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International Journal of Drug Policy 16 (2005) 54–64
THE INTERNATIONAL JOURNAL OF DRUG POLICY
www.elsevier.com/locate/drugpo

Harm reduction and decision making among recreational ecstasy users

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Abstract

Recent research indicates that 3,4-methylene-dioxymethamphetamine (MDMA), also known as 'ecstasy', is becoming increasingly popular as an illicit drug among young people. This study investigated risk and harm reduction practices among recreational ecstasy users. A semi-structured interview with 40 participants was designed to investigate how ecstasy users identify and manage the harms associated with their drug use, and the underlying decision-making process. Overall, the participants identified both positive and negative effects. The reported positive effects predominantly centred around enhanced psychological, physiological and social experiences. However, there were a number of factors that contributed to regulating ecstasy use. These included specific in-group and out-group practices executed within the peer group, preventative harm-reducing practices, shared decision making, and shared responsibility for harm prevention. Recommendations for promoting harm reduction strategies and suggestions for future research are discussed.

Keywords: Ecstasy; Harm reduction strategies; Decision making; Peer group

Introduction

From the late 1980s and into the 21st century, MDMA also known as 'ecstasy', has become an increasingly popular recreational drug, and its use has continued to spread throughout the US, Europe and Australia (Eisner, 1994; Grob, 2000; Gross, Barrett, Shestowsky, & Pihl, 2002). The Australian National Drug Strategy Household Survey (ANDSHS) reported that people aged 14 years and over had increased their lifetime use of ecstasy from 2.4% in 1995 to 6.1% in 2001. This trend has continued with an increase in recent use (use in the last 12 months) from 0.9% in 1995 to 2.9% in 2001 (Australian Institute of Health and Welfare [AIHW], 1999, 2002). The average age at which ecstasy is first used is 21.9 years (AIHW, 2002). In the United States, statistics showed that among 12th graders, lifetime use increased from 8.0% to 11% and that one in nine high school seniors have tried ecstasy in their lifetime (NIDA, 2003).

Despite growing research on ecstasy, extant investigations have predominantly focused on physiological effects, neglecting the social and psychological processes that underlie and accompany illicit drug use (Curran, 2000; Ghuran & Nolan, 2000; Morgan, 1999). In particular, the use of harm reduction practices among ecstasy users and the role of the peer group have received little attention in the literature.

Harm reduction practices among illicit drug users

Three sources of drug-related knowledge that served to inform and contribute to the use of harm reduction practices among illicit drug users have been identified (Gamble & George, 1997). These include 'experiential learning' (user gradually increases dosage of substance in order to gauge quantity that will produce the maximum effect), 'observational learning' (direct observation and reported drug experiences of others) and, least influential, 'database sources', arising from academic research, parental advice, the education system and the media (Gamble & George, 1997).

Ecstasy users have also reported behaviours and practices enacted prior to using ecstasy for the purpose of facilitating a positive experience, and for minimising any possible ad-

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doi:10.1016/j.drugpo.2004.09.001

verse effects (Hansen, Maycock, & Lower, 2001; Shewan, Dalgarno, & Reith, 2000). Ecstasy users prefer to buy their drugs from a regular dealer due to issues of (drug) quality control. Establishing and maintaining a direct link to a dealer provides a degree of reliability or at the very least familiarity, which reduces the chances of being sold adulterated ecstasy tablets (Hansen et al., 2001; Moore, 1993).

Other practices reported by ecstasy users relate to the induction of a positive (emotional) state of mind prior to use. These practices include drinking small amounts of wine, smoking cannabis, listening to music, resting, and eating well before taking ecstasy (Solowij, Hall, & Lee, 1992). Other harm reduction strategies reported by Hansen et al. (2001) included using only with friends; using only after others have tried it; purchasing from a regular supplier; controlling the amount consumed and the amount of other drugs consumed; monitoring others for physical and psychological harm; guiding initiates (first time users of ecstasy); limiting one's supply and use; and only using when in a positive mood. Some practices are implemented as soon as any negative or harmful effects arise, and include: finding a quiet corner (isolation from crowded or unpleasant environments); attempting to block paranoia and/or anxiety provoking thoughts by thinking of something else; carrying on dancing; and 'just going with it' while waiting for the negative effects to subside (Gamble & George, 1997; Shewan et al., 2000).

Ecstasy users have also reported practices aimed at reducing the harms or negative effects associated with 'coming down' from ecstasy. Users have reported going home as soon as they sense the onset of coming down, organising company (the peer group) to come down together, smoking cannabis, and taking tranquillisers such as Valium (diazepam) to help sleep through these effects (Hansen et al., 2001; Shewan et al., 2000). Other practices include ensuring that the day after taking ecstasy is free, allowing the user to recuperate and ensuring a safe passage from club to home (e.g., money for a taxi or organising a lift) (Forsyth, 1996; Moore, 1993).

