

Magic Mushroom Use

Between Prohibitions: Patterns and Meanings of Magic Mushroom Use in the UK

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A survey of magic mushroom use was completed by 174 participants in 2004, a year when the sale of hallucinogenic mushrooms was not illegal in the UK. The data were collected in Edinburgh and Bristol (UK). Participants were a self-selecting convenience sample. Participants tended to be in their 20s, White-British, in education or employed; 64% were male. Participants reported a pattern of infrequent but intense consumption (47% used between 4–12 times/year; average consumption in one setting was 12 g, a high dose). Use was explained in terms of laughing, hallucinations, altering perspective (41–74%), and feelings of being closer to nature (49%). Negative experiences reported included paranoia (35%) and anxiety (32%). Mushroom use was located within a wider recreational drug and alcohol culture. Four focus groups aided the interpretation of the data. Future research is recommended into negative experiences. Implications for policy and harm minimisation literature are discussed.

Keywords magic mushrooms; psilocybin; recreational drug use

Introduction

In 2002 the UK Home Office advised that the growing of mushrooms that contained the active substances psilocybin and psilocin, and their gathering and possession, did not contravene the Misuse of Drugs Act, 1971. This position was revoked with the introduction of the Drugs Act 2005, which reclassified magic mushrooms, both fresh and prepared, as a Class A drug (the class of drugs that are considered to have the most harm and have the greatest penalty: up to 7 years imprisonment and a fine for possession and up to life imprisonment and a fine for supply). These changes in the law and reading of the law meant that between 2002 and 2005 the selling of freshly picked hallucinogenic mushrooms was not illegal in the UK. A burgeoning industry developed to supply mushrooms, resulting in estimations of between 300 to over 400 shops in the UK selling them (Oliver, 2005; “Psychedelic mushrooms,” 2004).

The shops sold varieties of hallucinogenic mushrooms that contained psilocybin and psilocin. The mushrooms were grown using kits because they were not indigenous to the UK but had originated from places such as Mexico. There are also several types of indigenous

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fungi in the UK that contain psilocybin and psilocin. These mushrooms grow in grassy areas, particularly in western regions, during autumn/fall (mainly September to November). Different varieties of mushrooms may produce different effects, but they all involve interference with perception and information processing. Small amounts of mushrooms can produce subtle visual hallucinations and strange thoughts and feelings, high doses have the potential to produce open and closed eye visuals, feelings of time-dilation, belonging and connection, religious and spiritual awakening, extreme emotional responses, and intense feelings of wonder, connection, joy, and fear (Erowid 2005). The effect of consuming mushrooms varies according to body size, tolerance, and individual responses to them. However, it is estimated that 3–6 mg of psilocybin would be expected to produce hallucinations in a man, given that 20–30 g of freshly picked mushrooms contain approximately 3–12 mg psilocybin (Young, Milroy, Hutchinson, and Kesson, 1982). A similar estimate is given by the drug user produced Web site Erowid (<http://www.erowid.org>), which describes 2.5–10 g of fresh mushrooms as producing high-dose effects. While there is wide individual variation, the effects of psilocybin generally plateau after around 50 minutes from consumption, after which there is a slow reduction, ending approximately 5½ hours later (Passie, Seifert, Schneider, and Hinderk, 2002).

The main deleterious effects of mushroom use are threefold. First, sympathomimetic stimulation (including dilated pupils and rapid heart rate; Young et al., 1982), although in general this is only moderately elevated (Hasler, Grimberg, Benz, Huber, and Vollenweider, 2004). Second, the experience of nausea, anxiety, panic, and/or being caught in a negative loop of thinking during intoxication (Co-Ordination Centre for the Assessment and Monitoring of New Drugs (CAM), 2000); and third, the triggering of latent mental health problems (Nielen, van de Heijden, Tuinier, and Verhoeven, 2004). Erowid notes that reactions and experiences may vary dramatically from person to person; for some people a “trip” may be both frightening and unpleasant, for others it is joyful and ecstatic. Such experiences have been drawn upon for therapeutic exploration to enable self-development (Greenberg, 1998). Hallucinogenic mushrooms have also been used in other therapeutic settings, in particular to aid in the treatment of compulsive disorders or dependencies to other drugs or alcohol (e.g., Delgado and Moreno, 1998; Dobin, 1998; Moreno and Delgado, 1997; Pollock, 1975). A recent risk assessment undertaken by the Dutch Coordination Centre for the Assessment and Monitoring of New Drugs rated mushrooms, which they call *paddos*, as either no risk or low risk in relation to the risk categories of the health of the individual, public health, public order, and criminal involvement. The report concluded that hallucinogenic mushrooms were “not associated with physical or psychological dependency, acute toxicity is largely limited to possible panic and anxiety attacks and, in terms of chronic toxicity, the worst that can happen are flashbacks. Consequently, the use of *paddos* does not, on balance, present any risk to the health of the individual” (CAM, 2000, p. 13). Other recent studies on the effects of hallucinogenic mushroom consumption have found similar results. For example, Hasler et al.’s (2004) study on psychological and physiological effects of psilocybin showed that while core dimensions of altered states of consciousness were affected (these include dimensions such as oceanic boundlessness and dread of ego dissolution), they did not find evidence that psilocybin was hazardous with respect to somatic health. Halpern, Sherwood, Hudson, Yurgelun-Todd, and Pope (2005) found “no evidence of psychological or cognitive deficits among Native Americans using peyote regularly in a religious setting” (p. 624), although the authors noted that these findings may not generalize to illicit hallucinogen users. Reviewing the available pharmacological data about psilocybin Passie et al. (2002) concluded that psilocybin appeared to be physiologically well tolerated in humans, but that they could not make a confident conclusion since the studies available were old and did not meet contemporary standards.

