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BINGEING ON PSYCHOSTIMULANTS IN AUSTRALIA: DO WE KNOW WHAT IT MEANS (AND DOES IT MATTER)?

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Bingeing on psychostimulants, considered to be the most hazardous pattern of use, is usually characterised as repeated use over several days involving the administration of high doses by injection. Drug users recruited from a variety of sources were asked what they meant by bingeing. Both qualitative and quantitative analyses were undertaken. The dimensions of bingeing are reported. Opportunity, drug related cues and psychological factors operate as cues to commence and cease bingeing. Polydrug use and injecting drug use appear to be salient characteristics of drug users who binge. It is concluded that bingeing is a more complex and variable phenomenon than previously thought, and should be considered in developing harm reduction strategies.

Keywords: Youth, drug use, psychostimulants, patterns of use, bingeing, qualitative research, harm reduction

INTRODUCTION

The term "binge" is prevalent in the psychological and medical literature on eating disorders and patterns of consumption of alcohol, particularly among young people. Forty percent of 17 year olds, for example, were found to engage in binge drinking (Department of Health, Housing and Community Services, 1992). The term is also occasionally found where the psycho-pharmacological effects of heavy cocaine use are described. However use of other psychostimulant drugs in runs or binges has also been documented in the literature (Tyler, 1986; Dackis and Gold, 1990; Greaves and Caldwell, 1980; Davis and Schlemmer, 1980; Ministerial Council on Drug Strategy, 1991; Churchill, 1991; Chesher, 1993; Hando and Hall, 1993) and is considered to be the most hazardous pattern of psychostimulant use, due to rapid neuro-adaption, increased dysphoria and toxicity, potentially producing both behavioural and cardiovascular effects (Chesher, 1993).

Bingeing on amphetamines has been defined or characterised in a variety of ways, usually with reference to the dimensions of repeated or continuous use lasting three to four days (Hando and Hall, 1993; Tyler, 1986; Greaves and Caldwell, 1980), involving the administration of high doses by injection (Chesher, 1993; Tyler, 1986; Greaves and Caldwell, 1980). The term bingeing is also used by polydrug users themselves (Moore,

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1991), however personal communications with the latter author, an ethnographer working with recreational psychostimulant users in Perth, suggested that drug users coined the term to mean a number of different activities.

A clinician's definition of bingeing, based on treatment samples, may inadequately describe the behaviours of users in the community. The aim of this study is to increase the level of understanding of the dimensions of bingeing, by examining the behaviour from the psychosocial and structural perspective of those young people, recruited from a variety of settings, who say they binge. Improving our understanding of the binge phenomenon may facilitate the development of appropriate harm reduction strategies.

METHODS

This study involved two stages, both using qualitative research methods.

Stage One

Data collection for the first stage was completed in October, 1992. People under the age of 21 who used injectable drugs were recruited from a variety of sources including roughly equal numbers recruited through agency referral (e.g. drug treatment and youth agencies), advertising (e.g. notice boards at educational institutions and in the free local entertainment newspaper) and snowballing within social networks of respondents. Respondents were paid $20 for their participation. Individual, semi-structured interviews were conducted with a focus on those aspects of the drug using careers and behaviours of respondents which may have exposed them to HIV/AIDS. No identifying information was recorded and respondents were invited to use a false first name. Interviews took place in a field office in central Perth, except for five interviews which were conducted in outer urban youth agencies (four interviews) and an inner urban treatment agency (one interview).

The interviews were tape recorded and transcribed verbatim, and a brief demographics and drug use questionnaire (DDUT, Ovenden and Loxley, 1994) was administered together with a measure of recent risk behaviour (HIV Risk-taking Behaviour Scale (HRBS), Ward, Darke and Hall, 1990). Qualitative methods were used due to the exploratory nature of the research and the difficulty in motivating the population under study to participate; the rationale and methodology have been more fully described elsewhere (Ovenden and Loxley, 1993).