Group decision making

As ecstasy users predominantly use in groups, group decision-making theory may be a more relevant framework for understanding drug use among ecstasy users. In one study, Kaplan and Wilke (2001) examined the interplay of cognitive (task) and social (relationship) motives. Cognitive concerns include tasks for which a solution exists (e.g., what is the most economical car to drive?), and which require the gathering of facts. Conversely, social concerns include ethical, behavioural and aesthetic judgements, which imply a preferred solution and therefore require appealing to norms and group consensus.

Appealing to norms is of particular importance in determining how the group reaches a consensus when making decisions. In particular, norms are enforced with behaviours that carry some significance for the group (e.g., maintaining group safety when taking illicit substances such as ecstasy) (Feldman, 1984). Thus, with respect to ecstasy-using peer groups, it may be that norms exist which are designed to facilitate the safety of all members.

Present study

The aim of the present study was to examine how ecstasy users manage the harms associated with their drug use and the processes underlying their decision making. The types of harm-reducing practices employed and how they were executed within the peer group were explored. Whilst extensive research exists on the role of the peer group in relation to drug use, examination of decision-making peer group practices in the context of ecstasy use has not been explored.

Participants were asked about each stage of their ecstasy use—before, during ('coming up') and after ('coming down'). The practices of the peer group were further examined by exploring the social norms or etiquette that were unique to the participant's ecstasy-using group. The decision-making processes, whereby ecstasy users both identify and minimise potential harm, were also investigated. Given that ecstasy is often used with peers, it was expected that decision making would involve a group process. Participants were asked about whether such decision making was a group process or left to particular members or subsets of members within the peer group. If the latter applied, the participant was asked about the qualities of such individuals and why it was that they held this position within the peer group.

Methodology

An interview schedule was developed for the study, which comprised nine open-ended questions in relation to the ecstasy-using peer group, the context of ecstasy use, and the experience and management of harms (or negative ecstasy-related experiences). The overall interview style was non-directive; it included reflecting and probing techniques, and was largely determined by the participant and their perspective (Flowers, Hart, & Marriott, 1999). The interviewer (Panagopoulos) was a postgraduate student in psychology who had theoretical and practical experience in interviewing and counselling skills.

Participants were recruited in Melbourne, Australia, over a 3-month period via 'snowballing' techniques. The criterion for inclusion in the study was 'anyone who had used ecstasy in the last 3 months'. The semi-structured interview lasted approximately 45 min (range = 20–60 min).

All participants provided (tape-recorded) oral consent to confirm that they had read the plain language statement and had agreed to participate in the study. The first question, "Can you describe to me what your experience of using ecstasy has been like?", was designed to build rapport, reduce any anxiety the participant might have been experiencing, and obtain

a free narrative of the participant's most salient experiences related to their drug use. Following the interview, participants were thanked for their time and asked if there was anything they would like to add. This was an opportunity for the participant to raise issues that they perceived to be salient or had been overlooked by the interviewer.

Analysis

The interviews were transcribed and analysed for salient and recurrent themes. This type of analysis has been used in other studies of illicit drug use including ecstasy use (Chamberlain & O'Neill, 1998; Hansen et al., 2001; McElrath & McEvoy, 2001a). The identification and formulation of categories involved several steps, whereby each transcript was read repeatedly and then analysed. The analysis included highlighting semantic content, examples of repetition, explanation, personal accounts, justification, and explicit and implicit assumptions. These were then coded with a key word that captured the essence of the content to form a number of categories. This process was repeated with each interview transcript. Categories and their content were then analysed and collapsed or expanded to ensure themes were mutually exclusive between categories and consistent within categories.

Reliability and validity

Credibility checks in the present study were examined using an independent inter-rater who coded 10 (25%) randomly chosen interview transcripts. An 84% agreement (range = 67–93%) was found. Further, where members of the same peer group are interviewed, some degree of cross-verification is possible as members are likely to relay the same event/s from their individual perspectives (Fitzgerald, 1992). In the present sample of ecstasy users, there were four peer groups or clusters interviewed, comprising between three and six members. Where respondents were from the same peer-group, consistency in their accounts around peer group practices were analysed for discrepancies. No discrepancies were found in these cases.

Guba and Lincoln (1983) also highlight the advantages of interviewing with respect to valid and reliable data collection. First, there is less chance of any misunderstandings between the researcher and respondent, particularly when a semi- or unstructured interview is utilised. Second, the researcher can tailor the questions to fit the respondent's knowledge, degree of involvement and status. Third, on sensitive issues, the interview is more likely to facilitate a more complete and in-depth account in comparison to other forms of inquiry (e.g., focus groups and surveys). The interview format is also more flexible than other forms of data collection providing the interviewer with the latitude to explore the respondent's answers further, to redirect, probe and summarise. Finally, the interview process provides the researcher with access to "elites"—those with specialised knowledge of the situation, and it provides information much more quickly than observation (Guba & Lincoln, 1983, p. 187).