Despite the long history of hallucinogenic mushroom use and their increased availability through being sold in shops and on the Internet, relatively little is known about the contemporary Western patterns and meanings associated with magic mushroom use. Research that has had a specific focus on magic mushrooms has tended to focus on examining either the pharmacological or therapeutic effects of magic mushrooms. Alternatively, magic mushroom use has been identified and discussed in studies on overall drug use, either in the general population (e.g., the British Crime Survey) or on specific populations, in particular students and schoolchildren (e.g., Barnard and Forsyth, 1998; Cook, MacDonald, and Jones, 1997; Lassen, Lassen, and Skov, 1993; Smith and Nutbeam, 1992) and dance/club drug users (e.g., Parker, Measham, and Aldridge, 1998; Riley and Hayward, 2004; Riley, James, Gregory, Dingle, and Cadger, 2001). These studies show that while patterns of magic mushroom use were not stable over the period of 1996–2004, overall magic mushroom use has increased, with the 2003–2004 British Crime Survey reporting 2.7% of 16- to 24-year-olds having used mushrooms in the past year and concluding that there has been a “significant increase in the use of magic mushrooms” (Chivite-Matthews et al., 2005, p. 23). Local UK surveys have found between 10 and 15% of 16-year-olds claim to have used magic mushrooms at least once (Drugscope, 2005; Smith and Nutbeam, 1992). Higher prevalence of mushroom use has been identified by dance drug users, with Riley and colleagues reporting 12.3 and 33% from data collected in Edinburgh in 1999 and 2001, respectively (Riley and Hayward, 2004; Riley et al., 2001). Such surveys are useful in showing broad patterns of drug use in general or specific populations; however, these surveys have not provided in-depth information on magic mushroom use.

The present study has two aims, first to address the lack of knowledge on contemporary patterns and meanings of magic mushroom use. Second, to provide an empirical examination of the use of hallucinogenic mushrooms during a period of restriction in prohibition.

This article reports the findings of a questionnaire and focus group study that examined the patterns of magic mushroom use by participants who were over 16 years old and who had used magic mushrooms in the past year. The study aimed to identify (a) patterns of mushroom use (namely, amount, frequency, methods of access, preparation, and place of use); (b) rationale for use (reasons and pleasures); (c) problems and risks associated with mushroom use; and d) whether and how participants’ mushroom use was related to other illicit drug and alcohol use. Four focus groups that discussed the key themes of the questionnaire were also conducted. The focus group data were incorporated to show some of the kinds of reasons and understandings that may have informed survey responses.

Method

Participants

There were 174 participants; 63.6% ($n = 110$) were male and 36.4% ($n = 63$) were female, with 1 missing case, a difference that was significant, $\chi^2(1, N = 173) = 12.77, p = .00$. The age range was between 14 and 48 years, with a mean of 24.9 years and a mode of 26 years. There were 4 missing cases. Most participants were White-British (92.8%, $n = 154$). The majority of the 7.2% ($n = 12$) of non-White participants were Black, Asian, or mixed race British. The majority were either employed (45.4%, $n = 79$) or in education (36.8%, $n = 64$); 11.5% ($n = 20$) were unemployed and 6.3% ($n = 11$) stated “other” (e.g., traveling). See Table 1 for details of basic demographics.

Procedure

The questionnaire was administered in May 2004 at two types of venues: two shops in Bristol, England, that sold magic mushrooms, and the Crew2000 drugs information drop-in

Table 1
Selected demographics of participants

Age	Sex	Ethnicity	Occupation
Under 18	Male 44.0% (n = 11)	White 100.0% (n = 23)	School 44% (n = 11)
	Female 56.0% (n = 14)	Mixed 0.0% (n = 0)	Student 36% (n = 9)
		Black 0.0% (n = 0)	Employed 12% (n = 3)
		Other 0.0% (n = 0)	Unemployed 8% (n = 2)
			Other 0.0% (n = 0)
18–25	Male 60.0% (n = 48)	White 93.6% (n = 73)	School 0.0% (n = 0)
	Female 40.0% (n = 32)	Mixed 1.3% (n = 1)	Student 45% (n = 36)
		Black 0.0% (n = 0)	Employed 38.8% (n = 31)
		Other 5.1% (n = 4)	Unemployed 8.8% (n = 7)
			Other 7.5% (n = 6)
26–30	Male 62.1% (n = 18)	White 85.7% (n = 24)	School 0.0 % (n = 0)
	Female 37.9% (n = 11)	Mixed 3.6% (n = 1)	Student 10.3% (n = 3)
		Black 0.0% (n = 0)	Employed 69% (n = 20)
		Other 10.7% (n = 3)	Unemployed 10.3%(n = 3)
			Other 10.3% (n = 3)
31–35	Male 82.4% (n = 14)	White 93.3% (n = 14)	School 0.0% (0)
	Female 11.8% (n = 2)	Mixed 0.0% (n = 0)	Student 0.0% (0)
		Black 0.0% (n = 0)	Employed 58.8% (10)
		Other 6.7% (n = 1)	Unemployed 29.4% (5)
			Other 11.8% (2)
36+	Male 78.9% (n = 15)	White 88.9% (n = 16)	School 0.0% (n = 0)
	Female 21.2% (n = 4)	Mixed 5.6% (n = 1)	Student 21.0% (n = 4)
		Black 0.0% (n = 0)	Employed 68.4% (n = 13)
		Other 5.6% (n = 1)	Unemployed 10.5%(n = 2)
			Other 0.0% (n = 0)

