around the techno culture. According to the current Shell Study of Young People (Jugendwerk der Deutschen Shell, 1997), 12% of all young people aged between 12 and 24 years describe themselves as techno fans, and a further 21% of this representative sample (n=2102) are sympathetic to the techno youth culture.

According to media reports, there is a link between the "techno" phenomenon among young people and a recent marked epidemiological trend towards the use of synthetic drugs. An increase in the use of stimulant drugs, such as ecstasy and amphetamines, can be seen both in the Federal Republic of Germany and at an international level (Herbst, Kraus & Scherer, 1996; Schuster & Wittchen, 1996; Bundeskriminalamt, 1995; Power, 1995; Institute for the Study of Drug Dependence, 1995; Rehm, 1995). These studies indicate that, at present, some 5 to 10% of all 16 to 25-year-olds can be assumed to have had experience with ecstasy.

Experts assume that the use of ecstasy can entail physical complications and illnesses (McCann, Ridenour, Shaham & Ricaurte, 1994; Thomasius, 1997), as well as psychiatric (Series, Boeles, Dorkins, & Peveler, 1994; Thomasius, 1997) and psychosocial problems (Spohr, 1994; Tossmann, 1997).

Consideration of these current developments in drug use among young people reveals an unsatisfactory state of research in this field in general and the question arises as to which *preventive measures* can be used to combat these new developments in the drug use behaviour of young people. However, the development of appropriate preventive strategies requires a differentiated knowledge of the significance of the techno-party scene for the drug affinity of young people and of the potential target groups for drug prevention measures.

Objectives

On the basis of the situation described above, an explorative research strategy was selected in the study of *Drug use by young people in the techno-party scene* (Tossmann & Heckmann,1997), where quantitative and qualitative social research study methods were to be combined. The fundamental aims of the study were to undertake an assessment of the prevalence of drug use in the techno-party scene and to analyse the links between participation in the techno youth culture and drug use. Another objective was the qualitative determination of the need and options for preventive measures. Three questions from this study will be examined in more detail at this status seminar:

– How high is the *occurrence* (prevalence) of drug use in the techno-party scene?
– What *patterns* of drug use can be found in the techno-party scene?
– What *target groups* can be differentiated for preventive measures?

Methodological procedure

A partially standardised survey tool was developed and used to handle these objectives, covering the characteristic areas listed in Table 1.

Characteristic areas surveyed	
• Social situation/Status	• Gender • School-leaving qualifications • Current occupation • etc.
• Integration in the techno subculture	• Friends in the techno scene • Frequency and length of going out • etc.
• Drug use	• Use experience (lifetime) • Frequency of use • Age at time of first use • etc.
• Drug use by friends	• Proportion of drug-using friends
• Assessment of the risk of drug use	• Assessment of physical risks • Assessment of mental risks

Table 1

The survey questionnaire was about six pages long (A4) and was designed so that the questions could be answered without taking too much time (i.e. in a maximum of 20 to 25 minutes) at techno events and in relevant discotheques.

The sample

Recruitment of the total sample

The question about the prevalence of drug use in the techno-party scene actually suggests the *recruitment* of a representative sample. However, since there is no knowledge available regarding the composition of a corresponding parent population (techno-party scene), no representative access to the study population can be selected. If statements are nonetheless to be made with some degree of penetration over the area in question, it is necessary to include as many different sub-populations as possible in the study. Thus, a strategy of actively *seeking out recruits* had to be selected in the context of the study; this meant that participants in the study were approached in various techno-party contexts and surveyed on the spot using questionnaires.

Techno-specific event locations include, on the one hand, *clubs*, i.e. discotheques in which only techno music is played, and, on the other, *raves* – parties, announced on a national basis and occurring only on specific dates, at which a large number of techno culture fans gather. With a few exceptions, raves are open-air events and, unlike the parties in the clubs, are also held during the day. These events and techno clubs were selected for recording the data, so as to be able to obtain an appropriate sample for analysis of this specific subculture.

Recruitment of the total sample (n=1674)

Techno clubs (n=541)		**Techno raves** (n=947)		**Internet** (n=182)
• E-Werk	135	• Love Parade, Berlin	479	• http:// www.techno.de
• Insel	90	• Generation Move, Hamburg	169	
• Tresor	79	• Dove of Peace, Magdeburg	154	
• Elektrokohle	48	• Eternal Rave, Berlin	77	
• House of Music	46	• Bröllin Rave	38	
• Linientreu	43	• Nuremberg Rave	17	
• Kitkat Club	39	• Heiddorf Rave	13	
• Café Amsterdam	14			
• Sirius Mind Fuck	13			
• Others	34			

Table 2

The Internet homepage of *"Frontpage"*, a nationally distributed scene magazine, offered additional access to the sample. Information relevant to the techno scene (dates of events, etc.) can be retrieved at the address *www.techno.de.* In this context, it was also possible for the questionnaire to be completed by Internet users.

The data for this project were collected in Berlin, Hamburg, Nuremberg, Magdeburg and Bröllin (Brandenburg) between June and October 1996. Between two and eleven trained interviewers were used, depending on the size of the techno event and the event location.

Using these routes, it was possible to include n=1674 young people attending techno events in the study (cf. Table 2). 57% of those participating in the study (n=947) were interviewed at raves and almost a third (n=541) of the sample came from techno clubs in Berlin; 11% of the population studied (n=182) took part in the survey via the Internet.

Description of the sample

Age: A total of n=578 women (34.8%) and n=1082 men (65.2%) were interviewed for the study at techno parties. The youngest participant was eleven years old at the time of the survey, the oldest was 43 years old. The average age was about 21 years, the women being one year younger than the men on average. Two-thirds of the participants were less than 22 years old (cf. Table 3). This illustrates the youthful nature of the sample obtained in the context of the study on *Drug use by young people in the techno-party scene*.

Gender, age and level of education of the sample (n=1674)

		Absolute frequency n	Relative frequency (%)
Gender	Women	578	34.8
	Men	1082	65.2
Age	< 18 years	367	22.2
M=20.8	18–21 years	731	44.1
SD=4.4	22–25 years	330	19.9
MD=20.0	> 25 years	228	13.8
School-leaving qualifications	Schooling not completed	108	6.6
	School-leaving certificate	207	12.6
	"O" level equivalent	536	32.5
	"A" level equivalent	431	26.2
	Still at school	365	22.1

Table 3

Level of education: It can be seen, with respect to the level of education of the population studied, that 33% of the participants left school with the equivalent of "O" levels, 26% with the equivalent of "A" levels and 13% with a certificate of secondary education. Only 7% reported having dropped out of school. 22% of the participants were still at school at the time of the survey.

A comparison of this study population with a current, representative sample of young people (Jugendwerk der Deutschen Shell, 1997) makes it clear that there are no differences from a sample of the general population with respect to the sample characteristic of level of education.

Sample description: a comparison of school education* of young people aged 12 to 24 years

	Techno study (n=1369)	Shell Study of Young People** (n=2102)
No qualifications or certificate of secondary education	17	18
"O" level equivalent	42	40
Matriculation/"A" level equivalent	40	40
No data	1	2

* School-leaving qualification aimed for or already obtained
** Jugendwerk der Deutschen Shell, 1997

Data in per cent

Table 4

Social context of the participants in the study

With respect to the current social context of the sample studied, 40% of all respondents were employed, which is a fairly high rate of employment in view of the average age of the respondents (M=20.8 years). However, nearly half of this group was still in the process of vocational training at the time of the study (47%, n=313). About one in four of the respondents (26%) was still completing his or her schooling, some 14% were students. 11% of the participants could be classed under *"other"* in the category of *"current occupation"*; they are made up principally of those doing military service or community service instead of military service.

Although 142 people (8.6%) were unemployed at the time of the survey, it has to be noted that the techno-party sample is chiefly represented by socially integrated, inconspicuous people. Hurrelmann (1995) reported a similar sample composition, which, however, referred exclusively to users of party drugs.

At 56%, the proportion of respondents who were still living at home was high, as would be expected given the average age of the sample.

It should be noted, in summary, that no social anomalies were found with respect to the socio-demographic data described here for the population studied (participants at techno parties). About one in five of the respondents (21%) lived alone, while 11% lived in shared accommodation and a good 9% were living with a partner.

Results

Prevalence of drug use in the techno-party scene

A review can be found below of the prevalence of the use of various substances, so as to obtain an impression of the drugs experience and current drug use of the persons surveyed (Table 5). According to these data, some two-thirds of those attending techno parties had experience with cannabis, just under half of them had used ecstasy and amphetamines (speed), and about one-third had taken hallucinogens or cocaine at least once in their lives. 5.6% of the respondents reported having had experience of opiates.

A similar order is seen with respect to current use (annual and monthly prevalence) of the various substances: all three prevalence figures are highest for cannabis, followed by ecstasy and speed, hallucinogens, cocaine and opiates. Almost every second participant in the study had taken cannabis within the previous 30 days, one in three had taken ecstasy, one in four speed and as many as 17.6% and 14.6% of the respondents reported current use of hallucinogens and cocaine, respectively.

Lifetime, annual and monthly prevalence of illegal drug use

	Lifetime	Annual	Monthly
Cannabis	68.6	61.9	48.5
Ecstasy	49.1	46.0	35.4
Speed	44.4	39.6	27.6
Hallucinogens	37.0	32.9	17.6
Cocaine	30.7	26.4	14.6
Opiates	5.6	3.5	1.7

Data in per cent

Tab. 5

Comparison with a representative survey

In order to check whether the drug use behaviour in the techno-party scene differs from that of the rest of the population, the lifetime, annual and monthly prevalence figures for this sample with respect to the illegal drugs cannabis, ecstasy, hallucinogens, cocaine and opiates, need to be compared with the data from a current representative survey (Herbst, Kraus & Scherer, 1996). However, since this survey covers an adult sample (18 to 59 years), the group of under 18-year-olds could not be included in the comparison. People aged over 30 years were also ignored in the data set for this study because the present sample is principally represented by younger participants. A comparison of only 78 people in the age group of those over 30 in this sample with the representative sample did not appear useful. Only the old Länder of the Federal Republic of Germany were used for comparison, in order to achieve a better overview.

Consideration of the results compiled in the tables below (Tables 6 and 7) shows that the people from the techno scene have a generally higher affinity for drugs than the average population. The prevalence rates for all substances – with the exception of opiates (in the younger age groups) – are substantially higher in the "techno sample".

While the lifetime prevalence of cannabis use in the total population is between 23% and 26%, between 51% and 75% of the 18 to 29-year-old techno adherents have had experience with cannabis. The differences with respect to the lifetime prevalence of ecstasy use are equally marked. Here, 26% to 61% of those questioned in the techno study had experience of drug use, but only between 3% and 7% of the representative sample.

Comparison of the lifetime prevalence of drug use – Techno study sample vs. representative sample*

Age groups	18–20		21–24		25–29	
	Representative survey	Techno study (n=570)	Representative survey	Techno study (n=418)	Representative survey	Techno study (n=203)
Cannabis	22.6	51.2	26.3	66.4	24.4	74.6
Ecstasy	6.9	26.3	5.7	47.7	3.1	60.9
Speed	7.1	25.7	6.5	42.4	4.4	54.4
Hallucinogens	4.5	15.9	2.5	33.9	2.7	46.5
Cocaine	4.0	11.2	5.1	23.1	4.8	41.9
Opiates	3.5	2.2	5.0	4.8	3.4	7.5

* Herbst, Kraus & Scherer, 1996

Data in per cent

Table 6

On closer consideration of the age groups, it becomes clear for both samples that ecstasy is one of the most frequently used drugs among the 18 to 24-year-olds: in the techno sample, it has the second highest lifetime prevalence after cannabis, while it comes in third place after cannabis and speed in the representative survey. Among the 25 to 29-year-olds in our techno sample, ecstasy again takes second place, whereas it drops to fifth place in this age group in the representative sample.

An additional fact must be noted with respect to current drug use (monthly prevalence): *Whereas the proportion of current drug users decreases with age in the average population, an increase in prevalence rates (with the exception of opiates) can be seen in the techno group studied here* (Table 7).

Comparison of the monthly prevalence of drug use – Techno study sample vs. representative sample*

Age groups	18–20		21–24		25–29	
	Representative survey	Techno study (n=569)	Representative survey	Techno study (n=419)	Representative survey	Techno study (n=204)
Cannabis	11.9	38.4	9.3	44.9	7.0	55.0
Ecstasy	3.3	20.3	2.7	36.5	0.8	38.9
Speed	1.5	15.1	1.1	27.8	0.9	30.3
Hallucinogens	1.7	7.1	0.5	18.8	0.2	19.8
Cocaine	0.3	4.8	1.8	12.0	0.9	17.4
Opiates	1.2	1.2	0.5	1.1	0.4	1.0

* Herbst, Kraus & Scherer, 1996

Data in per cent

Table 7

According to current research the increased use of party drugs within the techno scene is linked to their specific pattern of action, which is particularly attractive in a party context. The effects of using drugs, such as ecstasy, speed, hallucinogens and cocaine, involve experiencing strong feelings of happiness, intensification of the experience of sexuality, a major urge to move about and dance, as well as greater ease of communication (Rabes, 1995).

It can also be noted that in the sample studied here, comparatively low prevalence rates were recorded for opiates in comparison with the other illegal substances; thus opiates will go largely unmentioned in the description of drug use patterns below, for reasons of clarity. Hurrelmann (1995) described a turn in the trend of drug use behaviour among young people, noting a shift from "downers" to party drugs. According to the results available here, it is likely that this shift would be far more clearly seen in the techno-party scene than in representative samples of the general population.

Drug use patterns in the techno-party scene

When assessing of the risks of drug use, it is not only important to know which substances are used, but also necessary to know the pattern of drug use. Scientific investigation of patterns of drug use has been the subject of many research papers (e.g. Braucht, Kirby & Berry, 1978; Smith, Koob & Wirtz, 1985; Wilkinson, Leigh, Cordingley, Martin & Lei, 1987; Kleiber, Soellner & Tossmann, 1996), with different parameters being used in each case. The yardsticks *"frequency of use"* and *"number of substances currently used"* were used for the analysis of drug use in the techno-party scene.

Frequency of use
Current use was initially surveyed with respect to the number of days on which drugs were taken within the previous month. The number of days was compiled in categories for greater clarity:

– No drug use,
– Drug use on 1 to 4 days,
– Drug use on 5 to 14 days,
– Drug use on 15 to 24 days,
– (Almost) daily use.

Legal and pharmaceutical substances
The picture which emerged for legal drugs was not unexpected (Table 8): some 20% of the respondents attending techno events drank alcohol at least every other day, while 16.6% of this group reported having taken no alcoholic drink within the previous 30 days. *This means that the frequency of use of this study population is likely to be slightly lower on average than that of a representative sample of the general population* (cf. BMG, 1991).

Frequency of use of legal and pharmaceutical substances in the previous month (n=1674)

Use	No use	On 1–4 days	On 5–14 days	On 15–24 days	(Almost) daily
Alcohol	16.6	28.6	34.6	14.0	6.2
Cigarettes	27.9	4.3	6.4	3.8	57.7
Analgesics	86.8	8.1	4.1	0.2	0.7
Sleeping tablets	96.0	3.2	0.7	0.1	0.1
Tranquillisers	96.0	2.6	1.2	0.1	0.2

Data in per cent

Table 8

The situation is reversed with respect to tobacco use. While the last representative drug affinity study carried out by the FCHE (1994) found a figure of 26% for constant smokers, 57.7% of the adolescents and young adults questioned here reported smoking (almost) daily. Some 3% of those questioned reach for tranquillisers or sleeping tablets up to once a week, only a few people taking these substances more frequently. Analgesics were taken once a week by a good 8% of the sample, and on between 5 and 14 days a month by 4%.

Illegal substances
Generally, more than half the sample (51.8–98.7%) reported no use of any of the illegal drugs in the previous month (Table 9).

Frequency of use of illegal substances in the previous month (n=1674)

Use	No use	On 1–4 days	On 5–14 days	On 15–24 days	(Almost) daily
Cannabis	51.8	14.1	11.5	8.3	14.4
Ecstasy	64.8	20.2	12.4	2.2	0.4
Speed	72.7	15.6	9.4	2.0	0.3
Hallucinogens	82.6	13.1	3.7	0.5	0.1
Cocaine	85.5	11.2	2.3	0.9	0.1
Opiates	98.7	0.7	0.4	0.1	0.1

Data in per cent

Table 9

Contrary to an opinion often put forward by the media on drug use in the techno scene, it is not ecstasy, but cannabis which is the most frequently used illegal substance. Just under a quarter of the techno audience studied used cannabis at least every other day; 14.4% of those questioned actually used it daily. Ecstasy and speed, on the other hand, were used up to once a week by the majority of the participants. It is possible that these substances are used only at weekends or on those days on which techno events are attended. Cocaine and hallucinogens were used by 14.5% and 17.4% of people questioned, respectively, but, on average, less often than substances such as ecstasy and speed.

Gender-specific differences

Finally, the question had to be answered as to whether there were *gender-specific differences* in the frequency of use over the previous month. The data for the illegal drugs cannabis, ecstasy, speed, hallucinogens, cocaine and opiates were compared using Kruskal-Wallis analyses of variance.

- For cannabis, it was found that men had used this drug significantly more frequently in the previous month than women ($chi^2=23.94$, df=1; $p < .0000$).
- Similarly, the frequencies of use for hallucinogens were significantly higher for the men than for the women ($chi^2=19.99$, df=1; $p < .0000$).
- No significant differences could be found for the use of the party drugs ecstasy, speed and cocaine.

Number of drugs used

The results for the frequency of use of illegal substances shown in the overview above (Table 9) suggest the assumption that different patterns of drug use can be determined. It is conceivable, for instance, that the techno-party audiences include adolescents and young adults who use no illegal drugs and others who are currently using several substances. The number of illegal drugs used in the previous month was calculated in order to check this.

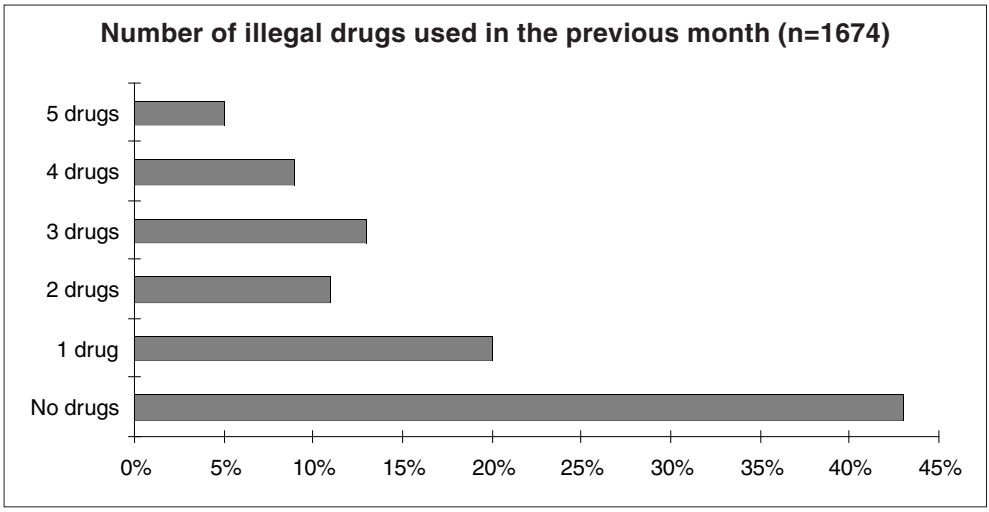

Fig. 1

According to the diagram, 43% or just under half of the sample (n=1674) had taken no illegal drugs in the thirty days prior to the survey. 20% of the participants reported having used one illegal drug, 11% two, 13% three and 9% four drugs. 5% of the people questioned had used five drugs in the previous month (see Fig. 1). This means that *more than one-third of the techno audience questioned was currently using at least two illegal drugs*.

Drug combination pattern

People who had taken illegal drugs in the previous month were studied in more detail in view of the range of existing drug use patterns. This involves a sub-sample of n=901 or a proportion of 57% of the total sample. It should first be noted that a large section of the users (28%) used only cannabis (cf. Table 10). A further 4% (n=37) of those questioned reported using only ecstasy, leading to the assumption that some two-thirds of all drug users in the techno-party scene currently use several substances. Whether multiple drug use is involved here, i.e. the simultaneous use of different substances, or whether these substances were taken at different times within the previous month, cannot be clarified entirely here.

The most widespread drug combination patterns are cannabis – ecstasy – speed (n=86) and cannabis – ecstasy – speed – hallucinogens (n=72).

Ranking of the most frequently mentioned drug combination patterns (n=901)*

		%**	n
1.	Cannabis	28	251
2.	Cannabis – ecstasy – speed	10	86
3.	Cannabis – ecstasy – speed – hallucinogens	8	72
4.	Cannabis – ecstasy – speed – hallucinogens – cocaine	8	68
5.	Cannabis – ecstasy	7	66
6.	Cannabis – ecstasy – speed – cocaine	5	48
7.	Ecstasy – speed	5	41
8.	Ecstasy	4	37
9.	Cannabis – ecstasy – hallucinogens	4	33
10.	Ecstasy – speed – hallucinogens	2	19

* Ranking of the ten most frequent combinations (81% of all users)
** Proportion of the sample of drug users

Table 10

In summary, it must be stressed again here that, according to these findings, the exclusive use (single-substance use) of ecstasy in the techno-party scene is generally almost non-existent. Anyone using ecstasy quite obviously has an affinity to speed, which might suggest that the use of entactogens during party situations appears to be particularly attractive in combination with stimulants.

Target groups for drug prevention measures

On the basis of the results of this study, it must be assumed that drug affinity among young people in the techno-party scene is comparatively high, suggesting that specific, scene-oriented preventive measures should be developed (cf. Tossmann & Regitz, 1997). However, the effectiveness of preventive measures is likely to be largely dependent on whether individual target groups can be successfully distinguished and reached with specific intervention strategies. In a consideration of techno-party audiences, the first distinction which can be made is between *abstainers* and *drug users*.

Target group for primary prevention measures

People attending techno parties and not using drugs should be regarded as the target group for primary prevention measures, where the central aim of interventions here might be stabilisation of the abstinence from drugs (in an environment of high drug affinity). In this context, a programme carried out by the Caritasverband association in Munich ("MIND ZONE", cf. paper 6.1.) should be mentioned, which, according to a scientific evaluation (Künzel, Kröger, Bühringer, Tauscher & Walden, 1997; cf. paper 6.2.), was widely accepted within the party scene.

Target group for secondary prevention measures

Determining target groups for secondary prevention measures is likely to be far more difficult, particularly since, as was shown above (cf. section on drug use patterns), techno-party audiences constitute an extremely heterogeneous group as regards their patterns of drug use. Although the techno-party scene is distinctive for a comparatively high prevalence of multiple drug use (cf. Table 10), there is some evidence to suggest that ecstasy use should be made the focus of preventive measures: ecstasy is associated with the techno scene and techno parties more than any other substance (Lyttle & Montagne, 1992; Krollpfeiffer, 1995; Spohr 1995). In this connection, the music journalist and techno culture expert, Patrick Walder, describes ecstasy as "the raver's favourite toy" (Walder, 1995, p. 192). A confirmation of the relatively dominant significance of ecstasy can be seen from the overview above (Table 10). According to this, ecstasy is the illegal substance which is embedded more frequently than any other drug in a pattern of multiple drug use.

In the meantime, a few empirical papers have been published relating to ecstasy use (Ayer, Gmel & Schmid, 1997; Rakete & Flüsmeier, 1997; Tossmann, 1997), according to which ecstasy users can be differentiated on the basis of their patterns of use. Thus, Ayer et al. conclude on the basis of their Swiss data that about one in three of the ecstasy users studied exhibits ecstasy abuse as defined by internationally applicable criteria (American Psychiatric Association, 1994) (Ayer, Gmel & Schmid, 1997, p. 188). According to the results of the Hamburg study (Rakete & Flüsmeier, 1997; cf. also paper 4.1.), specific drug dependence can even be seen in some ecstasy users in accordance with the clinical-diagnostic guidelines of ICD 10 (Dilling, Mombour & Schmidt, 1993). The prevalence of ecstasy dependence appears to increase with the number of tablets taken.

Target group description

The following target group description makes a distinction between occasional and habitual users of ecstasy for two reasons. On the one hand, according to Prochaska and DiClemente's transactional model, it must be assumed that substance users will alter their assessment of their own drug use in different phases of that use (Prochaska & DiClemente, 1986). Thus, it is conceivable that new users of ecstasy have a quite different assessment of both their use of the drug and the question of stopping use than users with many years of experience with drugs. On the other hand, in accordance with the knowledge available to date with respect to the risks of drug use, it must be assumed that the occurrence of psychosocial problem stresses is linked to the pattern of drug use.

Occasional use was defined as a maximum of five uses over the previous twelve months and a maximum of one use of ecstasy in the previous month. Users were assigned to the group of *habitual users* if ecstasy had been taken more than twenty times in the previous year and on at least five days in the previous month. Even though the yardstick of frequency of use (e.g. on five days in the previous month) does not, strictly speaking, provide

information as to the regular nature of use, an assumption of fairly stable drug use behaviour at a comparatively high level can be made, particularly if the frequency of use over the previous year (> 20 times) is taken into account. The group of non-users of drugs has had no illegal drug use – referred to the whole lifetime.

On the basis of these criteria, the total sample (n=1674) can be classified as including n=431 people (25.7%) as abstainers (non-users), n=204 (12.2%) as occasional users and n=209 or 12.4% of the people studied as habitual users of ecstasy.

Socio-demographic characteristics of the target groups

Age: As can be seen from the next overview (Table 11), the target group of non-users of drugs, with an average age of 19 years, is some three years younger than the group of ecstasy users, as would be expected. This means that the very young techno audience, in particular, can be considered as a target group for primary prevention measures.

Gender: There is a slightly higher percentage of women in the group of non-users than in the group of ecstasy users.

Occupation: Corresponding to the younger age involved, the proportion of school pupils in the group without experience of drugs is 40%, while only 18% of the occasional users and 9% of the habitual users of ecstasy were still at school. In contrast, 53% of the habitual users and 44% of the occasional users, but only 33% of the non-users, state that they are in employment. Habitual users of ecstasy seem to be slightly more frequently affected by unemployment than occasional users, with figures of 14% and 11%, respectively.

Socio-demographic characteristics of the target groups

		Non-users (n=431)	**Occasional users of ecstasy** (n=204)	**Habitual users of ecstasy** (n=209)
Age (M)		19	22	22
Gender (%)	Women	37	34	33
Occupation (%)	At school	40	18	9
	Student	12	19	9
	Employed	33	44	53
	Unemployed	4	11	14
	Other	11	8	15
School education (%)	Dropped out	4	9	10
	Cert. of sec. ed.	11	12	17
	"O" level equivalent	35	37	45
	"A" level equivalent	50	42	28

Table 11

Education: With respect to school education, the differences between occasional users and habitual users are clearly greater than between the group of non-users and occasional users: while half of all the non-users and 42% of the occasional users had passed the equivalent of "A" levels or were currently attending a grammar school, only 28% of the habitual users reported this level of education. Rather almost every other habitual user (45%) had left school with the equivalent of "O" levels.
In overall terms, occasional users of ecstasy would appear to have a higher level of education in comparison with the habitual users of the same age, and this can also be seen from the higher proportion of students in the group of occasional users. Nonetheless, it should be borne in mind that, even among the group of young people studied with a comparatively "hard" pattern of ecstasy use, the majority exhibited no anomalies with respect to socio-demographic characteristics.

"Scene"-related characteristics of the target groups

Some interesting data emerge with respect to the question of the extent to which the individual target groups for drugs prevention measures are integrated into the techno-party scene: the group of drug abstainers regards itself as having belonged to the techno scene for an average of 2.5 years, whereas those with experience of ecstasy have a mean period of association with the scene of some 3 years (Table 12). It is interesting to note that occasional users consider that they have been part of the techno scene for longer than the habitual ecstasy users, which might suggest that the duration of association has no influence on the development of specific patterns of use. As regards social involvement with the "scene", highly significant differences can be seen between the habitual users, on the one hand, and the occasional users and non-users, on the other: 59% of all habitual ecstasy users consider at least two-thirds of their personal friends as techno scene adherents, whereas this is the case for only 19% and 15% of the reference groups, respectively.

"Scene"-related characteristics of the target groups

	Non-users (n=431)	**Occasional ecstasy users** (n=204)	**Habitual ecstasy users** (n=209)
Association with the techno scene (in years; M)	2.5	3.2	2.9
Social involvement at least 2/3 of personal friends belong to techno scene (%)	15	19	59
Frequency of going out Going to techno parties at least once a week (%)	42	63	96
Time spent out usually at least 12 hours (%)	28	41	79

Table 12

On the basis of these data, the comparatively high level of involvement of habitual users with the scene can also be seen here at the behavioural level. Almost all habitual users (96%) state that they go to techno parties at least once a week, and 79% of this group then spend at least twelve hours at the party, as a rule. At 63% and 41%, respectively, the proportion of occasional users with this type of "party behaviour" is markedly lower. It is interesting to note that just under half (42%) of all non-users also report going to techno parties at least once a week. This can be interpreted as evidence of the fact that the attractiveness of techno parties is independent of drug use experiences. *However, in overall terms, a picture emerges according to which habitual users are integrated to a high degree in personal networks and activities of the techno scene*. The majority of the two reference groups, on the other hand, would appear to be fairly loosely connected to the techno-party scene.

Recruitment locations for scene-oriented preventive measures

In planning scene-oriented preventive measures, it may be assumed that it is important to ask at which specific techno events the target groups described here can most likely be approached or reached. If the relative presence of the individual target groups is referred to the recruitment location (see Fig. 2) for this purpose, it can be seen that principally young people who were not using drugs could be reached both via the Internet recruitment site and at large-scale techno events (*raves*) (61% and 60%).