Results

Sample characteristics

The sample consisted of 40 participants – 28 males and 12 females – with a mean age of 24.83 (S.D. = 4.11; range = 18–31 years). At the time of data collection, 10 (25%) of the participants were students, 4 (10%) were unemployed, and the remaining 26 (65%) were employed. Seventeen (43%) of the participants had a university degree. These characteristics are similar to those found in other samples of ecstasy users in the drug research literature. However, the participants in the present sample reported relatively higher rates of employment (Hammersley, Ditton, Smith, & Short, 1999; Hansen et al., 2001; Lenton, Boys, & Norcross, 1997; Solowij et al., 1992; Topp, Hando, & Dillon, 1999; Topp, Hando, Dillon, Roche, & Solowji, 1999). These differences may also be explained by the slightly higher mean age in this sample relative to some of the earlier studies (Topp, Hando, & Dillon, 1999; Topp, Hando, Dillon, et al., 1999).

The predominant context of use reported by participants included nightclubs, dance parties, raves and personal social gatherings such as picnics, BBQs and homes. Participants also reported using ecstasy with friends, partners and work friends, with only one participant reporting using ecstasy alone. The small number of participants who reported using ecstasy alone may in part be explained by the recruitment methodology, which primarily took place in social settings. The average length of use was approximately five years (range = 8 months to 11 years), which is slightly longer than the 3.5 years reported by Hansen et al. (2001). The average number of ecstasy pills taken on one occasion (e.g., in one night or during a 3-day rave) was 2.73 (S.D. = 2.95, range = 1–15). The cost of ecstasy pills reported by this sample ranged from AUS$15 to $50 per pill, which is slightly lower than that reported by the ANDSHS where tablets ranged from AUS$35 to $60 in the state of Victoria (AIHW, 1999). Finally, participants also reported use of a range of illicit and licit drugs in

Table 1
Self-reported range of licit and illicit substances used with ecstasy

Licit substances	Illicit substances
Alcohol	Amphetamines
Tobacco	LSD
Amyl nitrate	Cocaine
Duromine	Heroin
Arima (Aurorix)	Cannabis
Viagra	Crystal Meth
Alodorm (Mogadon)	Ketamine (special K)
Hypnodorm (Rohypnol)	Fantasy (liquid ecstasy)
Alprazolam (Xanex)	
Benzodiazapines (temazepam, serepax, valium/antenex)	
Quaalude	

Table 2
Reported harm-reduction strategies employed before, during and after ecstasy use

Preventative	Immediate	Restorative
Psychological strategies		
If you are in a depressed mood don't use ecstasy	"Ride it out"—time make jokes, put the person at ease Keep to one's self, or tell peers but play down the effects Self-talk: 'it's only in my mind'	Getting used to the come-down, being aware and accepting of what's to come
Drug-specific strategies		
Buy from a known dealer Pace dosage Use a test kit Only purchase pills that have been used before Use in moderation—the less you weigh, the greater your chance of overdosing so use smaller doses if small build Look at pill (shape, colour, manufacturing) for signs of adulteration Buy in bulk, imports are better quality Taste/lick pill Spread use over long period of time to reduce harm Route of administration—dissolve under tongue rather than swallowing No polydrug use	Nil	Nil
Behavioural strategies		
Take breaks from dancing Take mobile phone for emergency situations Don't use with a hangover Will not get in car where driver is on E Money for exit plan Don't drink too much water Don't work the next day Have money for next day	Take home Take outside for fresh air Call an ambulance (if convulsing) Give first aid assistance Keep them moving Focus on breathing Walking, dancing Remove clothes and pour water over self	Early night Try to sleep
Peer-related strategies		
Have a sober member in the group to drive Use with peers Avoid helping others because may lead you to 'freak out' Same energy as kinesiologist friend—if she is OK than I'll be OK Avoid people who are impatient when they drop E and straight people as this increases paranoia/anxiety response	Talk to a friend	Be with friends

conjunction with ecstasy. These other substances are listed in Table 1. The most common substances used concurrently with ecstasy included alcohol (47.5%), cocaine (50%) and amphetamines (47.5%).

Harm reduction

Table 2 provides a summary of the reported harm-reducing practices specific to each stage of the ecstasy experience: before using ecstasy (preventative), during ecstasy use (immediate) and after using ecstasy (restorative). The practices were divided into the following categories: Psychological, Drug-specific, Peer-related, and Behavioural. In line with the types of participants surveyed (recreational drug users), these harm reduction practices are more focused on social processes and physical activity. The practices used by other types of drug user may well be different.