center in Edinburgh, Scotland, which is situated opposite several shops that sold mushrooms. People buying mushrooms in the shops in Bristol were told of the research and invited to complete the questionnaire by themselves, placing completed questionnaires in sealed collection boxes in the shops. As a thank-you for participating, Crew2000 harm minimization information cards on magic mushrooms were made available by the collection boxes. At Crew2000, people who requested information on magic mushrooms were informed of the research and directed toward the questionnaires if they showed interest in participating in the research. Those who participated in this research therefore received harm minimization information regarding any future mushroom use. We note that there is an ethical concern in conducting research that does not provide a direct benefit to the participants. However, during the recruitment, participants often verbalized a desire to have their experiences and beliefs known to a wider community (albeit in an anonymous way), particularly in a context in which public discourses on the problematic nature of drug use, including mushrooms, were easily available. Being able to contribute to this study therefore has the potential to be understood as empowering. While the sample was self-selecting, recruitment in different types of venue and parts of the country were used to gain a wide selection of mushroom buying participants. The location of the Crew2000 shop meant that for many participants it was an easy stroll from the shop that sold mushrooms to the shop that gave information on

mushrooms; therefore, it is unlikely that the data are particularly skewed due to the nature of recruiting at a drugs information drop-in center, particularly one that is designed by young people to be attractive to young people and has a history of positive work with the community. Past research has indicated that self-report drug use can be regarded as both reliable and valid (Smith and Nutbeam, 1992). We are, however, mindful that our interpretation of the data may be altered by sampling bias and note that this is an outcome of researching a previously ignored population who are on the margins of illicit behavior. The use of two fictitious drugs was included in the questionnaire to assess overreporting. No payment was made to any participants. Questionnaires were excluded from analysis if 50% or less of the questionnaire was completed ($n = 7$), if the participants reported use of either of the fictional drugs "simeron" and "blue cinders" ($n = 5$), or if participants reported not using mushrooms in the past year ($n = 60$). The criteria were fulfilled by 174 out of a total of 246 questionnaires. The data were entered into SPSS. Descriptive statistics were produced to examine the patterns of use, in particular, the number and percentage of participants who responded in the affirmative to each question. Inferential statistics were used to make comparisons and/or correlations to further examine these patterns.

Apparatus

A questionnaire was designed to provide in-depth information on patterns of magic mushroom use. The questionnaire contained 20 questions that covered a double side of A4 paper. On side one were 18 questions on mushroom use mainly presented in a tick-box option format. The options were chosen from previous research with dance drug users (e.g., Measham, Aldridge, and Parker, 2001; Riley and Hayward, 2004) and topics identified as important on user led drugs information sites such as Erowid. The second side contained a table for participants to record the frequency of any other drug or alcohol use. The questionnaire was anonymous and quick to complete (taking approximately 5 minutes), enabling recruitment of participants at shops that sold magic mushrooms rather than through snowballing (also known as *chain referral*, when initial contact leads to other contacts) or institutions such as schools. Participants were asked about their mushroom and other drug use for the past year only. The one-year time frame was adopted to provide a measure of consumption that would be not be affected by seasonal variations (e.g., mushroom season in autumn) and to provide a good reflection of contemporary mushroom and other drug use, given the dynamic nature of recreational drug consumption patterns (Riley and Hayward, 2004).

Focus Groups

Four focus groups were held, two in Edinburgh in a private meeting room at the Crew2000 center and two in Bristol, at participant's homes. In Edinburgh, participants were recruited through Crew2000; in Bristol participants were recruited from the shops participating with the questionnaire. The focus group schedule was based on key areas of the questionnaire, namely, patterns of, reasons for, and problems with mushroom use. The use of other drugs and/or alcohol was raised by the participants in the course of these discussions. Participants chose their own pseudonym. The data were analyzed using interpretative phenomenological analysis, which is designed to explore the meanings particular experiences, events, or states hold for participants (Smith and Osborn, 2003).

There were 20 focus group participants in total, 13 males and 7 females, the mean age was 24.7 years with a range of 16–42 years, all were White-British or White-Other (e.g., Spanish and American), with the exception of two mixed race participants. Eleven were

employed or self-employed, 5 were in education, 2 were traveling, 2 were unemployed, and 1 was a home carer. On average participants spent £8 (range £5–10) on bought mushrooms per session (which represents an average of approx. 10 g) or consumed 37 indigenous mushrooms (range 10–80). This is a pattern of consumption similar to the survey findings (see below). All had used other drugs, alcohol, and/or cigarettes in the past year; after cannabis, the most common illicit drug used was ecstasy.

Results

Of the 174 survey participants, the majority were male (63.6% males, 36.4% female), between 18 and 30 years old (62.6%), White-British (92.8%), and either employed (45.4%) or in tertiary education (30.5%). See Table 1 for details.

Patterns of Mushroom Use

Average Amount of Mushrooms Used per Session. The survey participants were asked to give the number or cost of the average amount of mushrooms they consumed in a single session. All responses were converted into pounds sterling, using a formula reflective of the usual price for mushrooms sold in shops at the time, the formula being 10 g = 3 mushrooms = £6. Although, note that the price range for mushrooms sold in shops was £5–10 for 10 g. The majority of participants spent approximately £10 on mushrooms at each session; for most participants this is approximately equivalent to 12 g. The mean was £9.54, mode £10, with a range of £1–50.