Respondents were asked, as part of the DDUT, whether they had binged, what they meant by binge, and how frequently they had binged in the last month. They were also asked how many times they had binged in the last month according to the definition provided by senior staff at the Alcohol and Drug Authority in Perth, Western Australia: "using repeatedly for 36 to 48 hours before 'crashing' (sleeping for a period of 24 hours or more) followed by a period of four days or more without using", (Quigley; Matthews; personal communication), henceforth called the clinical definition. During the main interview respondents also sometimes talked about bingeing; the transcribed text thus obtained provided additional data for analysis.

The sample. One hundred and five drug users participated in this study. Of these, 75.2% were injecting drug users (IDU)—the result of deliberate recruitment strategies. The median age was 18, the range was 14 to 20. The characteristics of the sample are summarised in Table 1.

Only 22.9% of those interviewed had some work. A small minority of respondents (1.9%) had no fixed address. The remainder (not shown in the Table above) were living in a variety of settings, including alone, with other relatives, in drug treatment centres and refuges.

Seventy three respondents said they had binged and were asked to define it. Only 16.2% of the sample did not know the term bingeing, while 15.2% said they did not binge. Respondents who did not know the term binge, but who had used in the manner matching the clinical definition during the previous month, were subsequently re-classified as binge drug users. There were 27 non-bingers and 78 bingers in the sample. Drug users who were classified as bingers did not differ from non-bingers on a range of demographic variables.

Stage Two

The second stage of the study involved data collection from a treatment sample. Focus groups were employed to enable the researcher to tap into shared attitudes and values which may not be expressed in individual interviews. Focus groups are a group interview method common to social research and marketing, in which a faciliator uses non-directive methods to focus and guide a group discussion on topics of interest (Guray, 1989). Topics for discussion were developed from preliminary analysis of the first stage of the study, and in discussion with the youth counsellors at the agency. After the first focus group, some amendments were made following feedback from participants. The focus groups were held in September, 1993, and were tape recorded and transcribed. The major topics are outlined below:

The good and bad things about bingeing
Planning/cues to binge
Keeping a binge going
Brief 'crashes' during prolonged binges
Consequences of extended bingeing
Coming down/cues to end a binge
Perceptions of problems in oneself and others

The likelihood of valid reporting was maximised by ensuring the anonymity of participants and that no counsellors were present during the discussions.

The sample. Participants in the youth program at an outpatient treatment agency were invited to participate in focus group discussions on bingeing. The youth program accepts young people up to the age of 24. One focus group of eight young men and one of five young women were recruited to the study. The DDUT was not administered to focus group participants.

Table 1 Brief summary of sample characteristics, Stage One.

Sex	Male	52.4%	Female	47.6%
Occupation	Student	25.7%	Unemployed	50.5%
Treatment experience	Counselling	26.7%	Detoxification	7.6%
Current living arrangements	Immediate family	34.0%	Friends/partner	43.8%

Analysis

Both individual and focus group data were used to identify themes. Summary tables were first developed of the content of the definitions provided, following repeated readings of the transcripts. A thematic analysis was undertaken on the definitions of the term "binge", on the topics raised in the focus groups and spontaneous references to bingeing made by respondents in individual interviews. The software program NUDIST (Non-numerical Unstructured Data Indexing Searching and Theorising, Richards, Richards, McGalliard & Sharrock, 1992) was used to facilitate text retrieval and verify themes. No theorising was required for this essentially descriptive analysis.

All references to numbers in this paper refer to Stage One data. Where the sample size permitted, non-parametric statistics available on SPSS-X were used to compare bingers and non-bingers. The level at which significance was determined was $p = .01$ because of the moderate sample size and unknown population parameters.

RESULTS

Defining Features

In the following results, the respondents quoted are described as having ever been in treatment (treated) or never in treatment (never treated). Treatment was defined as drug counselling (inpatient or outpatient) or detoxification.

Duration. The duration of a binge was the most frequently noted theme (56 respondents). There was much greater variation in the self-reported duration of a binge than suggested by the literature. Definitions from Stage One were categorised according to the duration mentioned. Where the duration reported was a range which spanned two categories, respondents were placed in the shorter category The results are summarised in Table 2.

