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RESEARCH REPORT

Musical preference as an indicator of adolescent drug use

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Abstract

Aims. *This paper aims to demonstrate whether a relationship exists between adolescent drug use and identification with styles of music linked to specific youth culture.* **Design**. *Survey data were collected by researchers, under exam conditions, from two contrasting samples of Scottish secondary schoolchildren.* **Setting**. *Fieldwork was conducted in five comprehensive schools in the city of Dundee in 1994 and five comprehensive schools in the rural area of Perth and Kinross District in 1996.* **Participants**. *Questionnaires were administered to two randomly selected mixed ability classes in each of the four compulsory school years (S1 to S4), at each participating school. The eventual sample* (n = *1523) was approximately 10% of all children in these school years from the geographical areas surveyed.* **Measurements**. *Comparisons were made between life-time measures of legal and illegal drug use and current favourite style of music.* **Findings**. *Although few children in this study had ever taken the drug ecstasy (MDMA), 'fans' of rave music were more likely to have used drugs than those who preferred other styles of music. This relationship held true across a range of drugs used, across two geographical areas, over time and controlling for age, gender and parental social class.* **Conclusions**. *The paper is one of the first to quantify a possible relationship between drug use and music style. On the basis of the evidence presented, a significant relationship was found between identification with rave music and life-time drug use.*

Introduction

Ever since certain psychoactive substances were made illegal in the United Kingdom, drug users have been associated with fashions or styles of popular music. The first such association was between cocaine and jazz in the 1920s (Berridge, 1988). Since the Second World War a succession of new counter-cultures have emerged, each with their own music and drug associations. These have included: the beats (cannabis), mods (amphetamines and barbiturates), hippies (cannabis and LSD), punks (glue and heroin) and acid-house (LSD and MDMA). Media reports of drug taking (and heavy drinking) by each of these youth subcultures has had an impact on drug policy at both local and national levels (Cohen, 1972; Melechi & Redhead; 1988 Kohn, 1992; Forsyth, 1996; Schoemer, 1996). Despite this, it is unclear whether these media reports were based on reality or merely served as part of a wider 'moral panic' concerning the threat that each youth culture presented to the values of the establishment of the time (Cohen, 1972). In Britain today, the style of music that is currently

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playing this role has been called 'rave' by the media. This music culture has been strongly associated with the drug ecstasy or MDMA (Saunders, 1995).

This paper explores whether this association reflects the realities of adolescent behaviour. That is, whether adolescent fans of rave music are more or less likely to be drug users than their peers who prefer other forms of music. This is particularly important at the present time because rave (dance) culture has been cited as a possible cause of an unprecedented increase in the level of illegal drug use among young people in the United Kingdom (Border & Norton, 1996). Unlike the other music and drug associations listed above, rave has been called the mainstream youth culture of the 1990s (Newcombe, 1992; McDermott *et al.*, 1992; Henderson, 1993) rather than merely another deviant subculture. Although the rave phenomenon has been most closely linked to the advent of ecstasy, other stimulant and hallucinogenic drugs, such as LSD and amphetamines, have also become known as rave or 'dance drugs' (James, 1991; Lifeline, 1992; Measham *et al.* 1994; Forsyth, 1996).

There is an assumption that ravers or those who like rave music are more likely to be drug users than other youths, but to date this has been based on anecdotal evidence rather than research evidence. It may not be the case that liking rave music necessarily implies ecstasy use, or that any drug use results from associating with a particular style of music.

Method

Sampling procedure

Comparable data were collected from two differing samples of Scottish school children. These were from 758 children from the city of Dundee in November 1994 and 765 children from the adjacent rural district of Perth and Kinross in early 1996.

The Dundee sample comprises approximately one-tenth of all comprehensive school children in compulsory school years S1 to S4 (which approximate to ages 12–15 years) in the city. Five of Dundee's 11 comprehensive secondary schools were selected in consultation with the local authority to be representative of the city's demography. Each school randomly provided two mixed-ability classes from each of the four school years (S1 to S4). A structured questionnaire was administered in examination conditions in the absence of teachers. This was done as part of ongoing research concerning young people's routes into drug use (Barnard, Forsyth & McKegarny, 1996).