An additional 17% ($n = 30$) of participants reported using larger amounts of mushrooms. Those who stated they used more than 10 mushrooms were considered to be using the smaller mushrooms that grow wild in the UK (this was often stated by the participants). The average number of mushrooms consumed by these participants was 58, with a mode of 45 and a range of 10–200.

For both bought and picked mushrooms, the average amount reported would be enough to produce a high-dose effect.

The breadth in the range of dosage reported in the survey was also described in the focus groups. The focus group participants differed both between each other and between themselves at different settings depending on the level of hallucination they hoped to gain from the drug.

Frequency of Mushroom Use. The survey responses showed a broad range in the frequency of mushroom use, with nearly half of the participants taking mushrooms between 4 and 12 times a year. Participants' responses were as follows: "monthly," 23.4% ($n = 40$); "four times a year," 24% ($n = 41$); "twice a year," 15.8% ($n = 27$); "once a year," 10.5% ($n = 18$); and "less than once a year," 21.1% ($n = 36$). Only 5.3% ($n = 9$) said they took mushrooms weekly or more than weekly. There were 3 missing cases.

In the focus groups participants also described a pattern of infrequent use, although often noting the excesses of the minority, either in others or themselves when younger. Reasons for not using mushrooms more frequently included the intensity of the "high" produced by mushrooms (as opposed, for example, to cannabis) and the problematic effect of excess use, such as "people that just never come back" (Daniel, focus group 4).

Accessing Mushrooms. The survey participants were asked where they usually accessed their mushrooms but were allowed to give more than one response if they felt they used

different sources equally. The majority of participants bought mushrooms in shops or picked them in the wild: 38.7% (n = 98) bought mushrooms from a shop; 26.9% (n = 68) picked them wild themselves; 22.1% (n = 56) were given them by friends; 7.9% (n = 20) grew them in kits; 4% (n = 10) said “other”; and 0.4% (n = 1) bought them on the Internet.

In the focus groups the participants described picking mushrooms for themselves, but also the impact of the shops in providing easier access, different kinds of mushrooms, and a quality-safety guarantee. Mushrooms were also seen as a “cool” present to give someone.

Planning, Preparation, and Place of Use. The survey participants were asked about the kind of planning they engaged in. The responses were as follows: “I think about it weeks or days in advance and plan what I will need, where I want to be and who with,” 15.5% (n = 27); “I think about it in advance, but don’t plan what I’m going to do in detail,” 43.7% (n = 76); and “I don’t plan in advance,” 40.8% (n = 71).

In the focus groups the participants described sometimes engaging in considerable planning, including attention to drug, set, and setting (Zinberg, 1984), but also expressing a more casual attitude, taking them if they were offered or if a “stash” was remembered. One participant stated that he would never use mushrooms again after he had had a bad trip but then later remembered that he had since used them.

The survey participants were also asked to state where they usually consumed their mushrooms, although they were allowed to tick more than one option if they felt they equally applied. The responses were as follows: “Outside near the shop where I bought them,” 2.6% (n = 6); “outside in a pre-planned place” (e.g., park or street), 38.5% (n = 90); “inside and private” (e.g., a friend’s room), 42.7% (n = 100); and “inside any public” (e.g., pub or club), 16.2% (n = 38). In the focus groups, participants described taking mushrooms at a variety of venues including indoor sites such as clubs, pubs, and houses. However, many stated a preference for using mushrooms in the outdoors or in organic environments, which included festivals, outdoor parties, isolated beaches, and botanic gardens. As Paula (focus group 4) stated, “It’s a natural drug and it should be done in nature. . . its all about like becoming one with nature.”

Reasons: Rationale for and Pleasures of Mushroom Use

Reasons for Use. The survey participants were offered 19 options and were invited to tick any that applied to them. The options aimed to cover a wide range of potential reasons for taking mushrooms and included an “other” option for participants to develop this knowledge further. A similar rationale and procedure accounts for the content of the other questions in this section.

Laughing, hallucinations, and altering perspective were the three most cited reasons (41–66% of participants gave these reasons), with happiness, celebration, and socializing being cited by between 35 and 37% of the participants. See Table 2 for details.

The focus group discussions reflected the majority of survey responses by emphasizing hallucinations and laughing. For example, Jet (focus group 3) described an outdoor party in which people were

actually falling on the floor just laughing so much (.) and basically me and this guy (.) and I could actually read his thoughts and he was thinking what I was thinking (.) and that’s the whole telepathy thing↑ it was absolutely fantastic and (..) nothing was said it was just laughing and laughing

Table 2
Reasons for using mushrooms (percentage and number of responses)

Reason	Percentage and number of participants
For a laugh	66.1 (n = 115)
Like hallucinations	58.6 (n = 102)
To alter perspective	51.1 (n = 89)
Happiness	37.4 (n = 65)
Celebration	37.4 (n = 65)
Socializing	34.5 (n = 60)
Relaxing	27.6 (n = 48)
To treat yourself	25.3 (n = 44)
Ease of availability	18.4 (n = 32)
To “lose it”	16.1 (n = 28)
Out of boredom	15.5 (n =27)
Legal	15.5 (n = 27)
Solving problems	11.5 (n = 20)
Other	9.2 (n = 16)
Escaping problems	8.6 (n = 15)
Something your mates do	8.0 (n = 14)
Confidence	5.7 (n = 10)
For sex	14 (n = 8)
Habit	2.3 (n = 44)

The focus group participants also discussed altering perspective both in terms of being able to think about things differently and as a radical and permanent shift in perspective (also see discussion below on spirituality). They also described mushrooms as safe, in terms of the shops taking the danger out of picking your own, and also because in relation to illegal drugs, mushrooms were considered as both natural and as having greater quality control because of their legal status.