In addition to the harm-reducing practices presented in Table 2, an additional category to emerge from the interviews involved the utilisation of polydrug use patterns or rituals in order to minimise harm. Again, these practices were specific to the differing stages of the ecstasy experience. For example, some participants spoke of using cocaine in addition to ecstasy, in order to minimise adverse reactions such as feeling overwhelmed or anxious ($N = 6$). Other participants reported rules such as only mixing alcohol with ecstasy, and waiting to see the full effects of an ingested ecstasy pill before mixing other drugs ($N = 4$). Finally, other polydrug practices utilised and reported as a means of reducing harm were specific to the come down from ecstasy. This included smoking cannabis

and/or taking Valium, sleeping pills or cold and flu tablets. Despite the harm associated with using these combinations of both licit and illicit substances, they were nonetheless perceived to be harm-reducing practices by the respondents.

Peer group etiquette and practices

Peer group practices reported by the participants fell into two categories: in-group and out-group practices, which are summarised below in Table 3. In-group practices were executed within the core group, whilst out-group practices referred to the treatment of other ecstasy users on the fringe of the core group (i.e., acquaintances).

In-group practices

There was a general, shared set of practices pertaining to the supervision of members within the peer group. For example, keeping a close eye on each other, looking for members who are missing from the peer group, never leaving members alone and taking unwell member/s home. In particular, the closeness of the group was emphasised by several participants ($N = 8$). This was facilitated by using the same amount of ecstasy at the same time and, for some peer groups, having a maximum limit on the amount of ecstasy taken. In fact, one participant reported that he had been dishonest when asked if he could provide more ecstasy for a peer who was intoxicated with alcohol:

> I think we all sometimes go pretty hard but we know where we stop, or we have to stop. There [have] been times when I've seen friends really drunk, and it's been like four in the morning and they've gone 'Do you have a pill on you' and I've said 'No' and I have had them, just because it's not going to do anything anyway for them. It's not, you know, it's a waste of money for them. That's pretty much the reason, it's not because I think they've had too much or ... it's saving them money I guess. (#38; male, age 28)

Another participant spoke of practices within the peer group with regards to the dosage and pace of ecstasy use:

> ... Um I suppose a 'Do' is like everybody should be on the same level and everybody to be happy. It's like if everybody takes one pill a couple of hours later everyone will take another pill at the same time, so its like everybody's in sync nobody to get on another level than somebody else and um ... 'Don'ts'? I suppose anybody getting too out of control on a different level to somebody else, no really unwritten rules though. (#20; female, age 21)

Additional group practices that were shared amongst the members included reminding each other to drink water regularly, notifying other members if they were leaving a venue, and in the event of a group member becoming ill, all group members being informed to help keep an eye on the unwell member ($N = 11$). In this sense, the responsibility for supervision of unwell members is shared amongst the peer group, providing a more effective and safer monitoring process for the minimisation of harm. One participant maintained that their peer groups always contained a 'straight' or non-drug using member, which further enhanced this process. Two participants stated that group members who had made the decision not to engage in ecstasy use were still respected, that is, they were not pressured to use ecstasy. One participant stated that it was easy to stop using ecstasy so long as your peers decide to stop using too, highlighting the influence of the peer group.

There were also a number of taboos that centred on the disapproval of certain behaviours or actions. These were highlighted by 14 participants. For example, if a particular member's ecstasy use appeared to be getting 'out of control' (e.g., behaving in an embarrassing or foolish manner), they would be pulled aside by other members and spoken to:

> ...Um I've got one particular friend who has a terrible, terrible habit of when she's on ecstasy of constantly, constantly chewing. She just drops her jaw and moves her jaw from side to side and we've told her time and time again, you've got to do something about the jaw because it looks pretty stupid and also it just makes it really obvious that she's e'ing. It was actually [name] that said something in a very joking way, so we didn't say it in a serious way, it was kind of a 'You've got to do something about that jaw' and she was kind of laughing and saying 'Oh I know, I know'. So I think that was better than me saying 'Look I think you should really not move your jaw quite so much' because

Table 3
In-group and out-group practices reported by ecstasy users

Peer group practices
In-group practices
Supervising members within the peer group
Searching for members who are missing
Never leaving members alone
Taking unwell members home
Using equal amounts of ecstasy at the same time
Establishing a maximum limit of ecstasy taken
Not providing ecstasy to members who are already intoxicated with ecstasy and/or other drugs
Reminding each other to drink water regularly
Notifying other members if leaving a venue
Taking turns in monitoring an unwell member
Establishing a meeting/check point within the venue
Disapproving of excessive ecstasy use
Nominating a member to be in charge of water supply and monitoring
Out-group practices
Newcomers are provided with extra support, supervision and reassurance, and are informed of what to expect
Not disclosing drug consumption to a stranger at a venue (may be an undercover police officer)
Not allowing outside members (eg, acquaintances) to be a part of the core in-group
Not disclosing ecstasy use to individuals outside of the in-group

that would have probably made her a lot more paranoid. (#9; female, age 26)