Data from the Perth and Kinross District sample were collected between January and March 1996. An identical sampling procedure was followed to that used in Dundee. This survey obtained data from five of the district's 10 comprehensive secondary schools, achieving an approximately one in eight sample of years S1 to S4.

Questionnaire

Children in both surveys were asked the open-ended question, 'What is your favourite kind of music?', with the example of 'techno' provided. Despite being on the front page of the questionnaire, 28 (3.7%) Dundee and 31 (4.1%) Perth and Kinross children did not answer this question.

Questions were later asked relating to life-time use of 10 categories of illicit drug, cigarette smoking, alcohol and solvent use. In both surveys the 10 illicit drugs asked about were cannabis, psilocybin, temazepam, amphetamine, LSD, ecstasy, buprenorphine, cocaine, heroin and nariam. This latter drug was a fake which only two children in each sample reported having ever used. Only four (0.5%) children from Dundee and one (0.1%) from Perth and Kinross District failed to complete the questions about their life-time use of alcohol, tobacco, solvents and illicit drugs.

Music categorization

Between the two surveys a total of 129 different responses were given to the music question. These included non-specific replies such as liking 'all' music, liking 'none' and only stating what types of music they did not like rather than what they did. Often the names of groups or performers were given rather than a style of music. A full list of these artists and types of music cited is given in Table 1.

This table was used to categorize these responses into rave music and non-rave music answers. It should be noted that many respondents gave more than one answer, so the cate-

Table 1. *Classification of music style*

Dundee (1994)		Perth & Kinross (1996)	
Rave styles	Rave acts	Rave styles	Rave acts
Rave 238 (110)	ReZ 35 (26)	Rave 160 (62)	ReZ 12 (3)
Techno 32 (19)	Bass Generator 1 (1)	Techno 54 (23)	Rumba 4 (2)
Hardcore 19 (15)		Hardcore 37 (22)	Bass Generator 1(1)
Jungle 4 (4)		House 10 (8)	Others 2 (1)
Trance 2 (1)		Jungle 4 (2)	
Others 2 (2)		Bouncy 2 (1)	
		Others 2 (1)	
Non-rave styles	Non-rave acts	Non-rave styles	Non-rave acts
Pop 125 (11)	Take That 19 (2)	Pop 158 (19)	Oasis 32 (13)
Any / all 61 (12)	Cypress Hill 6 (3)	Indie 102 (32)	Blur 10 (1)
Rock 'n' roll 54(9)	Wet Wet Wet 4 (1)	Rock n' Roll 83 (15)	Boyzone 8(1)
Dance 52 (13)	East-17 3 (0)	Dance 60 (24)	Eternal 2 (0)
Rap 38 (12)	M-People 3 (0)	Any / all 58 (12)	Metallica 2 (1)
Heavy metal 37 (14)	Meatloaf 3 (2)	Chart 47 (5)	Nirvana 2 (1)
Chart 30 (9)	Nirvana 3 (0)	Rap 21 (5)	Elton John 1 (0)
Reggae / rasta 26 (5)	P.J. & Duncan 3 (0)	Grunge 19 (7)	Bob Marley 1 (1)
Grunge 18 (9)	Queen 3 (0)	Heavy / metal 15 (2)	P.J. & Duncan 1 (1)
Not like / none 14 (0)	Wigfield 3 (0)	Britpop 11 (3)	Pantera 1 (0)
Oldies / 60–80s 10 (3)	Let Loose 2 (0)	Not like / none 10 (0)	Radiohead 1 (0)
Indie 9 (4)	R.E.M. 2 (1)	Classical / opera 9 (1)	Take That 1 (0)
Jazz 7 (0)	Radiohead 2 (0)	Jazz 7 (1)	Wet Wet Wet 1 (0)
Classical / opera 6 (0)	Snoop dog 2 (2)	Reggae 6 (2)	Others 14 (1)
Traditional /Scots 5 (1)	Blur 1 (0)	Easy listening 5 (1)	
Love / soppy 5 (1)	Elton John 1 (0)	Punk 5 (1)	
Soul 5 (1)	Eternal 1 (0)	Love / soppy 4 (1)	
Modern / 90s 4 (0)	Bob Marley 1 (1)	Soul 4 (1)	
Country 3 (0)	Oasis 1 (0)	Oldies / 60–80s 3 (2)	
Folk 3 (1)	Pantera 1 (0)	Swing 3 (1)	
Hip-hop 2 (1)	Others 13 (1)	Beat 2 (0)	
Ragga 2 (0)		Blues 2 (1)	
Beat 1 (0)		Country 2 (0)	
Blues 1 (0)		Disco / funk 2 (1)	
Disco / funk 1 (0)		Hip hop 2 (2)	
Easy listening 1 (0)		Light rock 2 (1)	
Slow 1 (1)		Modern / 90s 2 (2)	
Swing 1 (1)		Slow 2 (1)	
Thrash 1 (0)		Traditonal / Scots 1 (0)	
Others 4 (0)		Folk 1 (0)	
		Thrash 1 (0)	
		Others 16 (1)	