Positive Experiences. Participants were asked what they liked about mushrooms. The most common responses reported were laughing and hallucinations (“visuals”; 67–74%). A range of 44–49% of responses reported enjoying feeling closer to nature, feeling silly, having strange thoughts, creativity, and listening to music (see Table 3 for details). Participants were given an “other” option and space to describe what this might be; 14% ticked this option. These responses often emphasized the spiritual side of participants’ mushroom use, an aspect that was discussed in depth by the focus group participants.

A key aspect of the spirituality described in the focus groups was the experience of being connected to others and to nature. Daniel (focus group 4), for example, described an experience that demonstrated for him “that separation’s an illusion (.) if you know what I mean (.) that we are all linked on some level,” while Max (focus group 1) stated:

I appreciate life a lot more (.) I appreciate the beautiful things especially (.) like especially if I go to a hilltop take mushrooms I feel more connected (.) feel like I can actually see this beauty out there . . . you actually feel that everyone is there for a purpose . . . it does help you feel like a complete connection with everything around you (.) you actually feel plugged in for a change.

Table 3

Positive and negative experiences from using mushrooms (percentage and number of respondents)

Positive experience	Percentage and number of participants	Negative experience	Percentage and number of participants
Laughing	73.6 (n = 128)	Paranoia	35.1 (n = 61)
Visuals	66.7 (n = 116)	Anxiety	31.6 (n = 55)
Closer to nature	48.9 (n = 85)	Overwhelmed	28.2 (n = 49)
Feeling silly	46.6 (n = 81)	Nausea	28.2 (n = 49)
Strange thoughts	45.4 (n = 79)	Scared/frightened	23.6 (n = 41)
Feeling creative	44.8 (n = 78)	Panic	19.5 (n = 34)
Music	44.3 (n = 77)	Feeling threatened	10.3 (n = 18)
Enjoying company	43.1 (n = 75)	Depression	8.6 (n = 15)
Other	14.4 (n = 25)	Having arguments	4.6 (n = 8)
		Unconscious	3.4 (n = 6)
		Overdose	2.9 (n = 5)
		Fighting	2.3 (n = 4)
		Needing a doctor	2.3 (n = 4)

Several focus group participants described mushroom use as enabling healing and self-development, either because of the insights gained from the experience or because such experiences led to engagement in non-drug-related behaviors such as meditation.

Problems, Risks, and Relationships With Other Drug and Alcohol Use

Negative Experiences. Approximately a third of survey participants reported having had a bad experience when using mushrooms. Between a third and a quarter of participants reported experiencing paranoia (35%), anxiety (32%), feeling overwhelmed (28%), nausea (28%), and/or feeling scared/frightened (24%). For details, see Table 3.

In the focus groups, participants described low-level fear and anxiety when taking mushrooms, especially for the first time. Others talked about fainting, vomiting, feeling confused or uneasy, having unpleasant hallucinations, or being upset when seeing the world from a different perspective (for example, becoming aware of the unattractiveness of drunk people). Participants often drew on the notion of drug, set, and setting to situate their bad experiences, for example, attributing problems to mental health issues such as depression or lack of planning so that one was drunk before consuming mushrooms. A lengthy extract is presented in Appendix B, which acts an example of the kind of processes that occur during a bad experience and also describes a range of experiences discussed in this study, including nausea, giggling, strange thoughts, feelings of connectedness, as well as an experience of being caught in a loop of negative and confused thinking.

The focus group participants were aware of people who had suffered significant negative effects from mushrooms. Despite this knowledge and their own negative experiences, many planned to continue using mushrooms. Bad experiences were often understood in terms of acceptable risks that came with the territory (for example, constructing vomiting as a healthy act of purging) and one that was worth the rewards. Analogies between bungee jumping and parachuting were made in relation to the risks, dangers, and rewards of engaging in

extreme sports/mushroom use. Terms like *fantastic* and *amazing* were used to describe their experiences when they went well. Participants also developed techniques for dealing with negative experiences, with a “ride it out” philosophy described by Max (focus group 1), for example, as “ride it through. . . two hours its gonna be over anyway so (.) just you know (.) sit tight.”

Comorbid Substance Use

The survey participants were asked about their use of other drugs, alcohol, and cigarettes. There were no participants who had used mushrooms within the past year who had not also used either alcohol (87.2%, n = 150), cigarettes (73.8%, n = 127), or an illicit drug. Ninety-seven percent of participants (n = 168, with 1 missing case) had used at least one illegal drug in the past year. The most prevalent illicit drugs were cannabis (89%, n = 153) and ecstasy (73.8%, n = 127). See Figure 1 for details of prevalent rates for drugs used by 10% or more of the sample. In addition, less than 10% of participants reported using the following drugs: GHB (8.7%, n = 15), DFs (8.1%, n = 14), methadone (7%, n = 12), and solvents (4.7%, n = 8); 8.7% (n = 15) reported the use of drugs other than on the list provided.

The mean number of substances (alcohol, cigarettes, and other drugs including magic mushrooms) consumed in the past year was 7.38 (SD = 3.4). The mean number of illicit substances used was 4.01 (SD = 3.01; this figure excludes magic mushrooms since they were not illegal at the time).

In examining the frequency of use among users, a modal use of “more than once a week” was reported for cannabis (89% of participants), alcohol (87% of participants), and cigarettes (74% of participants).

