Attitudes of young people toward driving after smoking cannabis or after drinking alcohol.

Kathy Danton [2], Louise Misselke [1] , Rob Bacon [1] , John Done [2]

[1] Hertfordshire Health Promotion

[2] Health Research and Development Support Unit (HRDSU) , University of Hertfordshire.

Correspondence to:

Dr. D. John Done, HRDSU, University of Hertfordshire, Hatfield, Herts UK. AL10 9AB.

Email: d.j.done@herts.ac.uk

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Objective

Currently there is a public welfare debate about the acute effects of cannabis and risk of motor vehicle accidents . This study sought to disclose young people's attitudes, values, and willingness to drive after smoking cannabis, and their awareness of the potential risks.

Design

Focus group interviews which contrasted attitudes and beliefs about drinking and driving with those about smoking cannabis and driving.

Setting

At the college or workplace where young people were either studying or working.

Method

Five focus groups comprising peers from the same work/study environment, each addressing the same set of key issues.

Results

Young people appear to be knowledgeable about risks of drinking and driving, and hold a culture wide value that such behaviour is antisocial. This is in stark contrast to their willingness to smoke cannabis and drive coupled with poorly developed values and knowledge about risks involved.

Conclusion

Young people appear to be risk averse when it comes to drink-driving, but willing to take risk with smoking cannabis and driving. The difference probably arises from the well developed public heath campaigns and

education aimed to discourage drink-driving . It is therefore reasonable to be optimistic that health education could change attitudes and willingness to drive after smoking cannabis.

Word Counts

Abstract : 205

Main Body of Text : 3307 (excluding abstract and bibliography)

Key Words: Cannabis, Drinking, Driving, Attitudes, Risk

Introduction

The biggest cause of death for young adults is road traffic accidents. Latterly a public welfare debate has arisen around the acute effects of cannabis on driving [1,2,3]. Cannabis is the second most commonly identified drug, after alcohol, found in impaired drivers or those involved in fatal accidents [1,4,5]. Consumption reaches its peak in this age group [2] and a WHO report [6] drew the conclusion that ' …there is an increased risk of motor vehicle accidents among persons who drive when intoxicated with cannabis'. However fears about increased risk are based on controlled laboratory studies of memory, vigilance, and tracking behaviour [7,8,9] . The few studies of on-road driving performance have produced equivocal findings [6,10] as have epidemiological studies on the role of cannabis in motor vehicle accidents[3,6,11,12,13,14] . Intoxicated drivers appear to compensate by driving slower or taking fewer risks [7,10], and regular users of cannabis have an increased risk of motor vehicle accidents for other reasons e.g. alcohol. [14,15] It seems highly likely that the debate will not be resolved for some time due to obstacles in identifying an acceptable level of cannabis consumption for safe driving [16] . Meanwhile, the public welfare problem is likely to worsen in the near future. Cannabis is the most highly consumed illicit drug in the UK [17] with consumption by young people on the increase[1,2,18,19]. In a recent press release by the British Medical Association [21], it was estimated that nearly 50% of 16-24 year olds in England and Wales have tried cannabis, and the numbers of people in fatal road accidents who tested positive for cannabis increased fourfold between 1980s

and 1990s. In males between the ages of 16-29 years some 16% are regular users of cannabis [17] . Research into young peoples' attitudes towards smoking cannabis and driving has been limited though. One laboratory study reported good awareness of impaired driving which resulted in compensatory behaviour[7] , whereas another reported that awareness of impaired driving ability declined substantially in frequent users[20].

The main objective of this project was to discover, in a small sample of young people in England, their attitudes and values toward smoking cannabis and driving as well as their knowledge about potential risk and willingness to drive when intoxicated. Focus group research was chosen to try and ensure that the researchers opinions and biases did not dictate the information accessed. It was felt that a group dynamic would help relax the participants, and allow interaction and discussion of opinion to occur, as appropriate for such a complex and value laden issue. Since the veracity of the attitudes, beliefs and reports of behaviour are difficult to gauge on their own we sought to get participants to make a contrast with drinking and driving. This would also have the added benefit of shedding some light on the potential benefits from health promotion and education on the topical issue of cannabis use and driving.