Figures in brackets are the numbers who had ever used any illegal drug. Others are the total styles or acts in each column with only one citation. Cases where respondents stated what music they did not like, rather than what they did, are not shown ($n = 7$ in both samples).

gories in Table 1 are not mutually exclusive. This is because some children gave examples, such as 'rave e.g. reZ', or cited more than one type of music such as 'rave and chart'. The word 'rave' was cited by 238 Dundee children. To this were added six genres of rave music (i.e. techno, hardcore, trance, sub-sonic, break-beat and jungle) and two rave acts (reZ and bass generator) to produce a total rave music category for the Dundee children. Music in this total rave category was the favourite of 40.3% Dundee children. This figure is slightly less than the sum of

(undifferentiated) rave plus all rave genres plus rave acts, because of the citing of examples or more than one genre.

Rave music (including all its genres and acts) is distinct from all the other kinds of music listed in Table 1 in two objective, clearcut, ways. First, rave involves electronic (computer) sounds rather than those produced by the playing of musical instruments. Secondly, vocals (if there are any) on rave tracks are provided via sampling (on computer or mixing desk) rather than by people singing songs. Rave acts are either DJs (e.g. Bass Generator) or dance event promoters (e.g. reZ). The non-rave acts are all musicians, bands or vocalists. Also, all the varieties of rave music listed in Table 1 have their origins in the dance drug scene that has evolved in Scotland and elsewhere since the late 1980s (Smith, 1995). The music styles cited by children in the Perth and Kinross District sample were categorized according to the same criteria used with the Dundee children.

It is possible to categorize some of the forms of non-rave music listed in Table 1. However, categorization of non-rave music styles is certain to involve a degree of subjectivity. For example, in 1995 a style of 'indie' (independent) music known as 'Britpop', characterized by groups such as Oasis and Blur, became fashionable (Hills, 1996). This is reflected in the difference in the popularity of such music between the 1994 and 1996 surveys in Table 1. Although acts such as Oasis have been categorized as Britpop by the media, many may not agree with this assumption. For example, the manager of Oasis has stated that they are not Britpop but are in competition with the Beatles back catalogue. Indeed, some of the children in this study cited Oasis as an example of rock n' roll rather than Britpop. In short, non-rave categorizations of music involve potential overlaps and ambiguities.

Results

Dundee sample

The children in the Dundee sample had a mean age of 13.3 years. Approximately one-quarter of the sample were obtained from each of the four school years; S1 (26.1%), S2 (24.7%), S3 (26.0%) and S4 (23.2%). Half (50.1%) the sample was female. From descriptions provided by the children of their parents' current or most recent job, a measure of parental (head of household) social class was created. This used the Registrar General's system of occupational social class (OCPS, 1991) to divide the sample into manual (IIIM to V) and non-manual (I to IIIN) class families. Approximately half (49.1%) the sample were from manual (working) class families. Also, approximately half (51.4%) lived in a relatively deprived geographical area (as defined by the DEPCAT system, septiles 5 to 6, McLoone, 1994). This is as might be expected from a sample of school children recruited from this city (for further details see Barnard *et al.*, 1996).