For some users, a binge lasted a single day or evening, however one to two days' duration was more common; weekends were frequently mentioned as the time when bingeing occurred. Non-injectors predominantly binged for up to 48 hours, while around 80% of IDU binged for longer than two days. Injectors commonly reported a duration of greater than two to seven days. Binges of two weeks or more were reported by one in five respondents, half of whom had never been exposed to treatment. One respondent, for ex-

Table 2 Duration of binges described in definitions from 73 respondents, Stage One

Self-reported duration	*Number of respondents*	*Percentage of definitions*
24 hours or less	5	6 85
> 24 to 48 hours	9	12.33
> two to seven days	27	36.99
> seven to 14 days	6	8.22
> 14 days	9	12.33
not reported	17	23.28

ample, stated that a binge was "a month to three months . . . just like going off the deep end" (never treated IDU). Several other respondents said they had binged for a year. The claim that all one's drug use was a binge was raised by several respondents and is further discussed below.

The following observation by a focus group participant illustrated this view:

> "a binge is just taking lots and lots of drugs. . . . open your eyes and its the first thing you think of . . . I've never just used, but, all I've done is binged for seven years [laughter] . . . when I look back its all been a binge . ." (ever treated IDU).

Drugs used. Amphetamines were the predominant drug mentioned in binges (11 respondents), however other drugs were used singly during a binge—ecstasy (MDMA), magic mushrooms and 'trips', believed by users to be LSD, were also reportedly used by some. The term binge was also often used to refer to using a variety of drugs in a short space of time (16 respondents), sometimes even mixed into 'cocktails'. The description of the following young woman vividly portrays the quantity and variety of drugs that can be taken during a polydrug binge:

> "oh well I think the biggest binge started when I was working at uni and there was kind of like heaps of drugs everywhere and I started off with, um, it was the first day I took 10 Avils [over-the-counter travel sickness medicine] and went really weird and then I had to go to work the next day so I thought well I'll take a quarter of a trip and that will make things more interesting, and so I went to work and I had a quarter of trip and sort of got through the day, and then I came home and got stoned and took one and a half trips, and there was this party happening at our place and there is this things called spectrums, which are like trips, so I had one of them and then sort of like, I was fried out, and then on Saturday I thought oh well, I was bored again so went out and got half a gram, oh got a gram of Ice [a crystalline form of methamphetamine], and I thought was just like speed so I'll take half a gram of that . . . didn't know what it would do and oh wow I was off my face for three days with that one." [treated IDU; duration—five days before crashing].

Although many respondents did not specify amphetamines in their definition of bingeing, there were a number of indicators in the DDUT which implicated amphetamines in bingeing:

- Respondents who binged were more likely than non-bingers to report using amphetamines in the month prior to interview (65.4% compared with 18.5%; $\chi^2 = 17.700$, df $= 1$, $p < .01$).
- There were no differences between bingers and non-bingers in prevalence of other drugs used in the month prior to interview.
- Of the 30 respondents who did not mention a drug type in their definition, amphetamines were used during the previous month in 83.3% of cases.

Mode of administration. A few defined bingeing as involving the use of needles, while focus group participants commented generally that people who don't use needles couldn't be 'big' bingers. It was found non-injectors tended to binge for less than 48 hours, or to binge on drugs other than amphetamines (the drug most frequently associated with injecting), supporting this view. Some users in the focus group disputed the importance of mode of administration in bingeing, saying for example, that bingeing involved using "whatever you can get your hands on . . . in whatever way" (treated IDUs). However, sta-

tistical analysis of Stage One respondents supported the view that administration of amphetamines by injection was associated with bingeing: injecting drug users were more likely to have ever binged than were non-injectors (81.0% compared with 53.8%, $\chi 2 = 7.558$, df = 1, $p < .01$). Injectors who binged also appeared more likely to have been injecting for a longer period: 93.1% of users who had injected for longer than two years engaged in bingeing, compared with 75% of users who had shorter injecting careers. This trend was not significant at the .01 level ($\chi 2 = 3.98$, $p = .04597$), however a larger sample size may have resulted in a significant finding.