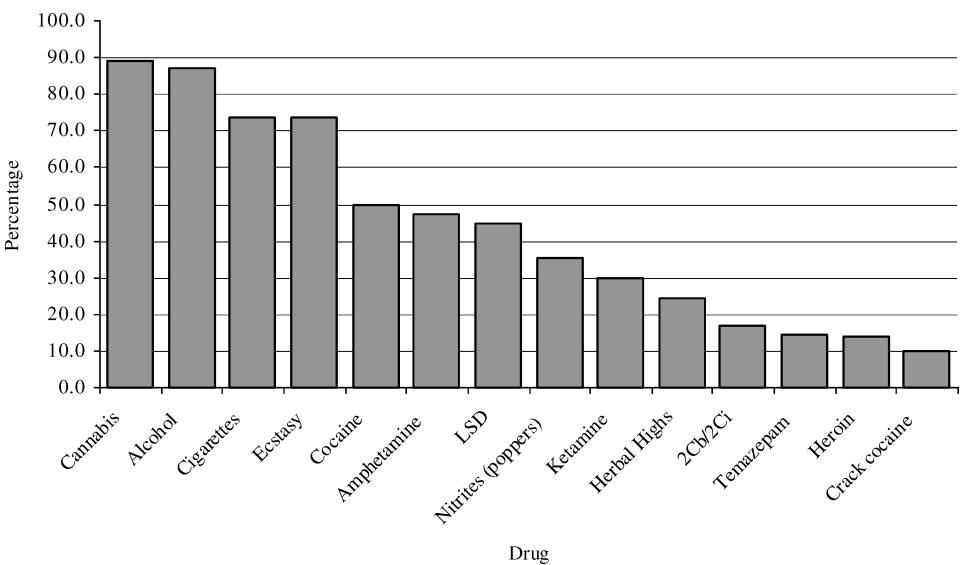


Figure 1. Participants’ use of drugs other than magic mushrooms for drugs with a prevalence rate equal to or over 10%.

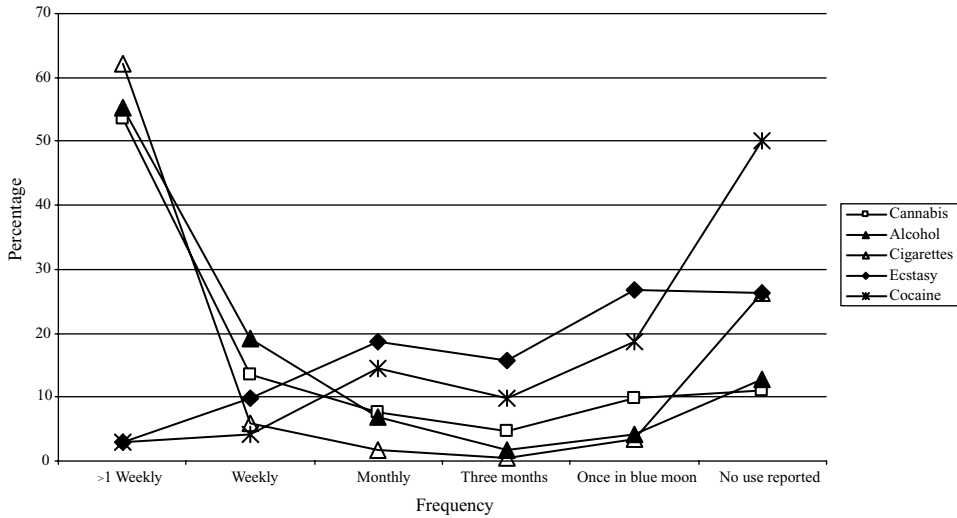


Figure 2. Frequency of use for the five most prevalent drugs.

Ecstasy (74% of participants) had a modal use of “once in a blue moon”: however, its use was more evenly spread across the frequencies with 19% using monthly, 16% every 3 months, and 27% using “once in a blue moon.”

The frequency of cocaine use (50% of participants) was also distributed across the frequencies, with 15% stating monthly, 10% every 3 months, and 19% “once in a blue moon.”

For all the other drugs, including LSD (45% of the participants), the mode of frequency was “once in a blue moon.” See Figure 2, which shows the frequency of use for drugs that had a mode that was not clearly “once in a blue moon” (i.e., that had some element of frequency of use). Note that there are two missing cases.

The focus group participants situated themselves within a normalized drug culture, in that illicit drugs were an aspect of life that had to be negotiated (Parker et al., 1998; Shildrick, 2002). Only one participant reported consuming alcohol, cigarettes, and cannabis only; all other participants reported the use of other illicit drugs, with the average number of illicit drugs (excluding cannabis) being 3.3, with a range of 0–9. The most common drugs reported were ecstasy, amphetamine, and cocaine, although participants also discussed LSD, ketamine, DMT (a psychedelic), valium, and *Salvia divinorum*. Participants described consuming drugs in combinations in the form of strategic recreational drug use (Measham et al., 2001).

Discussion

The study showed a pattern of non-marginalized young adults engaging in infrequent but intense mushroom use. The participants tended to be employed or in higher education, in their early to mid-20s, but with range from the mid-teens to 40s. The demographics suggest that these participants should not be theorized as pathological, nor should their drug use be linked with social or economic marginalization, a pattern that has also been identified in previous work on recreational drug users (for an overview see Riley and Hayward, 2004). The participants consumed mushrooms infrequently, usually between 4

and 12 times a year, far less than the weekly modal use of ecstasy identified in dance drug users (Riley et al., 2001). As a reason for use, "habit" was mentioned by only 2.3% of the respondents, reinforcing the idea of mushroom use being used by the majority in a considered way. Although infrequent, when participants did use mushrooms they consumed what is considered to be high doses (Erowid, 2005). The focus group data suggested that this pattern of moderate but intense use was a reflection of the experiences of using mushrooms and because participants wanted to avoid the problems they saw experienced by more regular users.