A majority of Dundee children (52.6%) reported a life-time use of cigarettes. Less than half (43.7%) reported ever having been drunk after consuming alcohol. Almost one-third (31.3%) admitted to life-time use of any illegal drug. Only 17 Dundee children who had used any illegal drug had not used cannabis, which was used by 29.2% of the sample. The level of use of any other illegal drug was 17.1%. Most of these users of other illegal drugs had taken either hallucinogens (psilocybin or LSD) or stimulants (amphetamine, cocaine or ecstasy). In accordance with current literature on the dance scene and for the purposes of this paper, these substances are collectively termed 'rave drugs' (Lifeline, 1992; Measham *et al.*, 1994; Forsyth, 1996). These rave drugs were used by 15.7% of this sample. However, it should be stressed that only 3.1% (23 Dundee children) had ever used the archetypal rave drug ecstasy. Any of the three remaining drugs (all central nervous system depressants) buprenorphine, temazepam and heroin, were used by only 6.3% of this sample. These drugs, which have been associated with a plethora of drug problems in Scotland (Hammersley *et al.*, 1989; Sakol, Stask & Sykes, 1989; Lavelle *et al.*, 1991; Hammersley, Cassidy & Oliver, 1995), are termed 'hard drugs' for the purposes of this paper. Finally, 7.9% of Dundee schoolchildren reported life-time use of solvents. These levels of adolescent substance use are similar to those found in other school based drug research (Measham *et al.*, 1994; Miller & Plant, 1996).

When drug use and rave music were compared, a majority (64.3%) of Dundee children who had ever used *any* illegal drug had a favourite choice of music in the total rave category. The relative influence of different genres of rave music can be judged from the figures in brackets

Table 2. *Rave music and substance use compared*

	Dundee (1994)		Perth & Kinross (1996)	
	Total rave music ($n = 294$)	No rave music ($n = 436$)	Any rave music ($n = 244$)	No rave music $n = 490$)
Tobacco	208 (70.7)	179 (41.4)***	187 (77.3)	226 (46.2)***
Drunkenness	183 (62.7)	132 (30.6)***	155 (63.8)	191 (39.4)***
Solvents	37 (12.8)	21 (4.8)**	34 (14.0)	34 (7.0)*
Any illegal drug	146 (49.8)	81 (18.6)***	102 (41.8)	89 (18.2)***
Cannabis	137 (46.9)	73 (16.8)***	91 (37.4)	82 (16.8)***
Rave drugs	85 (29.1)	34 (7.9)***	51 (21.0)	38 (7.8)***
Hard drugs	38 (13.1)	9 (2.1)***	21 (8.6)	11 (2.2)***

Figures in brackets are percentages. χ^2 differences between fans of any rave music and no rave music. ***$p < 0.0001$; **$p < 0.001$; *$p < 0.01$.

on Table 1 (as can the propensity to use drugs among fans of non-rave music genres, e.g. rock music).

This pattern was not limited to illegal drug use. Table 2 compares the differences between the two music categories (rave versus no rave music among favourites) and a range of psychoactive substances.

From Table 2, a pattern emerges which indicates that fans of rave music were more likely to have experienced any one of a range of substances than their peers who were not rave music fans. To test this relationship, log-linear analyses were conducted. These contrasted the total rave music category with each type of substance use, controlling for gender, age (school year S1 to S4) and social class (manual versus non-manual). These analyses are shown in Table 3, which gives the odds ratio with lower and upper 95% confidence intervals for each.

In this table non-significant odds ratios have been omitted. Odds ratio scores above one indicate an increased likelihood of substance use, scores below one indicate a lesser likelihood. From Table 3 it can be seen that liking rave music was indicative of an increased probability of substance use in every category (tobacco, drunkenness, solvents, cannabis, rave drugs, hard drugs and any illegal drug use).

A possible caveat to these findings lies in the nature of popular music. That is, music and other fashions vary geographically and over time. The rave music and drug use relationships detailed in Table 3 may be limited to Dundee schoolchildren in 1994. To check if this was the case, identical analyses were undertaken with the Perth and Kinross District sample. It was expected that this second survey might produce different results given the rural (and more middle class) nature of this geographical area. Also, a change in musical fashion had occurred between the two surveys. Rave had been replaced by indie (Britpop) as the latest music and fashion trend in the United Kingdom during 1995 (Hills, 1996). If drug users merely affiliated themselves with the latest trend then rave should no longer be the music which most drug users stated was their favourite.