Continuity. The theme regarding the continuous pattern of use during a binge was found in the definitions of 22 respondents from Stage One of the study. One of the key defining features of bingeing in the literature is that users only stop using when they are exhausted and about to crash. Evidence that psychostimulant bingers do not always behave thus, even among those bingeing on amphetamines, came from both individual interviews and focus groups. A binge could be broken unintentionally, as, for example, when a police raid took place or when the binger accidentally fell asleep. In the latter case, on waking the user could continue bingeing, rather than take a break of four or five days before using again. Some respondents described bingeing as a period of daily use—"having some every day for a couple of weeks" (never treated IDU).

Frequency of administration. Spontaneous mention of the frequency of administration was rarely made by respondents. Where it was, responses ranged from one to four doses per day. The maximum may have been higher, as several respondents stated that they used again as soon as the 'high' began to fade; one respondent used again after only 30 minutes.

Quantity. Using a large quantity of drugs during a binge was frequently mentioned, although the specific volume was rarely stated. It became clear that the amount of drugs taken in order for a user to consider they had binged was dependent on a number of situational and social factors which will be discussed separately. For amphetamines, the range specified varied from one gram of amphetamines in 24 hours to a quarter of an ounce in two to three days, cut with Ice, interspersed with a couple of doses of ecstasy. For some users, the quantity used was described simply: as much as possible.

Excessive use. Many respondents, both individually and in the focus groups, commented on the excessive nature of bingeing. While defining binge as use which is excessive is accurate, the definitions included a number of negative value judgements, for example, using to a point which is harmful, using too much, or using more than is needed for a good night out. The following quote illustrates the negative connotations sometimes expressed.

> "collect up as many drugs as possible and take them all I suppose . . . I've gotta bit of a problem with bingeing—if I've got it I'll tend to binge on whatever I've got at the time—if I've got mull I'll binge out on mull all day—pretty bad . . . If I've . . . got in the house trips and things I'll mix them . . . never have more than four days break, find it hard to have a day's break actually" (never treated non-injector).

Positive value judgements were notably absent.

Starting and Stopping Binges

Drug-related cues. A number of cues related to the drug and its administration were taken as signals by users to binge. An example was reported by a respondent who, after having a taste of amphetamines, overheard the kettle being put on to boil. This was a cue associated with preparing a dose for injection and indicated his flatmates might be preparing to use again. Such cues provided a powerful incentive to further use, and other users would subsequently join in, resulting in a binge. While the initial 'rush' from injecting amphetamines acted as a positive reinforcement, the impetus to binge appeared to be related to the action of the drug as a negative reinforcement for some respondents. Several respondents, for example, suggested that bingeing occurred to avoid coming down: "it's not that you don't want to come down, its just that coming down's hard" (treated IDU). Although not commonly reported, it is noteworthy that developing tolerance to the effects of amphetamines was also a cue to binge; one taste was no longer enough—hence users engaged in frequent administration of the drug to try and maintain the high.

Opportunity. Money structured the occurrence of binges—having lots of money, or at least more than usual, was a cue to start binges for some young people and, although it was more often implicitly than explicitly stated, running out of money was a cue to end a binge. Access to financial resources also helps to explain some of the variation in the quantity of drugs used in a binge, for example "only once a day for about three or four days in a row . . . that's a binge for us considering the amount of money that we've got". (never treated IDU)

The availability of drugs was another factor which influenced bingeing. Social factors often played a role in increasing the availability of drugs. When there was a glut of drugs in one's social group, or group membership changed allowing social contact with heavier drug users, or if a user was supplying drugs to others or living with a dealer, the availability of drugs increased, as did the opportunities to binge. Conversely, the end of a binge was frequently due to running out of drugs, or reduced access to one's source of supply.

Psychological states. Respondents who had been in treatment frequently spoke of psychological states in which they binged. The main theme arising for this group was experiencing negative mood states—being 'pissed off' or upset about something, and wanting to escape through using. This theme may be partly an artefact of their education in treatment, i.e. counsellors may increase users' awareness regarding the role of drug use in masking negative moods. Boredom was also mentioned by several respondents as a reason to binge, but this was rare.