Disapproval was also shown to members who took an excessive amount of ecstasy as this was perceived to be a waste of money. Sexual disinhibition and promiscuity, particularly for male members in relationships, was also looked down upon, as one participant explained:

I guess the one thing that we've noticed with a few of our friends is they seem to be led astray quite easily by the opposite sex if they're feeling you know, and it's kind of like, you know, can't you control that? You know that's, you know, you've got a girlfriend or whatever. I mean the rules shouldn't change just because you're on drugs. (#38; male, age 28)

Ways in which the disapproval of other group members is avoided included 'blending in with the crowd' in order to avoid embarrassing oneself with silly or ridiculous behaviour. It was also suggested that people use with others who are on a 'similar plane' in order to avoid making a fool of oneself or damaging one's reputation:

That's my experience, you actually can be really inappropriate so you really wouldn't want to be in an environment where you were encountering people who weren't on a similar plane where you are, because you know you could make a fool of yourself or you could do damage to your reputation. (#3; female, age 29)

Reputation was protected by the general rule that group members never allow their ecstasy use to 'leak' into other arenas such as work and family.

In-group practices also included drug-specific and peer-related practices that served to minimise harm. For example, drug-specific practices included taking the same dose of ecstasy at the same time, only accepting people who use ecstasy in moderation into the peer group, and telling each other how much ecstasy they had taken ($N = 7$). Peer-related, in-group practices included no intravenous drug use, appointing one person to supply water and monitor consumption, establishing a meeting point in the venue, checking unwell members every 15 min, and nominating non-drug using group members as drivers ($N = 9$).

For most participants, practices employed during ecstasy use within the peer group could be easily distinguished from practices surrounding alcohol, cannabis or other drug use. For example, when the peer group was out drinking, they were less inclined to supervise each other or monitor each other's whereabouts. However, for others, practices surrounding ecstasy use were equated with those of alcohol use within the peer group:

um it would be just as normal, as if you didn't take ecstasy, you went out you wouldn't cause trouble, you wouldn't provoke trouble, you wouldn't . . . with other people, with yourselves, infighting, outfighting um . . . so basically the same as when you're going out for a drink. (#14; male, age 27)

Out-group practices

Out-group practices refer to the treatment of ecstasy users outside the core (ecstasy-using) peer group and may include acquaintances, friends of one group member not known to the rest of the peer group, other users encountered at venues or newcomers to both the peer group and the ecstasy scene in general. 'Newcomers' refers specifically to a new peer entering the group to use ecstasy for the first time. Newcomers are treated differently by the peer group in that they are provided with extra support, supervision and reassurance, and informed of what to expect with regard to the effects of ecstasy ($N = 9$). A newcomer will usually be known to one of the group members and may eventually join the peer group or leave after a short period:

Yeah, we'd keep a close eye on how they're doing just because you want to know, it takes you back to your first time it's kind of cool breaking someone in. It's bad, it's bad because you don't want them to think back 'You gave me my first pill when they're responsible' because a lot of people get dependent on it and we see people out that are 40, 45 years old and still can't stop. (#15; male, age 18)

Membership of or entry into the core peer group appeared difficult for out-group peers. Three participants stated that their peer group had been established for years and that they would not use drugs with people they did not know. It was also common for peer groups in this particular sample not to disclose what drugs they had taken to strangers at a venue. This was to avoid detection by undercover police officers. Also, if other group members did not particularly like a new member, they would not be accepted into the peer group.

Thus, it seems that for some peer groups, membership is not often offered to others, serving to provide protection and cohesion for the core group. This in turn minimises harm (e.g., new members introducing drugs and patterns of use, such as intravenous drug use, regarded as 'heavier' or 'more serious') and provides protection from undercover police. Outside users attempting to promote their image (referred to as 'try hards') were unlikely to be accepted by the peer group and were more likely to be looked down upon. Despite this, two participants noted that the ecstasy scene facilitates the temporary acquaintance of other ('out-group') ecstasy users, or less meaningful and temporary friendships. For example, one participant remarked:

. . . you're sitting down outside having a bit of a relax with your crew and then someone else's crew is sitting there and you're all chatting away and generally ciggies are being passed around, sometimes joints . . . there's a few people chatting and whatever, and then someone will walk past

and say 'Oh can I have a light?' or you know something silly like that and then all of a sudden they'll become part of your group for that night or for an hour, and then either you may go to their place or they may go with you because like you have this very, everyone's your friend it's all very open chat, chat, chat, chat, chat. (#10; male, age 23)

However, these out-group members were perceived by one participant as providing an advantage to the peer group, namely, that excessive ecstasy use or becoming 'out of control' is more likely to be detected by 'someone on the outer' rather than the individual or peer group.