Even if no conclusions can be drawn about the (actual) prevalence of drugs in individual "sub-scenes" on the basis of these data, because of the effects of selection, it can none-

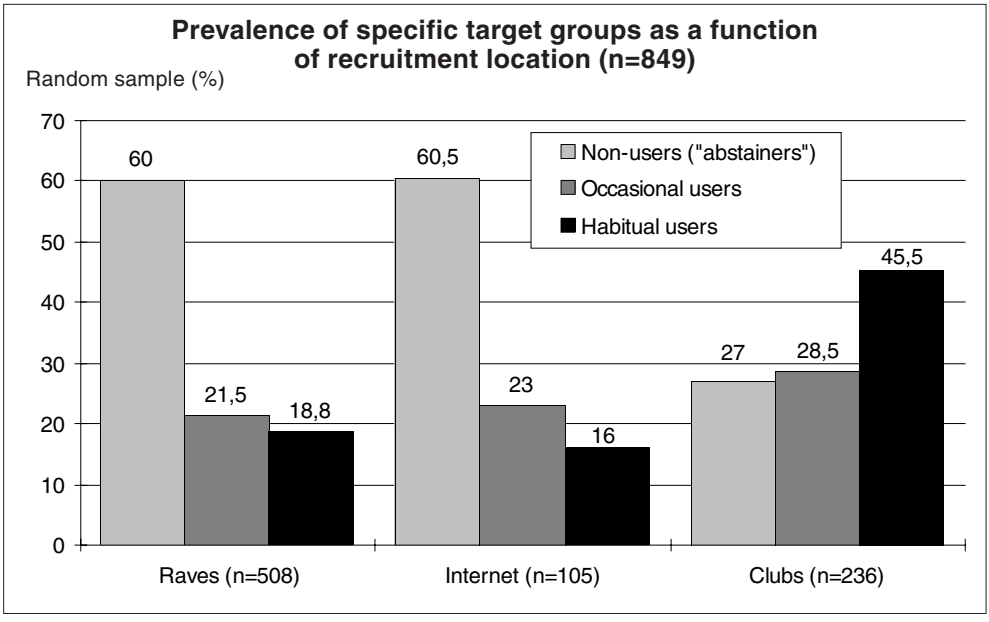

Fig. 2

theless be assumed that *techno raves* would be particularly suitable for *primary prevention interventions.* In contrast, techno clubs yielded a majority of drug users for the study. 28% of the interviewees in clubs can be classified as occasional users of ecstasy according to the classification system undertaken above and a further 46% as habitual users.

Assessments by scene experts (club operators, disc jockeys, etc.) also estimate the proportion of drug users in techno clubs as comparatively high, and, according to those who know about the scene, there is a specific need for prevention here (Tossmann & Heckmann, 1997). In this context, measures which could be carried out in close cooperation with the organisers of techno parties and club operators would be conceivable (Tossmann & Regitz, 1997).

Characteristics of the target groups in relation to drug use

A description will be given below of how the three target groups for potential scene-related prevention measures differ with respect to their use of cigarettes, alcohol and illegal substances. When the overview of monthly prevalence of substance use (see Table 13) is considered, the first thing that should be noted is the relatively *high proportion of smokers among ecstasy users:* 83% of the occasional users and 91% of the habitual users, but only 40% of those young people with no experience of drugs, report having smoked in the previous month. This corresponds to the results of a large number of empirical studies (Seffrin & Seehafer, 1976; Kandel, 1984; Fleming, Leventhal, Glynn & Ershler, 1989; Kleiber, Soellner & Tossmann, 1996), according to which drug users exhibit comparatively higher prevalence rates for cigarette use.

Characteristics of the target groups in relation to drug use

		Non-users (n=431)	Occasional ecstasy users (n=204)	Habitual ecstasy users (n=209)
Use in the previous month	Cigarettes	40	83	91
	Alcohol	82	88	78
	Cannabis	–	62	89
	Ecstasy	–	23	100
	Speed	–	22	82
	Hallucinogens	–	14	50
	Cocaine	–	13	47
	Opiates	–	0	3
Daily use	Cigarettes	26	61	85
	Alcohol	4	7	9
	Cannabis	–	17	31

Data in per cent

Table 13

As regards the *prevalence of alcohol use*, a similar figure of between 78% and 88% is found for all three groups, the proportion of young people who do not use alcohol is greatest in the group of habitual users at 22%.

Some quite major differences can be seen between occasional and habitual ecstasy users in terms of the monthly prevalence of illegal drug use. This applies, in particular, to the use of speed, hallucinogens and cocaine. 82% of all the habitual users had used speed in the previous month, 50% had used hallucinogens and 47% cocaine. In contrast, among occasional users, this type of use behaviour was seen "only" in less than one in four people. Not only is the use of cannabis in the group of habitual users far more likely (with a prevalence of 89%) than among occasional users (62%) but also the proportion of young people using cannabis daily is also almost twice as high as in the group of occasional ecstasy users (31% as compared to 17%).

The results found here permit the conclusion to be drawn that frequent ecstasy use may be seen as an indicator of multiple drug use behaviour. Someone using ecstasy regularly is highly likely also to be using speed, hallucinogens or cocaine. In this context, it would seem reasonable to supplement research papers on the substance-related risks of ecstasy use with cross-sectional scientific studies which would produce knowledge about the development of this type of drug use pattern over time.

4.3. Representative Survey of Members of the Techno Scene in Bavaria. Drug Use, Risk Awareness and Recreational Behaviour

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A survey of people attending techno events in Bavaria was designed to record information relating to specific modes of behaviour, particularly with respect to drug use, attitudes and circumstances among this group of people.

Methodological procedure

Data acquisition

The data were recorded in face-to-face interviews lasting about 15 to 20 minutes, at techno events themselves, using a standardised questionnaire. The questionnaire recorded information on the following subject areas: drug experience, risk awareness/precautionary measures with respect to attending techno events, recreational behaviour, circle of friends, health, attitude to prevention activities at techno events, and relevant sociodemographic data.

The questionnaire was developed in coordination with the questionnaires of the other two studies carried out on behalf of the FCHE on the subject of ecstasy (cf. papers 4.1. and 4.2.), so as to ensure comparability and joint discussion of the results.

Selection of interviewees

In order to increase the validity of the statements for the basic population of those attending techno events, a representative selection of persons attending such events in Bavaria was to be studied. However, the prerequisite for the representative nature of a sample is that the size and typical characteristics of the basic population are known – a prerequisite which is not met in the techno scene. The sample was drawn solely at the techno events. Furthermore, attempts were made to improve the preconditions for obtaining a representative sample by specific selection of the events and randomisation (chance selection) of the interviewees at the events.

The following randomisation rules were set up for the selection of interviewees at the individual events:

– The volunteers had to be approached at the time of arrival at the event. About every 30 minutes, every third person passing a defined point in the entrance area of the event location was approached by the interviewers.

– The timing of the interviewers had to be staggered in such a way that surveying could be guaranteed over more or less the entire duration of the event.
– If the individuals approached refused to take part in the interview, the same approach procedure was repeated a few minutes later.

Time and location of the survey
The survey was carried out in the period from March to July 1997 at a total of twelve techno events in large, medium and small towns in Bavaria (Munich, Nuremberg, Augsburg, Regensburg, Passau and Kempten). The events included *ten evening events*, *one afternoon event ("raving afternoon")* and *one "after-hours event"* (starting at about 6.00 a.m.). The average survey period per event was six hours.

Interviewers
Ten interviewers sympathetic to the techno scene each a maximum age of 30 years old were trained for the surveys. Between three and five interviewers were used at each event. The correctness of the sampling and of the carrying out of the interviews was ensured by an interviewer supervisor, who made sure that the interviewees were approached according to the sampling schedule, at the right times and in the right places, and that the interviews were carried out correctly and completely. In addition, the supervisor served as an on-site contact for the organisers and interviewees.

Results

The total number of valid interviews was 447. The rate of refusals was 17% (n=94). 85% of those interviewed were immediately prepared to be interviewed, while a little persuasion was necessary in 14% of the cases; although 0.4% were extremely reluctant, they were still willing to be asked the questions. Two interviews were discontinued (0.4%). The high degree of willingness to be interviewed and the near-absence of interrupted interviews is doubtless partly a result of the fact that the "scene" is generally characterised by a high degree of openness, but was also strengthened by the fact that the interviewees were "rewarded" for the interview, in the form of either a phone card or a drinks voucher worth six Deutschmarks. 62% of the interviews were carried out in Munich, the other 38% at events elsewhere in Bavaria.

Socio-demographic characteristics of the sample

– 55.3% of the total of 447 interviewees were men.
– The age range was between 14 and 37 years.
– 85% of those participating in the study were 18 years or over. The small number of younger participants can be explained by the type of events selected. About half of the under-eighteen's were attending the afternoon events. Because of the low number of

daytime events in comparison with evening events, only one of these *"raving afternoons"* was selected for the survey.

- The women in the sample were slightly younger than the men; 84% of the women were under 22 years old, which was the case for only 68% of the men. The average age of the women was lower than that of the men, at 19.3 years as compared to 20.9 years.
- 90% of those interviewed were German nationals.
- The majority of those questioned (49.1%) had fairly high school-leaving qualifications, such as "O" level equivalent or "A" level equivalent. 5% had left school with no qualifications.
- 59% of the participants in the study were, at the time of the interview, still involved in school, university or vocational education or training. 30% were employed or self-employed. 4% of those interviewed were unemployed and 4% were currently doing military service or community service in lieu of military service.
- The large majority of the interviewees (67%) lived with their parents. This may be explained by the fact that the majority of the interviewees were still fairly young and, for the most part, still completing their education.

Prevalences of drug use

Table 1 provides an overview of the lifetime prevalences and prevalences over the previous twelve months for the legal and illegal drugs dealt with in the questionnaire.

Lifetime and 12-month prevalences of various psychotropic substances (n=447)

	Lifetime		12 months	
Substance	**n**	**%**	**n**	**%**
Alcohol	443	99.3	421	94.6
Tobacco	410	91.7	376	84.5
Cannabis	354	79.2	304	68.5
Ecstasy	243	54.6	200	45.1
Amphetamines	216	48.5	169	38.1
LSD	190	42.8	138	31.1
Cocaine	164	36.9	131	29.6
Tranquillisers	65	14.6	37	8.3
Opiates	38	8.5	20	4.5

Table 1

Almost all those questioned had experience with alcohol, 92% had smoked cigarettes at some time in their lives and 85% were current smokers. The lifetime prevalence for cannabis was 79% and the prevalence over the previous twelve months was 69%. Over half of the sample had already had experience with ecstasy, 45% had used it within the previous twelve months.

The women had slightly lower prevalence figures than the men. The figures differed by about one to three percentage points. The women had more experience than the men with respect to tobacco and tranquillisers.

Even the very young techno partygoers had a high lifetime prevalence in the area of legal and illegal drugs. Over two-thirds of the interviewees under 18 years old had already used cannabis, over half had used ecstasy, 42% had experience with amphetamines and 19% with cocaine.

The twelve-month prevalence rates show that the oldest group in the sample used alcohol, tobacco, cannabis and tranquillisers less frequently than the younger interviewees (Table 2). Ecstasy was used particularly by the under-eighteen's, while cocaine tended to be used more by the older participants (over 22 years old). However, in overall terms, no major differences in prevalence rates could be seen between the individual age groups.

12-month prevalences of various psychotropic substances and age (n=447)

Substance	< 18 years	18–21 years	22–25 years	> 25 years	Total
Alcohol	95.5	93.2	98.8	93.1	94.6
Tobacco	86.6	83.3	89.2	72.4	84.5
Cannabis	68.7	70.9	63.9	58.6	68.5
Ecstasy	52.2	43.4	45.1	44.8	45.1
Amphetamines	38.8	37.7	37.3	41.4	38.1
LSD	29.9	32.0	28.9	32.1	31.1
Cocaine	17.9	29.1	38.6	35.7	29.6
Tranquillisers	7.5	10.2	4.9	3.4	8.3
Opiates	2.9	5.3	2,4	6.9	4.5

Data in per cent

Table 2

There is a link between the frequency of attendance at techno events and the use of illegal drugs (cf. Table 3). Those interviewees who attended techno parties fairly often always had higher lifetime prevalences for the illegal drugs than those who tended to attend these events more rarely. These differences are least marked with respect to the use of alcohol, tobacco, tranquillisers and opiates.

12-month prevalences of various psychotropic substances and attendance at techno events (n=445)

	Attendance at techno events is:		
Substance	**Rare/Fairly rare**	**Frequent/Very frequent**	**Total**
Alcohol	96.0	93.2	94.6
Tobacco	80.4	88.6	84.5
Cannabis	62.7	74.4	68.5
Ecstasy	33.9	56.6	45.1
Amphetamines	27.7	48.6	38.1
LSD	25.0	37.3	31.1
Cocaine	20.1	39.3	29.6
Tranquillisers	7.1	9.5	8.3
Opiates	4.5	4.5	4.5

Data in per cent

Table 3

Patterns of use

Of those individuals who, according to their own answers, had used illegal drugs in the previous twelve months, just under one-third had used only one substance, cannabis. The majority (69%) had used more than one drug, combinations with cannabis and ecstasy being the most frequent. 26% took at least five different drugs. Predominant among the multiple users were those who had taken five drugs or more over the previous twelve months (Table 4).

Number of illegal drugs used (12-month prevalence) (n=322)

Users of one drug	**31.1**
Cannabis	29.2
Ecstasy	1.2
Users of two drugs	**10.9**
Cannabis – Ecstasy	5.6
Users of three drugs	**15.5**
Cannabis – Ecstasy – Amphetamines	5.9
Cannabis – Ecstasy – LSD	2.8
Users of four drugs	**16.5**
Cannabis – Ecstasy – Amphetamines – LSD	9.0
Cannabis – Ecstasy – Amphetamines – Cocaine	4.7
Users of five or more drugs	**26.1**
Cannabis – Ecstasy – Amphetamines – LSD – Cocaine	20.5
Cannabis – Ecstasy – Amphetamines – LSD – Cocaine – Opiates	3.1

Data in per cent

Table 4

Frequency of use

In response to the question about the frequency of their use of psychotropic substances, the majority of interviewees felt that they were irregular users (Table 5). Tobacco was an exception, most tobacco users being very regular users. Cannabis was used very regularly by those who used it – to a far greater extent than alcohol or the other illegal substances. Cannabis, ecstasy and amphetamines, as well as alcohol, were used most regularly after tobacco.

Regular nature of use (according to the statements by the users)

Substance	Very regular	Fairly regular	Fairly irregular	Very irregular
Alcohol	9.1	22.1	35.3	33.4
Tobacco	72.4	15.7	5.1	6.8
Cannabis	19.8	14.9	28.1	37.2
Ecstasy	3.3	26.6	34.8	35.3
Amphetamines	6.3	28.7	32.2	32.9
LSD	4.9	8.2	30.3	56.6
Cocaine	5.0	10.9	21.0	63.0
Tranquillisers	3.3	20.0	13.3	63.3
Opiates	8.3	8.3	25.0	58.3

Data in per cent

Table 5

First use

The volunteers were asked about the age at which they had first used psychotropic substances. Alcohol and tobacco were first used at the age of about 13 years. Of the illegal drugs, the age of first use of cannabis was on average far lower than for the other substances. The start of use of ecstasy, LSD and amphetamines was most frequently at the age of 17 years. The very similar mean values here suggest that young people experiment with several different drugs at a time at this age. In contrast, cocaine and opiates were used for the first time an average of one year later, at about eighteen and a half.

Women start using drugs earlier. Clear gender-specific differences can be seen in the case of both the legal substances (alcohol, cigarettes and tranquillisers) and the illegal drugs.

A consideration of the average figures for the sequence of the first use of each substance shows that alcohol and cigarettes are used first. Although the mean age for first use of ecstasy is still behind that for amphetamines and LSD, it quite clearly takes fourth place in the sequence of first use, after cannabis. This shift may possibly be explained by the fact that ecstasy is a relatively "young" drug.

Use of ecstasy

45% of the participants in the study had taken ecstasy over the previous twelve months, to a similar extent in both genders. The proportion of ecstasy users was highest (52%) among the youngest age group (under 18 years).

A large proportion of ecstasy users also used other drugs. 72% of the ecstasy users stated that, at the techno events themselves, they used other drugs in addition to ecstasy. In 32% of these cases, the other drug was speed, in 21% cannabis, 18% alcohol, 12% cocaine, and 10% LSD. Most of ecstasy users take one or two ecstasy tablets at each event (34.2% each).

Willingness to try drugs

The willingness of the interviewees to try drugs was defined by the question *"What do you think about the use of the following drugs".*

Over 90% felt that it was "all right to use" the legal drugs, alcohol and tobacco. 84% felt the same about cannabis. Willingness to try ecstasy was 46%, and thus well behind in fourth place.

Women had a slightly higher willingness to try alcohol, tobacco and cannabis. In the case of the other illegal drugs, more men than women felt that there was no problem in using them.

The willingness to try alcohol was about 100% for all the age groups; with respect to tobacco it decreased slightly with increasing age. The willingness to try cannabis was similar to that for tobacco, at least from the age of 22 years. For all other illegal drugs, there was also an increase in willingness to try them with increasing age.

Knowledge about ecstasy

88% of the sample felt fairly well or very well informed about ecstasy and its effects. Among ecstasy users, in particular, over 90% considered that they were fairly well or very well informed.

Sources of information

The interviewees obtained information about ecstasy and its modes of action primarily from personal discussions with friends and acquaintances (69%). However, the mass media, such as radio, television and magazines, were also used as sources of information by more than 60% of those questioned. For 51% of those interviewed, their own experiences with ecstasy were decisive and 37% reported having read specialist literature. The profes-

sional educational channels, such as information leaflets (25%) and educational campaigns (17%) tended to be used more rarely as sources of information.

Assessment of the sources of information

The interviewees' own experiences were rated as the most reliable. However, specialist literature and information obtained from friends and acquaintances, as well as official information brochures, were also regarded as being very reliable. Educational campaigns tended to be less well regarded in terms of their credibility. Teachers and parents were considered to be the least credible.

Estimation of the risk of drug use

By far the lowest risk of physical damage was ascribed to cannabis (Table 6). The drug posing the greatest risk of physical damage, in the opinion of the interviewees, was ecstasy. The risk was assessed as greater only in the case of opiates.

The assessment of the risk of mental damage resulting from the use of individual drugs is slightly lower in overall terms. Particularly in the case of alcohol and tobacco, far fewer of those questioned considered there to be a moderate to high risk than had been the case with respect to physical harm. For cannabis, the risk of mental damage was rated at a similarly low level to that of physical damage. Opiates were classed as posing the greatest risk of mental damage, followed by hallucinogens, such as LSD, and cocaine and ecstasy.

Estimation of the damage caused by drug use (n=447)

	Major risk of physical damage		Major risk of mental damage	
Substance	**Ranking**	**Total**	**Ranking**	**Total**
Opiates	1	88.1	1	86.1
Ecstasy	2	73.1	4	68.4
Amphetamines	3	69.4	5	55.8
Cocaine	4	69.1	3	70.9
LSD	5	67.6	2	80.3
Tranquillisers	6	55.2	6	53.4
Cigarettes	7	43.1	9	11.0
Alcohol	8	42.8	7	37.7
Cannabis	9	17.0	8	19.5

Data in per cent

Table 6

Discussion of the results and conclusions

It can be seen from the survey sample, made up of people attending techno events in Bavaria, that there are extremely high prevalence figures for all legal and illegal substances in comparison with the average for the Federal Republic of Germany (Herbst, Kraus & Scherer, 1996). This result of the study is also confirmed by the results of the Hamburg and Berlin studies (cf. papers 4.1. and 4.2.).

High-risk group
These results show that a high-risk group in terms of drug use can be reached at the techno events. This is therefore an important group and an important setting in which prevention should be undertaken.

Multiple use
Several drugs are used in the majority of cases. Use of only one illegal substance tends to be a fairly rare phenomenon. Rather, most drug users try several illegal substances. Preventive measures which also intend to provide information about drugs should therefore not be limited to the drug ecstasy. Multiple use in particular must be addressed.

Special position of cannabis
Cannabis holds a special position among the illegal drugs for those surveyed at the techno events. It is by far the most frequently used illegal drug in every age group. In the majority of cases, it is the first illegal substance to be tried. The average age of first use is under 16 years. The pattern of use of cannabis users is most closely comparable to the patterns of use for alcohol in this group.

There is a high level of willingness to use cannabis, the associated risks in this context being assessed as low. The possible physical or mental damage caused by cannabis is estimated as lower than that caused by legal substances.

Assessment of risk
The risk of sustaining physical damage from drugs is assessed differently for each drug. Many of the people at techno events consider that ecstasy has a high potential risk. Opiates and hallucinogens, in particular, are regarded as dangerous to mental health, but cocaine and ecstasy also fall into this category. In overall terms, the risks to mental health are considered lower than the risks of physical damage.
Clear differences can be seen between definite non-users and users. Those who do not use illegal substances consistently see a very high risk, whereas the other individuals assume lower risks.

Use behaviour
No differences worthy of note can be seen between the age groups in terms of use behaviour. What is interesting to note is that large numbers of even the very young participants

in the survey (under 18 years) use illegal drugs frequently. However, the under-18s have less experience of the use of LSD, cocaine and heroin than the older participants.
The gender-specific differences are minimal. The women used more of some drugs than the men. The age of first use was also lower among the women.

Knowledge
The results of the study show that the subjective degree of knowledge about the drug ecstasy is very high among those interviewed. Ecstasy users considered themselves to be slightly better informed even than non-users of ecstasy. The main source of information for ecstasy users was their own experience with the drug. Professional education channels, such as brochures and campaigns, played no significant part in obtaining information.

With respect to the question about the reliability of the individual sources, personal experience was considered to have the greatest validity. However, specialist literature, official information leaflets, and friends and acquaintances were also valued as sources of information. In contrast, teachers and parents were considered as having little credibility.

Prevention
The fact that the users are very well informed about the drug and that they assess the associated risk as high, throws up the question as to whether and to what extent successful prevention campaigns should provide information about the drugs. It would seem to be of little use to restrict these to information about the negative consequences of drug use. What would seem far more useful would be the idea of a normative approach, i.e. informing young people about the norms and attitudes prevalent among their peer group. The message communicated by peers in the MIND ZONE prevention project (cf. papers 6.1. and 6.2.), that it is possible to have fun even without taking drugs, may have an important part to play here. Information from outside sources was of little significance for the participants in this survey; on the other hand, however, information leaflets were regarded as being fairly reliable so that their use for preventive purposes should continue to be examined.

4.4. Increase in the Use of Ecstasy and Hallucinogens: Confirmation from the EDSP Study

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Introduction

Recent years have seen growing signs that the use of ecstasy and related substances continues to increase. The statistics of the Federal Office of Criminal Investigation report large increases in the quantities of consumer units of ecstasy seized. The results of a telephone survey by the IFT (1995) show a lifetime prevalence of 0.2% for 18 to 59-year-olds and Hurrelmann reports 0.8% users in the 12 to 17 age group in North Rhine-Westphalia (Hurrelmann, 1995).

Recent research approaches with respect to ecstasy have generally been carried out within the "scene" (see, inter alia, papers 4.1., 4.2. and 4.3.). They permit differentiation of patterns of use and psychosocial effects, but, in overall terms, it has to be said that too little information has been collected for representative, epidemiological research purposes. For instance, Thomasius (1997) complains of the lack of representative data for the 15 to 25-year-old age group of adolescents and young adults.

On the basis of a representative, prospectively designed epidemiological study of 3021 male and female volunteers aged between 14 and 24 years, the prevalence of use and abuse of and dependence on ecstasy was determined and the development of ecstasy use investigated.

Although they are limited to the Munich area, these data can be used to compensate in part for the information deficit mentioned as the following questions were pursued:

1. How frequent is the use of ecstasy and related substances, and of hallucinogens in 14 to 24-year-old adolescents and young adults?

2. How high is the prevalence of DSM IV abuse and dependence diagnoses with respect to ecstasy and related substances?

3. What is the rate of increase among 14 to 19-year-olds?

4. How has ecstasy use among adolescents and young adults developed between 1990 and 1997?

5. What are the primary motives for using these substances and what reasons induce people to stop using them?

Method

The data used here were collected in the course of the EDSP study (*Early Developmental Stages of Psychopathology Study*). This was a prospective, five-year epidemiological follow-up study (3 study waves) to determine the prevalence, risk factors, co-morbidity, early stages (the processes of starting drug use) and the progressive course of disorders caused by psychotropic substances in a representative sample of the population of 14 to 24-year-olds in Munich and the surrounding area.

Sample

A random sample of 14 to 24-year-olds was surveyed from the city and administrative district of Munich, drawn from the register of residents between December 1994 and spring 1995. 4236 volunteers were found using a random procedure and were included in the study.

First wave of the survey (T0, 1995)
A total of 3021 complete interviews were carried out, corresponding to a response rate of 71%. This reach is among the highest ever achieved in this type of study. In addition, incomplete or other clinical data are available for a further 81 subjects. Refusals were the most frequent reason for drop-out, at 18.2%, followed by "no time" (3.3%), no contact possible with a person in the target household (3.1%) and target person never encountered (3%). Analysis of the refusals yielded slightly higher rates of refusal among older people (>18) and among women. No systematic distortion of the representative nature of the sample is to be expected from these low drop-out figures.

Second wave of the survey (T1, 1996/97)
In a second wave of the survey, lasting from September 1996 to April 1997, all the young volunteers were studied, i.e. all those who had been between 14 and 17 years old at the time of the first survey (n=1395). The interviews carried out with 1228 young people correspond to a response rate of 90% for the second wave of the survey.

Survey instrument and case identification

All the study variables were obtained using an expanded version of the Munich Composite Diagnostic Interview (M-CIDI, Wittchen et al., 1995a), a modified version of the WHO-CIDI (Version 1.2, Wittchen & Semler, 1991). The M-CIDI allows:

– Structured and standardised recording of symptoms, syndromes and diagnoses of selected mental disorders in accordance with the criteria of ICD 10 (WHO, 1991) and DSM IV (APA, 1994).

– Assessment of the start, duration and course of the syndromes and of the clinical and psychosocial severity and resulting complications.
– Disorders caused by psychotropic substances are recorded by questions relating to frequency and amount of substance use, after introductory screening.
– Abuse and dependence are checked for each individual substance mentioned by the test subject.
– In addition, characteristics are recorded which relate to the situational, affective and cognitive circumstances of the situation of first use.

The reliability and procedural validity of the CIDI approach has been checked in various studies (Wittchen, 1994). Furthermore, the reliability and procedural validity of the M-CIDI has also been checked (Lachner et al., 1998). The computerised version (CAPI) of the M-CIDI was used so as to avoid the data input and fairly lengthy "cleaning" procedures, and to ensure more economical and efficient data management during the analysis phase.

The interviewers (of both genders) were ten clinical psychologists with clinical and M-CIDI experience, and 25 professional full-time interviewers from Infratest-Gesundheitsforschung with experience of health surveys, aged between 26 and 64 years. All the interviewers took part in a one-week M-CIDI training course at least once and were constantly supervised by clinical editors during the field work.

The results given in this paper referring to the abuse of and dependence on illegal substances were calculated using the M-CIDI DSM IV diagnostic algorithm.

Results

The results for the first wave of the survey (T0, 1995) will be presented in the first

1. How frequent is the use of ecstasy and related substances, and of hallucinogens, among 14 to 24-year-olds?

Figure 1 shows the 1995 lifetime prevalence findings with reference to ecstasy and hallucinogen use in 14 to 24-year-olds. All individuals were taken into account who had tried one of the substances listed at least once. Entries under the listed substances and substance groups are not mutually exclusive, i.e. it was possible to mention more than one substance or substance group. Furthermore, in the case of ecstasy, a distinction was made between two response patterns of the interviewees: (a) subjects for whom, on the basis of the individual's self-assessment, we were relatively sure that ecstasy might be involved, and (b) subjects who did not use the term ecstasy, but gave other names for stimulants, such as speed, poppers or amphetamines in general.