Methodology

Data collection

Sampling

Participants in their late teens/ early twenties were selected. As outlined above , this age group is of particular concern due to a trend of increased usage and high fatality rates from road traffic accidents. Sampling was stratified according to whether they were 'in college', or 'in work', and whether they were from a small rural town , or from a district in a large town with a relatively high proportion of ethnic minorities , predominantly people with Asian origins. On this basis five focus groups were set up and run. Ages varied from 16 to 25, with a mean age of 19 years. There were three mixed gender groups with a total of 22 men and 7 women. One group was made up predominantly of people of Asian origin, the other groups consisting mainly of Caucasian participants. For a college based sample, 'student services ' were consulted first since they are familiar with relevant issues about student culture and provided useful advice on how and where we might obtain samples of users that were typical of the student population. Focus groups in colleges were piggy backed on tutorial groups and hence students would have known each other from their college contact. Participants in the workplace sample were identified by staff with guidance from the facilitators. It appeared that these participants were not familiar with each other. Participation was voluntary, but a reward of a £10 voucher was offered. Confidentiality was assured. Each focus group had two facilitators , who had

worked together in health promotion for a considerable time. The lead facilitator (LM) had considerable experience of running focus groups, albeit not with young people, and the other (RB) had many years experience of group work with young people in the health promotion field, especially in the fields of drug and alcohol use. Interviews were recorded, with permission from each participant. A brief demographic outline of each group is given in Table 1.

Insert Table 1 about here

The interviews lasted an hour, taking place in private locations on the grounds of the college or workplace. The interview schedule was semi-structured with questions on the following topics:

- Prevalence of cannabis use amongst young people.
- i) Prevalence of driving after smoking cannabis amongst young people. ii) Awareness of risks associated with driving after smoking cannabis.
- i) Prevalence of drink-driving amongst young people.
  ii) Awareness of risks associated with drink-driving.
- Comparison of attitudes, values and willingness to drive after either drinking alcohol or smoking cannabis.
- Views on the best way to alert young people to the dangers of using cannabis and driving.

Self disclosure on personal usage of illegal drugs [25], or addictive behaviours[26]has been reported to provide misleading reports . Therefore, each

group began with discussion on prevalence of use amongst peers rather than themselves. Subsequent topics were introduced with guidance that the discussion should focus on 'people you know'. It was felt that this would be more likely improve the trustworthiness of the evidence.

Facilitators prompted only to facilitate the flow of the conversation and ensure that adequate time was given to each topic and that all members participated.

Data analysis

Anonymised transcripts were imported into Nud*ist 4, and analysed using a Grounded Theory approach . Themes were identified and then developed into categories. These categories were not mutually exclusive as the text units were broad (defined as each statement made by an individual ranging from one word to several sentences). Categories were revised as the analysis continued, with subdivision and amalgamation where appropriate.

To assess reliability for a) thematic categories, b) accuracy of coding text units, a second rater was used who was familiar with thematic analysis but naïve to the aims and objectives of the project. Ratings were done blind to those of the first rater. Comparison of the definitions given by both raters indicated a high level of agreement on the emergent themes. Occasionally a rater missed a theme that the other had found, although none of these were directly relevant to the main research questions. With regard to accuracy of coding the text

units, it was possible to use a quantitative measure of reliability , kappa, which is widely used in medical statistics as a measure of inter-rater agreement [22] . The kappa coefficient was + 0.57, indicating fairly good /good agreement.

Results

The research questions and their findings are reported as follows.

What is the perceived prevalence of cannabis use in young people?

Given the small sample , measures of prevalence are very likely to be unreliable. This topic was introduced primarily to ascertain whether the participants were familiar with peers who smoke cannabis.
Smoking cannabis was reported to occur in 30% -70% of peers, indicating that participants had considerable exposure. The wide range probably reflects different social sub groups . High estimates tend to be reported by regular users [23]

What is the perceived prevalence of drink-driving?

The overall perception of drink-driving was that it was not common amongst their age group. The reaction was very clear, throughout all of the groups.