Interestingly, differential treatment based on gender surfaced in both the in-group and out-group practices. In particular, females were cautioned to take care more than males, and some peer groups also monitored female members more ($N = 5$):

. . . with girls we try to always if I'm out with some people, some girls and they're quite small, you um try to, it's good to know what they have just in case you know like, I only recommend, only like being around people that only have halves so they don't sort of hit them and then something does go wrong. (#25; male, age 29)

Finally, when asked about peer group practices, three participants raised a number of negative aspects of the ecstasy scene that were expressed in some of the in- and out-group practices—that is the sometimes pretentious and insincere nature of the scene. For example, one participant commented that:

I've got these friends who go hard and are in the scene and I hate taking drugs with them . . . because they get caught up in the scene and they can be having a shit time and spend all this effort trying to look like they're having a good time and that's, to me that's pretentious I don't like that. It can be highly pretentious, highly pretentious. Not for me, and that's what I don't like, is that pretentious. Even the rave scene to a certain extent was a little bit pretentious because you had to kind of be a raver, like you couldn't walk in, well you could but you weren't really looked upon as being cool, if you wore the wrong clothes, that's pretentious and they claim to be all accepting ravers. People in the scene are not really in my opinion reality based, they have things like . . . its very cliquey the ecstasy scene, its very cliquey. (#22; male, age 23)

Decision making

Table 4 summarises the range of decision-making practices reported in the present study. It was expected that given the strong influence of the social context in determining the use of ecstasy, theories outlining individualist accounts of decision making may not apply to ecstasy users (Edwards, 1954; Kahneman & Tverskey, 1979; Plous, 1993). Indeed, 14 participants in the present study reported that decision making occurred in a group context. More specifically, shared decision making involved the practice of assembling the group in the event of a member becoming ill (as a result of using ecstasy), after which the group as a whole would monitor the troubled member and take turns in providing one-on-one support and reassurance. For example, one participant explained:

I don't think it's decided by anyone I think everyone that I know will be responsible enough to try and take care of someone um or to check up on someone and um I guess I trust anyone, or everyone that I go out with to do something for me and I think the feeling is mutual amongst my group of people or friends that I've used with in the past. (#12; male, age 27)

Another participant also saw the decision making as being shared. The group assembled prior to going out and taking ecstasy to establish who consented to having their ecstasy use disclosed, and to their parents being contacted, in the event of a serious harm experience resulting in hospitalisation:

Before we go out every night in the group we say to each other 'OK like if we take you to hospital do we tell them that you've had ecstasy or not? You know, do we tell them to contact your parents or not?', that's like, that is actually our rule like I said that's what we do . . . you know what I mean like 'If you want to be taken to hospital, what do we say you've had?'. (#5; male, age 18)

For nine participants, the decision making was also assigned to a particular member or subset of members, who fell into two categories: experienced ecstasy members ($N = 4$) and non-experienced ecstasy users within the peer group ($N = 5$). Decision making was assigned to experienced members who were characterised as being older and as having more experience with ecstasy (i.e., a dealer). If they were not more experienced with ecstasy, they were still perceived to be more sensible and responsible due to their age. One participant stated that group members who were relatively relaxed in their outlook and described as 'knowing what's worth worrying about and what isn't', were also assigned responsibility for decision making in the event of a harm experience. One participant explained the pros and cons of being called upon when harms arise:

Interviewee: I've been called up before when I'm at home asleep from people having bad experiences, I've told them what to do. I've helped people on heroin as well, people who have OD'ed I've been called to tell them what to do

Interviewer: So it's recognised that you've got that experience?

Interviewee: Yeah I suppose if you do anything long enough then you'll be known for it . . .

Table 4
Decision-making styles and practices reported by recreational ecstasy users

Decision-making style	Practice
Group decision making	Assembling the group to decide how to take care of a peer who is unwell Assembling the group prior to the consumption of ecstasy to establish who provides consent to having their parents notified should they be hospitalised as a result of ecstasy use
Assigning the decision to a particular member or subset of members	Experienced member is nominated who is older and/or has used ecstasy for a long time
	Non-experienced member, who is drug-free and therefore considered to be better able to handle and make decisions around a risky situation, is nominated
Individual decision making	Predominantly related to the decision to use ecstasy in the first place, and only reported by two participants

Interviewer: Do you mind, does that put responsibility on you?