Perth and Kinross sample

Schoolchildren in the Perth and Kinross District sample had a mean age of 13.5 years. There was a similar distribution across the four school years, S1 (26.1%), S2 (27.5%), S3 (25.5%) and S4 (20.9%), to the Dundee sample. As in Dundee, approximately half (47.6%) these children were female. Fewer (42.2%) of these children were from families with a head of household in a manual social class than in Dundee. Unlike Dundee, only 10.1% of children in this sample lived in a relatively deprived geographical area (septile 5, McLoone, 1994). Therefore, the Perth and Kinross District sample can be described as more affluent than the Dundee sample.

Again, a small majority of children (55.8%) reported a life-time use of cigarettes. Also, slightly less than half this sample (46.6%) reported ever having been drunk after consuming alcohol. Just over one-quarter (25.4%) of the Perth and Kinross children admitted to life-time

Table 3. *Predicting drug use among Dundee children*

	Odds ratio	Lower 95% CI	Upper 95% CI	*p*
Tobacco use				
Rave music	3.13	2.28	4.26	0.001
Sex (male)	0.64	0.47	0.86	0.01
Age				
(S2)	2.14	1.39	3.28	0.01
(S3)	3.16	2.05	4.90	0.001
(S4)	3.98	2.57	6.11	0.001
Manual Class	1.71	1.26	2.33	0.001
Drunkenness				
Rave music	3.94	2.86	5.47	0.001
Age				
(S2)	2.05	1.34	3.13	0.01
(S3)	4.10	2.64	6.36	0.001
(S4)	7.17	4.57	11.13	0.001
Manual class	1.40	1.03	1.90	0.05
Solvent use				
Rave music	2.83	2.08	3.90	0.001
Age (S4)	1.73	1.12	2.69	0.05
Any illegal use				
Rave music	5.00	3.60	6.97	0.001
Sex (male)	1.43	1.06	1.93	0.05
Age				
(S2)	1.51	1.00	2.28	0.05
(S3)	2.60	1.70	3.98	0.001
(S4)	6.36	4.05	9.97	0.001
Manual class	1.48	1.10	2.01	0.01
Cannabis use				
Rave music	4.89	3.53	6.82	0.001
Sex (male)	1.47	1.09	1.97	0.05
Age				
(S2)	1.56	1.04	2.35	0.05
(S3)	2.46	1.61	3.74	0.001
(S4)	5.99	3.82	9.30	0.001
Manual Class	1.56	1.15	2.12	0.01
Rave drug use				
Rave music	4.13	3.00	5.60	0.001
Age				
(S3)	1.55	1.02	2.35	0.05
(S4)	3.49	2.23	5.47	0.001
Hard drug use				
Rave music	3.39	2.46	4.66	0.001
Age (S4)	1.84	1.19	2.89	0.01
Manual class	1.46	1.08	1.99	0.05

use of any illegal drug. Again, only 17 children who had used an illegal drug had not used cannabis, which was used by 23.0% of the sample. Life-time use of any other illegal drug was 12.8%. Again, most of these users had taken 'rave' drugs (11.8% of the sample). Life-time ecstasy use was also rare among Perth and Kinross District school children (2.4%). Hard drugs had been used by 4.2% of this sample. A similar number (9.2%) of these rural children claimed to have used solvents at some time in their lives, as was the case in the city of Dundee.