- 'It's just not the normal thing to do.'
- 'No, no-one drinks and drives.'
- 'None of my friends do drink and drive. They will refuse to'

All statements strictly indicated that their peers were unwilling to drink and drive. There was not a single statement to the contrary.

Corroborating the cultural antipathy to drinking and driving, participants described how they had to make special transport arrangements so as to avoid having to drink and drive.

- 'Yes, it affects where you're going. You do plan it, it might be alternate, you might drive one week, they might drive next.'
- 'Yes, the cost of paying for a taxi is so little compared to losing your life.'

Lastly the samples of participants in this study predominantly used the legal definition of 'drink and drive' in the focus group discussions, indicating their familiarity with the law.

- 'Well, with most people it's just a couple of beers but occasionally it's quite heavily over the limit.'

They acknowledge that the consequences of drinking and driving are greater than the cost (financial and convenience) of these alternative transport arrangements.

What is the perceived prevalence of cannabis use and driving?

The content of the participants' opinions on cannabis and driving contrasts quite starkly with those outlined above for drink-driving. Driving after smoking cannabis was reported to be a common occurrence amongst those who used the drug.

- ‘Very Common’
- ‘A lot more people do it.’
- ‘Yes, a lot more people do that.’

Only one participant, in the youngest group, stated that smoking and driving was ‘Not common’, but other evidence which emerged suggested that this might reflect lack of exposure.

There was a notable difference between the groups in the amount of cannabis that their peers were willing to consume before driving. Those living at home were more likely to smoke a large amount and ‘get stoned’, then drive, as they had no private place at home to smoke the drug. E.g.

- ‘…If you’re living at home with your parents you can’t smoke yourself stupid in your room, so if you get a car it’s a ticket to smoke…’

However, older participants seemed to feel that few people got ‘stoned’ and then drove E.g.

- ‘…Cannabis users are the stay in type, whereas alcohol ones, … you go out to the alcohol, whereas you would bring the cannabis home to you, so the need for driving is less important.’

Compared to the section on drinking and driving, there was a noticeable lack of comments discussing the arrangement of alternative transport to avoid driving under the influence of cannabis.

- ‘Most people who do drugs drive when they get outside college, that’s the only way they can get about.’

This is in stark contrast with their views on drinking and driving, where efforts are made to find alternative arrangements.

What are young peoples’ knowledge of and attitudes towards drinking and driving and the associated risks?

One main theme was that drinking and driving is socially unacceptable. Attitudes and beliefs appear to have acquired an associated antisocial value[24] that is held by a large majority of participants.

- ‘No, I think there is more of a stigma attached to alcohol, though, as it is seen as socially unacceptable to drink and drive.
- ‘You’re brought up with it, not drinking and driving’

There was a widely reported awareness about the effects drink has on driving, which included, excessive speeding, problems with vision and co-ordination, reduced awareness of errors and deficiencies, and reduced likelihood of ability to compensate when required. The risks associated with drinking and driving were discussed predominantly in terms of either the risk of causing an accident e.g.

- ‘…My friends are really aware of going in cars that might crash and stuff and no-one ever goes in someone’s car if they’ve been drinking …’

- ‘But when you drink and drive you’re not only putting your own life at risk, you’re putting other people’s lives at risk..’

or the risks of penalties incurred by breaking the law

- ‘The police really crack down on it, checking people.’
- ‘… they will lose their licence, and when they want to get another car in a few years time the insurance will be too much.’

Thus drink-driving is recognised to put the lives of other people at risk, as well as one’s own. This might be a reason for the antisocial values associated with drink-driving behaviour. In terms of legal issues, participants are aware that police do regular checks on drink drivers, and that there are potential consequences e.g. losing ones’ licence.

What are young peoples’ knowledge of and attitudes towards cannabis and driving and the associated risks?

As suggested in the section on the prevalence of cannabis and driving, this behaviour was generally felt to be acceptable. E.g.

- ‘Young people see it as, I don’t know, acceptable’.
- ‘There’s not the same stigma about it …’.

The reason for this general acceptance may well result from the lack of thought given over to the topic of smoking cannabis and driving, unlike drinking and driving. E.g.