Ending a binge was also influenced by psychological states, usually the effects of bingeing. The literature reports that exhaustion, depression, sleep disturbances, craving, violent mood swings and paranoia are common outcomes of bingeing (Miller, Millman and Gold, 1989; Wickes, 1993). The respondents in this study reported exhaustion, the feeling that they were going crazy and, for some, the power of seeing their changed reflection in a mirror—the incongruity between their self-image and the reality, were cues to end.

Does Bingeing Matter?

Thus far, the dimensions of bingeing and factors related to beginning and ending a binge have been identified. From a health perspective, whether it matters that young drug users binge or not is linked to the perception that a binge is a separate phenomenon from polydrug use and that there are negative health consequences.

To address the first issue, Table 3 below shows that polydrug use was the norm among both bingers and non-bingers interviewed individually. However in the month prior to interview only 14.8% of non-bingers used more than four types of drug other than tobacco, compared with 37.2% of bingers.

Respondents who binged also differed from non-bingers in reported prevalence of use of some types of drugs during the previous year, as shown in Figure 1. The use of heroin, tranquillisers, amphetamines and ecstasy was more prevalent in bingers than non-bingers. It may be that the prevalence of heroin and tranquilliser use among bingers was related to their use to buffer the effects of coming down (see also Hando and Hall, 1993).

Bingeing was a fairly regular occurrence among respondents, with 69.2% of bingers engaging in at least one binge in the previous month, according to either definition (the Spearman rank correlation between the frequency of binges according to the two definitions

Table 3 Number of drugs used during previous month, excluding tobacco.

	Bingers (n = 78)	*Non-bingers (n = 27)*
Mean (Range)	4.15 (0–11)	3.29 (0–6)
Median	4	3
Mode	3	4

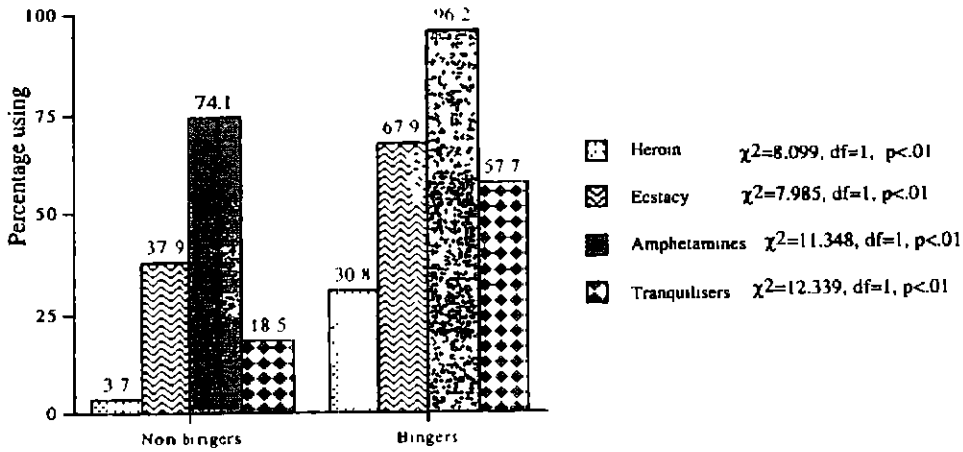

Figure 1 Prevalence of use of drugs in the 12 months prior to interview—differences between non-bingers and bingers.

was 0.4947, $p < .01$, one-tailed test). Over 95% of bingers had binged between zero and four times in the prior month; the median was one binge. Among IDUs classified as bingers, over two thirds (68.8%) had binged in the previous month. However when only those 47 injecting bingers who had injected in the previous month are considered, 85.1% had binged.