Interviewee: No that doesn't put responsibility on me, it just puts a negative stigma on me which you know it's hard to break . . . but every now and then you get a reality trip and just want to get out of it and be recognised for more positive things. (#17; male, age 26)

For one participant, 'straight' or non-drug using members of the peer group were not perceived to be ideal decision makers as their lack of experience with ecstasy renders them unable to fully comprehend what a harm experience might be like for an individual:

Well actually I think if it was something that went wrong physically um because they've never experienced it, they've never had, they wouldn't know what the side effects were, they wouldn't know what to look for. I think they'd obviously be kind of a calming influence because they would be straight, whoever was driving mainly um . . . but they wouldn't really know what was going on. (#9; female, age 26)

'Non-experienced' users were identified as members of the peer group who do not engage in any ecstasy use, as opposed to peers who have consumed smaller amounts or used less ecstasy in general. For some participants ($N = 5$) these types of group members were more capable of effective decision making in the event of a harm experience:

Probably the person who's with them at the time. Because you all sort of spread out. And then you tend to find the person, what you call the straightest, I guess who can handle it. (#31; female, age 28)

. . . but if we were all like too wasted to do anything, we'd probably ring someone that we knew would be straight and get them to fix it up for us, yeah. (#37; female, age 22)

Individual decision making was only raised in relation to the decision to use ecstasy or not. More specifically, two participants stated that their choice to engage in ecstasy use was an individual and not a group decision-making process. Furthermore, these participants stated that their decision to keep using ecstasy was based on their positive experiences, which they felt outweighed the negative experiences they have had on ecstasy. For example, one participant explained:

I went through like this stage, and now it's so irregular to me I know what effects it's ever had on me and I know it's had effects some of them negative, some of them positive and so I'm comfortable with it all. It's like um if you ask a smoker 'Do you look into how it causes cancer?', and they'll say 'No' because they know it has an effect and you accept that. (#10; male, age 23)

Another participant acknowledged the negative experiences that can result from ecstasy use but accepted this in view of the perceived benefits:

. . . but then again there's some e's I'll go and throw up on, you know that's the only bad part to it, then the e starts working. Usually it just means it's a stronger e but I haven't you know, I'm willing to take that in my stride so to speak and the benefit comes through after that. (#18; male, age 27)

Although two participants reported engaging in individual decision making, the identification and management of harm was still viewed as a group process. Thus, it appears that the process of group discussion is both about shared social construction and actual decision making.

Discussion

Overall, the respondents identified a broad range of harm-reducing strategies that were primarily preventative and executed within the ecstasy-using peer group. The importance of the peer group in minimising harm was further illustrated in the reported 'group' or 'shared' decision making that takes place in the event of a dangerous situation. Therefore, decision making can be seen as an integral part of harm-reducing strategies.

Harm reduction

The types of harm-reducing strategies and practices reported were predominantly preventative, most of which were drug-specific (e.g., to pace dosage, to buy from a known dealer) and behavioural (e.g., taking breaks, having an exit plan) (refer to Table 1). Thus, given the largely preventative strategies reported, predominantly involving physiological and behavioural practices, it appears that some of the ecstasy users feel they have a degree of control over their ecstasy experience, in particular their ability to manage harms. These types of strategies are consistent with those reported by other ecstasy users (Gamble & George, 1997; Hansen et al., 2001; Moore, 1993; Shewan et al., 2000).

Peer group practices and harm reduction

A range of in-group and out-group practices were identified, all of which served to facilitate the reduction of harm and maintain a recreational level of drug use. In-group practices were predominantly used and included supervising each other, monitoring the effects, checking for any signs of harm within the peer group, appointing a ('straight'/drug free) carer within the group, and taking equal amounts of ecstasy among all group members. This is consistent with the literature on the development and enforcement of group norms, which highlights that groups operate in such a way that 'task success' is maximised and 'task failure' is minimised (Feldman, 1984). In the case of ecstasy use, task success would refer to the use of ecstasy in a safe and harm-reducing manner, whilst task failure could refer to risky situations such as overdose (e.g., adverse reaction to the use of ecstasy that results in fainting, unconsciousness) or hospitalisation.

The out-group practices mainly involved the systematic exclusion of others (friends, acquaintances and strangers) who were not members of the core peer group or 'in-group'. This was executed by the differential treatment of outside members who might enter the core peer group temporarily, such as newcomers. The purpose of excluding ecstasy users outside the in-group mostly centred around protecting and reinforcing the functionality (e.g., in-group practices) of the core peer group. This is consistent with previous research that has highlighted how often the perceptions and resulting treatment of out-groups are more negative and extreme than in-group perceptions (Fishkin et al., 1993; Messick & Mackie, 1989; Tajfel & Turner, 1986). The types of in-group and out-group practices utilised by the ecstasy users in the present study can all be conceptualised as attempts to ensure satisfaction, safety and survival through the prevention of harm within the peer group. Thus, peer group practices can serve as another form of harm reduction among ecstasy users.