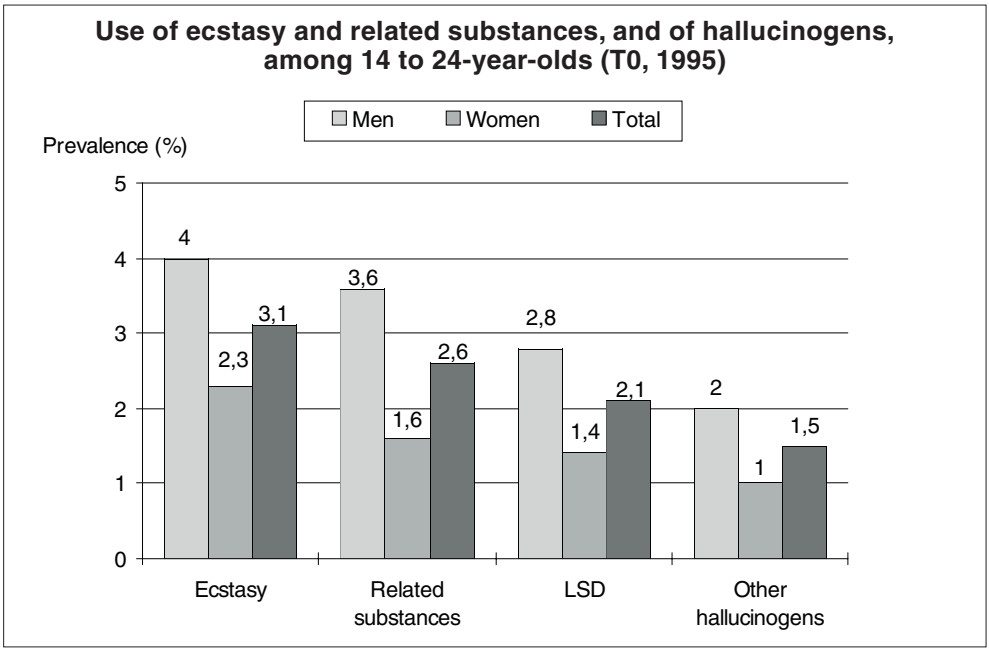
Use of ecstasy and related substances, and of hallucinogens, among 14 to 24-year-olds (T0, 1995)
Men
Women
Total
Prevalence (%)
5
4
3
2
1
0
4
2,3
3,1
3,6
1,6
2,6
2,8
1,4
2,1
2
1
1,5
Ecstasy
Related substances
LSD
Other hallucinogens

Fig. 1

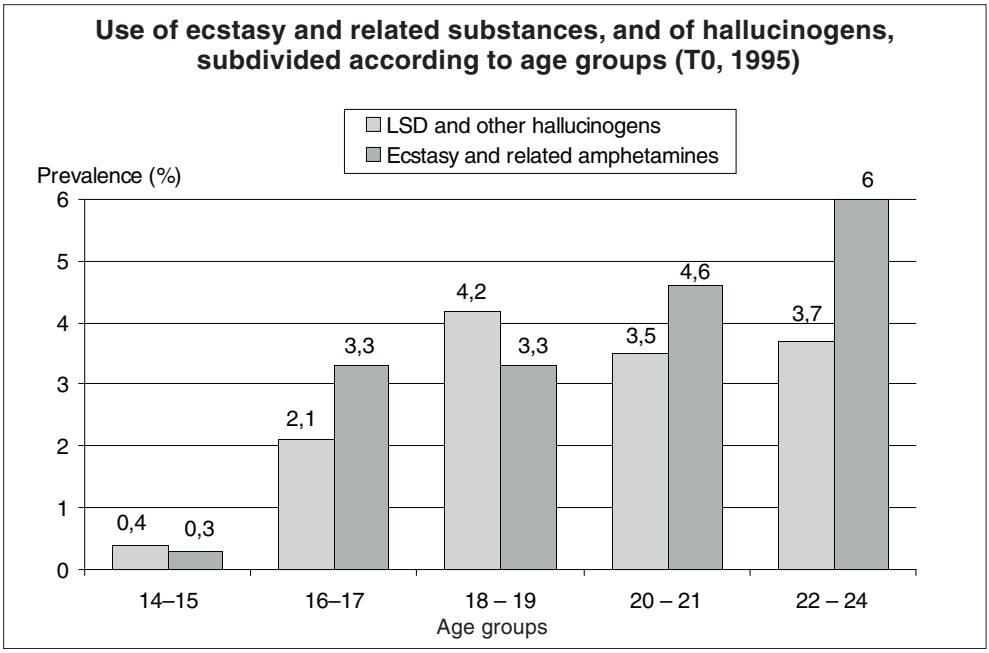
Use of ecstasy and related substances, and of hallucinogens, subdivided according to age groups (T0, 1995)
LSD and other hallucinogens
Ecstasy and related amphetamines
Prevalence (%)
6
5
4
3
2
1
0
0,4
0,3
2,1
3,3
4,2
3,3
3,5
4,6
3,7
6
14–15
16–17
18 – 19
20 – 21
22 – 24
Age groups

Fig. 2

The prevalence of use[1] of ecstasy in 1995 can be stated as 4% for men and 2.3% for women (age group 14–24 years). The prevalence of use for related substances is slightly lower at 3.6% (men) and 1.6% (women). LSD use is slightly lower again, at 2.8% (men) and 1.4% (women), while other hallucinogens were mentioned by a total of 1.5% of the respondents.

A breakdown according to age (cf. Fig. 2) shows that the figures for 14 and 15-year-olds are still low, at 0.4% and 0.3%, then increasing with age for ecstasy and other amphetamines in a relatively constant fashion up to the oldest age group (6% of 22 to 24-year-olds). This suggests that ecstasy is also tried for the first time in the higher age groups.

In the case of hallucinogens, a particular increase in numbers can be seen in the 18 to 19-year-old age group with a figure of 4.2%. This figure then drops and remains stable in the older age groups with a prevalence of use of 3.5% and 3.7%, respectively.

Frequency of use

In our investigation, we distinguished between *experimenters,* i.e. people who had tried the substance just once at the time of the survey, occasional users, who had taken the substance between two and four times, and regular users, who had used the substance five times or more. The age composition of our sample should be borne in mind in this context: the high proportion of 14 to 17-year-olds would lead to the expectation that a high proportion would still fall within the category of experimenters or the category of occasional users.

More precise questioning about frequency yields a typical pattern for ecstasy. Only a relatively small percentage of all users takes ecstasy almost every day or three to four times a week. Ecstasy is typically used once or twice or once to three times a month. Well over 50% of all users fall within these two categories. The hypothesis that ecstasy is what is known as a "recreational drug", which is evidently taken principally at the weekend in discotheques and at events, would appear to be supported.

[1] The term "prevalence of use" includes all individuals who have taken ecstasy at least once in their lives; this definition thus also covers people who tried ecstasy only once, as well as occasional and regular users.

2. How high is the prevalence of DSM IV abuse and dependence diagnoses with respect to ecstasy and related substances?

If the diagnostic criteria of DSM IV (Sass, Wittchen & Zaudig, 1996) are used as a basis (see Table 1), it can be seen that, in the age group of 14 to 24-year-olds studied, 0.4% exhibit manifest abuse and/or manifest dependence (a total of 0.8%).

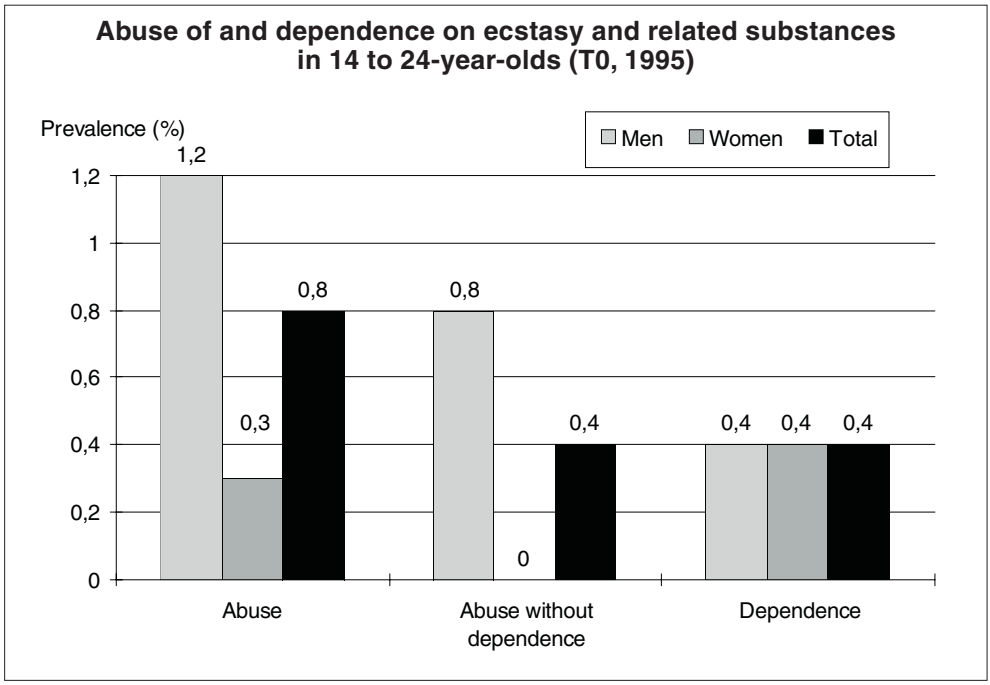

Fig. 3

This means that, at the time of the study, about one in every six ecstasy users aged between 14 and 24 years had developed either abuse or dependence syndromes. This must be interpreted as a clear indication of the addictive potential of this group of substances.

Criteria for dependence and/or abuse as defined by DSM IV

Diagnostic criteria for dependence on psychotropic substances

Three or more of the following criteria within a twelve-month period:

1. Tolerance, corresponding to one of the two characteristics below:
    a) Desire for a marked increase in dosage, to achieve intoxication or the desired effect
    b) Clearly reduced effect on continuing to use the same dosage
2. Withdrawal, corresponding to one of the two characteristics below:
    a) Characteristic withdrawal symptoms for the substance (as listed in the criteria for withdrawal syndrome)
    b) The same (or a very similar) substance is used to alleviate or prevent withdrawal symptoms
3. The substance is often taken in larger quantities or for longer than intended
4. A lasting desire or unsuccessful attempts to reduce or control the use of the substance
5. A large amount of time is spent on activities to obtain the substance (e.g. doctor's appointments, long journeys), to take it (e.g. chain smoking) or to recover from its effects
6. Important social, professional or leisure activities are given up or limited because of the substance use
7. Continued use of the substance despite awareness of a persistent or recurring social, mental or physical problem which is probably caused or exacerbated by use of the substance (e.g. continued use of cocaine despite awareness of cocaine-induced depression, or a gastric ulcer which is made worse by using alcohol)

Diagnostic criteria for the abuse of psychotropic substances

A non-conformist pattern of use which results in clinically relevant impairment or concern, consisting of at least one of the following criteria:

1. Continued use leading to failure to meet important obligations at work, in school or at home (e.g. repeated absence from work because of substance use; absence or exclusion from school caused by the substance; neglect of children or home)
2. Repeated substance use in situations in which the constitutes a physical risk (e.g. when driving or operating machinery)
3. Recurrent legal problems caused by the substance (e.g. arrests for troublemaking)
4. Continued use in spite of a persistent or recurrent social or relationship problem caused or exacerbated by the effects of the substance (e.g. quarrels with partner about intoxication, physical fights)

Table 1

3. What is the rate of increase among 14 to 19-year-olds?

In a second survey, about a year later (T1, 1996/97), the 14 to 17-year-olds from the first wave of the survey were questioned again. New cases of using ecstasy for the first time are defined as incidence, while the lifetime prevalence in these data refers to the lifetime period up to the age at the time of the second survey. Thus, in overall terms, the lifetime prevalence covers an age range from 14 to 19 years.

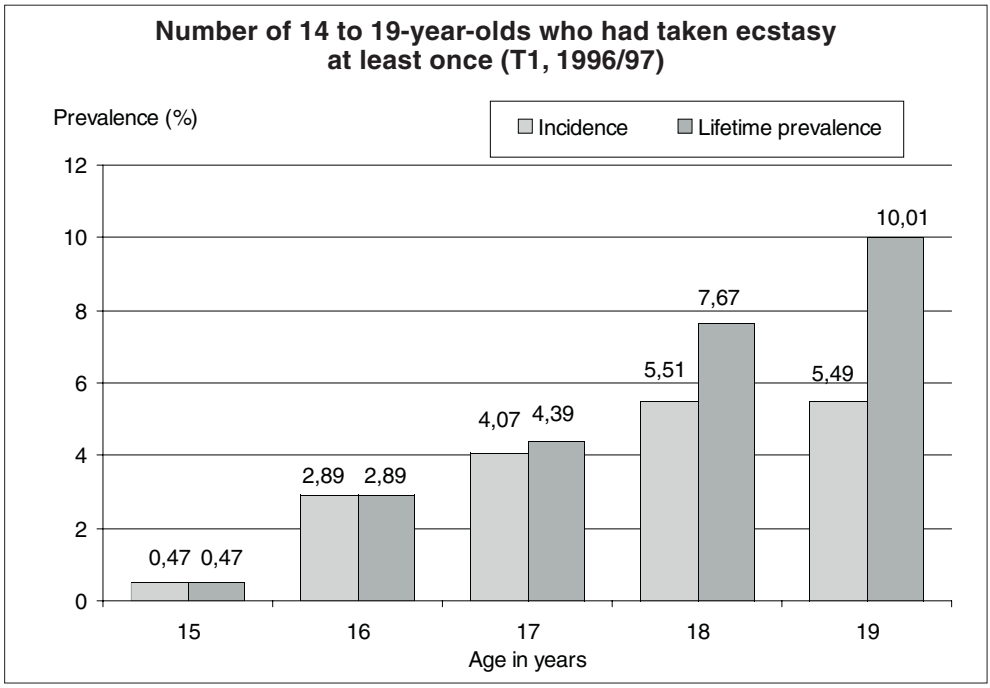

Fig. 4

Figure 4 shows the incidence and lifetime prevalence of the 14 to 19-year-olds on the basis of the second wave of the survey. Here, again, all individuals were taken into account who had tried ecstasy at least once. We can see that the first notable increase rates (incidence) appear from the age of 16 years upwards, rising to over 5% by the age of seventeen. If the ecstasy users recorded in the first wave of the survey are also included in this picture, we obtain a lifetime prevalence which increases across all age groups and is already as high as 10% for the 19-year-olds.

Multiple use in connection with ecstasy

The lifetime data for the 14 to 19-year-olds of the second wave of the survey show that subjects who had used ecstasy, once, twice, up to four times or over five times, had already used another illegal substance at least once at some point in their lives. It is interesting

to note the very high figure of 30% for those who had used ecstasy for the first time or only once and who also report the use of cannabis. In general, the use of cannabis increases with the frequency of ecstasy use (30.36 to 45.90%). This trend can also be seen very clearly for hallucinogens (6.46 to 26.21%) and cocaine (1.31 to 27.46%). These data lead to the hypothesis that the likelihood of another substance also being or having been used increases with increasing frequency of use of ecstasy, although the sequence of this use over time remains undefined.

4. How has ecstasy use among adolescents and young adults developed between 1990 and 1997?

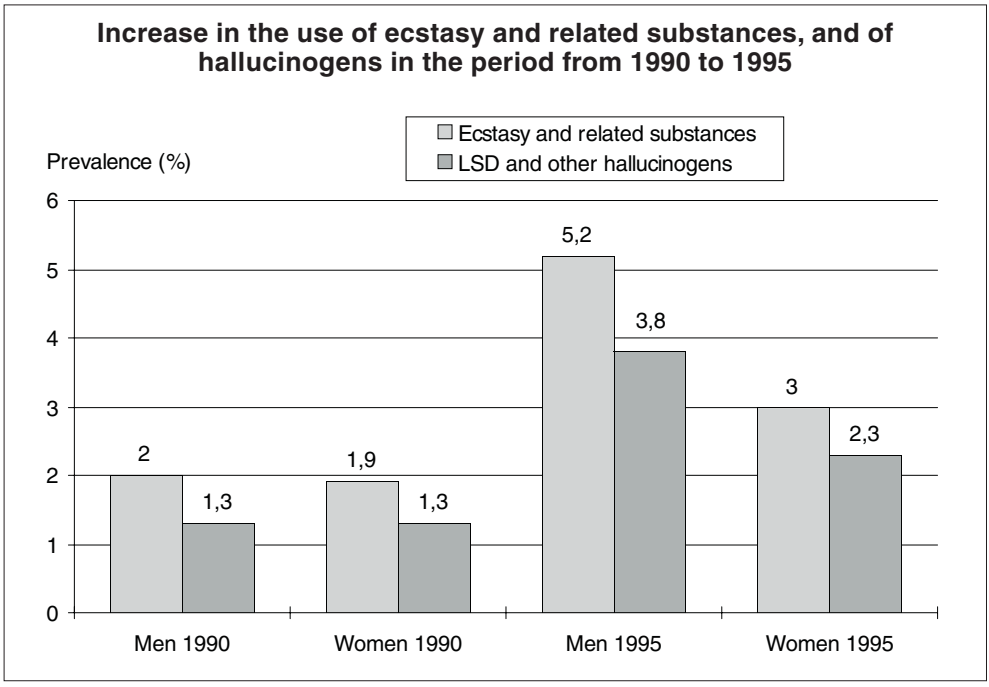

Fig. 5

Figure 5 shows the prevalences of use for 14 to 24-year-olds in Munich in 1990 and 1995. The prevalence findings of the 1995 EDSP study are clearly higher than the survey findings of a comparable representative study (Infratest report, 1995) carried out in Bavaria with the same age group in 1990. The 1990 study yielded a prevalence of use of ecstasy and related substances of 2% and 1.9%, respectively, and of 1.3% for hallucinogens. This comparison suggests a substantial increase in use (by two and three times, respectively) over the given five-year period.

Age at time of first use

The age at the time of the first use of ecstasy was recorded in both surveys in the EDSP study. If these rates of first use are presented as cumulative hazard rates[2], this provides a clear view of the progress of the first use of ecstasy over age.

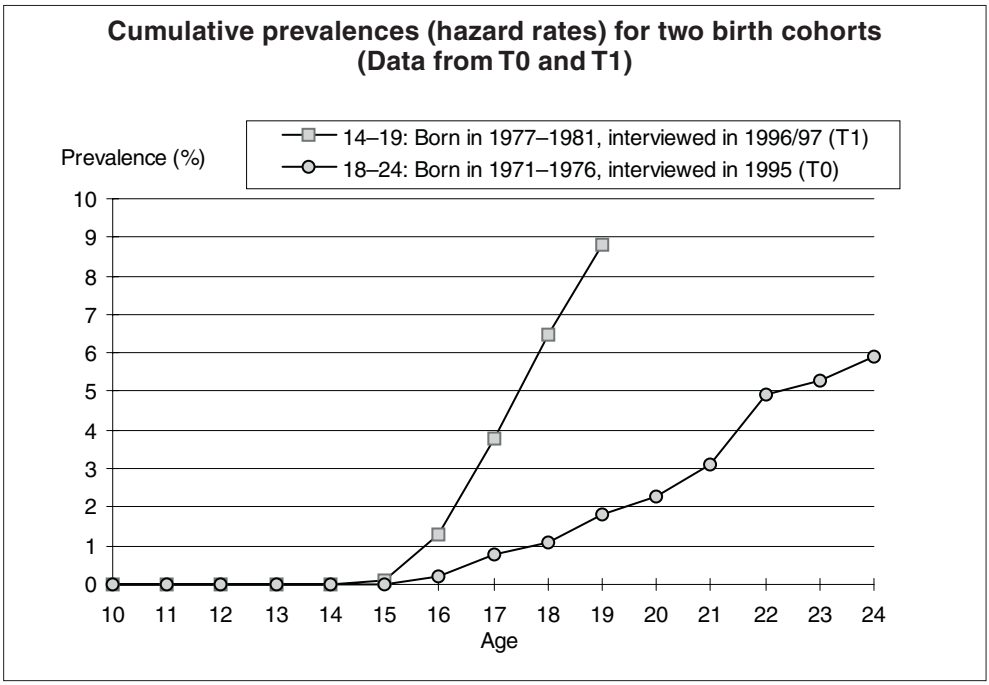

Fig. 6

The first-use frequencies are shown separately for each age for two different birth cohorts in Figure 6. The older birth cohort covers those born from 1971–1976, who were aged 18 to 24 years at the time of the first survey. The second curve represents the younger birth cohort, i.e. those born from 1977 to 1981. This group was aged 14 to 17 years at the time of the first survey and 1 to 2 years older at the time of the second wave of the survey, meaning that the data show the age window up to the age of 19 years. The rapid increase in first use among the younger birth cohort can be seen clearly, i.e. the fact that, in comparison with the older birth cohort, those of the same age in the younger birth cohort have started using ecstasy in far greater numbers. Thus, for example, 1% of the 17-year-olds surveyed from the older birth cohort had tried ecstasy at least once, while the figure in the younger birth cohort is already as high as 4% of the 17-year-olds.

[2] Hazard rates in epidemiological research generally record the age on first becoming ill or on first using a drug; i.e. what is of interest is the degree of risk of using a drug for the first time at a certain age. A special statistical procedure is used for this, "survival analysis" or "event analysis" which, in greatly simplified terms, isolates the relevant age group from a larger sample and calculates the proportion of "new cases". These hazard rates can be very vividly shown in their entirety across all age groups in graph form.

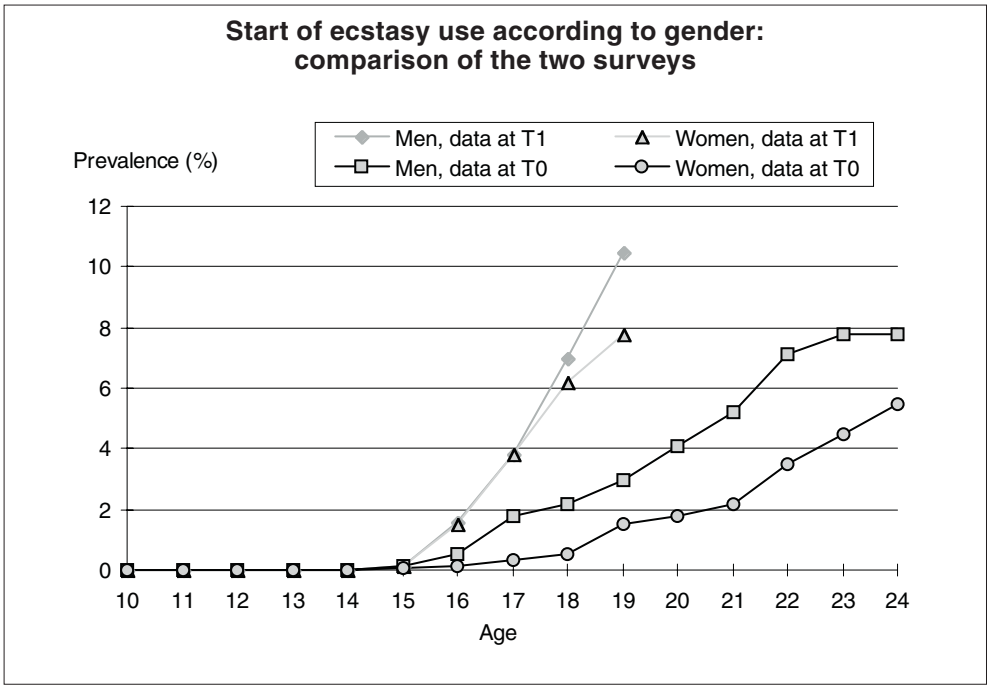

Fig. 7

If the survey groups are subdivided according to gender, it can be seen in the older birth cohort that men start using ecstasy one year earlier than women (men at 16, women at 17), and that, in overall terms, more men than women use ecstasy. The curve for the older birth cohort shows a parallelism which allows the hypothesis of a similar increase in first use for both genders with increasing age.

The picture for the younger birth cohort, however, is different. Here, the same rapid increase can be seen for both genders; a gender-based difference only starts to emerge from the age of 18 to 19 years. This differentiation between the genders, which occurs quite late, might be an indication of younger and adolescent women rapidly gaining ground as regards the first use of ecstasy.

5. What are the primary motives for using these substances and what reasons induce people to stop using them?

Motivations for use

In response to the question on the motives for using ecstasy (T1, 1996/97), a clear priority can be seen in the younger people towards feeling good ("a desire to feel good" 47.3%; "to party" 56.4%; "to have a good time" 62.3%), peer group and group processes playing a major role in this context ("being together with other people" 70.9%). Coping with

problems and compensating for insecurity and emotional problems play a subordinate role as reasons for using ecstasy (insecurity 5.5%; coping with problems 10.9%; as a distraction 13.5%).

Motives for stopping drug use

The question on the reasons for stopping the use of ecstasy and hallucinogens completely is of importance not simply for preventive purposes.

Fear of becoming less efficient as a result of ecstasy use or even of developing performance problems, proved to be the principal motivation for stopping the use of ecstasy among users: 74.5% stated that fear of reduced efficiency was the main reason for stopping. It is also interesting to note that a fear of damage to health (61.5%) and of addiction (36.3%) also constitute important motives for stopping. The figure of 43.7% of ecstasy users who stated in their self-assessment that ecstasy use "had done nothing for them" should also be noted.

The patterns of motivation with respect to hallucinogens are quite different. Here, the response "did nothing for me" took first place among the reasons for stopping (80.6%), followed by fear of damage to health (36.9%) and of becoming addicted (31.2%).

In this context, it is also interesting to note that, in response to the question on whether they believed they would be able to stop using the substance in question, 55.2% of hallucinogen users said "definitely" and 13.5% "perhaps". The percentages for ecstasy and related substances were 53.5% ("definitely") and 6% ("perhaps"). Only 9.2% of the hallucinogen users and 4.1% of the ecstasy users stated that they did not believe that they could easily stop using the substance in question (Schuster & Wittchen, 1996).

Discussion

In contrast to other studies, which are generally based on questionnaire surveys and are often carried out in the "scene", the results presented in this paper are based on detailed, personal and standardised diagnostic interviews of a representative sample and are therefore likely to give a coherent picture with respect to epidemiological questions relating to the prevalence of use, abuse and dependence, and rates of increase. However, a number of limitations must be borne in mind when interpreting the findings.

Uncertainties in the assessment

Although the representative nature of our sample can be described as certain in view of a reach of over 70% and 90%, it should be pointed out that the data regarding ecstasy and related substances, in particular, involve major uncertainties in the assessment in some cases. Thus, we are unable to say with certainty whether the data on ecstasy and related substances are really applicable, since it is not always possible to ensure that the indi-

vidual is actually allocating the substance to the relevant assessment category with an appropriate degree of correctness and selectivity.

Increase in use

In overall terms, these findings show that there has evidently been an extremely marked increase in the use of hallucinogens and, in particular, of ecstasy in recent years. This finding is supported by the seizure statistics produced by the Federal Office of Criminal Investigation and the Länder Offices of Criminal Investigation, and by the published results of various surveys. The increase over a five-year period can be described as disturbing and sharp in terms of size, since the prevalence of use can be seen to have doubled and, in particular, in the EDSP study a very rapid increase in first-time ecstasy users among the younger people can be observed. This observation is further confirmation of the hypotheses raised in other investigations that the age of first use of illegal drugs is moving forwards (Antony et al., 1995; Perkonigg et al., 1997).

Developments in abuse and dependence

Prevalences of use tell us little or nothing about the potential addiction risk in general. Our results show that manifest abuse or dependence developments can so far be detected in about 1.0% of all those involved. The relationship between prevalence of use and prevalence of abuse and dependence might, on the one hand, be an indication that the addictive potential of both substances is relatively low. On the other hand, it might also simply reflect the fact that, in our young age cohort, the majority of those trying the substances have not yet gone through the "major risk period" for the development of abuse and dependence. We shall be able to answer this decisive question with our subsequent follow-up studies of this sample. Furthermore, given the emerging overlap of ecstasy and other amphetamines and drugs, it is difficult to consider the addiction potential of one substance alone. The multiple use of various substances must be taken into account in this context and further research efforts will be required.

Multiple use

The overlap between ecstasy and hallucinogen use, and the use of other psychotropic substances, is extremely marked (cf. also papers 4.1. and 4.2.). Thus, the average ecstasy user also uses other substance categories fairly frequently. These figures may be an indication that regular ecstasy users find the effect inadequate over time and attempt to increase it using other agents. A trend of this type was actually found in the 1990 Infratest study in which the question "How often do you take other agents with ecstasy in order to increase the effect?" received the following responses*: very often* 5.8%, *often* 39.8%, with only 5.4% answering *rarely* and 50% *never* (pers. comm., Infratest Gesundheitsforschung).

Need for education

In overall terms, these results show that the very rapid increase in ecstasy use, linked to other complications (the trend towards multiple use with other drugs, indications of an increased potential for addiction) requires further research efforts. This inadequate

situation is exacerbated by unsatisfactory gaps in research on ecstasy, the dangerous nature of the active substances and possible co-morbidity with other mental disorders (cf. also the review by Thomasius, 1997). Thus, for example, in a different context, Wittchen and Perkonigg (1996) pointed out an increased extent of co-morbidity of substance abuse, depression and anxiety disorders. It is also important to counteract the prevalent beliefs about the "harmless" drug ecstasy by means of education regarding the potential long-term damage, and possible health risks and mental disorders which may occur.

4.5. The use of Amphetamines and Ecstasy in the Adult Population

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Federal Study, funded by the Federal Ministry of Health

Introduction

The growing interest in ecstasy in recent years cannot only be seen in the increasing number of people reporting on their experiences with ecstasy, but is also reflected in an increasing number of socio-psychological investigations (Rakete & Flüsmeier, 1997; Tossmann & Heckmann, 1997; Künzel et al., 1997a, 1997b; cf. also papers 4.1., 4.2. and 4.3.), in papers in subject-specific publications (cf. Kovar, Muszynski & Burmester, 1997), and in studies in the field of pharmacology (cf. Gouzoulis-Mayfrank et al., 1996). In addition to the attention focused on ecstasy in relation to its euphoric effect and the identification of a "new" youth culture, it has, since 1995, also found its way into the statistics of the German Federal Office of Criminal Investigation on users recorded for the first time (Federal Office of Criminal Investigation (BKA), 1996; cf. also paper 4.6.).

Epidemiological data are consistent in showing an increase in experience with the drug ecstasy since the start of the Nineties. Thus, in the Munich area, the lifetime prevalence in male adolescents aged between 14 and 24 years increased from 2% to 5.2% between 1990 and 1995, and from 1.9% to 3% in girls and women of the same age, the overall prevalence figures increasing constantly with age. The highest value, 6%, is found among 22 to 24-year-olds (Schuster & Wittchen, 1996; see also paper 4.4.). A study in Berlin, with no reference values for previous periods, reports substantially higher prevalence values among young people. Here, the lifetime experience among 15 to 17-year-olds, at 13.8%, is higher than the figure for those with cannabis experience (11.3%). Among the 18 to 24-year-olds, the prevalence figure for ecstasy is 16% and for cannabis 19.1%. The proportion of ecstasy users in the year prior to the survey was 12.9% for 15 to 17-year-olds and 14.1% for those aged between 18 and 24 years (Senatsverwaltung für Schule, Jugend und Sport, Berlin, 1996).