A small group of regular heavy users were identified, with 5% reporting the use of mushrooms on a weekly or more than weekly basis. The possibility of such use was confirmed in the focus groups. It may, therefore, be beneficial for harm minimization literature to highlight the dangers of excessive use. In both the present study and in previous qualitative work with dance drug users, a discourse of youthful excesses has been identified, in which experienced drug users describe their past use as heavier and more problematic. It is suggested that harm minimization literature could draw on these discourses; for example, presenting lighter use as the choice of the more sophisticated drug user.

Participants bought, picked, and/or received mushrooms as presents. The impact of the removal of prohibition and the subsequent ability to buy mushrooms in shops appears complex. Participants described the impact of shops in terms of increasing choice (in types of mushrooms available), making access easier, and providing enhanced quality control both in relation to illegal drugs that they might take instead of mushrooms and in relation to avoiding mistakenly picking poisonous mushrooms. However, in a context in which illegal drugs were also being consumed and many participants picked indigenous mushrooms themselves, the ease of access to mushrooms through shops was for many participants only one of several factors in the decision to consume mushrooms.

The results suggest a relaxed but considerate attitude in preparing for mushrooms use, with 15–43% of the responses describing some level of planning. However, 41% reported no planning. In the focus groups, planning was often considered useful but not necessary. There appeared to be a strong preference for using mushrooms outside or in a natural environment. Although 59% of the responses reported usually taking mushrooms inside compared to 41% who reported using mushrooms outside, both survey and focus group answers to questions on reasons for use highlighted being outside or in a natural environment (e.g., 49% of responses regarding what participants liked about mushrooms stated "closer to nature").

The survey responses showed that participants' rationale for mushroom use was centered on the experiences of having hallucinations ("visuals"), laughing, and an altering of perception. The particular ways that mushrooms enabled people to engage with nature were also described as a distinct pleasure and one associated with spirituality. For many, the UK is a secular society, with church attendance in decline and the use of drugs for hedonistic pleasure becoming normalized, at least in some contexts. Therefore, a key finding of this study is the use of mushrooms in facilitating a sense of spirituality and connectedness to both other people and the natural world. In describing laughing, hallucinations, and changing perspective as important reasons for using mushrooms, the focus group participants rationalized their mushroom use in terms of positive emotions, entertainment, self-development, and gaining life-enhancing experiences. Perhaps this context explains why negative experiences are considered risks worth taking.

Problems and risks associated with mushroom use were identified. Just over a third of the survey participants reported at least one negative experience. Further research is required to determine the level of negativity experienced and the meanings attached to these negative

experiences in order to explore how these experiences then inform future behavior. Further research is also warranted on the process of risk analysis undertaken by mushroom users, given that the focus group data suggests that negative experiences are often understood as acceptable risks, situated within the context of a risk society and for which experienced users have strategies for coping. It may be useful to include these strategies in harm minimization literature, which tends to focus on practical advice (e.g., not drinking alcohol). The “ride it out” strategy could be described succinctly and easily incorporated into currently produced literature.

For both the survey and focus group participants, mushroom consumption was located within a wider drugs culture, with the majority of survey participants (97%) consuming at least one other illicit drug. The recreational/dance drug users in the previous Riley study reported using a similar number of different illegal drugs over a period of one year to those in the present study (approximately 5), however those in the present study used these drugs less frequently (in the present study the mean number of drugs, excluding alcohol and cigarettes, but including magic mushrooms was 5 compared to 4.6 reported by Riley and Hayward, 2004). However, the participants in the present study used these drugs much less frequently. For example, Riley et al. (2001) reported a weekly use of ecstasy by 43% of their participants compared to 10% in the present study. The participants in this study did, however, have higher drug use in comparison to the general population. For example, in the British Crime Survey 2002–2003, 28% of 16- to 24-year-olds and 17% of 25- to 34-year-olds reported using illegal drugs in the last year (Condon and Smith, 2003). That substance use with one drug predicts a greater use of other drugs has also been identified in previous research. For example, in her school population study, Fuller (2004) concluded that pupils who had recently smoked, drunk alcohol, or used cannabis, volatile substances, or Class A drugs were likely to have used other substances.

It is interesting to note that while the participants in this study appeared to enjoy the use of hallucinogenic mushrooms, they did not report particularly high use of other hallucinogens such as LSD (46% had used in the past year, the modal frequency being “once in a blue moon”), nor was there high consumption of herbal drugs (24% total, with a mode of “once in a blue moon”).

The gap in the prohibition of magic mushrooms recently experienced in the UK enabled a unique opportunity to study an underresearched population and to explore patterns and meanings of magic mushroom use within a contemporary Western society. A picture was identified of non-marginalized young adults engaging in moderate use, characterized by infrequent but intense consumption that was part of a wider drug repertoire. Participants consumed mushrooms for the effect of the resultant hallucinations, in particular “visuals” and laughing, but also to enable a sense of connectedness and spirituality. The research suggests that harm reduction information regarding magic mushrooms could benefit from noting the dangers of excessive use, drawing on users’ accounts of excessive versus sophisticated drug use and their strategies for dealing with negative experiences. Areas of future research include examining the nature, meanings, and intensity of negative experiences, in particular, the level of difficulty users experience, if problems are long or short term, and how users’ understanding of these difficulties relates to their future use. Addressing these questions would enable further conclusions regarding drug classification policy. While the present study contributes to the paucity of research on Western magic mushroom use, we note that it reports the results of a small survey. Research with a larger sample that would enable the application of sampling techniques to improve the representativeness would allow verification and development of the present study and reduce any sampling bias that

may have occurred. However, given previous analysis that has suggested magic mushroom use is not high risk (CAM, 2000; Halpern et al., 2005; Hasler et al., 2004) and the present research, which has identified moderate use, experienced as enabling spiritual development and a sense of connectedness, this article concludes that the evidence so far suggests that magic mushrooms do not warrant the current Class A status.