On a broader note, the construction of 'in' versus 'out' groups within the ecstasy scene is at odds with historical accounts of earlier rave/dance party scenes. When these scenes first emerged, ecstasy (described by researchers as an 'empathogen') was characterised as a drug that facilitated both the experience of intense emotions and the ability to empathise with the emotions of others (Millman & Beeder, 1994). Other descriptions alluded to the drug's capacity to produce a sensual and euphoric state, in emerging nicknames such as the 'love drug' and the 'fun drug' (Beck & Rosenbaum, 1994). In particular, these scenes offered a sense of well-being, heightened sensations and love towards one's fellow human beings (Henderson, 1996). Thus, these findings suggest a fundamental shift in rave culture from the early 1990s to the present, in light of the clear distinction made between in and out groups.

Despite the use of harm reduction strategies, most of the ecstasy users in this study reported experiencing drug-related harm as a result of using ecstasy (e.g., cramping, anxiety/depression, bruxism). This suggests that the broad range of harm reduction practices utilised may not necessarily reduce the occurrence of harms per se, but rather may serve to reduce the individual's perception of the harm or risk likely to occur as a result of using ecstasy. Further, although participants reported using these strategies, the extent to which they follow these through in real life was not measured. Further research is needed to examine this issue, particularly in the context of the ecstasy-using peer group.

Decision making

Contrary to theories of decision making that provide individualist accounts (Edwards, 1954; Kahneman & Tverskey, 1979; Plous, 1993) the present study found that decision making was predominantly a group process. Assigning the decision making to a particular member is consistent with studies that show that organisations, when under stress, will centralise authority so that control and decision making becomes concentrated in the hierarchy of the organisation (Staw, Sandelands, & Dutton, 1981). Furthermore, in high stress situations, it has been found that group leaders become more receptive to information provided by other members, which suggests a sharing of the decision making and responsibility among all group members (Driskell & Salas, 1991).

Implications for harm reduction programs

The design and dissemination of harm reduction practices and strategies specifically for ecstasy use is not new and such practices have been promoted and developed through peer-education programmes for many years now (e.g., Pearson, Ditton, Newcombe, & Gilman, 1991). However, existing programmes have tended to take an individualistic focus and may be more effective and applicable if the focus was group strategies, targeting collective norms within ecstasy-using peer groups.

Furthermore, many of the harm reduction strategies were learned within the context of the peer group, either by observation or direct instruction to newcomers. Thus, not only are such strategies managed and executed within the peer group

but the learning of such strategies is also facilitated within the peer group. These findings highlight the need to refocus the design and delivery of peer-education programmes toward groups rather than individuals. The importance of targeting the peer group has been highlighted in a recent monograph on peer education, where 'group membership is identified as one of the three defining characteristics of a peer educator' (McDonald, Roche, Durbridge, & Skinner, 2003). This research also highlighted the importance of utilising young people, including both peer educators and young people who have received peer education, as an important source of information during the development of any peer education initiative. Indeed, recent research has demonstrated the effectiveness of peer educators approaching groups as a more successful means of widening the net for distribution of information (Bleeker, 2000).

The findings of the study further highlight the need to target group decision-making skills in peer education initiatives. Young people need to learn how group dynamics work, how group members can learn to take care of each other, and how to nominate a group leader. Improved group decision-making skills will also help individuals to better execute drug-specific harm reduction practices.

While many of the strengths of peer education have been addressed, peer education 'should be seen as part of a comprehensive, holistic approach to addressing problematic drug use among young people' (McDonald et al., 2003, p. 135). Other strategies that can be implemented alongside peer education include public health and media campaigns targeting schools, parents, and young people. In addition, several recommendations are provided by McDonald et al. (2003) to help ensure that peer education will be as effective as possible. These include consulting widely with both the target group and community members; selecting peer educators who are credible and acceptable to the target group; and ensuring that peer educators are fully trained and supported.

Both the advantages and disadvantages of peer-education programmes have been identified and used to develop and distribute information on safer use in relation to a range of substances and injecting practices (Berg, Golec, Hancock, Saraswati, & Thompson, 1993; Spover, 2003). However, further research is needed to provide a better understanding of how the decision-making process contributes to the reduction of ecstasy-related harm within the peer group. Finally, the findings of this study also highlight the use of ecstasy in more mainstream settings (e.g., bars, clubs, public parks) as opposed to traditional rave/dance party settings. Thus, peer-education programmes need to be delivered in a broad range of settings. Whilst peer education in the area of substance use has been prolific, particularly in the UK, there is little research into the effectiveness of such programmes (Parkin & McKeganey, 2000). In particular, future research into the kinds of peer-education approaches that may be more effective, such as targeting groups versus individuals and targeting informal (rave/dance parties) versus formal settings (community centres, schools), is needed.

Acknowledgements

The authors thank the participants for the privilege of hearing their stories and experiences.

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