Apart from the general spread of ecstasy, the patterns of use as regards drug-taking and the specific circumstances, such as place, time and function of the drug, are coming further and further to the fore. Ecstasy is predominantly associated with the techno, disco and rave scene. Scene-specific studies consistently suggest a high degree of mixed use among this group of individuals (Tossmann, 1997; Ayer, Gmel & Schmidt, 1997; Rakete & Flüsmeier, 1997; Korf & Lettink, 1994). From the point of view of prevention, the mixed use observed and the specific setting of dance events, parties and raves constitute health-relevant risks.

Whereas surveys geared to the scene provide direct insight into the behaviour of the high-risk group and are able to respond relatively quickly and without delay to new patterns of use and new drugs, surveys of representative samples of the population are more suitable for observing long-term trends and changes in general use-related behaviour (Kraus & Bauernfeind, 1997). Since ecstasy use has been included in the Federal Study only since 1995 (Herbst, Kraus & Scherer, 1996), no comparisons over time are yet possible for this drug. In contrast, amphetamines, cannabis, opiates and cocaine have been recorded since as far back as 1980. However, as can be seen from regional studies and the small number of people in the 1995 Federal Study with lifetime prevalence who first used ecstasy before 1990, the assumed prevalence of ecstasy for the period up to 1990 is low. Thus statements can be made regarding the extent of and developmental trends in ecstasy use against the background of the use of various other illegal drugs. A regression model will then be used in a second approach to investigate the relationship between the frequency of ecstasy use and the frequency of use of other illegal substances.

Method

The study, entitled *"Representative survey on the use and abuse of illegal drugs, alcoholic drinks, medicines and tobacco goods"*, has been carried out throughout Germany on behalf of German Federal Ministry of Health (BMG) since 1980. The surveys in 1980 and 1986 referred to what was then the Federal Republic of Germany (Infratest, 1983, 1987). In 1990, the survey also included the new Federal Länder (the former GDR) for the first time (Simon, Bühringer & Wiblishauser, 1991). In order to observe the development of the use of illegal drugs, in particular in the new Länder, a survey was conducted in 1992 only in Eastern Germany (Herbst, Schumann & Wiblishauser, 1993). Between 1980 and 1990 the age range was extended from 12–24 years to 12–39 years. As from 1995, only the adult population aged between 18 and 59 years was surveyed in the

Age group, sample and reach of the surveys since 1980

	Year of study					
	1980[1]	1986[2]	1990		1992[3]	1995[4]
			West	East		
Age group	12–24	12–29	12–39	12–39	12–39	18–59
Sample (N)	10240	5501	19208	2424	4455	7833
Reach	67.4%	63.7%	63.8%	65.4%	54.3%	65.0%

[1] Old Federal Länder, excluding West Berlin, Bremen, Baden-Württemberg and Hesse
[2] Old Federal Länder
[3] New Federal Länder
[4] New and old Federal Länder

Table 1

Federal Study (Herbst, Kraus & Scherer, 1996). In Western Germany, the response rate in 1980 was 67.4% (not including West Berlin, Bremen, Baden-Württemberg and Hesse); 1986: 64%; 1990: 64% and 1995: 65%. In Eastern Germany, the response rate in 1990 was 65%; 1992: 54% and 1995: 66%. Table 1 provides an overview of age group, sample size and reach of the surveys since 1980.

Selection of the sample

With the exception of the 1980 study, which was conducted in only seven of the eleven Länder of the former Federal Republic, all the surveys in the Federal Study are representative. The questionnaires were completed by the interviewees independently in all the surveys, interviewers being used only in Bavaria in 1980. In the studies between 1980 and 1990, the respondents were selected using a two-stage selection procedure. In the first stage, the municipalities were stratified by size and Federal Land and the sample points were then drawn sized in proportion to the number of Germans aged between 12 and 39 years in the municipalities. The addresses were drawn from the files of the residents' registers using a systematic random selection process. In the 1992 survey conducted only in the new Federal Länder, the survey participants were also determined in a two-stage procedure.

In 1995, the survey participants were determined using a stratified, three-stage random selection process designed by the ADM (working group of German market research institutes). 1050 sample points were drawn in the first selection stage – on the basis of the election ward divisions for the national parliamentary elections. In the second stage, the interviewers followed a random route laid down by the field institute around the households to be surveyed. Finally, in the third selection stage, the survey participants were determined. In households with more than one person aged between 18 and 59 years, this selection was made using a question relating to birthday (*"Who had a birthday most recently?"*). The documents were sent to the target individuals, who could either return the completed questionnaires by post or have them collected by their interviewers after two to three weeks. Up to three follow-up campaigns could be carried out. The samples were weighted in such a way that the age, gender and Federal Land distributions in the sample corresponded to those in the basic population.

Changing the sample selection procedure causes problems. In a comparison of two random-route samples and one sample based on the residents' register, Koch (1997) found that in all the surveys, women, the elderly, people with educational qualifications no higher than the most basic secondary school leaving certificate, blue-collar workers, single people and people living alone were under-represented in comparison with the microcensus. Although the differences are less in some of these categories in the sample based on the residents' register, these differences are, on the whole, not so large as to require the replacement of the random-route procedure with the much more expensive residents' register procedure with its substantially longer period of field work.

The result of this comparison can also be interpreted as suggesting that data from random-route procedures and residents' register samples are quite comparable. While it is true that Koch (1997) was not comparing the prevalence figures for psychotropic substances, but socio-demographic characteristics, it can nonetheless be assumed that the use of psychotropic substances correlates closely with socio-demographic characteristics. In addition, two of these characteristics (age and gender) are controlled by the weighting.

Owing to the change in age range in the studies between 1980 and 1995, the lifetime prevalence figures for illegal drugs can only be compared for the 18 to 24-year-olds. Information regarding the 12-month prevalence has been recorded since 1990. Comparisons over time of 12-month prevalence between 1990 and 1995 were therefore carried out for the 18 to 39-year-olds. Ecstasy was included in the Federal Study questionnaire for the first time in 1995.

Statistical analysis

In order to compare the use of various substances (cannabis, opiates, cocaine, amphetamines and LSD) in people with and without experience of ecstasy, the survey participants were divided into three groups with reference to the various drugs: *"no experience"*, *"experimenters"* and *"users"*. A person was defined as an *"experimenter"* if he or she had tried the relevant drug no more than five times, while *"users"* reported a lifetime frequency of use of more than five times. Of 1282 18 to 25-year-olds, 1209 (94.3%) had no experience of ecstasy, 38 (3.0%) were experimenters with ecstasy and 32 (2.5%) were ecstasy users. The data for lifetime frequency of ecstasy were missing for three people. Because of the extremely low number of those with experience of ecstasy among the older participants, the analysis was limited to the 18 to 25-year-olds.

In order to test differences statistically, the MAREG software tool (Kastner, Fieger & Heumann, 1997) was used to calculate a marginal regression model (GEE approach, Independence Estimator) with the independent variable "ecstasy use" and the use of the other illegal drugs as a dependent variable. Marginal models are regression models for repeated measurements with categorial dependent variables (Fahrmeir & Tutz, 1994). The questions regarding the use of specific substances may be interpreted as the repeated "measurement" of drug experience in the same person. The fact, which has often been empirically observed, that experience with certain drugs correlates with experience with other illegal drugs ("Someone using opiates is highly likely to have experience of cannabis as well" (Chen & Kandel, 1995)) was taken into account by using a marginal regression model instead of five individual tests for the analysis. The calculation was performed using unweighted data.

Results

Trends in the use of illegal drugs since 1980

Ecstasy was first included in the Federal Study in 1995. The ecstasy prevalence among 18 to 24-year-olds at the start of the Nineties can be estimated using the data of the 1995 Federal Study for those born between 1966 and 1972. None of the respondents born between 1966 and 1972, who were between 18 and 24 years old in 1990, had had any experience of ecstasy up to and including 1989. 2.4% (Western Germany 2.7%, Eastern Germany 1.4%) had used ecstasy for the first time in 1990. For only 0.2% of this cohort are no data available regarding the year in which ecstasy was used for the first time. From this estimate, based on the data relating to the age at which ecstasy was first used, a substantial increase in the proportion of people with experience of ecstasy can be observed by 1995. Figure 1 shows the lifetime prevalence of the 18 to 24-year-olds for ecstasy in 1995 and the development in the prevalence of cannabis, amphetamines, opiates and cocaine in Western Germany since 1980. Together with amphetamines, ecstasy is thus the drug used most frequently by young adults, after cannabis. In comparison with the figures for amphetamines, opiates and cocaine, which have risen continuously but only slightly since 1980, cannabis and ecstasy exhibit very high growth rates in the Nineties.

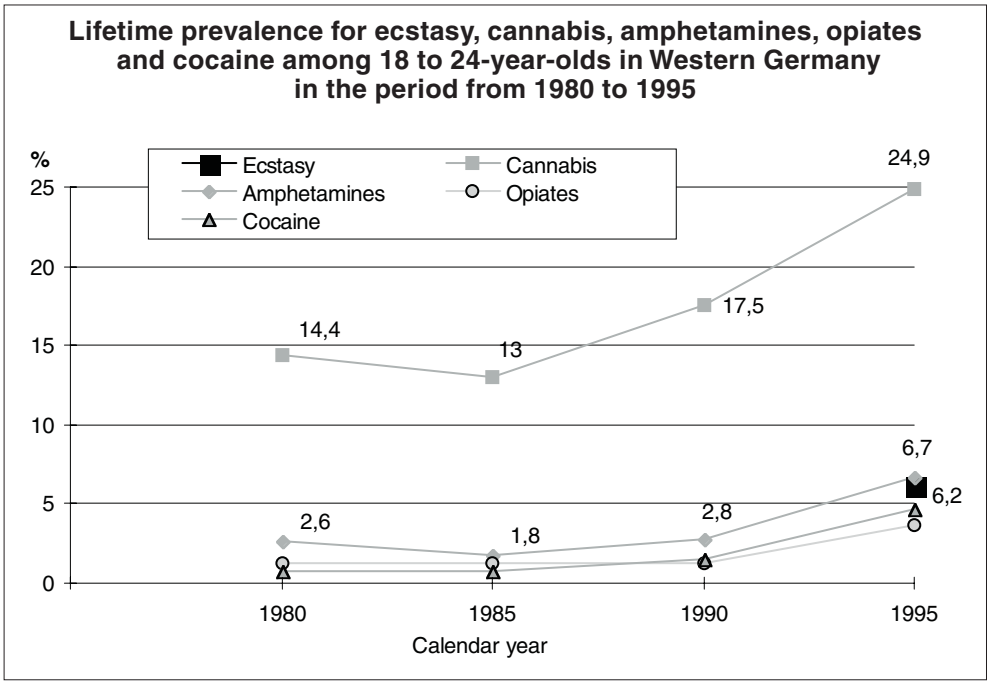

Fig. 1

Epidemiological trend data for Eastern Germany are available as of 1990. Because drug use was very limited in the former GDR before 1990 (Reissig, 1991), it was expected to rise

to epidemic proportions following the opening of the borders in 1989. After a relatively flat increase in the early Nineties, experience with cannabis increased sharply by 1995 (18.5%), without reaching the prevalence level of Western Germany (24.9%) up to that time. The lifetime prevalence of ecstasy, too, at 4.3%, is still two percentage points lower in Eastern than in Western Germany, although the extent of ecstasy experience in Eastern Germany takes second place, even ahead of experience with amphetamines. The curves for the prevalence of amphetamines, cocaine and opiates exhibit only slight differences at a very low level (see Fig. 2).

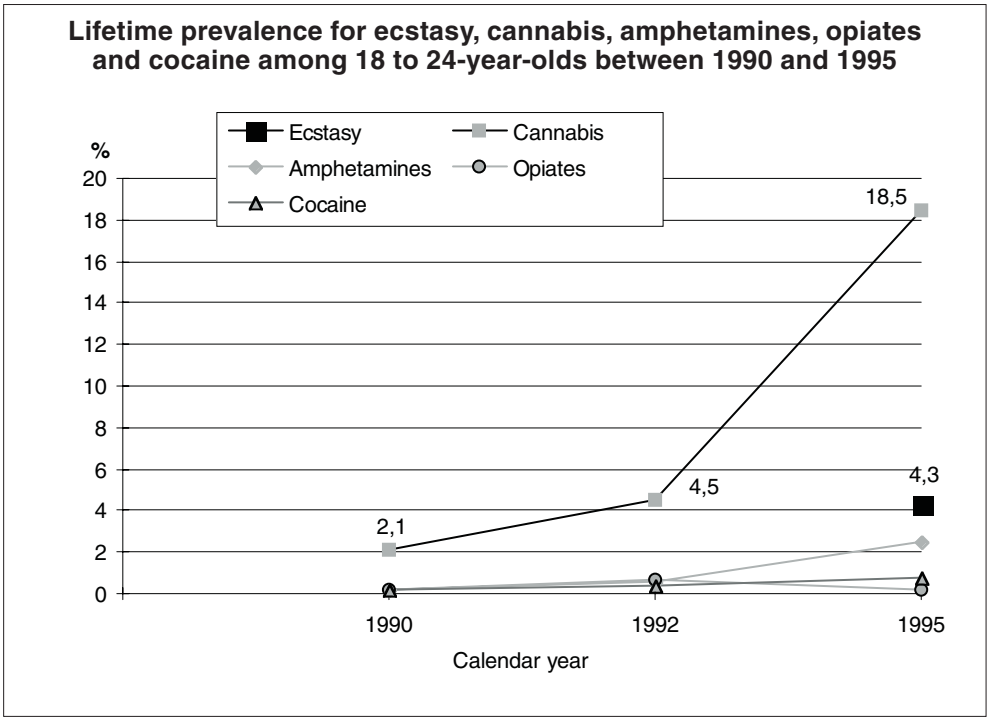

Fig. 2

The current prevalences for the use of ecstasy and cannabis in the twelve months prior to the study are shown in Figure 3. It is interesting to note the parallel course of the development of cannabis use in Western and Eastern Germany. The twelve-month prevalences for 18 to 39-year-olds do not converge. Whereas the current cannabis prevalence in Western Germany has increased by 3.9 per cent to 8.8%, the increase in Eastern Germany from 1990 (0.7%) to 1995 (3.5%) is 2.8 per cent. The twelve-month prevalence figures for ecstasy are also substantially lower in Eastern Germany than in the West. This is likely to be mainly due to the fact that, in Eastern Germany, drug use is almost exclusively restricted to the under-25s.

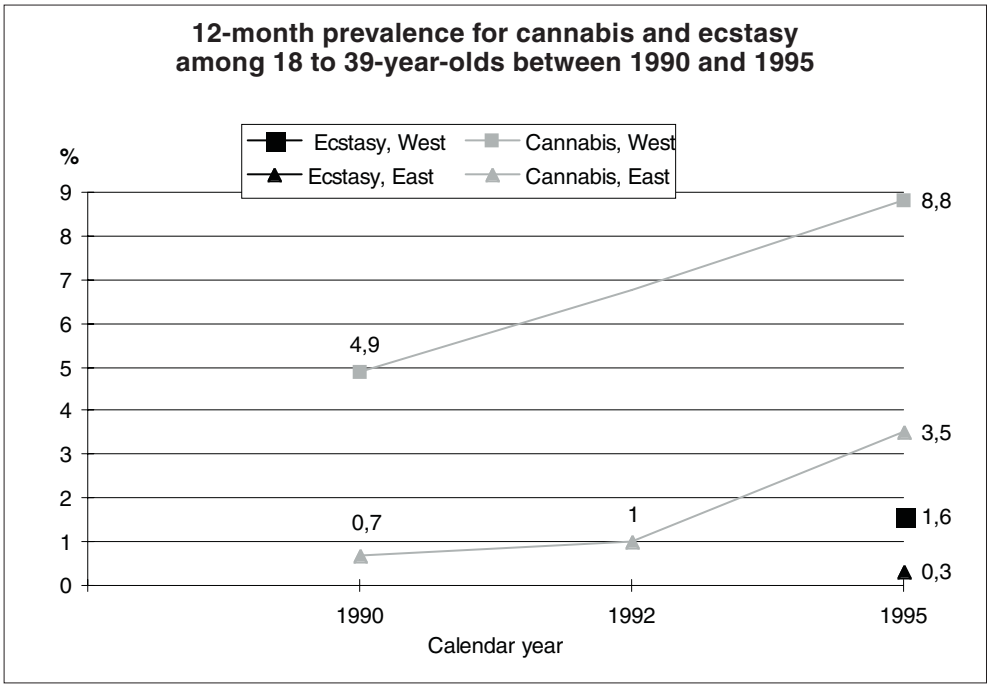

Fig. 3

Use of amphetamines and ecstasy according to age and gender

The increase in amphetamine use in Western Germany – referred both to lifetime and the previous twelve months – can be attributed principally to the male users. The lifetime prevalence among males rose from 3% to 5.9% between 1990 and 1995, and the 12-month prevalence from 0.5% to 2.4%. In contrast, the prevalence level among women remained more or less constant in the period from 1990 to 1995 (Table 2).

No gender-specific interpretation of the figures in Eastern Germany will be made because of the low absolute figures.

Lifetime and 12-month prevalence of amphetamine use according to gender (18 to 39-year-olds): Western Germany 1990–1995

	Lifetime		12 months	
	1990	1995	1990	1995
Men	3.0	5.9	0.5	2.4
Women	2.5	2.3	0.4	0.5

Data in per cent

Table 2

Among both women (3.6%), and men (11.1%), the proportion of those with experience of ecstasy is highest among the 18 to 19-year-olds. The 12-month prevalence shows differences. Here, the 18 to 19-year-old women again have the highest figure, while the highest figure for the men, at 7.4%, is that for the 20 to 24-year-old age group (Table 3).

In Eastern Germany, the lifetime experience is concentrated in the 20 to 24-year-old age group. As a result of the historical situation, the negligibly small prevalence figures after the age of twenty-five suggest that age is a protective factor. It would appear that the risk of starting to use illegal drugs is very low for people who had no opportunity for drug use in their youth.

Lifetime and 12-month prevalence of ecstasy use according to age groups and gender: Western Germany 1995

	Age groups					
	18–19	**20–24**	**25–29**	**30–39**	**40–49**	**50–59**
Lifetime						
Men	11.1	9.2	5.2	1.0	0.2	0.0
Women	3.6	2.2	1.0	0.6	0.5	0.0
12 months						
Men	5.9	7.4	3.1	0.0	0.1	0.0
Women	2.7	1.1	0.5	0.1	0.0	0.0

Data in per cent

Table 3

Experience of ecstasy and use of other substances

For every substance, the proportion of those who have used the drug at least once increases with experience of ecstasy. 80.5% of those with no experience of ecstasy, but only 11.6% of those who had tried ecstasy (experimenters), had never used cannabis. Every one of those who had used ecstasy at least six times had had experience of cannabis. While the prevalence values for opiates, cocaine/crack, amphetamines and LSD were below 2% among those who had no experience with ecstasy, they fluctuated between 4.7% (opiates) and 35.6% (amphetamines) for those who had experimented with ecstasy. Among ecstasy users, the prevalence figures rose to between 21% (opiates) and 62.1% (amphetamines). The prevalence figures for at least six occasions of use also increased with experience of ecstasy for every substance (Fig. 4).

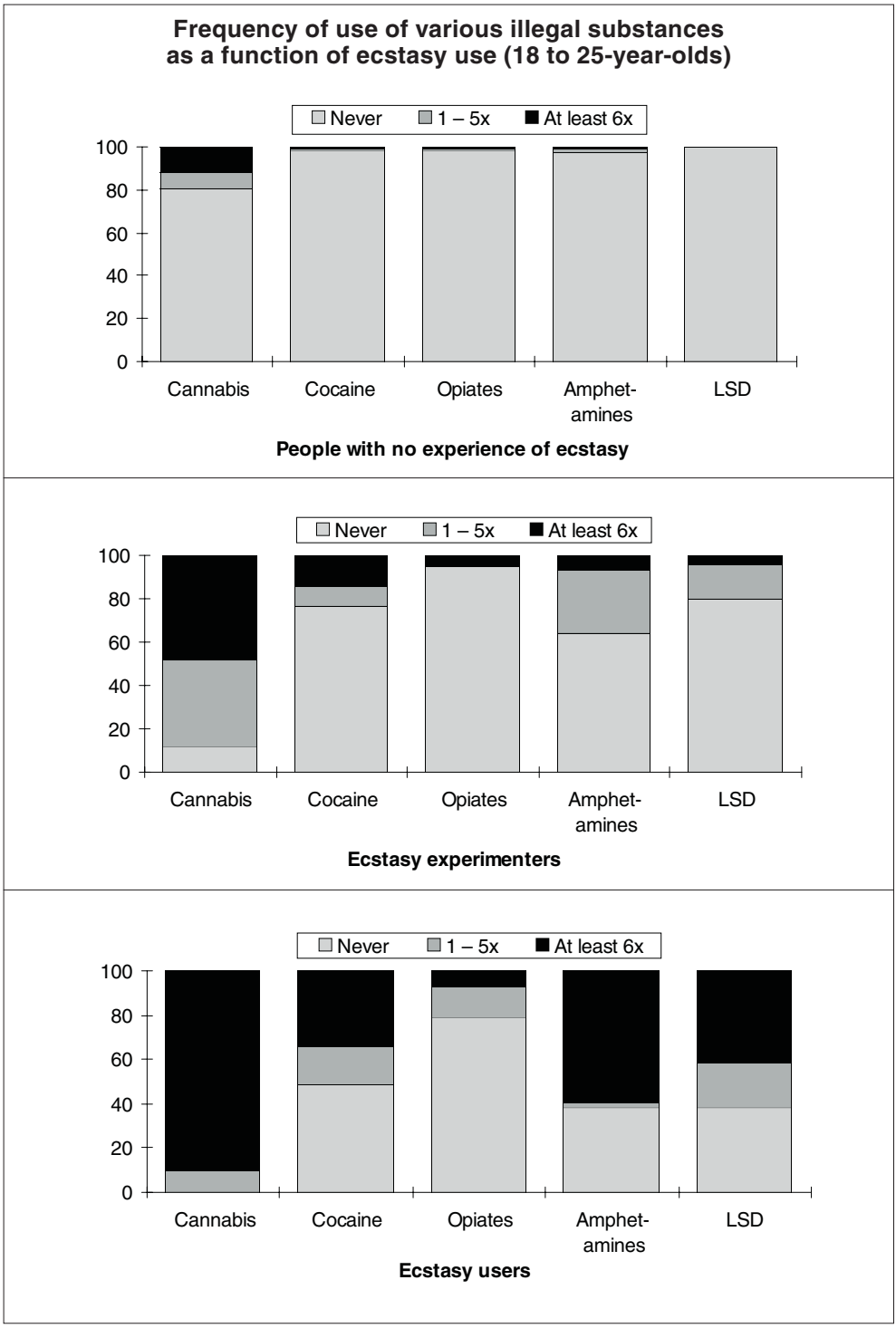
Frequency of use of various illegal substances as a function of ecstasy use (18 to 25-year-olds)
Never
1 – 5x
At least 6x
100
80
60
40
20
0
Cannabis
Cocaine
Opiates
Amphet-amines
LSD
People with no experience of ecstasy
Ecstasy experimenters
Ecstasy users

Fig. 4

It can be seen that significant differences exist between those who have tried or use ecstasy and those with no experience of ecstasy, in terms of experience and frequency of use of other substances1 (Table 4). The probability of having used other substances is clearly higher for those who have tried ecstasy (experimenters) than for those with no experience of ecstasy and clearly higher for ecstasy users than for ecstasy experimenters. However, the data available do not permit any statement to be made regarding the development of drug use over time among the respondents. It is not possible to decide whether high ecstasy use leads to increased use of other illegal drugs or whether the use of other illegal drugs involves the frequent use of ecstasy as a result. What can, however, be stated is that there is a strong connection between the intensity of ecstasy use and the use of other drugs (cf. also papers 4.1., 4.2. and 4.3.).

Use of other illegal drugs as a function of ecstasy use (18 to 25-year-olds)

Cannabis	β	SE[1]	p[1]
Θ_1	1.453	0.085	0.000
Θ_2	2.241	0.116	0.000
1–5x ecstasy	-2.348	0.313	0.000
min. 6x ecstasy	-4.379	0.745	0.000
Opiates	β	SE	p
Θ_1	4.296	0.291	0.000
Θ_2	5.147	0.397	0.000
1–5x ecstasy	-1.775	0.788	0.024
min. 6x ecstasy	-2.978	0.632	0.000
Cocaine/Crack	β	SE	p
Θ_1	4.006	0.252	0.000
Θ_2	5.084	0.317	0.000
1–5x ecstasy	-2.962	0.500	0.000
min. 6x ecstasy	-4.049	0.516	0.000
LSD	β	SE	p
Θ_1	5.693	0.578	0.000
Θ_2	6.812	0.657	0.000
1–5x ecstasy	-4.560	0.723	0.000
min. 6x ecstasy	-6.252	0.749	0.000
Amphetamines	β	SE	p
Θ_1	3.884	0.238	0.000
Θ_2	4.684	0.298	0.000
1–5x ecstasy	-3.044	0.460	0.000
min. 6x ecstasy	-4.679	0.555	0.000

[1] The robust estimates for standard deviation and p-values are shown

Table 4

[1] In order to take into account the fact that the dependent variables are on an ordinal scale, the cumulative-logistic link function was selected in the marginal regression model. Ecstasy use was dummy-coded with "never used ecstasy" as the reference category. A minus sign in front of the parameter estimate of one of the other two categories means that the probability of the use of opiates, for example, is higher, a plus sign means that it is lower than for someone from the reference category.

Discussion

Following a relatively constant progression in the lifetime prevalence for illegal drugs among 18 to 24-year-olds up to the mid-Eighties – a finding which is also supported by other epidemiological data (cf. Reuband, 1988) – drug prevalence in Western Germany has increased steadily since the mid-Eighties. Whereas the use of amphetamines, opiates and cocaine has risen slowly from a low starting level, the cannabis prevalence rose by 12 per cent between 1986 and 1995, from 13% to 25%. If the assumed starting value for ecstasy in 1990 is about 2%, the increase in the prevalence in percentage terms during this period was comparable to that for cannabis and was thus greater than that for amphetamines. Working from the assumption that drug use started in about 1990, similar developments can be seen in Eastern Germany, running from a lower starting level but parallel to the trend in the West of the country. The twelve-month prevalence figures for cannabis among the 18 to 39-years-olds also rose in both parts of the country. The prevalence value in the West, which is two-and-a-half times that in the East, can probably be explained by the historical situation. Cannabis had long been available in the West in 1990, while it had only just been introduced in the East at that time. However, it is astonishing that, despite the similar starting position – ecstasy was still largely unknown in 1990 – the ecstasy prevalence is far higher in Western Germany than in the East. This may suggest differences in the conditions surrounding use in the old and new Federal Länder.

The high proportion of users taking other illegal drugs in addition to ecstasy (supplementary or combined use), which has been reported in various studies, is also seen in the data of the Federal Study. The correlation between the levels of use of various illegal drugs is interesting. The likelihood of frequent use of various illegal drugs increases sharply with the frequency of ecstasy use. In all the substance groups, those who have experimented with ecstasy (use on up to five occasions) and those who use it (at least six occasions of use) differ significantly from those with no experience of ecstasy. Regardless of the estimated potential risk of the drug ecstasy, the health risk increases with the frequency of ecstasy use since this also involves an increase in the probability of the use of other illegal drugs with their own risks.

4.6. Ecstasy Abuse from the Point of View of the Federal Office of Criminal Investigation

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The drug situation – An introduction

One of the tasks of the Federal Office of Criminal Investigation (BKA), as the head office of the German criminal police, is to draw up an annual report on the situation in the illegal drugs market. Since the early Seventies, relevant data have been recorded by the BKA on an on-going basis. Over the years, this material has formed an important and reliable basis for recognising trends and changes in drug dealing and use at a very early stage, and then for demonstrating them to interested parties. The forecasts which can be derived from the drug situation thus constitute an important instrument of equipment in criminal/political terms.
Of course, the drug situation only describes what is known to the police in this field of crime and to this end makes use of what are referred to as *"situation indicators"*. To supplement this information, offences linked to drug-related crime are recorded in the *"Police crime statistics"*. As a result of the developments in the field of synthetic drugs, crimes in connection with ecstasy have been recorded separately in these statistics since 1994.

Definition of the term "ecstasy"

First, it is important to bear in mind that the substance referred to by the term *"ecstasy"* is by no means new. The history of MDMA (methylenedioxy–methamphetamine) goes back to 1912, the year in which the patent for this compound was issued to the Merck company (Patent issue December 24, 1912). Amphetamine, the so-called mother substance is already 110 years old. Both substances have a long individual history as regards their illegal use. The term *"ecstasy"* – originally a name used within the "scene" for the substance MDMA – must be understood today as follows: *a generic term for drugs or "scene" products in the form of tablets or capsules mainly containing psychotropic active substances from the group of β-phenylethylamine derivatives (also adequately described as amphetamine derivatives) either alone or in combination* (cf. also paper 3.1.).

Current data on the drug situation in the Federal Republic of Germany

Situation indicators

The *"quantities seized"* and the *"users of hard drugs recorded for the first time"* are among the most frequently used situation indicators and also the easiest for the general

public to understand. However, for a complex assessment of the field of synthetic drugs, consideration of the manufacturing situation is also important.

Illegal drug laboratories

Some 350 illegal drug laboratories have been seized in the Federal Republic of Germany over the past ten years, twelve of these in 1996. Over 95% of all laboratories were designed for the production of (fairly small quantities of) amphetamine and amphetamine derivatives. Last year, for the first time, a laboratory was seized which was designed for the (amateurish) production of tablets.

For the most part, however, tablets known as "ecstasy" come from the Netherlands; amphetamine in powder form frequently comes from the countries of the former Eastern Bloc as well.