Bingeing was therefore very common among current injectors. Of these, 35% had accepted a used needle and syringe from someone else, and 50% had passed a used needle and syringe onto someone else. The following two quotes illustrate the mental state that appeared to facilitate such risky behaviour:

> "I wouldn't of even cared if there was a little drop of blood in there to tell you the truth, that's how, you know . . . when you go on these binges you get that, you know, especially two weeks, three weeks, four weeks or whatever, a week even, you know, and . . . then you start to really—'aw stuff it.' " (ever treated IDU)

> "Like I thought like it's a really safe assumption that . . . that both of them probably have AIDS And so that either way . . . like it doesn't matter whose needle it was, I'd probably end up getting it . . . Like all I cared about was having it. And I didn't care if that meant that in five year's time I'll be dying of AIDS. It just didn't bother me at all . . . . That just means I've got an even more excuse to go out and just have a binge for the absolute rest of my life and die . . . at that stage I didn't care if the needle was clean or not." (never treated IDU)

In contrast, none of the seven IDU who fit the above description (recently injected, classified as a binger) but who *had not* engaged in any binges in the previous month had either accepted or passed on a used needle and syringe in the course of their recent drug use. Recent bingeing, rather than recent injecting *per se*, appeared to be related to behaviours which placed these IDU at risk of contracting or transmitting blood-borne diseases. Finally, binge drug users more frequently reported ever attending a hospital because of their drug use (29.5% compared with 3.7% of non-bingers, $\chi^2 = 7.562$, $df = 1$, $p < .01$).

DISCUSSION

The definitions of binges provided by respondents suggest that the definitions in the literature which were summarised at the beginning of this paper do not provide for the variety of ways in which young Australians using injectable drugs define bingeing. Bingeing for brief periods of less than two days was not uncommon, but the majority of these young users had binged for periods lasting up to seven days.

Some respondents binged for periods longer than two weeks, and, although rare, a blurring between bingeing and 'usual' drug use was sometimes reported. This suggests that periods of prolonged bingeing might more accurately be described as heavy problematic drug use, and calls into question whether the term binge is a euphemism for abuse or dependence gladly taken on by problematic users. It could be argued, for example, that binges of two weeks or more constitute periodic or episodic dependence, which amphetamine users drift into and out of, depending on social, psychological and financial circumstances. However as a binge is a period of use where the plan is to use to excess and not limit one's use, notions of dependence become somewhat problematic.

Both bingers and non-bingers were found to be polydrug users. Among the bingers, stimulant drugs were central to bingeing for some, while for others, mixing a variety of

drugs was the defining feature of a binge episode. Use by injection was frequently reported in connection with, but not limited to, bingeing on psychostimulants. Bingeing thus seemed to be a separate phenomenon for which the aforementioned behaviours might be considered risk factors.

Among current injectors, engaging in risk behaviour such as accepting or passing on used needles and syringes was confined to respondents who had binged in the previous month. This suggests that people working with young IDU in particular need to consider bingeing when formulating harm reduction messages. A replication of this finding in other studies would suggest that bingeing has serious public health implications beyond the immediate hazards of intoxication

The cues to start and stop binges confirm the importance of 'drug, set and setting' (Zinberg, 1984) in structuring the binge behaviour of the young users in this study. Additionally, an element of thrill seeking or challenge was suggested by those users who described pushing the limits regarding the quantity of drugs ingested during a binge. This provides one clue to why psychostimulant users binge, and suggests a similarity with adolescent drinking behaviour in which the sign of a good night is the severity of the reaction that follows, as, for example, reported by Munro (1994). The focus group participants were not well-placed to answer this question, as entering treatment may be precipitated by, or precipitate a change in the user's perception of the reasons for bingeing which may override previous cognitions and make them inaccessible to the individual. This highlights the importance of using non-treatment samples in studying the bingeing phenomenon.

SUMMARY

This study explored the nature of bingeing with a sample of illicit drug users obtained from a variety of sources and with users currently in treatment.

The objective dimensions of bingeing were duration, continuity, frequency of administration, quantity of drugs, number of drugs and mode of administration. Bingeing was frequently perceived as excessive use, and thus was judged in negative terms. It appears that amphetamine use, polydrug use and injecting drug use were independent but overlapping behaviours. Where they coincided, binge behaviour was likely to be found. Bingeing by current injectors appeared to be linked to behaviours which placed the user at risk of transmitting blood-borne disease, and suggests the need for incorporating bingeing into future harm reduction strategies.

Bingeing constitutes a phenomenon which needs to be explored fully by researchers and clinicians, as the term is coined to describe patterns of use of greater variation than the current literature suggests.

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