Table 4. *Predicting drug use among Perth and Kinross district children*

	Odds ratio	Lower 95% CI	Upper 95% CI	*p*
Tobacco Use				
Rave music	2.51	1.86	3.35	0.001
Sex (male)	0.54	0.38	0.72	0.001
Age				
(S3)	1.97	1.30	2.97	0.01
(S4)	2.46	1.63	3.74	0.001
Drunkenness				
Rave music	2.46	1.82	3.32	0.001
Age				
(S2)	2.24	1.48	3.39	0.001
(S3)	5.10	3.35	7.81	0.001
(S4)	8.08	5.30	12.42	0.001
Solvent use				
Rave music	4.10	3.00	5.59	0.001
Manual class	1.87	1.39	2.51	0.001
Any illegal use				
Rave music	4.57	3.35	6.23	0.001
Age				
(S3)	2.65	1.75	3.97	0.001
(S4)	4.53	2.95	6.89	0.001
Manual class	1.55	1.16	2.07	0.01
Cannabis use				
Rave music	4.41	3.25	6.05	0.001
Age				
(S3)	2.80	1.86	4.22	0.001
(S4)	5.37	3.49	8.33	0.001
Manual class	1.60	1.12	2.14	0.01
Rave drug use				
Age				
(S3)	1.77	1.16	2.65	0.01
(S4)	2.10	1.38	3.19	0.01
Manual Class	2.12	1.58	2.86	0.001
Hard drug use				
Rave music	4.57	3.35	6.23	0.001
Manual class	2.12	1.58	2.86	0.001

The relative levels of lifetime drug use between these contrasting samples of school children are clearly very similar. From Table 1, it is apparent that the favourite music styles chosen by children from these samples were also very alike. The only substantial differences in musical taste were the increased popularity of indie, Britpop, Blur and Oasis, and a greater degree of fragmentation of the rave scene's musical genres. Neither of these differences was unexpected given reports of these trends in the media, especially in music and dance style oriented publications (Smith, 1995; Saunders 1995; Hills, 1996).

When drug use and rave music were compared, a majority (52.6%) of schoolchildren in Perth and Kinross District who had ever used any illegal drug had a favourite choice of music in the total rave category (as was the case in Dundee). Again, the relative popularity of different music styles among drug users and non-users can be judged from Table 1. Table 2 shows a similar pattern of musical taste (rave versus no rave) and drug use among schoolchildren in the Perth and Kinross sample as there was in the Dundee sample.

To confirm these findings, log-linear analyses

were conducted with the Perth and Kinross data using the same model as the Dundee data. The results of this are shown in Table 4 and are remarkably similar to those of the Dundee sample shown in Table 3 above.

Discussion

These results clearly suggest a relationship between drug use and music style. Children whose favourite type of music was rave were more likely to be substance users than those who did not like rave. This was the case with children from both a relatively deprived urban area (Dundee) in 1994 and children from an affluent rural area (Perth and Kinross District) in 1996. Rave remained strongly associated with substance using children, despite indie replacing it as the most fashionable music style in 1995. This indicates that the relationship between rave music and drugs is quite robust and not merely an accident of time and geography, limited to a specific group of children who associate themselves with whatever happens to be trendy.

These findings are important, given the political reaction within the United Kingdom to recent statements made by pop stars such as Noel Gallagher (Oasis) and Brian Harvey (East 17) which were allegedly pro-drug. The implication that these pop stars might act as role-models to gullible children who will copy their idols' behaviour is not supported by the data presented here. This does not mean that the behaviour of such individuals has no impact, but the type of music most closely associated with drug use here (rave) has no stars in the public eye who may act as role-models. Unlike East 17 and Oasis, rave music is neither frequently heard on the broadcast media nor is it the latest trend in popular music. In other words, if there is a connection between music style and drug use, at present this would appear to exist more from the 'bottom up' than from being dictated down to adolescents by the stars of British music industry establishment.

Being cross-sectional, this study cannot say with certainty whether taking drugs makes an individual more likely to listen to certain types of music or whether certain music styles promote drug use. However, as the music question in this study referred to the young people's current favourite music, while the substance use questions referred to the past behaviour (even if yesterday), it can certainly be said that children who have used drugs are more likely to identify with certain types of music. This may be due to either the effects of drug use or because of a common aetiology. In this instance the latter explanation seems more likely because enjoyment of rave music has been linked to the effects of taking the drug ecstasy (Forsyth, 1995), yet few children in this study had ever used ecstasy. Thus, it would appear more likely that adolescent substance users identify themselves with rave music rather than listening to rave music encourages drug use among this age group. Both raving and drug use may be regarded as young adults' recreational activities in the eyes of these schoolchildren. Therefore it is children who may be described as more outgoing and able to socialize in the young adult world who would be most likely to discover rave music and drugs.