Quantities of ecstasy tablets seized

The "*quantities seized*" situation indicator is, on the one hand, evidence of the availability and the pressure to supply a specific drug on the illegal market, while, on the other hand, it reflects the activities in the *"law enforcement"* area (i.e. customs and police) as well.

While, in 1991, "only" 4000 consumer units (tablets) of ecstasy were seized in Germany, this figure had risen to just under 700,000 tablets by 1996. By September 1997 a quantity-seized figure of 510,000 tablets had already been reported for Germany (cf. Fig. 1).

Some 3.3 million ecstasy tablets were seized in 1996 across the whole of Europe.

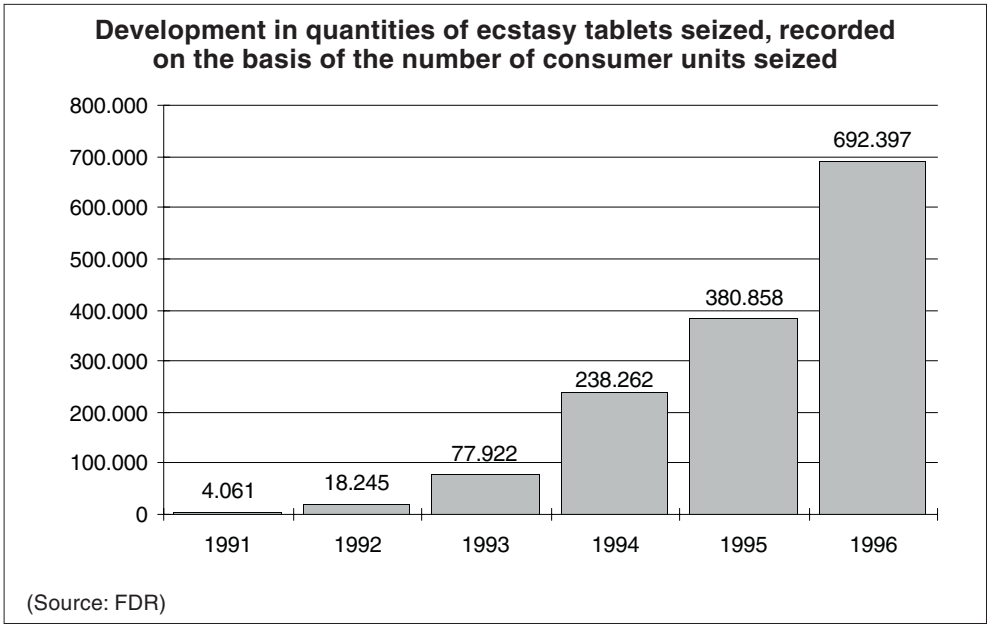


Fig. 1

The preliminary judicial inquiries of the BKA in 1989 and 1993 have indicated that a far greater area of shady dealings must be assumed based on the quantities of synthetic narcotics available on the illegal market and the expectal dimensions of production of and traffic in ecstasy. Thus, 1.5 million MDMA tablets were seized in 1989, in collaboration with the Dutch authorities and an operation at Frankfurt/Main airport in 1993 resulted in the seizure of just under 11 million MDA tablets (from a total quantity produced of about 25 million tablets).

The "tablet" form of use

Apart from the basic social and cultural conditions, the attractiveness of ecstasy is essentially based on the *tablet as the form of use,* which presents itself as a "symbiosis" of a quasi-legal outfit and a stimulus corresponding to the current requirements of the target group.

The fact that about one-third of all Germans takes tablets every day demonstrates that tablets have a very high degree of social acceptance and that taking tablets has become an everyday practice. This causes a significant reduction in the threshold of inhibition against drug-taking in tablet form as compared to the "traditional" illegal drugs.

Furthermore, because of their professional appearance and the possibility of embossing various stamps on the tablets, the impression of professional pharmaceutical quality is created.
On the one hand, embossing motifs on the ecstasy tablets is intended to arouse a kind of "brand loyalty" in the user. On the other hand, as a result of these same stamps, the tablets communicate a "positive image", which through the use of symbolic and comic figures, lucky symbols, and the like creates a – subconscious – sympathetic effect on the users.

Users of hard drugs recorded for the first time

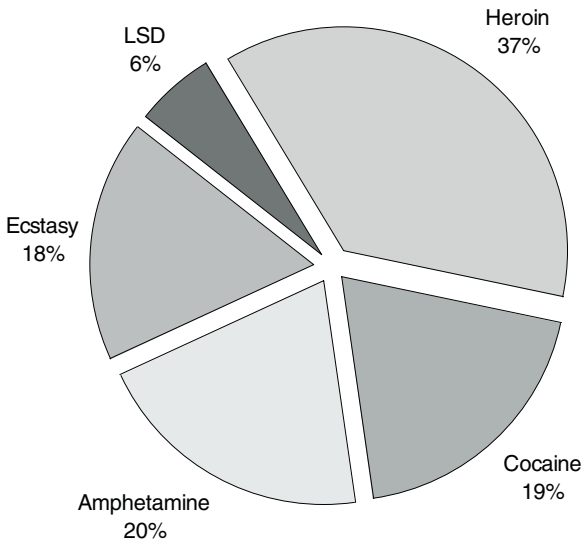
Turning now to the users, let us look at the indicator "*users of hard drugs recorded for the first time*". Users of hard drugs recorded for the first time are people who have become known to the police as drug users *for the first time* during the period under review. The absolute figure for people recorded under these criteria has risen constantly for several years.

If these *users recorded for the first time* are considered in a breakdown according to the individual types of drug, the increase in abuse of synthetic drugs can be very clearly seen over the past four years. As recently as 1994, the synthetic drugs (amphetamine and LSD) were well behind other drugs with a proportion of 17% of the total number.

But by 1996, a total percentage of 44% was recorded for amphetamines, ecstasy and LSD (i.e. for the so-called synthetic drugs) (cf. Fig. 2).

This trend becomes even more clear if the figures are broken down over the last ten years. Here, we can see that there is currently a move away from opiates (although these are still at a very high level) towards drugs with stimulant, euphoric effects.

Users of hard drugs recorded for the first time – broken down according to type of drug in 1996



(Source: FDR)

Fig. 2

Average ages of users of hard drugs recorded for the first time with respect to various types of drug

Examination of the average age of the users, particularly the users of synthetic drugs, shows that noticeably younger people are encountered here than in the other drug areas (cf. Fig. 3). Users of ecstasy, LSD and amphetamine recorded for the first time are far younger, at 21 and 22 years, than the average age of other drug users, which, for example, is between 26 and 30 for heroin, cocaine and other drugs.

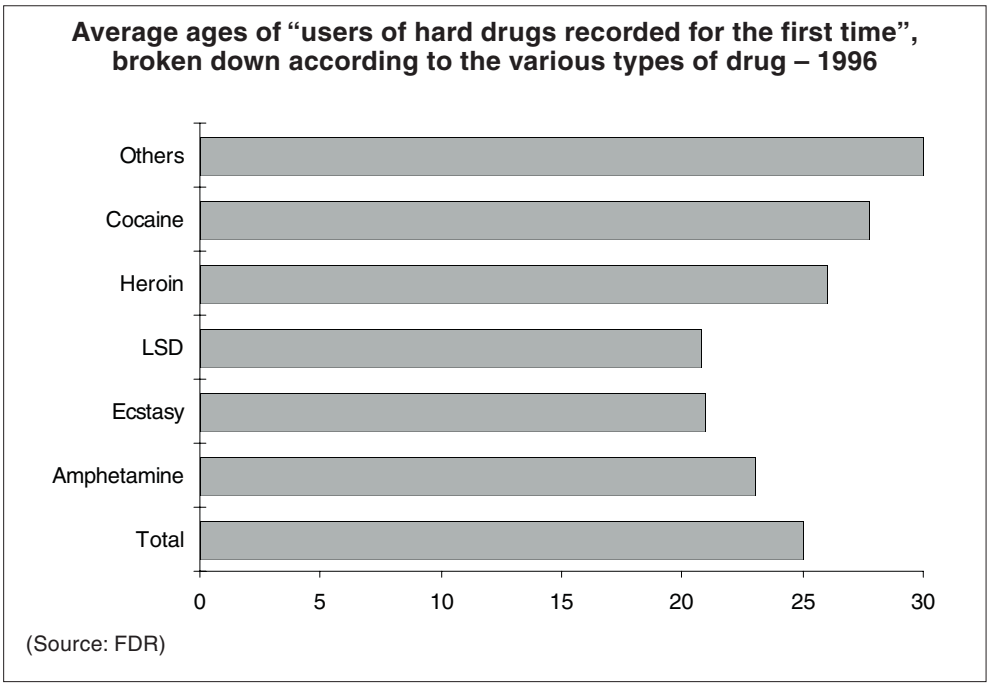


Fig. 3

Medical complications and drug fatalities

With the increasing abuse of synthetic drugs, increasing numbers of cases are being seen in which the use of ecstasy was by no means as harmless as consumers were sometimes led to believe in the past. The number of cases in which young people have had to be admitted to psychiatric or intensive-care units as a result of individual medical complications has been increasing constantly for years particularly at and after weekends.

Fatalities

In addition to the acute and/or chronic cases of intoxication, more fatalities have been reported in connection with the use of "ecstasy" (i.e. amphetamine and amphetamine derivatives) since the start of the Nineties.

Even if the strictest yardsticks are applied, Germany has seen a total of 49 fatalities linked to ecstasy since 1995 (1995: 18; 1996: 20; up to September 1997: 11). A large number of unreported cases must also be anticipated in this area.

The majority of the fatalities involved "*combined intoxications*" with other narcotics and/or alcohol, as well as suicides. According to police findings, all these cases are link-

ed to the use of ecstasy tablets. On the basis of forensic toxicology expert reports, at least four cases of death contradict the theory held to date that no lethal intoxications were to be anticipated because of the wide "therapeutic spectrum" of the amphetamine derivatives.

The problem of designer drugs

Special attention in the field of "ecstasy" must be given to the *"problem of designer drugs"*. By producing and dealing in highly specific substances, which have not yet been incorporated into national narcotics laws, but the pharmacological action of which is absolutely comparable with those substances which **have** been included under the law (the effects, in some cases, actually having been "optimised"), both manufacturers and users are able to avoid committing an offence under the provisions of narcotics legislation when dealing with tablets of this type.

Descriptions of the problem of designer drugs often omit to mention the fact that, in connection with the use of designer drugs as described above, the term "legal ecstasy tablets" is incorrectly used. This might suggest to users that the use of these substances can in no way be damaging to health.

Both scientific and popular science accounts often make the mistaken attempt to depict the characteristics of action of the amphetamine derivatives as differing from one another. Based on the knowledge of the *structure/effect relationships* within the group of β-phenylethylamines (amphetamine derivatives) and the few reliable studies available to date from animal experiments (cf. also paper 3.1.) this is an unacceptable argument.

The relevant paragraphs in the German Narcotics Act provide that, if a substance is found on the illegal drug market, which is not yet subject to control under the narcotics legislation, then, under §1 Para. 3 of the German Narcotics Act (BtMG), action may be taken in the form of a *"temporary classification"*. This legal provision was last used by the Federal Minister of Health in February 1997, when ten substances which had, until that time, been defined as "designer drugs" were classed under Annex 1 of the BtMG (non-marketable and non-prescribable substances) at the instigation of the BKA.
In the near future, the Federal Government is planning to introduce what is being referred to as a *"generic clause"* to class all theoretically possible derivatives of five different parent substances under Annex 1 of the German Narcotics Act.

As a result, in particular, of the *development of constantly new derivatives* of β-phenylethylamine (but also of other parent substances, such as the tryptamines) substances may appear on the market, the effect of which is unpredictable at the moment.

The first topical cases demonstrate that, at present, there again appears to be a market for etryptamine. Etryptamine, available until the end of the Sixties as a ready-to-use medici-

nal drug under the proprietary name "Monase®" was very rapidly withdrawn from the market again at the time as a result of its major side effects.

In the Federal Land of Brandenburg, one user died recently as a result of etryptamine abuse. As long ago as the late Eighties, at least 20 people fell victim to the use of this substance. At that time, it was sold mainly in the Länder of North Rhine-Westphalia and Rhineland-Palatinate under the name "Liebespillen" (love pills).

Summary and prospects

In summary, we can see that the results of the use of ecstasy tablets, currently taking the form of a mass phenomenon, cannot be foreseen in terms of either medical or social consequences. Too few data are available at present to make reliable statements in this context.

The popularity of the hard, synthetic drugs known as ecstasy tablets and the associated meteoric can be attributed primarily to the following factors:

- The attractiveness and social acceptability of the tablet as the form of use,
- The action of the constituents used to date, which is said to increase drive and thus corresponds to the prevalent zeitgeist,
- The *variable adaptation of the drug* (new chemical modifications, the possibility of using other parent substances) and the *adaptation of the design* to market requirements, the cultural sphere and the tastes of the users,
- The *availability* directly at the places where it is used.

All of the above, as well as the relative *ease of manufacture* in conjunction with *extreme maximisation of profit by the manufacturers*, make ecstasy attractive and ensure that drugs in tablet form will become further established on the market.
The question which should be raised today with a view to future prevention is: **What will come after ecstasy?**

4.7. New Trends in Synthetic Drugs in Europe

Margareta Nilson, European Monitoring Centre for Drugs and Drug Addiction, Lisbon

The situation and a few questions

In recent years, politicians and the public have become increasingly worried about the use of synthetic drugs, in particular ecstasy, and most particularly in connection with new trends in dancing, music and fashion.
The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) commissioned two studies last year to obtain an overview of the situation in Europe, in terms of patterns of use, on the one hand (Griffith & Vingoe, 1997), and with respect to preventive measures, on the other (Lewis & Sherval, 1997).

What is actually meant by "new trends in synthetic drugs"?

Synthetic drugs — New trends

- Synthetic drugs are psychoactive substances such as MDMA, other amphetamines and LSD produced in laboratories.
- The term "new trends" refers to social phenomena characterised by drugs, new forms of use of "old" drugs and/or new user groups.

EMCDDA Synthetic Drugs

So what is so special about these drugs?

The media

- Ecstasy – Dancing with death
- Inquest told girl died after taken ecstasy
- Warning: Every family must read this – Ecstasy shock issue
- Teenage ecstasy generation turns on to heroin
- Ecstasy banned – The fashion drug is ultimately a forbidden fruit like all the others

EMCDDA Synthetic Drugs

It can be seen even from these colourful media reactions that the phenomenon of synthetic drugs involves special social and cultural characteristics. Synthetic drugs, like other drug trends in the past, are associated with a particular type of music. The unique feature with these drugs, however, is the close links between the market interests of the ad-

vertising industry, fashion brands and record labels and the techno culture and symbolism of synthetic drugs. In addition, the manufacture of these drugs is completely independent of vegetable substances which have to be imported and refined. They can be produced – in large amounts – far more easily, far closer to the market and far more cheaply.

What is the epidemiologically demonstrable reality here?

Ecstasy is available all over Europe, but there are major differences in how long it has been available and on what scale. Some countries, such as the United Kingdom, Spain and the Netherlands, have had a relatively high prevalence for a fairly long time, while

Lifetime prevalence among the general public

Country	Year	Age	Amphetamine	Ecstasy	LSD
Finland	1996	16–74	0.7	0.2	0.3
France	1995	18–75	–	0.7	1.5
Germany (W)	1995	18–39	4.1	2.8	2.9
Germany (E)	1995	18–30	1.3	1.3	0.5
Netherlands (Amsterdam)	1994	>12	4.7	3.1	4.4
Spain	1995	>15	2	1.6	1.8
United Kingdom	1994	16–59	8	2	4

Data in per cent EMCDDA – Synthetic Drugs

Table 1

Lifetime prevalence in school surveys

Country	Year	Age	Amphetamine	Ecstasy	LSD
Austria**	1996	15–18	–	5.6	–
Belgium**	1996	15–18	5.4	–	3.2
Denmark	1995	15–16	1.9	0.5	0.3
Finland	1995	15–16	0.5	0.2	0.3
France	1993	11–19	2.0	–	1.8*
Ireland	–	14–24	–	3.2	2.1
Italy	1995	14–20	–	7.9	–
Luxembourg	1992	–	9.9	1.2	2.1
Netherlands**	1993	>14	3	5	2
Portugal	1995	–	2.0	0.5	0.4
Spain	1994	14–18	4.1	3.5	4.7*
Sweden	1996	16	1	–	–
United Kingdom	1996	15–16	13.4	8.3	14.6

* "Hallucinogens"
** City
Data in per cent EMCDDA – Synthetic Drugs

Table 2

synthetic drugs appeared much later in Scandinavia and Greece, for example. Germany lies somewhere in between.

Representative surveys show that ecstasy use is still limited. Lifetime prevalence is not higher than 10% in the various EU Member States, either in school surveys or in the general population. It tends to be between 3% and 5% or even lower. The highest prevalence is found in the age group between 18 and 25 years (see Tables 1 and 2).
However, a different picture emerges among specific risk populations. A study of people at discos in Amsterdam shows a lifetime prevalence of 52% and a 12-month prevalence of 41%. Italian and German studies reveal similar figures. In Italy, 9% of a sample stopped for street crimes had used ecstasy.

Drug seizures may be another indicator of the accessibility of drugs, although they also reflect the priorities of the police and customs authorities. Nonetheless, seizures in Europe have risen dramatically over the past few years. Prices are also falling.

Special social and cultural features

"Ecstasy culture was no freak storm that burst miraculously from the ether; instead, it was part of an evolving narrative of the development and refinement of the technologies of pleasure that crossed continents and cultures before ultimately converging to establish a series of private utopias..."

(Collin, 1997)

EMCDDA – Synthetic Drugs

Synthetic drugs are thus a special kind of cultural phenomenon. As has also been the case with other drug trends, the authorities and other organisations have reacted by developing preventive measures. But – and this is a new phenomenon – a bottom-up movement has also arisen, emanating from the "scene" itself and reflecting the special features of that scene. For, unlike previous attitudes towards drug users (both those of the outside world and their own!), ecstasy users do not perceive themselves as drug victims, nor as people with drug problems; often, they do not even consider themselves to be drug users.

Prevention – approaches and orientation

Almost every Member State of the European Union either has or is planning preventive measures against synthetic drugs. The largest techno scenes are found in the Nether-

lands, Germany and the United Kingdom, and this is also where the majority of projects have been set up. It is interesting that cooperation is frequently observed between the organisers of techno events, health authorities and the police.

Approaches
Preventive measures today are divided among five strategic approaches:

1. *Information for the general public*. This cuts both ways. Sometimes it alerts the public, particularly parents, but it may also arouse the interest of young people.
2. *Incorporation* of the subject of ecstasy and other synthetic drugs *into general school-based and out-of-school drug prevention.*
3. *Counselling, support and information* at large techno events for risk groups and young people experimenting with synthetic drugs, carried out by drug counselling centres or social workers. Alternative events, such as the *"drug-free raves"* organised in Germany and Sweden, also fall within this sphere.
4. *Self-help campaigns*, started by users. Groups provide other ravers with information for preventing risks and accidents. They regularly attend the discos, develop *"safe-use" materials* and frequently use music magazines for their preventive messages.
5. Brochures, leaflets and other *safe-use materials*, distributed in the discos, music shops, etc., the layout and language of which is geared to the style of the techno culture.

Orientation
The majority of preventive measures aimed specifically at synthetic drugs pursue a *"harm reduction"* approach, but by no means encourage the use of drugs. What they do instead is try to protect the users and get them to adopt a moderate, less risky mode of use. Recently, warnings of long-term effects seem to be occupying more space than before, even in the media close to the "scene". However, approaches based on the "Say no to drugs" model are considered to be ineffective for the target population described above.

DROBS in Hanover, for example, has compiled a number of *"Golden Rules"* for less experienced users:

– Drugs don't make you happy when you're unhappy
– Less is more
– Mixing is crap
– Don't push yourself into continuous drug taking
– Don't take anything you know nothing about

The keyword *"personal responsibility"* is also of fundamental importance in the sense that the aim of many programmes is to communicate value-free and essential information, to enable users to make a responsible and well-informed decision about their drug use.

Approaches at the political level

The use of drugs in discos or at raves falls into the twilight zone in terms of drugs policy, where liberal and repressive strategies meet. In many places, the police feel that they are not in a position to control drug use and choose a pragmatic approach. They work with local authorities, health and drug centres, as well as organisers of techno events, to make the events safer. Elsewhere, the legislation for maintaining public order is enforced more strictly, i.e. events are banned or interrupted and discos may be closed.

In contrast, some local authorities have drawn up guidelines for techno events. For example, the London Drug Policy Forum has issued the following guidelines:

- *Security and checks* – as few drugs as possible at techno events
- *Evironmental factors* – ventilation, access to cold water, chill-out zones
- *Staff training* – ensuring that people working in discos, etc. are adequately informed so that they can recognise risks arising from drug use, particularly heat stroke, and are able to take immediate action
- *Networking between various organisations* – police, local authorities, organisers of techno events and drug counselling centres should work together
- *Drug information and advice* – clear and precise information as to how drug users can protect themselves

Problems with attempts at regulation

The attraction of raves and of the techno culture in general is based on living out anarchy and hedonistic fantasies. The regulation of raves with preventive considerations in mind may thus quickly result in some of the techno fans moving elsewhere. However, the organisers of the most popular techno events are often also the most active in the avant-garde when it comes to implementing guidelines and *harm-reduction* measures. Organisers evidently often see it as a challenge to bring the safety of their customers into line with their economic interests.

Evaluation

Prevention in the context of synthetic drugs takes place chiefly outside the established settings and in the scene itself. This is an area with which traditional evaluators, used to structured programmes, are still fairly unfamiliar. In contrast, anthropologists and social workers with experience in the techno scene tend to be sceptical about conventional prevention programmes and their evaluation traditions.

Consequently, although there is great demand in this field for evaluation results and indications of which approaches might function best, hardly any consistent approaches to thorough evaluation of this type actually exist in practice and the results available are preliminary and only poorly founded.

Summary and outlook

- *Close cooperation* often exists between *authorities, organisers and other partners,* such as user groups. However, in view of the illegal status of ecstasy and the concomitant drugs, many public authorities vacillate between a repressive stance and the pragmatic realisation that, in some cases, this may do more harm than good.
- The importance of *harm reduction strategies* is largely recognised, particularly at the local level.
- *Prevention materials are increasingly being developed and distributed* in every EU Member State.
- *Increasing support for drug users* can be observed, but the traditional drug assistance agencies are not being used.

In general, it can be said that the enthusiasm and commitment of bottom-up groups in developing strategies have created a good basis of knowledge and models which can be employed in other countries, cities and settings where the phenomenon is just starting to flare up. Even many organisations which are used to dealing with heroin addicts are finding it difficult to implement interventions in the ecstasy field with the necessary seriousness and energy.

With respect to evaluation, however, the rapid development and unconventional approach of the interventions in the techno scene mean that research and tests of efficacy are lagging behind the programmes to a certain extent.
From a positive point of view, however, it is precisely this which is an exciting challenge for evaluation research, because the central role of networking, cooperation and the interdisciplinary exchange of ideas in this field of prevention also demands new approaches and ideas in terms of evaluation. This includes, for example, the further development of qualitative approaches for process evaluation. For this reason, the European Monitoring Centre for Drugs and Drug Addiction has already set course in this direction, so as to place evaluation research on as broad and practical a base as possible.

With respect to the synthetic drugs themselves, the European Monitoring Centre for Drugs and Drug Addiction is taking a leading role in a "Joint Action" decided upon by the European Council, with the aim of setting up an *early warning system*. The purpose of this system is the rapid identification of new trends, patterns of use and new measures for reducing the demand for these drugs. It will involve taking the network of key informants, including people in direct contact with the scene, and making it tighter and faster, carrying out specific studies on up-and-coming trends at short notice and, where appropriate, recommending preventive, political or legislative measures.

5

Public Communication about Ecstasy

5.1. Media Resonance Analysis: Quantitative and Qualitative Aspects of Reporting on Ecstasy in the Youth Press and National Daily Press

Jens Wilhelm, HSL Information & Kommunikation GmbH, Haan

The study, carried out in the period from 1 October 1994 to 15 April 1997, was intended to provide information on how various media target groups report on the subject of ecstasy and what previous information is available as a potential basis for preventive measures.

The analysis grid

In addition to formal aspects, such as the length of the articles, circulation and classification of the media, the analysis grid also included a large number of qualitative aspects, such as what role, if any, was played in the reports by long-term health risks, direct side effects or prevention messages.

The media selected

The following media were used for the analysis, corresponding to their assignment to the individual media target groups:

Youth-oriented media target groups

– *Young people in general:* Bravo
– *Girls' press:* Bravo Girl!
– *Radio:* WDR2 – WDR5
– *Scene press:* Frontpage – Partner Magazin – Schädelspalter

Multiplier media target groups

– *Daily press:* B.Z. – Berliner Morgenpost – Berliner Zeitung – Bild (national) – Der Tagesspiegel – die tageszeitung – Die Welt – Express – Frankenpost – Frankfurter Allgemeine – Frankfurter Rundschau – Generalanzeiger – Hamburger Abendblatt – Kölner Stadt-Anzeiger – Leipziger Volkszeitung – Märkische Allgemeine – Ostsee-Zeitung – Rhein-Zeitung – Saarbrücker Zeitung – Schweriner Volkszeitung – Stuttgarter Zeitung – Süddeutsche Zeitung
– *Weekly press:* Bild am Sonntag – Bildwoche – Das Sonntagsblatt DS – Der Spiegel – Die Woche – DIE ZEIT – Focus – Psychologie heute – Stern – Tango – Tempo – TV neu

Special media target groups

– *Gay press (male):* Männer aktuell
– *Soft porn press:* Coupé – das neue Wochenend – praline

The aspect of interest with respect to the soft porn and gay press was whether it was alleged that safe sex behaviour was diminished by ecstasy use.
The youth press proved to be uncooperative and reserved as we tried to obtain articles. The editors of some of these media initially even denied that articles on ecstasy had appeared in their publications. The reason for this was a fear of having written too little or inaccurately on the subject. In fact, the frequency of reports, particularly in the youth media, is far lower than would be assumed for a subject which is so topical for young people. For about two-and-a-half years, the debate on ecstasy has principally been carried out in the daily and weekly press.

Reporting
The number of reports in all the media increased during the period under review. It is interesting to note the increase in reports on the subject of ecstasy coinciding with large events, such as *May Day* or *Love Parade*.
Even the media with a lower frequency of reports on the subject had more reports on ecstasy at the times of major events.

Importance of the subject of ecstasy

Ecstasy as a major topic
The positioning of the subject of ecstasy as a main or secondary subject – for example in connection with a general report on drugs – provides information on the importance ascribed to ecstasy by the media.
As a main subject, ecstasy reached a figure of 42%, which is very high. It is primarily treated as a main subject in the youth-oriented press, the soft porn press and on the radio. The absolute reporting frequency, however, must be regarded as low.
The analysis also showed that the daily press treated ecstasy as a main subject more frequently in 1996, while this media target group reverted to mentioning it in a general connection with drugs in 1997.

Headings and length of the reports
Articles on ecstasy were predominantly in the form of reports, for the most part adopting information from police reports. Advice columns were hardly ever found and were seen only in the soft porn press and in scene magazines.
No increased attention to ecstasy could be determined from the length of the articles (57% less than 50 lines). In contrast, the youth-oriented press, although reporting less often, did report in far greater detail on ecstasy than other media did.

Headlines

The term ecstasy appeared most frequently in the headlines, followed by drugs and other selected synonymous terms. Risks associated with ecstasy were touched upon in headlines with only rough distinctions. In addition to general references to risks and dangers, the terms *addiction, dependence* and *damage* were also found to a considerable extent. 3% of the reports in terms of circulation contained terms such as *death* and *drug deaths* in the headline.

In the youth and girls' press, ecstasy reporting often began with the terms techno and rave.

Aspects relating to the content of reports

Setting

49% of the total circulation mentioned a specific setting in which ecstasy is used. The techno and rave scenes took first place among these settings. Only just under 12% of the circulation mentioned the social situation of ecstasy users. In 29% of its reports, the youth press mentioned school pupils as protagonists, corresponding to the trend in the other media target groups: users are mainly described as young people, still completing their education.

Assessment of risks

Over one-third of the media studied explicitly described the drug as *dangerous* or as *always dangerous*. One per cent described ecstasy as harmless, this assessment always being reported as a quotation. In other words, this does not necessarily mean that the editors of these media rate ecstasy as harmless.

The statement that ecstasy is dangerous increases quantitatively when the number of reports increases (for instance, in connection with major events, such as the *Love Parade*).

Health risks and side effects

41% of the circulation examined mentioned health risks as a result of ecstasy use. 83% of these listed specific health damage, while 17% gave non-specific *health risks* as a consequence.

Immediate side effects – both adverse and desirable – were mentioned in 31.5% of the reports. It should be emphasised that only on the radio were the desirable immediate side effects, such as a *feeling of happiness*, *sociability, expanded consciousness, energy boost,* mentioned exclusively.

Sexuality

There was virtually no connection made between ecstasy and sexuality. 2% of the daily press studied, and 10% of the weekly press, mentioned ecstasy in this context. In contrast, this subject reached a relatively high figure in the scene press, at 17%. The effects of

ecstasy use on sexuality were covered most frequently in the gay press (62%), a quarter of the reports in this media target group stating that ecstasy use reduces safe-sex behaviour.

Offers of help
Offers of help were mentioned in only 11% of the circulation examined. The telephone counselling service was chiefly referred to in the youth and scene press, while the daily press mentioned clinics as offering help in almost 88% of the circulation studied.