Acknowledgments

Many thanks to the participants. Thanks also to Crew2000, Tangy Gifts, and Appy Daze for supporting the research and helping with recruitment.

RÉSUMÉ

Pratiques et significations des consommations de champignons hallucinogènes au Royaume-Uni

Une étude sur l'usage de champignon hallucinogènes a été menée sur 174 personnes en 2004, cette année-là la vente de champignons hallucinogènes n'était pas encore illégale au Royaume-Uni. Les données ont été recueillies à Edimbourg et Bristol (Royaume-Uni). Les participants étaient un échantillon choisi aléatoirement. Les participants avaient environ 20 ans, étaient des britanniques blancs, étudiants ou salariés ; 64% étaient des hommes. Les participants ont montré un modèle de consommation rare mais intense (47% en consommait entre 4 et 12 fois par an, la dose moyenne par consommation était de 12 g, une "forte dose"). L'usage a été motivé pour ses effets hilarants, les hallucinations, les changements de la perception (41–74%) et la sensation d'être plus près de la nature (49%). Les effets négatifs ressentis sont la paranoïa (35%) et l'anxiété (32%). L'usage de champignons se situe comme l'alcool dans la grande culture des drogues récréatives. Quatre groupes focaux ont aidé à l'interprétation des données. À l'avenir la recherche les expériences négatives est recommandée. Les implications pour la politique et la réduction des dommages sont débattus.

RESUMEN

Entre prohibiciones: Los patrones y los significados del uso de setas alucinógenas en el Reino Unido

Una inspección del uso mágico de champiñón fue completada por 174 participantes en 2004, un año cuando la venta de champiñones alucinógenos no era ilegal en el RU. Los datos se reunieron en Edimburgo y Bristol (RU). Los participantes eran una muestra de una conveniencia aleatoria. Los participantes tendieron a ser de unos veinte años de edad, blanco-ingleses, en la educación o empleados; 64% era masculino. Los participantes informaron de una pauta del consumo poco frecuente pero intenso (47% utilizado entre 4–12 veces año, el consumo medio en una colocación era 12g, un 'dosis alta'). El uso se explicó en términos de risas, alucinaciones, alterando la perspectiva (41–74%), y los sentimientos de está más cercanos a la naturaleza (49%). Las experiencias negativas informaron incluyeron la paranoia (35%) y la ansiedad (32%). El uso de setas se localizó dentro de una droga y el alcohol recreativa más ancha. Cuatro grupos del foco ayudaron la interpretación de los

datos. Se recomiendan futuras en experiencias negativas. Las implicaciones para la política y la literatura de reducción de daño se discuten.

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Appendix

Transcription Notation

(.) a short pause

(..) a longer pause (approximately 0.4–0.7 seconds long)

[] information about the topic (e.g., definition of idiomatic term) or information about the focus group (e.g., laughter)

Underline: emphasis

↑ indicates rising intonation

... data deliberately omitted

Appendix B

Example of a Negative Experience From Focus Group 4

Henry: when I first did them it was really good↑ (.) kind of your stomach first starts feeling really (.) kind of (..) churney (.) and then you just start (.) giggling loads (.) and everything kind of (..) I dunno its like the more you do them (.) the more (.) they're kind of like layers of it↑ (.) like the more intensely you're tripping the more kind of (.) it takes you like (.) it takes you from your core↑ (.) can't quite explain it (.) instead of it just being external kind of stuff happening around you (.) and you're like in a bubble (.) a nice safe little bubble and you can observe (.) all this stuff that's different (..) it kind of (.) gets inside you're bubble (.) that kind of (.) reality skew (.) because within you from your core↑ and you're (.) internal kind of ways of thinking become skewed↑ (.) and you become really aware of (..) the way (..) like other people's energies are (.) if there's something not quite right in the room (.) you'll kind of resonate with that (.) and it creates like (.) a knock on effect (.) and you just start feeling (.) you get into like a loop↑ (.) like I was at John's house (..) erm just at like a (.) like a cup of tea (.) and I'm (.) I've sat on the (.) the sofa (.) everything started kind of (..) doing its thing if you know what I mean (.) and I noticed that John was sat up there↑ (.) and he suddenly started getting (.) really like hot kind of energy coming off him (.) and it kind of spread out round me (.) and I started feeling really uncomfortable so I went outside (..) and erm I sat down outside (.) and John came up really close in my face and like chattering away (.) fucking horrible (.) and I got in this loop↑ (.) where like (.) for about (.) two minutes everything it would be really good and I'd be like "right (.) I'm cool" and then it kind of (.) you'd start feeling like (.) sick and (.) I don't know its like (.) you get in this loop of like (.) you kind of spit on the floor [inaudible as everyone is laughing at the story] like "am I all right (.) yeah I'm fine" (.) and you spit on the floor and say "am I all right? (.) yeah I'm fine" [laughter in the background] and I ended up like John's cabbage patch (.) just like trying to find some kind of (.) some normality.