Conclusions

This study of Scottish schoolchildren found that music was an indicator of adolescent substance use. Rave music was positively related to the use of *all* categories of legal and illegal drugs, not just 'dance drugs'. This does not mean that one causes the other, indeed both drug use and interest in rave music may have other common causes which may develop in a form of symbiosis.

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References

Barnard, M., Forsyth, A. & McKeganey, N. (1996) Levels of drug use among a sample of Scottish schoolchildren, *Drugs: education, prevention and policy*, 3, 81–89.

Berridge, V. (1988) The origins of the English drug "scene", 1980–1930, *Medical History*, 32, 51–64.

BORDER, P. & NORTON, M. (1996) *Common Illegal Drugs and their Effects—cannabis, ecstasy, amphetamines and LSD*, (London, Parliamentary Office of Science and Technology).

COHEN, S. (1972) *Folk Devils and Moral Panics: the creation of the mods and rockers* (London, McGibbon & Kee).

FORSYTH, A. J. M. (1995) Ecstasy and illegal drug design: a new concept in drug use, *International Journal of Drug Policy*, 6, 193–209.

FORSYTH, A. J. M. (1996) Places and patterns of drug use in the Scottish dance scene, *Addiction*, 91, 511–521.

HAMMERSLEY, R. H., FORSYTH, A. J. M., MORRISON, V. L. & DAVIES, J. B. (1989) The relationship between opioid use and crime, *British Journal of Addiction*, 84, 1029–1043.

HAMMERSLEY, R. H., CASSIDY, M. T. & OLIVER, J. (1995) Drugs associated with drug related deaths in Edinburgh and Glasgow, November 1990 to October 1992. *Addiction*, 90, 959–965.

HENDERSON, S. (1993) Fun, fashion and frisson, *International Journal of Drug Policy*, 4, 14–16.

HILLS, G. (1996) 1995: Patriot games, *The Face*, January 1996, 70–96.

JAMES, M. (1991) Are aches and paints the only agonies of ecstasy, *The Face*, November 1991, 88–91.

KOHN, M. (1992) *Dope Girls: the birth of the British drug underground* (London, Lawrence & Wishart).

LAVELLE, T., HAMMERSLEY, R., FORSYTH, A. J. M. & BAIN, D. (1991) The use of buprenorphine and temazepam by drug injectors, *Journal of Addictive Diseases*, 10, 5–14.

LIFELINE (1992) *The Big Blue Book of Dance Drugs* (Manchester, Lifeline).

MCDERMOTT, P., MATTHEWS, A., O'HARE, P. & BENNETT, A. (1992) Ecstasy in the United Kingdom: recreational drug use and subcultural change, in: HEATHER, N., WODAK, A., NADELMANN, E. & O'HARE, P. (Eds) *Psychoactive Drugs and Harm Reduction: from faith to science*, pp. 230–246. (London, Whurr).

MEASHAM, F., NEWCOMBE, R. & PARKER, H. (1994) The normalisation of recreational drug use amongst young people in the North-West of England, *British Journal of Sociology*, 45, 287–312.

MELECHI, A. & REDHEAD, S. (1988) The Fall of Acid Reign, *New Statesman and Society*, 23 & 30 December 1988, 21–23.

MILLER, P. & PLANT, M. (1996) Drinking, smoking and illicit drug use among 15 and 16 year olds in the United Kingdom, *British Medical Journal*, 313, 394–397.

NEWCOMBE, R. (1972) A researcher reports from the rave, *Druglink*, 7, 14–16.

OFFICE OF POPULATION CENSUSES AND SURVEYS (OPCS) (1991) *The Standard Occupational Classification.*, 2: 3. (London, HMSO).

SAKOL, M. S., STARK, C. & SYKES, R. (1989) Buprenorphine and temazepam abuse by drug takers in Glasgow—an increase, *British Journal of Addiction*, 84, 439–441.

SAUNDERS, N. (1995) *Ecstasy and the Dance Culture* (London, Neil's Yard).

SCHOEMER, K. (1996) The needle and the damage done: rockers, models and Hollywood fall for heroin's deadly allure, *Newsweek*, October 14 1996, 44–47.

SMITH, A. (1995) E, ten years on the pill: safer house, *The Face*, October 1995, 106–120.