Legal aspects
Legal aspects were mentioned in 40% of the circulation. Illegal trafficking and drug-related crime were in the foreground in this context.
While the media tending to hold a right-wing liberal position demanded the criminalisation of ecstasy use and hardly dealt at all with the problem of drug-related crime, the left-wing liberal media made more distinctions as regards legal questions and were more likely to demand liberalisation.

Participants
In overall terms, the police were perceived and named by the press as the central figures. Experts and scientists with their estimates, evaluations and knowledge played a very subordinate role.

Statistical material and verifiability
Ecstasy reports were backed up by figures in 37% of the circulation studied. While 75% of the statistical data in the daily press were derived from police reports, the scene and gay press principally used figures from studies, surveys, drug reports of the Federal and Länder authorities and similar scientific sources (20–30%).

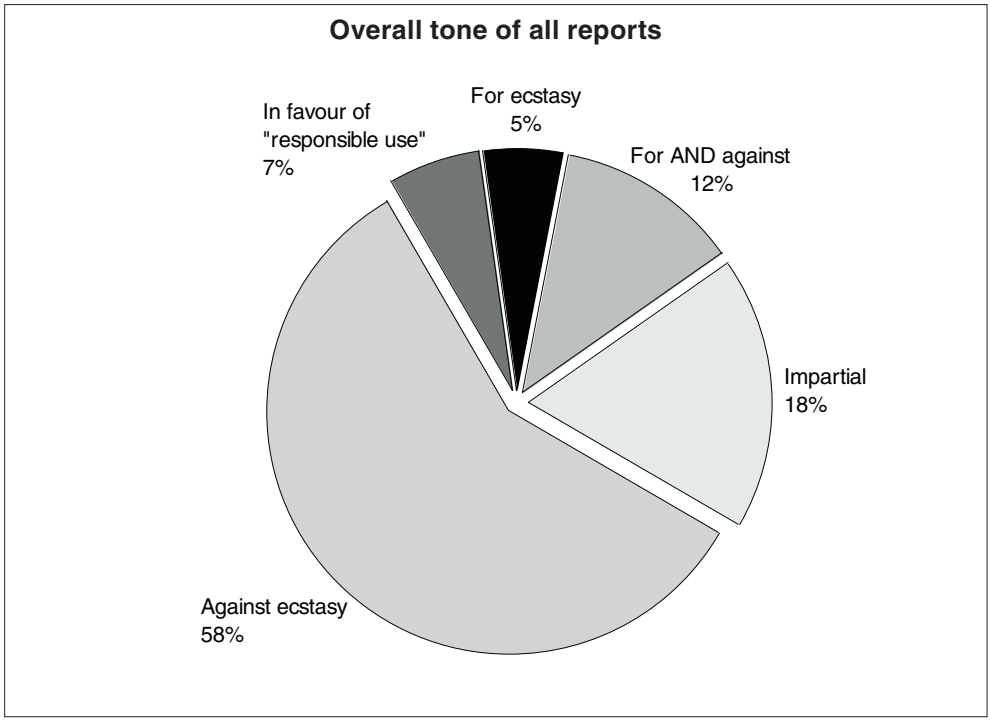
Profile of users
Specific value beliefs were ascribed to ecstasy users in between 5% and 20% of reports within the various media target groups. Critical prejudices predominated here. The most complex descriptions of user profiles were found in the scene press.
Media which would tend to be classified as having a conservative/liberal position assigned attributes to ecstasy users to only a small extent (4%), while left-wing/left-wing liberal media did this fairly frequently, with a figure of 15%. However, the opinions of the latter about the reasons for drug use were harsher than those of that sector of the press which would be classified as conservative/liberal.

Use of vocabulary typical of the "scene"
Even at the start of the study period, the media made use of expressions which were characteristic of the scene, in order to underline either their competence or their closeness to the target group of readers. The occurrence of terms used in the scene was investigated: *Abturn* (turn-off), *chill out*, *cocktail, crash-down*, *E*, *E-film*, *Einwerfen* (taking), *flashback, location* and *trip*. The most frequently used term is the abbreviation E for ecstasy.

Overall tone

The overall tone was recorded only if the articles contained assessments and recommendations by the editors.

A position on the subject could be derived from the majority of the reports, but it was not always unequivocal. For example, the circulation studied contained a considerable proportion of reports which gave arguments both for and against ecstasy (12%). The category in favour of responsible use (7%) can be interpreted as an incitement to use the drug. The relatively large segment (18%) with a value-free assessment, containing neither a negative nor a positive statement by the author, also includes those reports which mentioned health risks. The overall tone is pro-ecstasy in 5% of the circulation, while the largest percentage (58%) represented an anti-ecstasy position. A link could be seen here between the assumption that ecstasy use is increasing and a clearly negative position with respect to the drug.



Summary

Reporting on the subject of ecstasy is increasing all the time. Hence, although the risk aspect was mentioned more frequently as the study progressed, it was not stressed to any greater extent.

In the course of the study period, ecstasy was not treated as a main theme to any greater extent in the daily press with high circulation figures.

The youth-oriented scene press deals with the subject in a highly differentiated manner. Despite recognising the health risks, the scene editors do not fundamentally reject the use of ecstasy. The dangerous nature of the drug is underlined far less by substance-specific information (only 18%) and far more by pointing out negative consequences for health. Immediate side effects are mentioned in a high percentage of reports. It is disturbing to note that the radio stations studied mentioned only the desirable immediate side effects while, on the other hand, the scene press dealt with the subject of desirable versus adverse side effects in a very differentiated manner.

The risks involved with ecstasy are being described more frequently. Possible health risks play a far smaller role in the left-wing liberal press, at 47%, than in the conservative sector of the press (62%).

Major events, such as May Day or Love Parade, are always viewed by large sections of the press against the background of the alleged increase in ecstasy use which accompanies them, while reporting in the scene press at these times tends rather to take on an advisory nature.

6

Evaluated Preventive Measures

6.1. MIND ZONE – Alternative Approaches to Prevention

Stefan Nitschke, MIND ZONE, Munich

New ideas in social marketing

The Nineties are turning youth culture upside down. Many different styles are competing with one another. Trends and fashions are becoming increasingly hectic. And the boundaries of the forms of youth cultures are also dissolving. Target groups are disintegrating and metamorphosing into scenes. In short, youth culture has become complex, hedonistic and confusing. This can easily lead to the risk of getting bogged down. With a view to work on addiction, it could be said that traditional prevention methods with their clinical roots are getting into increasing difficulties.

At the same time, public pressure is also growing: increasing numbers of young people are turning to synthetic drugs; the number of them who have used ecstasy over the past few years is likely to be in the millions.

Are there new methods? New ideas? I think the answer is: Yes! *"If you want to reach the young people of tomorrow, you must cooperate with the youth scenes"* – these are the terms of practice for modern youth marketing. Gerd Gerken has a nice term for this: interfusion. In other words, bring the scene into the project. Cooperation and networking with the scenes has already been undertaken very successfully by the consumer goods industry! There are plenty of examples: *RTL, MTV, VIVA, Red Bull, Camel, Swatch, Gatorade* etc.

This new way of thinking is an important foundation of MIND ZONE. It means that our project identity is young at heart. I can imagine that networking between project, scenes and drug assistance will become greater and that ideas will be developed directly from the scenes themselves in future. Anyone denying the positive sides of this trend, is gambling away the influence that could be exerted on topical, future developments in youth culture.

Mind Zone – Who are we and what do we want?

MIND ZONE[1] has been working since 1996 in the techno and house culture, where it is supported by many young people from the scene. Their knowledge and experience creates a high level of insider acceptance and opens up the potential for self-help. *Fun, happiness and partying together peacefully are in the foreground – you don't need drugs for that* – this is the message which the project integrates into the scene as a counterbalance.

[1] MIND ZONE is a project sponsored by Landescaritasverband Bayern e.V., Munich, and is financed by funds from the Bavarian Ministry of Employment, Social Affairs, the Family, Women and Health.

In clubs and at events, the MIND ZONE team provides support for people who do not take party drugs. Voluntary workers provide information about party drugs and HIV, distribute *flyers* (scene-oriented leaflets) and *give-aways* (gift-bags). In plain language, MIND ZONE promotes health and encourages resistance to social pressures – without lecturing. We also want to encourage users to think about what they are doing. We offer our own thoughts as a stimulus, so that they can be compared with other convictions.

Important pillar: peer-to-peer education

In times of rapid change, standing still is not a viable option. I believe that drug prevention must also break new ground in many respects. Many of the traditional support systems are finding it difficult to reach young people in this decade. "No power to drugs" and similar campaign classics bounce off the scenes as if from a brick wall. It seems to me that the established support systems, borrowing as they do from the therapeutic fields, are fighting a losing battle. *Peer-to-peer education* may be a useful alternative here.

In the field of sociology, the enormous influence of *peers* (those of the same age) on mutual decision-making processes is regarded as a rock-solid fact. But plain common sense also suggests that peers can more easily see and help to shape developments in the scenes and groups. And in practice, it is precisely the self-help projects (Eve & Rave, etc.) that demonstrate how well prevention and education within the scene works.

Scientific studies clearly indicate the importance of scene-oriented work. The Munich-based IFT (Institute for Therapy Research) accompanied MIND ZONE for nine months (cf. paper 6.2.). Among other things, the results of this study provide evidence of the following:

1. The general acceptance of prevention at techno events is very high.
2. The acceptance of MIND ZONE activities is also very high.
3. Between 30% and 50% of the respondents at techno events can see effects of MIND ZONE which are of relevance to themselves.
4. A large number of respondents felt that MIND ZONE was addressing them personally.

Is there a "MIND ZONE philosophy"?

For many peers and workers, MIND ZONE is not simply a project, but a state of mind. This applies, in particular, to the young people who agree to work with MIND ZONE COUNTRYSIDE. They regard their work as a service to the scene. It is not unusual for them to have a (long or short) drugs odyssey behind them. The primary prevention orientation becomes credible precisely because the majority of the people on our stand are often ex-users.

Many peers are greatly concerned by the fact that the techno scene is changing into a drug scene. *"It's OK not to take synthetic drugs"* – this message thus not only strengthens the fairly silent and apparently invisible circle of non-users, but is also increasingly being seen as a universal rallying cry.

In this context, I should like to make the following point: the peers are not traditionalists in modern dress. Almost all peers reject synthetic drugs not on moral grounds, but for health reasons.
Furthermore, most of them call for "meaningful pluralism" in the prevention field. In other words, the majority are sympathetic to Eve & Rave. This means that they are all the more disappointed when it is said of them that they are the moral equivalent of liberal self-help projects. There is apparently something of a mix-up here.
It could thus be said that what we want is a dialogue with the scene, to convey backgrounds and contents which cannot be communicated by our messages alone.

Focus: Southern Germany – This is where MIND ZONE COUNTRYSIDE works

Development so far has been successful. For this reason, the Munich project has expanded. MIND ZONE COUNTRYSIDE now accompanies regional prevention and self-help initiatives throughout Bavaria, offering experience and practical recommendations. Real-life discussions by young people in psychosocial problem situations are also involved.
Augsburg, the city of trade fairs, has become the centre for the preventive work of MIND ZONE COUNTRYSIDE. The core team is made up of about 25 predominantly young people and a number of female social education workers. Initial operations in the surrounding countryside have already been started, using Augsburg as *home base*. A series of events for parents is also planned. These are intended to be a source of realistic information about the use of synthetic drugs for anyone who is interested.

From project to campaign

In addition to the "parent project" in Munich and expansion throughout Bavaria with MIND ZONE COUNTRYSIDE, we have also had since May 1997 the "INTERREG" (sub-) project, which is being partially funded by the EU. INTERREG cooperates with *Akzente Salzburg* (an Austrian prevention project) in the Salzburg/Bad Reichenhall area where Austria and Germany meet.
In view of the lightning developments of the past few months, it can be said that MIND ZONE has got off the ground. As they continue to grow, the COUNTRYSIDE and INTERREG projects will become equal partners. They connect the cities and, at the same time, bring them into contact with one another as centres of communication.

Where are our strengths?
MIND ZONE has a clear holistic concept. The (sub-)projects are part of a broadly based prevention campaign which is (partially) funded and promoted by the Bavarian government and professionally managed by the Landescaritasverband. It offers long-term chances of success in the prevention of addiction and AIDS. In addition, it permits rapid,

measurable public reactions. Against this backdrop, the colourful mix of specialists, peers and the commitment of volunteers is proving to be a success.

What advantages does sponsorship promise?

No project can live on fresh air and high ideals. But sponsors are hard to find because the "scenes" of the Nineties are hardened to conventional marketing designs. They defend themselves – and rightly so – against excessive advertising pressure and expose even the most sophisticated tactics extremely quickly. Types of publicity such as *"Below the line"* and, in particular, *event sponsoring* can bypass this resistance: *sponsoring* measures are normal in the techno scene (e.g. the *Camel air rave*). Particularly in projects of a *non-profit* nature, these measures are not rejected as exerting influence. On the contrary, in the best case they polish up the image of the sponsor. Those campaigns which benefit the scene may, in particular, develop a major appeal: computer animation, tattoo and piercing stands, fruit juice stands, and sometimes also (condom) competitions, dance shows, fashion shows, etc.
Of course, even we cannot promise miracles. And certainly no red carpet to the *point of sale*. But there are benefits to be gained by sponsors from a partnership of this type:

1. We provide access to a (relatively homogeneous) group of young people with known needs; this makes it easier to reduce diffusion losses.
2. In addition, we can offer good press work, the use of multipliers and peers. All this achieves high contact numbers. There is also the possibility of placing advertising on our printed publicity.

Conclusion: prevention in the post-modern context

Prevention in the classic sense can be learned – scene-oriented prevention can not! One of the preconditions is to have lived your own life as intensely as possible and to be open, because prevention in our post-modern society is forward-looking health promotion.
Prevention, as it has defined itself to date, is no longer an instrument for bringing health promotion into the discussions of the moment. It must emerge from the shadows of clinical psychology. It simply has to face the present-day situation with a new language and new openness.
If prevention is to be credible, it needs to be seen as participating in different processes. The creed is: stimulation not manipulation, consensus not conviction and cooperation not control.
In this sense, fossilised structures must be broken down, forces must be liberated and the chasm between tradition and the capacity to handle the future in the field of prevention must be bridged. We want to encourage this debate on the direction to be taken and make our contribution to it.

6.2. Evaluation of the MIND ZONE Prevention Project

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The figures from the latest studies in the techno scene prove that both the use of drugs and also the willingness to try them – particularly the synthetic drugs, such as ecstasy – are extremely widespread (cf. also papers 4.2. and 4.3. in this book).
Preventive measures within this scene are increasing, mainly involving secondary prevention approaches, in which the major concern, in the extreme case, is to set up a form of "consumer protection" for people using the new drugs (e.g. Eve & Rave).

MIND ZONE prevention project

This paper is a report on the evaluation of the MIND ZONE prevention project (cf. also paper 6.1.), carried out by the IFT (Institute for Therapy Research). The project has been running in the Munich area since March 1996 and throughout Bavaria since the start of 1997. The project is sponsored by the Bavarian Section of the Deutscher Caritasverband charity. It is financed with funds from the Bavarian Ministry of Employment, Social Affairs, the Family, Women and Health.

Emphasis of MIND ZONE's preventive work

In contrast to other prevention projects in the techno-scene field, the emphasis of MIND ZONE is on primary prevention measures. This means that the main target group for MIND ZONE is young people aged between 15 and 22 years who have not yet taken drugs or who are still undecided about which drugs to take. Drug users who are already experiencing problems with their drug use are only secondary targets.
The objectives of the project are, on the one hand, to encourage the positive behaviour of non-users, and, on the other, to move people who are still uncertain about whether or not to take drugs towards a decision against drug use or to seek professional help.
In addition for all segments of the target group the project aims to provide supportive activities in the field of AIDS prevention and education about hearing damage caused by excessively loud music.

Strategies and activities

MIND ZONE follows two fundamental strategies in realising its concept:

1. It attempts to reach the target group "party-goers in the techno scene" *on site* at the events.

2. It makes *almost exclusive use of young people (peers)* who also belong or formerly belonged to the techno scene and some of whom have also had experience of drugs, both for its campaigns at the events and also in the fields of concept drafting, planning and organisation (the concept of "peer-to-peer education").

MIND ZONE is generally represented at the events by an information stand. If the technical resources permit, a video is shown (continuous loop) which reflects in brief the main messages of MIND ZONE to the accompaniment of techno music. Information brochures and flyers on the subject of ecstasy and introducing the project are also distributed, together with an FCHE brochure on the subject of "safe sex", and "give-aways", small gift bags containing chewing gum, ear-plugs and condoms.

In the meantime there have been some changes in the manner of presentation and in the materials used by MIND ZONE. This paper will describe only the status as it was at the time of this study and which was the subject of evaluation.

Methodology of the study

The activities of MIND ZONE were evaluated by the IFT on behalf of the FCHE in the period from September to December 1996. The aims of the evaluation were to assess the degree of familiarity (information channels, reaching of target groups, familiarity with the materials), understanding and acceptance of MIND ZONE (materials, activities, messages) and the personal relevance to the target groups, as well as to assess the concept and the project work. The IFT also carried out another study at techno events in Bavaria on behalf of the FCHE (sub-study B; cf. paper 4.3.).

Survey instruments

Face-to-face interviews lasting about 10 to 15 minutes were conducted for the survey. A total of 39 questions were to be answered in each interview. The majority of these questions referred to various aspects of MIND ZONE, the remainder to data on drugs experience, attitudes towards drugs, experience of the scene and social demographics.
In addition to each interview, the interviewers completed an "interviewer's questionnaire" recording, among other things, the time and duration of the interview, willingness of the respondent to participate, and the circumstances surrounding the interview. Each interviewer also kept a log for the period in which he or she worked, regarding refusals, discontinued interviews and interviews which did not take place as a result of pre-set criteria.

Sample selection

The survey was carried out directly at techno events at which MIND ZONE activities were also present, in order to be able to address specifically people who had come into contact with MIND ZONE. The selection criteria were as follows:

– Stopping at the MIND ZONE information stand or
– Receiving one or more MIND ZONE flyers from a MIND ZONE worker.

In addition, in accordance with the MIND ZONE target group definition, respondents had to be aged under 25 years. Those respondents who met one of the two criteria were approached by the interviewers according to a set random procedure which simultaneously ensured that data were recorded over the whole period of the MIND ZONE activities at the event. If the initial question *"Have you heard of MIND ZONE?"* was answered in the affirmative, the interview was commenced; if the answer was no, the interview was stopped at that point.

Implementation of the survey

The interviews were carried out from September to December 1996 at six techno events in clubs in Munich. Four of these were evening events with an audience aged over 18 years, and two were what are known as *"raving afternoons",* afternoon events running from about 2.00 to 8.00 p.m. with an audience aged no more than 18 years. Depending on the size of the event, between three and five interviewers and an interviewer supervisor were used at each event, the supervisor monitoring the correctness of sampling and of the way the interview was conducted and acting as an on-site contact for the organisers of the event, the interviewers and the respondents.

A total of 252 valid interviews were available at the end of the survey. In eight cases (3%), people refused to participate in the survey. In two cases each, the people selected by the interviewers were either aged over 25 years or had said that they had not heard of MIND ZONE.

Description of the sample

Socio-demographic data

The majority of the respondents were men (63%). The average age was 18.6 years. 60% of the sample consisted of people aged over 18 years. The 40% of respondents younger than that were almost exclusively attendees at the two afternoon events, since very strict age checks are applied for admission to the evening events. In general the women in the sample were younger than the men.

The majority of the respondents were German nationals. Turkish nationals and people from the former Yugoslavia were also represented to a notable extent in the sample (4% in each case).

Since the respondents were, for the most part, still very young, it is easy to see why two-thirds of them had no school-leaving qualification at the time of the survey and 73% were still in an educational situation – school, apprenticeship, college, etc. The fact that some three-quarters of the respondents were still living at home with their parents is also likely to be connected to the age of the sample.

Experience with drugs

Experience with illegal drugs was very high among the respondents: 72.2% had already used illegal drugs to varying extents in the course of their lives, 64.1% had also done so within the previous 12 months and 48.2% in the previous 30 days. A very high proportion (59%) of those aged under 16 years had already had experience of illegal drugs.

Table 1 shows the prevalence values (lifetime, 12-month, 30-day prevalence) for various legal and illegal psychotropic substances. It is interesting to note the very high figures for the 12-month prevalence for alcohol (95%) and tobacco (82%), for example. Among the illegal drugs, the greatest experience among the respondents over the previous twelve months was clearly with cannabis (52%), followed by amphetamines (35%) and ecstasy (33%).

Drug use (legal and illegal) – prevalence data (n=252)

	Lifetime	12 months	30 days
Alcohol	99.2	95.3	90.1
Tobacco	88.9	81.8	75.8
Cannabis	61.0	51.6	35.7
Amphetamines	40.1	34.5	22.6
Ecstasy	37.7	32.6	16.7
Speed	25.8	21.8	10.3
LSD	25.5	19.4	7.9
Cocaine	21.9	14.2	6.3
Tranquillisers	10.2	6.0	1.6
Sleeping tablets	7.4	3.2	1.2
Opiates	4.4	1.2	0.4

Data in per cent

Table 1

The figures are slightly lower in comparison with the prevalence values from the IFT's representative study (cf. paper 4.3.). However, the sample in the evaluation study consists of younger people, on the one hand and, on the other, of a selection of people attending the techno events who were interested in prevention measures.

Ecstasy users

Since ecstasy is one of the key areas in the activities of MIND ZONE, a brief review will be given here of the group of ecstasy users within the sample as regards their use habits, their knowledge about drugs and their sources of information.

Use habits: 32.6% (n=82) had used ecstasy within the previous 12 months (described below as current ecstasy users). Just under a third of them stated that they took ecstasy either fairly regularly or very regularly. The majority of the ecstasy users took one or two tablets during an event.

Knowledge: 80% of the respondents considered that they were "fairly well" or "well informed" about ecstasy. This assessment was made by 85% of the current ecstasy users, while a slightly smaller proportion of 76% of the users of other drugs apart from ecstasy gave this assessment.

Sources of information: The fact that the ecstasy users, in particular, felt that they were well informed, can be explained when the sources which they used to obtain information about the substance are considered: 92% of them stated that their information about ecstasy was derived from their own experience among other sources. Generally speaking, the main sources of information on the subject of ecstasy named by all respondents were primarily *friends and acquaintances* (68.9%), followed by *radio/television* (63.9%) and *magazines* (62.6%) (cf. also paper 5.1. on the subject of the media).

Table 2 shows how reliable the individual sources of information were considered to be (the data are taken from the representative study, cf. paper 4.3.). Respondents relied to the greatest extent on their own experience (grade 1.2). A relatively high degree of reliability is also ascribed to specialist literature, information from friends and acquaintances and official information brochures. All other sources were given a 3 or worse in the assessment of reliability. In this context, teachers and parents were considered the least reliable.

Reliability of respondents' own sources of information according to ecstasy use*

Information sources	Ecstasy users	Other users	Total
Own experience with ecstasy	1.18	1.54	1.25
Specialist literature	2.09	1.90	1.99
Friends/acquaintances	2.24	2.13	2.17
Official info brochures	2.47	2.36	2.41
Education campaigns at events	2.76	2.75	2.75
Magazines	3.09	2.70	2.89
Education campaigns in the media	3.21	2.76	2.93
Other info material	2.70	3.59	3.08
Radio/television	3.40	2.83	3.09
School/teachers	3.56	2.96	3.20
Parents	3.65	3.26	3.41
Daily press	3.98	3.35	3.65

*12 months, ecstasy used at least 2x

Mean values, assessment as for school grades: 1=very reliable, 6=very unreliable

Table 2

Breakdown of the survey sample

The sample was subdivided into four groups for further analysis, according to the MIND ZONE target group definitions: (1) definite and (2) uncertain non-users, as well as (3) uncertain and (4) definite users. The variables "use of illegal drugs in the previous 12 months" and "conceivability of the use of individual illegal drugs" were selected as classification criteria for the individual groups. Hence, the following classification criteria are derived for the four groups:

(1) Definite non-users:
- No use of illegal drugs within the previous 12 months
- Rejection of the use of any drugs ("Should not be taken in any circumstances")

(2) Uncertain non-users:
- No use of illegal drugs within the previous 12 months
- No rejection of the use of at least one substance ("You could try it"=willingness to try)

(3) Uncertain users:
- Use of 1 to 6 illegal drugs within the previous 12 months
- Number of illegal drugs, the use of which is more rejected by the respondent in question, is greater than the number of drugs which he or she has actually used

(4) Definite users:
- Use of 1 to 6 illegal substances within the previous 12 months
- Number of illegal drugs, the use of which is more rejected by the respondent in question, is smaller than the number of illegal drugs which he or she has actually used

Breakdown of the survey sample (n=249)

		Target groups 1–3 (n=164)		Target group 4 (n=85)
	Definite non-users	**Uncertain non-users**	**Uncertain users**	**Definite users**
Total	20.5	16.1	29.3	34.1
Gender				
Male	18.7	14.2	32.3	34.8
Female	23.4	19.1	24.5	33.0
Age				
< 16	32.7	8.2	28.6	30.6
16–17	31.4	15.7	27.5	25.5
18–20	14.5	16.9	32.5	36.1
>20	9.2	21.5	27.7	41.5

Data in per cent

Table 3

It can be seen clearly that 65.9% of the respondents can be allocated to target groups 1 to 3 and hence to the main target groups for MIND ZONE campaigns. MIND ZONE has thus succeeded in actually reaching the target groups at which it is aimed.

Results

Familiarity

Since it was not possible to determine the degree of familiarity of MIND ZONE in the context of this study design – only people who had heard of MIND ZONE were selected – this was determined in the context of the representative study (cf. paper 4.3.). 23% of the respondents (n=278) in that study said that they had heard of MIND ZONE; it was slightly more familiar to the younger respondents aged up to 21 years than to the older age groups.

Of the participants in the MIND ZONE evaluation study, some two-thirds had come across MIND ZONE for the first time at the event at which they were asked the question. Those who had already heard of MIND ZONE before had in almost every case (87%) heard of the project at other techno events.

Generally speaking, the MIND ZONE materials were very familiar among the survey sample (cf. Table 4). The information stand was the best known item (91%). The give-away was similarly familiar (88%), and almost everyone who had received one had also looked inside. The video was the least familiar item, but this was also shown at only three of the six events.

With respect to the flyers, it is interesting to note that they had both been read by almost half of those who had received them.

Familiarity of the individual materials

Materials	Total (n=252)	Target groups 1–3 (n=164)	Target group 4 (n=85)
Stand	90.8	90.2	91.8
Give-away	88.3	88.3	88.2
(% of whom had looked inside)	(89.0)	(89.6)	(88.0)
Flyer	80.2	77.9	84.5
(% of whom had read it)	(48.0)	(45.7)	(52.1)
AIDS flyer	47.7	47.8	47.6
(% of whom had read it)	(41.5)	(41.0)	(42.5)
Video	29.6	31.7	25.4

Data in per cent

Table 4

For further consideration of the opinions and ratings of MIND ZONE, it is important to distinguish between respondents with relatively little knowledge of the project and those with more extensive knowledge. It was found that 47.4% of the participants in the study had only a little knowledge of MIND ZONE; in other words, they were aware of only a small proportion of the materials or had not looked at these in any detail.

Assessment and acceptance

90.6% of the respondents indicated a high level of acceptance in general of preventive activities at techno events. This figure is similarly high across all the groups studied (target groups 1–4, people who had and had not heard of MIND ZONE).

This result is of interest in comparison with the results from the representative study, where *all* those attending techno events in Bavaria were asked, whereas the MIND ZONE survey sample involved a *selection* of those attending, who might have been open to this type of activity to an above-average extent. This hypothesis was not confirmed by the results of the above-mentioned study. Here, too, there was a high level of acceptance of prevention campaigns, at 71%.

The assessment of the individual materials used by MIND ZONE was generally good. The give-away bag met with the greatest approval, with 93.2% of the respondents assessing it as "good", followed by the MIND ZONE flyer at 74.1%, the information stand at 67.5%, the FCHE AIDS flyer at 59% and, finally, the video at 58.4%. The assessments were similar in all the study groups.

Just under a quarter of the study participants said that they had acquired new information from the MIND ZONE flyer and this applied to 17.5% with respect to the AIDS flyer. Although the figures do not appear to be very high at first glance, they are nonetheless very high in comparison with similar assessments from other evaluations of prevention activities. A marked difference can also be seen between target groups 1 to 3 and target group 4. A larger proportion of the first three target groups derived new information from the materials than was the case in the fourth target group (definite users).

The main messages of MIND ZONE also met with broad approval: *"It's OK not to take ecstasy", "Drugs are not the most important thing at raves; what counts is having fun, being happy and being together peacefully", "Ecstasy has many unpleasant and even dangerous side effects"* and finally *"Don't forget safe sex"*. The acceptance figures were all between 97 and 98%, except for the ecstasy message. The ecstasy message was accepted to a slightly lower extent. In this case, only 92% of the respondents agreed with the message, target group 4, the definite users, being least inclined to agree.

In response to the question about what MIND ZONE could achieve, the majority of the respondents felt that people would be most likely to think about using drugs and to use con-

doms as a result of the project (cf. Table 5). This statement is doubtless a success which is also due in part to the preceding AIDS campaigns. The other possible effects of MIND ZONE, which would be more likely to affect behaviour, were considered possible to a far lesser extent. However, there were clear differences here between people who had heard of MIND ZONE and those who were less familiar with it. Those who knew about it, both from target groups 1 to 3 and from target group 4, felt that MIND ZONE was more effective than did those who were unfamiliar with it. Younger people at the events (under 18 years) were also seen to be more likely than older people to believe that MIND ZONE could achieve anything.

Assessment of the efficacy of MIND ZONE

	Total (n=252)	**Target groups 1–3** (n=164)		**Target group 4** (n=85)	
MIND ZONE leads to ...		Familiar with MZ	Unfamiliar with MZ*	Familiar with MZ	Unfamiliar with MZ*
Fewer drugs being taken	27.8	42.4	22.2	20.0	20.0
Drugs not being taken in the first place	18.4	23.5	20.5	15.6	6.3
People thinking about taking drugs	88.5	91.7	89.5	90.9	75.7
More people drinking soft drinks at raves	27.2	32.5	28.2	28.3	11.4
People using ear-plugs	27.3	29.1	27.6	33.3	14.3
More people using condoms	82.8	85.0	85.1	88.9	63.9

Data in per cent

* People are defined here as being unfamiliar with MIND ZONE if they were only slightly familiar with MIND ZONE, i.e. had seen only a few of the materials or had not looked at them closely. This applied to 47.4% of the total sample.

Table 5

The figures in Table 6 confirm that the respondents saw personal relevance in MIND ZONE. A striking result here is the fact that 42% announced their willingness to make a commitment to MIND ZONE or similar projects. This willingness is more marked among those who were aware of MIND ZONE in all target groups than among those who were not. This tendency can also be seen in the other statements regarding the personally relevant effects of MIND ZONE, as listed in Table 6. Here, again, it can be seen that younger people at the events were more likely than older people (over 18 years) to feel that they had been addressed personally.

Personal relevance

	Total (n=252)	Target groups 1–3 (n=164)		Target group 4 (n=85)	
Because of MIND ZONE ...		Familiar with MZ	Unfamiliar with MZ	Familiar with MZ	Unfamiliar with MZ
I will think more about the subject of addiction	33.5	43.5	26.9	32.6	23.1
I will take greater care of my health	29.8	41.2	24.1	30.4	15.4
I will obtain more information about drugs	33.7	43.5	29.1	34.8	20.5
I will discuss drug abuse more	49.8	56.5	48.0	50.0	38.5
I will join in on MIND ZONE or similar campaigns	41.2	54.8	32.1	45.7	23.1

Data in per cent

Table 6

Conclusion

The composition of the survey sample shows that pure primary prevention measures are almost impossible to implement at techno events, since a considerable proportion of those of interest for these measures is already using drugs. Thus, there must always be something to offer those already affected as well.

Restricting a campaign to a single substance (ecstasy), as MIND ZONE did at the time of the evaluation (but no longer does), is not a good idea since it does not match the realities of drug use. Most of the respondents who used drugs had experience of several drugs and often used other drugs together with ecstasy even in the course of a single evening at the event.
The results of the evaluation also showed that it is particularly the younger people (under 18 years) attending techno events who respond well to preventive measures. Concentrating on this age group makes sense.

The positive evaluation results for MIND ZONE do not allow any statements to be made regarding the actual effects on target group behaviour. The question about the extent to which MIND ZONE has brought about changes, in drug use for example, was not part of the objectives of the evaluation and neither can nor should be answered by this evaluation. But what can be stated is that the target groups exhibit a high level of acceptance of the project and that the preconditions for an effective prevention programme have therefore been created.

6.3. Presentation of the European ecstasy pilot project and results of evaluation (Lifeline Project Manchester, Jellinek Centre Amsterdam and Büro für Suchtprävention Hamburg)

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Sponsored by the COMMISSION OF THE EUROPEAN COMMUNITIES,
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Starting point of the project

Hamburg reacted very early to the new situation in 1994/95 (i.e. to the appearance of new synthetic drugs, new user groupings and new patterns of use). Under the umbrella of a newly established "ecstasy project", the *Hamburgische Landesstelle gegen die Suchtgefahren* (Hamburg Office against the Dangers of Addiction) and the *Büro für Suchtprävention* (Office for Drug Prevention) developed and set in motion the following initiatives and measures in this connection:

- Research into the patterns of use and the psychosocial consequences of the use of ecstasy (empirical *research project*, sponsored by the FCHE; cf. paper 4.1.; this was preceded by a qualitative explorative study on the use and abuse of ecstasy),
- Installation of an *ecstasy hotline* in Hamburg to provide information and advice about ecstasy over the phone (sponsored by Techniker Krankenkasse health insurance company),
- Development and implementation of a *European pilot project* for the prevention of ecstasy, particularly taking into account a peer-educative and gender-specific approach (sponsored by the Commission of the European Communities).

In addition to the Hamburg Office for Drug Prevention, the *Lifeline Project in Manchester* and the *Jellinek Centre in Amsterdam* were the other partners cooperating in the European pilot project, which was initially sponsored for a period of twelve months (June 1996 to May 1997). The Hamburg Office for Drug Prevention of addiction acted as project coordinator.

Objectives of the project

The aim of the pilot project was to cooperate with people from the techno scene to develop appropriate ecstasy prevention materials and to test their efficacy in terms of acceptance in the party drug scene. In this context, special importance was attached to a *gender-*

specific mode of approach, since the experience available from Great Britain showed clearly that girls and young women have their own motives for ecstasy use, which differ from those of the young men.

The project was geared equally to users (as secondary prevention) and non-users, those interested in ecstasy use and experimenters (as primary prevention).

In terms of method – and apart from the gender-specific approach – the concept of *peer-to-peer* education was used.

Short-term objectives
In detail, the following *short-term objectives* (referred to a twelve-month period) were aimed at:

- Delaying first use (primary prevention)
- Reducing use (secondary prevention)
- Preventing health risks and damage to health (secondary prevention)
- Developing alternatives with reference to experimental use (primary prevention) and more regular use (secondary prevention)

Longer-term objectives
In the longer term, the implementation and realisation of the following objectives were targeted on the basis of the cooperation between the three European cities and institutions:

- Establishment of a network of major European cities with particularly serious drug problems (starting point: the Hamburg, Amsterdam, Manchester triangle)
- Installation of a joint early-warning system for the prompt recognition of new trends of use among young people (monitoring system)

Preconditions
The cities involved in the project have created favourable preconditions at the local level, accentuating different aspects, which are mutually complementary and could be combined to form a joint campaign:

- *Hamburg* has initiated a primary prevention campaign to last for several years and, with the sponsorship of the FCHE, has carried out a study on ecstasy among users (cf. paper 4.1.)
- *Manchester* has developed educational materials with good visual designs in the context of secondary prevention activities (flyers, comics)
- *Amsterdam* has a well thought-out system ("Antenne") for finding out about new trends among young users

Conceptual approaches

A joint preventive measure was to be developed as a pilot project and implemented in all three cities. Finally, the project was to be reviewed to see whether and to what extent it was successful using the selected mode of approach in reaching the target group and in being accepted by that group.

In terms of content, the project was to take three conceptual approaches into account:

1. *Peer-education approach:* Using the Northern German techno magazine *"Mushroom",* posters and mouth-to-mouth propaganda six to eight people from the scene, mostly with experience of drug use, were recruited to work continuously on a voluntary basis. The selection criteria were a degree of awareness of the problem, experience of the party scene and familiarity with Hamburg's club and party scenario.
   The experiences and observations of the peers found their way into the drafts of the information materials. Between March and May 1997, the volunteers also distributed the resultant info cards in the clubs, at parties and at *G-Move*, Hamburg's techno parade, which drew a crowd of over 100,000 people that year.

2. *Gender-specific approach:* As the second focus of the project, gender-specific work was reflected in the equal gender representation in the peer group make-up, on the one hand, and in the production of gender-specific materials, on the other. Efforts were also made to achieve equal gender distribution in the evaluation sample.

3. *Harm-reduction approach:* The harm-reduction approach was derived as an additional conceptual aspect from the cooperative work between the projects involved. This approach was geared less to normative wishful thinking than to the resources of the individual involved and the lifestyle of the target group.

Realisation and implementation

First working step

In the first working step (June to October), the group of peers recruited to take part gathered their own experiences and observations in the scene or in their preferred sub-scenes.[1]

It also became clear that many of them had had similar experiences with problematic forms of use, either personally or among their circle of acquaintances.
In the course of time, it was possible to develop a common understanding of drugs and addiction in group sessions, which was closely oriented primarily to personal experiences

[1] Hamburg can be considered as having at least two major party scenes, the Club Scene and the Goa Scene, the two differing both with respect to the music and patterns of use and also as regards the value systems of the members of the scene.

and the world in which party-drug users live, and which took into account not only the motivations for use, but also the specific conditions under which negative adverse effects might occur.
Against this backdrop, attempts were made to identify realistic points of intervention to avoid the transition from controlled to addictive use and to form these into prevention messages. Particular attention was paid here to gender-typical aspects of the motivations for use or modes of behaviour.

As an supplementary measure, experts instructed the peers in medical and psychiatric aspects (Dr. Reiner Thomasius, Eppendorf University Hospital Hamburg) and in work within the scene (Peter Märtens, DROBS Hanover).
In addition, the projects participating also drew up the national research status in each case and set up contacts with party organisers and club operators.

Second working step
In a second working step (November to February), the rough drafts which had been worked out were compared with the results and ideas of the partner projects in Amsterdam and Manchester. Here, the current research results from the three countries involved were put in guidelines. The previous experiences of the projects, particularly the Manchester project, suggested the decision to have a *series of small flyer cards*. The front of each card bore a motif which in a preliminary test of some 50 designs (*eye-catcher*) was assessed as particularly attractive. The back of the cards contained the information section.

The result was *two gender-specific info cards*, which were used in the cities participating in the project with identical content and with some variation in motifs, as well as different additional materials in each case. This meant that each project had the opportunity of incorporating the surplus work of its peer groups and of taking into account the varying conditions in its own country.

The info cards

In *Hamburg*, where the group calls itself *network prevention*, six info cards in all were made up. In addition to two *gender-specific* info cards (boys/girls info), two other cards provided information on *substance-specific* risks and the possibilities for reducing these risks (ecstasy/speed), and another two *non-substance-specific* cards gave information about raves and the dangers of addiction ("stop").

- The *info card for girls* deals primarily with matters of party life and menstruation, contraception and safe sex. It calls for a responsible attitude towards one's own body.
- The *info card for boys* picks up the greater willingness of many male users to take risks and warns, in particular, against combined use and excessively high doses. In particular the effects of the party weekend on the following days are dealt with. The

ambivalence of use between fun and "Verpeiltsein"[2] (losing one's bearings) is clearly reflected in the illustration.
– The *ecstasy info card* lists not only the physiological effects, but also the scientific contraindications and the behavioural rules which will help avoid the worst. A "code of conduct" in emergencies is given at the end.

In *Amsterdam,* the *unity* group developed three additional small leaflets dealing with the legal situation, the testing of tablets and recovery after a party weekend.

In *Manchester,* the info cards slot into the overall concept of the wide variety of information materials produced and distributed by the *Lifeline Project*.

Use of the Hamburg info cards and general response

The Hamburg info cards were distributed between March and May in several Hamburg clubs, at one-off events, and at G-Move by mobile teams of peers or at the project's own stand, where they were handed out to people who showed an interest. They met with lively interest and discussions generally arose quickly about experiences of use which were not always only positive in nature. In some cases, it was also possible to refer people to our ecstasy hotline or to appropriate counselling organisations. Many questions, relating to later consequences or composition, for example, could not be answered. Further research is therefore necessary and is eagerly awaited within the scene.

The reactions of the club operators varied. Some seemed to find it rather undesirable to discuss the drug use of their clientele, which was, in some cases, obvious; others were involved from the start, followed the campaigns with interest and offered their support. The info cards also met with a positive response in the media geared to the scene.

The evaluation and its results

The evaluation of the common gender-specific info cards in the three cities involved was undertaken using a standard questionnaire. In Hamburg, this sheet was published in the techno magazine "Mushroom" with books being given as prizes; other questionnaires were completed by people attending G-Move.

The total sample

A total sample of 291 volunteers was drawn from all three cities for evaluation. It was made up of more or less equal numbers of women (140) and men (151). The average age was just over 22 years (cf. Table 1).

[2] Hamburg scene jargon for uncontrolled and problematic drug use in the sense of "having lost one's bearings".

While the sub-samples in Hamburg and Manchester exhibit more or less the same age structure, the average age of the respondents in Amsterdam was about 1.5 (in comparison with Manchester) and just under 2 years (in comparison with Hamburg) higher than the overall average.

The sample – Number and age of participants in the study; size and composition of the total and sub-samples

	n	Women	Men	Average age	Range
Hamburg	115	55	60	21.6	13–40
Amsterdam	74	35	39	23.4	17–47
Manchester	102	50	52	21.9	13–38
Total	**291**	**140**	**151**	**22.2**	**13–47**

Data in absolute frequencies

Table 1

71.6% of the respondents had used ecstasy in the previous six months (cf. Fig. 1). The sample therefore consists predominantly of experienced ecstasy users, the Hamburg sub-sample having the lowest rate of experienced users at 63.5%, while the highest proportion is to be found in the Amsterdam sub-sample.

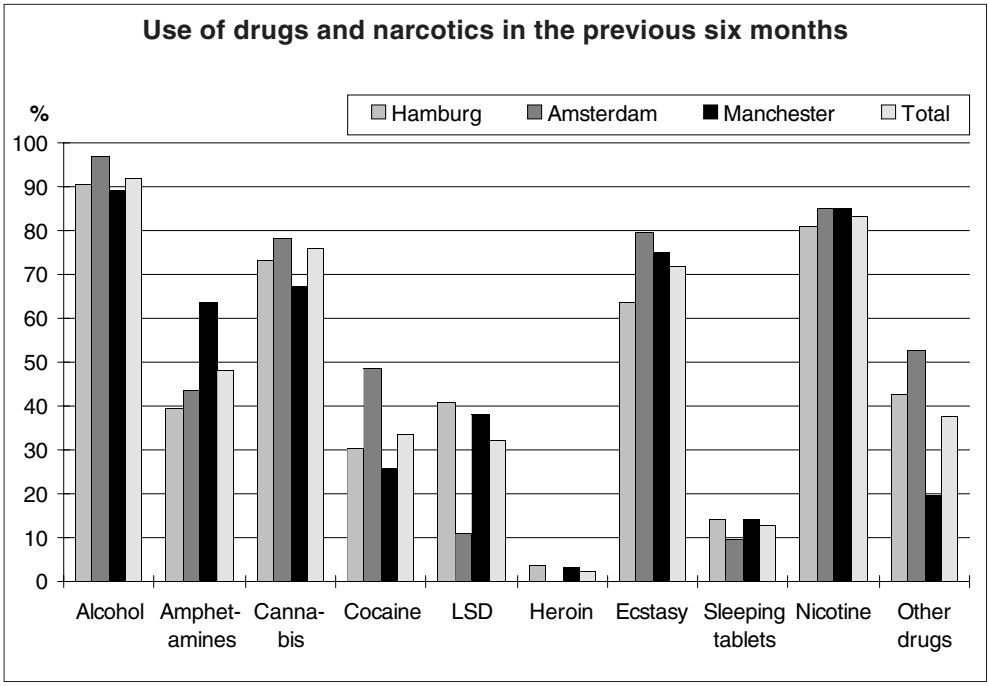

Fig. 1

The prevalence rate for ecstasy is exceeded only by the rates of use for alcohol (91.6%), nicotine (83.3%) and cannabis (76%).

It is also interesting to note the rates of use for amphetamines in Manchester and cocaine in Amsterdam, which are well above the average, suggesting increased use of these substances in these sub-samples.

In contrast, the use of heroin plays virtually no role at all in either the total sample or the sub-samples, providing a clear expression of the dislike within the party-drug scene for this substance.

The gender-specific differences in drug use over the previous six months can be described as follows: the men used cannabis with a highly significantly greater frequency, ecstasy and heroin very significantly more frequently, and alcohol and LSD significantly more frequently.

Assessment of the info cards

Acceptance of the gender-specific address

The result with respect to addressing boys/men and girls/women separately is unequivocal: 79.4% of the respondents in Hamburg and 88.7% in Amsterdam considered this to be a sensible procedure (not surveyed in Manchester).

Only 11 men and 10 women disliked the gender-specific address. Thus, both the women and the men in the sample made an unequivocal decision in favour of being addressed separately.

Acceptance of the external presentation

While the same picture was used in all three cities for the boys cards, the picture on the girls cards varied in all the countries involved, as a result of the preliminary test carried out among members of the scene.

With respect to the specific question as to whether the respondents liked the picture on the girls card and the boys card, the motifs on the girls cards were approved to a greater extent (by a total of 78.8% of the total sample) than the boys cards, where the rate of approval was 62.3%.

This result is supported by a direct comparison of the two cards, in which some two respondents in three from the total sample favoured the girls card (63.7%) over the boys card (36%) (cf. Table 2). The floral motifs chosen in Hamburg and Amsterdam fared better in these cities than the girls' comic figures on the cards used in Manchester.

Frequencies of preferences of the girls and boys card

	Girls Card	Boys Card
Hamburg	64.5	35.5
Amsterdam	67.7	32.3
Manchester	59.8	39.1
Total	**63.7**	**36.0**

Data in per cent

Table 2

An analysis and consideration of the preferences, differentiating between the genders of the respondents, showed that, in 70.2% of the women (n=138), the card motif selected for them had achieved a high level of approval, while the men (n=145) were seen to be undecided with respect to their card preference; 56.6% of them found the picture on the girls card better and 43.3% the picture on the boys card.

Relevance of the contents

Novelty of the information

The girls and boys cards were able to communicate new information to different degrees. The novelty of the information on the girls card was estimated as higher in the total sample than the information directed at the young men. Almost every other person in the total sample (47.3%) was able to acquire new information from the girls card, while only about one in three (32.2%) found that the boys card contained novel information. Only in the Amsterdam sub-sample did four out of five respondents say that there was no new information in either version of the card.

The higher degree of novelty value in the information aimed at the girls and young women suggests that female-specific aspects had been taken into account to an insufficient extent in the formulation of previous prevention messages – at least in the Hamburg and Manchester project locations.

The high level of information evident in the respondents in Amsterdam may be the result of the higher average age of this group. It could be that increased amounts of relevant information had already been distributed or disseminated by other means among this group before the EU pilot project.

Importance of the information

While the novelty value of the information communicated via the cards tended to be assessed as moderate, the assessment of its importance was comparatively high using a

scale from 1 (*not at all important*) to 7 (*very important*): the importance of the information on the girls card received a mean rating of 5.52, that on the boys card 5.34. It should be noted in this context that there is virtually no correlation between age and these two assessments. Therefore, whether the card in question was assessed as important is not a question of age.

Viewing of the assessment of importance by gender shows that the information on the girls card is assessed as very significantly more important by women (M=5.84) than by men (M=5.23), whereas the assessment of the information on the boys card with respect to its importance shows no significant differences between women (M=5.56) and men (M=5.19).

Encouragement to exchange information

Both the girls and boys cards provided equal encouragement to exchange information with friends. About two out of three respondents from the total sample were prompted by the girls card (63.2%) and the boys card (61.2%) to discuss the cards and their contents with friends. Thus, the cards encourage communication among the party-goers about the use of party drugs, the associated risks and the possibilities of lower-risk use.

The analysis differentiated on the basis of gender showed that women (n=138) felt encouraged by both cards to exchange information, but, in particular, by the girls card designed for them (69.2% as against 61.9% for the boys card).
Of the men (n=145), 60.4% felt prompted by the boys card and 56.3% by the girls card to discuss the information contained on the cards.

Source of information on lower-risk drug use

Despite the fairly low figures in the assessment of the novelty value of the info cards, over 80% of the total sample considered the info cards to be a suitable way of learning more about dealing with drugs in a less risky manner (girls card 83.6%; boys card 86.1%). The agreement rates in Hamburg and Manchester are actually well above this level (Hamburg just under, Manchester well over 90%), while the sub-sample results from Amsterdam were considerably lower. However, the Amsterdam respondents rated the info cards more highly as an information channel for the target group of young men and were more likely to consider it the right way than for the target group of young women.

Effect of the info cards

Effects on the respondents' own use of drugs

Every third (referred to the girls cards) and every fourth (referred to the boys card) person from the total sample felt that the cards would affect their own use of drugs (cf. Table 3).

The sub-sample results from Manchester and Amsterdam showed major differences from these figures: while the British sub-sample assessed the degree of effectiveness of the cards on drug use as far higher (girls card 44%; boys card 36.7%), the Dutch results showed that virtually no effect was attributed to the cards with respect to the use of drugs in Amsterdam (girls card 8.8%; boys card 9.6%).

Frequency of the effects of the info cards on the use of drugs

	Girls Card		Boys Card	
	Yes	**No**	**Yes**	**No**
Hamburg	27.9	72.1	24.8	75.2
Amsterdam	8.8	91.2	9.6	90.4
Manchester	44.0	54.9	36.7	63.3
Total	**29.4**	**70.2**	**25.9**	**74.1**

Data in per cent

Table 3

Longer-term effects

The differences in the assessment of efficacy with respect to the respondents' own use of drugs are also reflected in the assessment of the longer-term effect of the info cards. When asked about the probable period of ecstasy use in the future, every third person in the total sample was uncertain about this and was unable to make any definitive statement.

However, the individual results in the three cities were very different. In Amsterdam, the figure for those respondents who did not know how long their use of ecstasy was likely to continue was 70%. In Hamburg (44.5%) and Manchester (53.7%), in contrast, the percentage of those who were unsure was far lower.

On the other hand, the proportion of those who did not want to take ecstasy in the future was greatest in Hamburg (37.3%) and lowest in Amsterdam (9.9%). In the total sample, every fourth respondent (24.6%; cf. Table 4) said that they did not want to use it in future.

Probable duration of ecstasy use in the future

	Not at all	Several months	Up to 1 year	Up to 2 years	Up to 3 years	Up to 4 years	Up to 5 years	Don't know
Hamburg	37.3	7.3	3.6	3.6	0.9	0.0	2.7	44.5
Amsterdam	9.9	0.0	1.4	4.2	1.4	11.3	1.4	70.4
Manchester	21.1	7.4	5.3	2.1	2.1	2.1	6.3	53.7
Total	**24.6**	**5.4**	**3.6**	**3.3**	**1.4**	**3.3**	**3.6**	**34.3**

Data in per cent

Table 4

The clearest ideas regarding continued use were expressed by users who, according to their own statements, used ecstasy every fortnight, every week or every month.

In overall terms, the sample displayed a high level of uncertainty with respect to the continuation and duration of ecstasy use. There can be no doubt that there are starting points here for further intervention and preventive measures.

Differences in effect between users and non-users of ecstasy

Ecstasy users are defined here as people who, according to their own statements, had used ecstasy more than "never" in the previous six months (71.6% of the total sample).

The users (M=23.5) were very significantly older than the non-users (M=18.9). The mean age difference was 4.6 years.

Encouragement to exchange information

Both the girls card and the boys card tended to have an effect among users rather than non-users and stimulated those with experience of use to an exchange of information: among the users (n=203), 64.7% felt prompted by the girls card to exchange information and 65.1% by the boys card, whereas the figures among non-users (n=81) were 58.7% (girls card) and 50% (boys card). This result is of interest because the majority of users denied the novelty value of the information offered on the cards.

Novelty value of the information

For the greater part of the users, the info cards did not contain any new information (girls card 59.9%; boys card 75.9%). However, despite the knowledge which they already had, they did communicate about the information and may have thus consolidated their knowledge as a result of the repeated discussion of the statements and suggestions.

In contrast to the users, 64% of the non-users rated the information content of the girls card as new, while 52.7% felt this about the information on the boys card.

Information sources for the Hamburg sub-sample

The respondents in Hamburg obtained their information on ecstasy primarily from friends (75.7%), from magazines (60%) and from the media (50.4%). In contrast, drug counselling centres (14.8%) were hardly used and health authorities (1.7%) were virtually unused as information sources (cf. Table 5).

Frequencies of assessments about where information is obtained
Multiple responses were possible.

Friends	75.7
Magazines	60.0
Media	50.4
ecstasy project	32.2
Drug counselling centres	14.8
Health authorities	1.7

Data in per cent

Table 5

Assessment of the credibility of information sources
Although drug counselling centres and health authorities were used only to a small extent as sources of information, the respondents nonetheless ascribed a high degree of credibility to them on the subject of ecstasy.

On a scale ranging from 1 to 7, drug counselling centres (mean value 5.07) were considered just as credible as friends (mean value 5.4). The degree of credibility was exceeded only by the Hamburg *ecstasy project* (mean value 5.48), under which the European pilot project was implemented in Hamburg and which had made its public appearance as the producer and distributor of the cards.

Assessment of responsibilities
Production of information materials: The respondents clearly felt that the production of information materials on drugs should be left principally to the drug counselling centres (63.7%), followed by the health authorities (34.5%).

Distribution of information material: However, they were equally definite in stating that, in future, the materials should be distributed by the *ecstasy project* (78.1% in favour). The respondents placed drug counselling centres only in second place and at a considerably lower level (57.9%) as the organisations for distribution of the materials.

This result permits the conclusion that the procedure selected by the ecstasy project of distributing information and materials via peers is clearly preferred over professional drug counsellors as contacts and suppliers of information and materials. This result is even more interesting in that the role of producing the materials was assigned to the drug

counselling centres by a two-thirds majority. Evidently, the people who produce the materials are not automatically also regarded as the optimum distributors and contacts. The body transmitting the information is clearly ascribed major importance by the target group, with respect to acceptance as much as any other factor.

Summary

The following can be stated in summary:

– The target group of ecstasy users was reached successfully.

– Addressing the genders separately was welcomed by the target group, as was the peer method selected.

– The info cards proved extremely valuable as a medium. The girls card met with greater acceptance, with respect to both the external presentation and the contents, and this applied both to the total sample including both genders and, to a particularly marked extent, to the sub-sample of women.

– Although the information provided on harm reduction was rated as "new" to a lesser extent, it was considered all the more "important" and encouraged an exchange of information regarding lower-risk use of party drugs among the target group.

– As was to be expected, the info cards had less direct effect on the respondents' own use of drugs. Nonetheless, every fourth respondent wanted to stop using the substance in future and, in the total sample, there was major uncertainty and indecision with respect to the continuation and duration of use.

– Although the Hamburg *ecstasy project* enjoys the highest level of credibility among the respondents, it is, on the other hand, less apt to be seen as a producer of information materials or used as a primary source of information, but preferred as a distributor of drug-related information materials.

6.4. In-school Prevention of the Use of Party Drugs – Initial Experience and Evaluation Results

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Introduction

Reviewing the preceding papers, it is interesting to note that some areas have hardly been touched upon:

1. Where prevention has been discussed so far, it has always been secondary prevention in the sense of *"harm reduction"*. Experience from various projects and initiatives is now available in this field. However, what have not been discussed are primary prevention approaches. Thus this paper will illustrate the possibilities for primary prevention of party drug use and what form a preventive measure of this type might take, on the basis of experience gained with the Bielefeld party drug prevention study.

2. In line with the subject of the conference, the focus of all the measures described has been illegal drugs. But there are many good reasons for not ignoring legal drugs completely, because all the empirical surveys presented have shown not only that multiple use of both legal and illegal drugs is the rule, but also that alcohol and tobacco, in particular, are among the legal drugs most frequently consumed in combined use and generally precede the use of illegal drugs. This fact clearly demonstrates that measures for primary drug prevention must be started even before the use of illegal drugs has begun, although these measures do not eliminate the need for secondary or tertiary preventive measures. For this reason, an attempt will be made at the end of this paper to outline a prevention scenario for the future in the field of drug prevention relating to both legal and illegal addictive substances, with the various preventive approaches being placed in relation to one another.

3. Anyone wanting to engage in effective prevention – be it primary, secondary or tertiary prevention – should have some knowledge of the social, and in particular, of the psychological and motivational backgrounds which lead young people to use ecstasy and other party drugs. These psychosocial causes of drug use have also been discussed very little here, an exception being the list of various reasons for starting use, as drawn up by Rakete & Flüsmeier (cf. paper 4.1.), from which the first consequences for useful prevention can already be derived. However, information of this type is often obtained from surveys of users who already have experience of drugs. In contrast, we have only little information on the psychosocial risk factors and reasons for starting to use illegal party drugs obtained from samples of young people who do not use drugs.

Research into these risk factors, and also into protective factors, was one of the objectives of the Bielefeld study mentioned above. The initial results in this area will also be presented.

Development and evaluation of an in-school party-drug prevention measure

A clear increase can be seen in the rates of use of party drugs over the past seven years. Today, between 4% and 12% of all adolescents and young adults aged between 16 and 24 years have already had their first experience with illegal party drugs, such as ecstasy, speed or LSD, and, to a slightly lesser extent, with cocaine (Herbst, Kraus & Scherer, 1996). Between 1.5 and three million active participants (ravers) are considered as belonging to the techno scene (Richard, 1995). Surveys of young people show that 12% of all young people themselves consider that they are part of the techno scene and a further 21% are sympathetic towards this youth movement (Jugendwerk der deutschen Shell, 1997).

This new trend has, as yet, been incorporated in virtually none of the prevention materials currently available. At the same time, teaching staff, parents' associations and many other interested groups are indicating a high demand for materials of this type which have already taken up the theme. There is, therefore, a need to develop new prevention concepts which take into account the trend described above and which address young people at precisely that phase, or just before it, at which they would generally start to use party drugs.

The aim of the Bielefeld party drugs project, commissioned by the Ministry of Science and Research of North-Rhine Westphalia (MWF), was to design a new teaching unit on the subject of party drugs (focusing on ecstasy), with the aim of primary prevention and to test this prevention programme for feasibility and efficacy. To this end, the first step involved analysis of the literature and of existing prevention programmes. The results of this literature review confirm that there is a major lack of research in the areas of both the development and the methodologically reliable monitoring of measures for the primary prevention of party drug use among school pupils.

Conceptual orientation of the study

The use of designer drugs is today a phenomenon which is not restricted to just a small group of young people, but which has spread on a huge scale. However, use is often just a one-off experiment or is stopped again after a brief period of experimentation. This experimentation period is a normal part of the life history of many young people; this is one of several reasons for not making complete abstinence from addictive substances the main objective of preventive measures.

Rather, the aim must be to enable young people to deal with the various addictive substances in an aware and controlled manner, which also includes the ability to stop using them or to remain abstinent on a permanent basis.

Previous prevention measures

The prevention measures developed to date in the field of party drugs, which pick up this background, are predominantly limited to secondary prevention. Various self-help groups, made up of users and ex-users (e.g. Eve & Rave, Safe Party People), have developed an "on-site" support system, i.e. at the techno events or raves. The target group for these measures is thus the group of ecstasy users. The key areas of this drug prevention involve proper drug education, advice and support in the event of problems, and the communication and monitoring of *safer-use* and *safer-house* rules.

Information is passed on either in conversations or in the form of flyers, posters or leaflets. This concept primarily serves the purpose of damage limitation (*harm reduction*). The measures described are therefore intended to help reduce or prevent the negative surrounding circumstances and consequences of use. In a number of cities, elements of this concept have even been taken over by the drugs and youth welfare authorities: for instance, increasing numbers of "scene people" or streetworkers are used in techno discotheques to build up contacts and provide help. In contrast to this support system, oriented to secondary prevention, the primary prevention field involves only a few intervention measures which take up the topic of party drugs or ecstasy. There are far more studies, on the other hand, covering the area of prevention of the legal drugs, alcohol and tobacco, and the area of general health promotion.

It is important, when developing new materials, to be aware of the effective and the unfavourable or even counterproductive elements of existing prevention materials. Evaluation studies show that simply communicating information about drugs is as little able to reduce the willingness of young people to use drugs as the deterring and warning comments characteristic of earlier prevention programmes. Measures of this type do not take into account the function which use has for many young people (Freitag, 1994; 1996).

Increased rates of use of psychoactive agents – whether acquired legally or illegally – are found among those young people who are exposed to stress in the family, school or recreational environment (for a summary, see Nordlohne, 1992; Engel & Hurrelmann, 1989; 1993). For example, if the performance curve in school is falling so that moving up into the next class is at risk, this creates a high level of psychological pressure, to which many – but not all – young people respond by using alcohol or tobacco. A fringe position among age-group peers or frequent quarrels with parents can also put a strain on a young person's feeling of self-worth – attempts are then often made to compensate for the deficit, or at least to minimise its importance or effect, by the use of psychoactive agents.

Promotion of protective factors

It is for these reasons that the promotion and support of various protective factors lies at the heart of present-day interventions, these factors being inherent in the character of the young person in question. They include, in particular, the area of valuing one's own personality. Here, attempts are made to increase the feeling of self-worth in the children and young people and to boost their self-esteem. Awareness of and attention to processes occurring outside the self also need to be aroused; for example, the young people should exercise their perceptive faculties and develop a general awareness of problems. In addition to these exercises involving perception and acceptance of self, primary prevention programmes usually also contain modules in which various social skills can be acquired through practice in a manner which is of practical applicability and thus linked to actual behaviour. In the foreground here is the promotion of social skills, i.e. the ability to initiate and terminate contacts, to stand up for one's own rights and to defend oneself against interference by others. Many of these skills also touch on the fields of interpersonal communication and cooperation. The ultimate aim here is to enable the participants to resolve conflict situations independently and to supplement the repertoire of behaviours with which they react to difficult situations or crises typical of adolescence, with alternative behaviour, other than the use of addictive substances. Substance-specific education is not a priority in these concepts and, if it is, it is generally restricted to the legal drugs, alcohol and nicotine.

Public debate and information deficit

On the other hand, public debate about the (relatively new) drug ecstasy has given rise to a demand for more information, since there has been, and to some extent still is, a lack of information, not only among young people, but also among teachers, parents and drug counsellors. Objective communication of information is possible only to a limited extent in our media, because it is marked by superficial knowledge and/or by sensationalist articles geared to deterring people (cf. also paper 5.1.). But children and young people, in particular, must be given correct and objective information about the drugs which they may be offered or which they use, since incorrect information, superficial knowledge and ignorance may encourage use which puts health at risk or promotes behavioural uncertainties. It can be concluded from this that in-school (ecstasy-related) drug prevention should be designed in a more substance-specific manner than is usual in the prevention materials described above. The provision of a factual and differentiated description of this type of drug is essential. The subject matter should therefore not focus solely on the risks associated with the use of ecstasy and the use of other drugs at the same time; an intensive discussion of the positive effects of this drug, which will, after all, already have been experienced in some cases, is equally important and necessary. In addition, the importance of the techno movement to young people, their attitudes towards designer drugs and their possible motives for drug use should all also be the subject of discussion.

In-school drug prevention

A requirement in relation to drug prevention in schools is that the subject of ecstasy should not be discussed until the pupils raise questions about the drug or exhibit curiosity or interest. Experience has shown that this is the case no earlier than the ninth grade. Discussion of the topic prior to this stage would either bore the pupils, make excessive demands on them or unintentionally arouse their curiosity.

For the reasons given above, the teaching unit developed by the project team[1] is closely based on the skill promotion paradigm which is the basis of the majority of prevention programmes currently being used and which is judged as the most promising (Leppin, Hurrelmann & Freitag, 1994).

In addition to the modules geared to this paradigm for the communication of social skills, however, a substance-specific module has been integrated into the programme, in which the pupils are informed about the positive and negative effects of ecstasy and in which a large amount of additional information can be communicated to them. A total of 14 teaching modules have either been newly developed or adopted from existing programmes, sometimes in modified form. The modules all build on one another. The whole programme covers between 10 and 12 lesson periods and can either be integrated into the normal curriculum over four to five weeks with two or three lessons a week, or can be carried out over two or three days in the context of a project week. It is to be published in 1998 as teaching material in the "Drug Prevention" series (Freitag & Kähnert, 1998).

In terms of content, the modules can be divided into the following two groups:

1. The non-substance-specific section of the programme contains practical exercises for training in communication skills and for coping with conflicts, as well as two relaxation exercises.
2. The substance-related modules aim for an active discussion of the topic of addiction, for example by discussing forms of addiction linked to substances and those which are unrelated to substances, the discussion of reasons for drug use and triggers of addictive behaviour, or compiling a use profile for the class. The young people are given objective and differentiated information about the risks and the possible consequences of ecstasy use. The material also contains information on ecstasy aimed at allowing reduced-risk use of the substance for both potential and current users. In this respect, the programme follows the accepting prevention approach of harm reduction, which aims, among other things, at avoiding overdoses or combined use with other drugs. The participants are also introduced to the local (drug) support system for children and young people and take an active look at its range of services. The aim of this module is to reduce or overcome the threshold of inhibition of the young people to seeking professional help.

[1] The project team consists of Dipl. Biol. Heike Kähnert and Dr. Marcus Freitag under the direction of Prof. K. Hurrelmann.

Comprehensive information materials were also made available to the teaching staff. These were both of a general nature – for carrying out role-plays for example – and also of a specific nature – such as the brochure from the Landesarbeitsgemeinschaft Suchtvorbeugung NRW (*North Rhine-Westphalian Drug Prevention Working Group*) on ecstasy and other party drugs.

Study design and objectives

The evaluation study is based on a quasi-experimental pre/post-test design. The pupils from those classes in which the teaching unit is given are surveyed with a questionnaire, once before and then again after implementation of the intervention. In parallel with the intervention pupils, the same number of pupils at "control schools" are also surveyed, but unlike the intervention classes, no specific intervention is carried out in these control classes, although these pupils are also surveyed twice. The control classes are compared with the intervention classes in order to be able to estimate what changes might possibly occur purely coincidentally, i.e. independently of the intervention, be it as a result of maturation processes or of other influences, such as the media, friends or other curriculum contents. Table 1 shows the design of the study.

Design for evaluation of the Bielefeld party drug prevention study

(X = questionnaire survey)

		T1 (PRE)		T2 (POST)	T3 (Follow-up)
Intervention classes	Project	X	Intervention	X	X
	Lesson	X	Intervention	X	X
Control classes	Project	X	No intervention	X	X
	Lesson	X	No intervention	X	X

Table 1

Main objectives in terms of content

The study pursued four main aims in terms of content:

1. A survey of n=1500 male and female school pupils aged between 14 and 22 years was intended to provide information about the spread of the use of party drugs in an unselected school pupil sample and give insight into existing knowledge about ecstasy. The statements by the young people concerning possible motives for use and the assessment of the risk potential of party drugs were also of interest. It was also hoped to find out whether the users of specific substances differ from non-users in these assessments. The survey permits characterisation of the users and non-users with respect to various socio-demographic and social features, as well as attributes relating to per-

sonality psychology. The longitudinal prospective design of the study means that it is possible to extract both risk factors and protective factors for and against starting to use addictive substances. Valuable conclusions can be derived from this for the development of further preventive measures.

2. The efficacy of the preventive measure can be estimated by comparing the results from the intervention group with those from the control group between the first and second measurement time. The question of particular interest here is whether the programme, and the rules for safer use which it contains, cause curiosity effects or whether there is actually a reduction in use or in the variables leading up to use, such as certainty of abstinence or aspirations to use. In addition to summative analyses of this type, the acceptance and quality of implementation of the programme is recorded at a formative level by means of interviews with the teaching staff involved and surveys of the pupils.

3. Comparison of the results for classes who had carried out the programme as a project in two days with those classes in which the project ran during lessons over several weeks, allows statements to be made as to whether or not the form of implementation results in different effects.

4. All pupils who took part in the intervention study in the winter of 1997/1998 will be surveyed for a third time one year after the intervention. This follow-up survey serves the purpose of longitudinal monitoring of the efficacy of the intervention and allows conclusions to be drawn regarding the stability of the effects achieved over time.

Survey instruments

A questionnaire was developed on the basis of existing instruments to record the relevant ranges of variables (prevalence rates, motives for use, substance-specific knowledge, assessment of potential risks, etc.). In order to test the newly developed survey instruments, large sections of the survey inventory were subjected to test-statistical analysis in two studies which were already running with a total of over 900 young people.
The development of the questionnaire was simultaneous and closely coordinated in terms of content with the development of the teaching unit on party drugs, i.e. the topics and modes of behaviour tackled in the lessons were also the subject of the questionnaire.

Both the teaching staff and the pupils were asked to assess the individual modules and the programme as a whole at the end of the teaching unit. The pupils were also asked to assess the quality of implementation of the programme; the teachers were invited to describe their experience with each of the modules carried out on a separate record sheet. In addition, they were asked to return two of the overheads used in the lessons and the pupils' worksheets from the ecstasy module, so that these could be evaluated.

Sample recruitment and study implementation

The prevention programme was made available to all teaching staff who had replied to a postal enquiry. Letters were written to all the heads of grammar schools, comprehensive schools and vocational schools in Bielefeld, Gütersloh and Herford which had classes 10 and 11. Contact was made with a few selected schools in Dortmund via the Regionale Arbeitsstelle zur Förderung von Kindern und Jugendlichen (RAA) (*Regional Office for the Promotion of Children and Young People*).

Table 2 provides an overview of the composition of the sample in the three participating towns. About 60% of the planned classes were surveyed by December 1997. In 1998, the sample will be supplemented by several school classes which will not find time to implement the intervention until January 1998.

Expected sample for the evaluation study on party drugs

	Dortmund		Bielefeld		Herford		Total	
	Interv.-[1] group	Control group	Interv.-[1] group	Control group	Interv.-[1] group	Control group	Interv.-[1] group	Control group
Grammar school	250	250	30	50	50	50	330	350
Comprehensive school	50	50	200	200	–	–	250	250
Vocational school	65	65	90	90	–	–	155	155
Total	365	365	320	340	50	50	735	755
	730		**660**		**100**		**1490**	

[1] Intervention group

Table 2

Results

As this study has not yet been completed, it is not yet possible to make any statements regarding the effect of the intervention programme on the pupils' knowledge and current or future behaviour with respect to substance use. However, initial results are available for the assessment of the intervention programme by the staff and pupils (n=320). It is also possible to make statements for a slightly larger sample of n=505 pupils (mean age=16.4 years, SD=1.5 years) with respect to willingness to try drugs and the drug use experience the young people already have; further analyses show the willingness to try drugs to be highly dependent on various psychosocial risk factors, such as feelings of self-worth, for example, but also on current use of tobacco and alcohol.

Assessment of the teaching modules by the teaching staff involved
The teachers involved confirm that the teaching programme is easy to carry out and is recieved with great interest by the pupils. The teaching materials are assessed positively since they contain detailed information and descriptions of the course of the lessons so that no additional preparations are necessary and the programme can be put into practice quickly and without difficulty.

Assessment of the teaching modules by the pupils
The pupils are also very open to and interested in the subject and describe the examples and situations used in the individual lesson units as true-to-life and realistic. The information section on ecstasy, in particular, is emphasised as being helpful and informative; of all the modules of the programme, it was awarded the best marks by the pupils.

In a general assessment, over 90% of the pupils say that they enjoyed the programme; they characterised the lessons as not boring and very easy to understand. More than two-thirds of the pupils (70%) found the lessons important, and an even higher proportion rejected the statement "These lessons were of no use to me" (77%). In response to the (open) question of what they had particularly liked about the programme, many pupils say that it was the possibility of expressing their opinions freely and the climate of discussion based on acceptance; they particularly approved of both of these factors. To a strikingly frequent extent, the pupils also considered it positive that no marks were given for these lessons.

And just under one-third of the pupils had discussed the programme with their parents; thus, the lessons had value-added effects here, too.

Willingness to try drugs and experience of use among the young people

In addition to checking the implementation quality and efficacy of the preventive measure, a further objective of the study was to acquire information about psychosocial factors conditions (e.g. personality characteristics, family atmosphere, school atmosphere, etc.) involved in starting to use drugs. Furthermore, an unselected sample was to be used to determine the extent of use of illegal drugs. The data available in this context are still incomplete and will be presented in a collected volume only after completion of the second survey phase (Freitag & Hurrelmann, 1998). However, the willingness of the young people surveyed to try drugs can already be reported on now.

The young people were asked to state how much they would like to try six different illegal drugs (cannabis, speed, ecstasy, LSD, cocaine, heroin), and also tranquillisers, at some point in time. The question *"Which of the following drugs would you like to try in the near future?"* was followed by a five-point response format, as follows: *"I would 1. de-*

finitely not 2. rather not 3. perhaps 4. quite 5. very much like to try this substance at some point".
If only the first response category is interpreted as a definite rejection and all the other responses are assessed as slight to marked willingness to try, then for cannabis the figure is 72% of n=502 pupils who are certain that they do not want to try this substance in the future. Conversely, this means that more than a quarter of all the young people can imagine trying cannabis, 13% actually being fairly or quite sure of this.

For ecstasy, speed, and LSD (or other hallucinogens), the figures are 10.5%, 11.5% and 10.5%; far lower figures (5%, 4.5% and 2.3%) are found for cocaine and for smoked or injected heroin. Only very few respondents were found in these last three categories; we are looking here, in particular, at the small number of users who were in two vocational school classes with a large number of mostly older users. Because the data could well be slightly distorted by these young people with drugs experience, a selection process was used to eliminate everyone from the data record who had already had any experience of any illegal substance. The proportion of pupils with experience of use of this type was, in fact, over 30%, the majority having experience of cannabis. This means that only those pupils with no experience of drugs are left, those who had used alcohol or tobacco at most; just over two-thirds of all the school pupils fall into this group.

In this sub-group (n=338), elimination of the users, who often have a greater willingness to try drugs than non-users, results in correspondingly lower figures for the willingness to try. Now, the proportion of people who are quite certain that they do not want to try ecstasy, speed or LSD is far higher, at 94.6%, 93.2% and 95.2%, than in the total sample. However, if willingness to try is summed up across all the substances, the proportion of all respondents who are not absolutely certain in their rejection of experimental use and might try at least one (6.5%) if not several substances (6.5%) at some point is not inconsiderable at over 13%.

Some 13% of the school pupils with no experience of illegal drugs are therefore not absolutely certain about their position of rejecting the use of illegal drugs. Although this is not the same as a definite desire to try a substance at some point, the lack of clarity in the rejection may nonetheless be interpreted as a slight willingness to try, in that the use of a substance cannot be entirely ruled out in a specific situation.

Willingness to try as a function of the feeling of self-worth
So who is particularly susceptible to experimentation of this type? Connections can be made between a series of personality characteristics and modes of behaviour and the willingness to try drugs. For example, affinity to drugs is higher among those young people who report poor feelings of self-worth.

The young people were asked to state, for eight items on a self-worth scale (Fend, 1984, on the basis of Rosenberg's self-worth scale, 1965), how they see themselves in overall

terms (example items: *"I want to stay as I am"* or *"I don't think much of myself"*). The four positive items in the scale were compiled to form a summation index and this, in turn, was correlated with the willingness to try drugs. It can be seen that young people with a fairly low positive feeling of self-worth report a substantially greater willingness to try drugs than young people who had a positive feeling of self-worth (cf. Fig. 1; $chi^2=15.4$; $p < .001$).

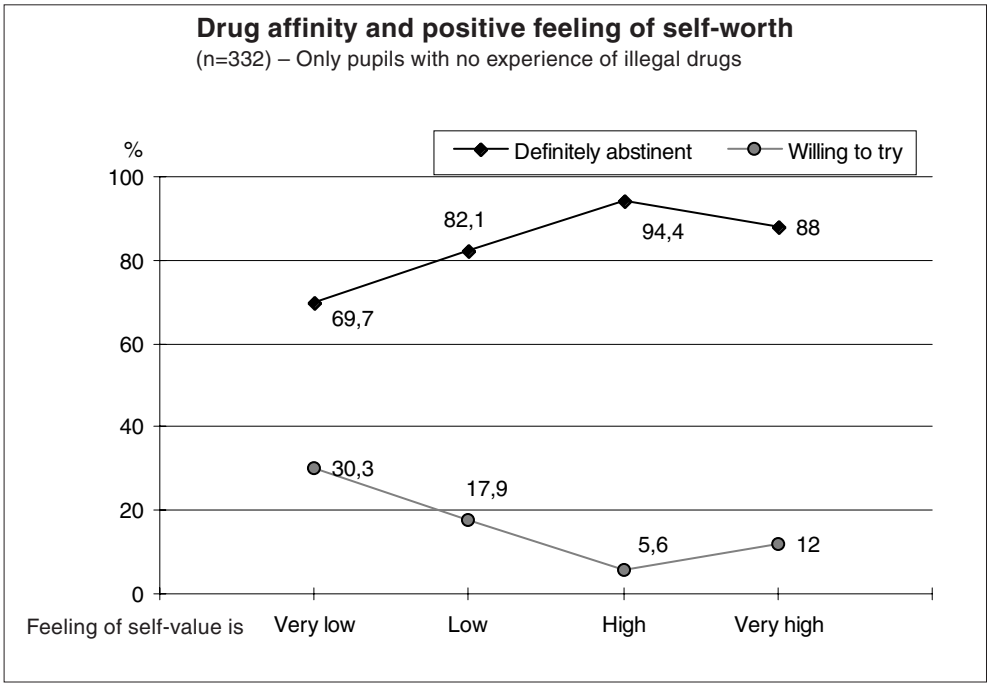

Fig. 1

In the sub-group of young people with little self-confidence, the degree of certainty that they do not want to try drugs in the future is markedly lower, at just under 70%, than in the total group (87%). 30% of them are therefore not absolutely sure and could imagine possibly trying an illegal substance at some point in time.
The highest degree of certainty of abstinence is found in young people with high, but not very high, feelings of self-worth. Here, the figure for those who are not absolutely certain that they will not try drugs is only 5.6%. If the feeling of self-worth is very positive, then although the certainty of abstinence is slightly higher at 12%, the proportion of pupils who are not entirely certain still remains lower than the average for the total group.

The correlation reported above clearly shows that an important protective function must be attributed to the feeling of self-worth in relation to the use of illegal drugs. It is therefore not without reason that promoting feelings of self-worth is an integral element of the majority of drug prevention programmes.

Willingness to try drugs as a function of current use of tobacco and alcohol

An equally strong link as that between willingness to try drugs and feelings of self-worth can also be shown for the current use behaviour of the young people in the field of the legal drugs, alcohol and tobacco. Those who already use cigarettes and alcoholic drinks seem to be more likely to turn to other drugs at some point, even if the status of these other drugs should be illegal. The work of Wilkens, Thiel & Friedrich (1997) also clearly proves that the illegal status does not deter the majority of young people, nor is it seen as a reason for stopping use.

For the group of school pupils who have not yet had experience using illegal drugs, there is a highly significant link between their current use status with respect to alcohol and tobacco. Thus, for example, of the young people who do not use tobacco, 97% were completely unable to imagine taking one of the six substances listed.

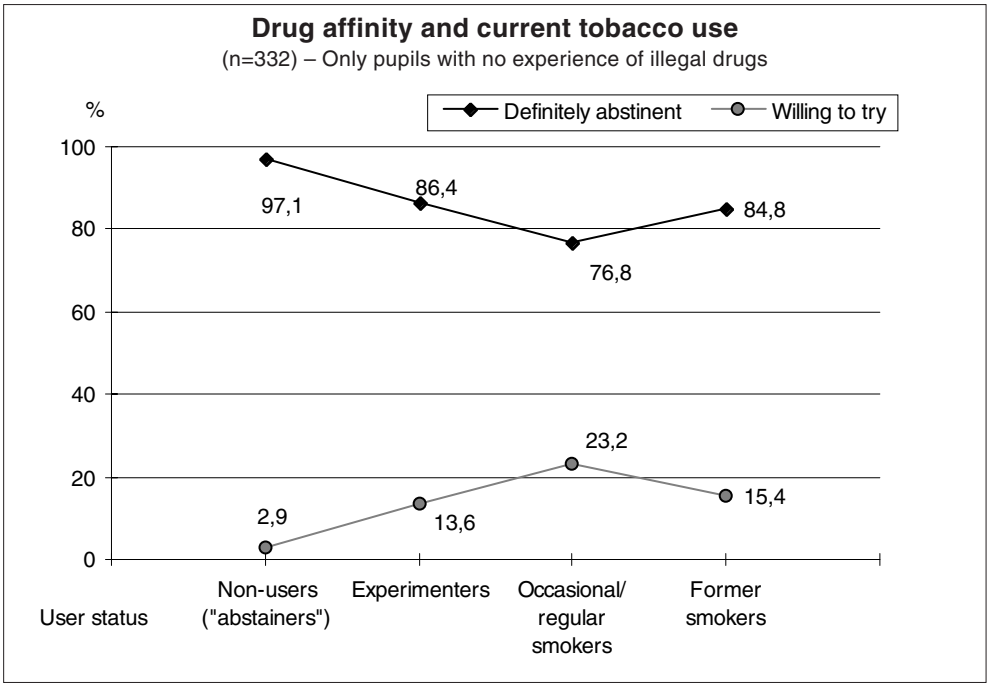

Fig. 2

The picture is different among the current occasional or regular smokers; here, the willingness to try drugs is substantially greater: the proportion of young people who have not resolved that they quite definitely want to remain abstinent is almost eight times higher at 23% ($chi^2=18.9$; $p < .001$). Figure 2 also shows that, among both those trying tobacco and those who are ex-smokers, in other words those pupils who, according to their own statements, had previously smoked at some point, but no longer do so at present, the pro-

portion of young people who are willing to use illegal drugs experimentally lies between the two groups mentioned above – the abstainers and the users.
The value for the former tobacco users is, at 15.4%, slightly higher than the group average, while those experimenting with tobacco do not differ, at 13.6%, from the average for all pupils.

The results document the great importance of the prevention of even the legal drugs, alcohol and tobacco, with respect to the later use of illegal drugs. If starting to use these legal addictive substances can be delayed and the intensity of use reduced, not only is willingness to try drugs lower, but, in all probability, actual use will start later and to a lesser extent.

Concluding comments and outlook

Looking at what is currently available in the way of interventions in the field of drug prevention in children and young people shows that, for primary schools and stage I of secondary school, numerous primary prevention programmes are on offer which are, for the most part, not substance-specific. If addictive substances are tackled at all, the programmes are largely restricted to the legal drugs relevant to this age group, alcohol and tobacco.

In the field of secondary prevention for young people, the last few years have seen the development of programmes for party drugs, such as ecstasy, which are geared to both potential and actual users in the techno scene. On-site information and support is provided for this target group, i.e. at events and discotheques.
What has so far been missing from this range of preventive measures is an intermediate element which starts after primary prevention but which is not aimed only at a specific target group, such as those associated with the techno scene.

The programme which we have developed for this area links the skill-promoting approach from primary prevention programmes with the acceptance-oriented position of many secondary prevention programmes. Although it is not aimed at any specific target group, since it is carried out with all pupils in a school class, the contents of the programme are nonetheless communicated to a group of young people who must be considered as potential users on the basis of their age, between 15 and 20 years. This age group covers the main period for starting to use illegal party drugs; at the same time, these young people express considerable interest in the subject. Some 30% of the young people must also be regarded as having experience of use of illegal drugs, although the majority of these has had experience with cannabis.

The initial experience gained from the programme shows that the teaching material was accepted very positively by both teachers and pupils. The feedback demonstrates the ma-

jor importance of this subject for young people. The programme starts in a phase in which the debate about party drugs takes place and the first experimental use of ecstasy can be seen. The young people are given precisely that information which can help them to deal with party drugs in a competent, responsible manner.

The results of the evaluation of the programme, and also the facts outlined initially regarding the spread of use of party drugs among young people, illustrate the need for interventions of this type.

7

Last, but not Least

7.1. Synthetic Drugs – International Chronology

Source: European Monitoring Centre for Drugs and Drug Addiction, Lisbon, 1997

1887	Amphetamines synthesised for the first time.
1910	MDA synthesised for the first time.
1914	MDMA synthesised for the first time.
1918	Ergot alkaloids (precursors of LSD) synthesised for the first time by Stoll.
1930s	MDA undergoes a series of studies as an antiparkinson agent and appetite suppressant. These are later abandoned.
1932–46	The pharmaceutical industry finds 39 registered indications for amphetamines.
1939–45	Second World War – amphetamines are used extensively by the troops.
1940s	Amphetamines are regularly used in Sweden to control weight. Abuse problems arise (1943 estimates: 3% of the Swedish population had taken amphetamines in the previous year).
1943	Hoffman discovers the consciousness-altering effects of LSD.
1948–1960	Methamphetamine "epidemic" in Japan.
1950s	Therapeutic use of LSD.
1957	The American researcher Gordon Alles describes MDA as an agent for expanding perception with bizarre visual disturbances.
Late 50s to early 60s	Major use of amphetamines by mods and rockers and association with "biker bands".
1960	Harvard Professor Timothy Leary acquires his first experiences with psilocybin mushrooms.
1963	Leary loses his chair and sets off with the novelist Ken Kesey on his famous "trip" through the United States.

1960s	American military experiment with MDA and LSD as potential "brain-washing" agents. Therapeutic indication for LSD restricted to alcoholics and patients with psychosexual problems. Following the verdict of a Committee on Drug Abuse, which finds that "there is no evidence of the efficacy of LSD in psychiatry", the indication for LSD is withdrawn towards the end of the decade.
Mid-60s to70s	LSD becomes popular among young people in connection with the hippie ideology. Chemist Alex Shulgin rediscovers MDMA.
1968	MDA is on sale in California and is called the love drug. The first *Summer of Love*. The media are very interested in LSD. "Psychedelia" influences fashion, music and art.
1970	MDA is included under Category 1 of the *Controlled Substances Act* in the USA.
1974	Operation Julie dismantles the largest LSD-producing laboratory in Great Britain (and probably in the world).
1975–88	LSD loses popularity in the main consumer countries.
Mid-70s	MDMA attracts public attention as a therapeutic drug. It is alleged to be popular among adherents of certain religious cults.
1976	First signs of a connection between disco-pop and electro-pop in American gay clubs.
1977	The album Trans Europe Express by Kraftwerk goes on sale and triggers a strong impulse for a new European *electronic music sound*. The Misuse of Drugs Act (1971) is passed in Great Britain, covering all ring-substituted amphetamines.
Late 70s	Emergence of *Punk Rock*. Amphetamines are the preferred drugs of the "punks".
Early to mid-80s	LSD use continues to decline in the EU. Amphetamine use fluctuates; in some countries, the drug is popular among young people and small groups of chronic intravenous users appear in some areas.
1981	MDMA can be obtained on the illegal drugs market in some regions of the USA.

Early 80s	MDMA begins to become popular among music and fashion idols in some countries of the EU.
1985	MDMA is banned in the USA with an emergency decree.
1986–87	The Balearic influence emerges on the European music scene after DJs visit Ibiza.
1986	Emergence of *New Beat* in Belgium. The first *house DJs* influence the charts in Great Britain.
1987	MDMA is banned in France.
1988	Second *Summer of Love*. Large, uncontrolled dance events, known as *raves*, take place in several places in Europe. The first death from ecstasy is reported in Great Britain.
1989	First "noteworthy" seizure of MDMA in Great Britain (39,000). The first street dance event takes place in Berlin: the *Love Parade*.
1990	Uncontrolled dance events are declared unlawful in Great Britain (*Entertainments Act*).
From the early 90s	Break-up of the House Scene into several *dance-music* variants. LSD and amphetamines increase in popularity in connection with ecstasy use and the growing *dance scene*.
1992	Shamen top the charts with Ebeneezer Goode. The refrain runs: *"E's are good, E's are good".*
1993	The Netherlands include MDEA in the *"Opium Act"* (= ban).
1994	Luxembourg reports its first seizure of MDMA.
1995	The death of Leah Betts and the subsequent media reaction lead to a campaign against ecstasy. The Netherlands introduce a series of public health measures, e.g. quality testing of ecstasy tablets available on the illegal market.
1996	The EMCDDA commissions a review report on epidemiology and measures for reducing the demand for synthetic drugs.
1997	The EU decides on joint action on new synthetic drugs.

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