- '…I think with drugs there is a lack of conscious decision to drive or not, you just tend to go out…'
- 'I don't think people realise, like if you have too many pints down the pub, you get in your car, you know you shouldn't be driving but … if you're driving along and you've got a spliff in your hand instead of a cigarette, you don't notice the difference.'

However, general acceptance of smoking cannabis and driving could result from beliefs that cannabis does not affect one's ability to drive e.g.

- 'Not myself, obviously, but I've always noticed that you can get semi-stoned and drive and you are alright.'
- 'I think it depends on how much you've had… I think it depends on what state you are in.'

It is felt that cannabis does not have an adverse effect as long as a large amount has not been consumed. Interestingly there were comments made referring to cannabis actually improving driving skills in some cases by relaxing people.

- ‘One or two probably they think makes them improve it a bit, make it a bit more relaxed.’
- ‘I think some people prefer to smoke cannabis and drive because it relaxes them a lot more.

Awareness of the increased risk of causing an accident was generally felt not to be acknowledged by their peers.

- Facilitator: Are they aware of the risk?
- ‘No, no risk’
- ‘No, I don’t think people are as aware as they should be.’

The risk of penalties resulting from breaking the laws was perceived to be minimal because a) there was a very low risk of being caught, b) by smoking they had already accepted that they were breaking the law.

- ‘I think people see if they can get away with it as well because they have no way of testing it’
- ‘Unless they get a blood or urine sample.’
- ‘I’ve never known anyone who has come across the wipe.’
- ‘… with smoking cannabis, as soon as you smoke you have crossed the line, that’s it, so what does it matter if I go driving, I’ve already crossed the line, I’m already illegal..’

General Discussion

Participants in all five focus groups had strong feelings on the issues discussed, and seemed to be grateful to share their opinions with those who might take note. The facilitators also reported that they were generally relaxed and willing to talk frankly about the issues, which should mitigate the poor reliability about self-reports [25,26]. Nevertheless, some methodological caveats need to be raised before further interpretation of the findings. Firstly the sample is small and not representative of the young adult population, especially given that 22 out of the 29 participants were male. A sample consisting predominantly of females may well have produced substantially different findings. Secondly, group decisions about risk taking behaviour are susceptible to 'group polarisation' [27,28]. That is to say, group decisions can become riskier, or alternatively more cautious, than those privately held by individual members. 'Risky shift' is more likely to occur when privately held opinions are positive toward the risky behaviour, and the 'cautious shift' when they are negative. Privately held negative attitudes toward drinking and driving might have inclined the groups to exaggerate the antipathy, whereas positive attitudes toward smoking cannabis could lead to an exaggerated expression of risky behaviour. It is therefore possible that the divergence in attitudes toward driving after smoking versus drinking might well be exaggerated by the group polarisation phenomenon.

The sampling strategy did however generate groups in which participants all had experience of peers who smoke cannabis, although to varying degrees.

Therefore they were well placed to speak with a reasonable degree of knowledge.

Drink-driving was perceived by all groups to be very uncommon amongst peers. Usually young people would avoid drinking and driving to the extent that they would plan another way of getting home, despite the inconvenience. The uniform pattern of the reported attitudes and beliefs both within and across groups suggest that driving after drinking is as much a judgement based on antisocial values[24] as it is prudent given the associated penalties. Some evidence was reported that participants had learnt from an early age that drink-driving was wrong, and that this has been 'drummed into their heads'. It is no doubt true that the participants in these focus groups will have been exposed to the anti drink-drive campaigns from a young age.

Smoking cannabis and driving was stated to be much more common than drink-driving. There was some variation between the groups though. Those whose peers were still living at home reported that cars are a 'ticket to smoke' cannabis since they are reluctant to smoke at home, whereas those who had their own homes felt that they had less of a need to drive whilst 'stoned'. Of interest was the lack of any discussion about making alternative transport arrangements, unlike drinking and driving.

The effects of drinking on ability to drive were reasonably clearly described, with mainly two types of risks identified: causing an accident and being caught by the law. In contrast, when discussing smoking cannabis and driving these same risks were either not acknowledged, or were treated with

little concern. Also noted was a consensus of opinion on the risks associated with drink-driving compared to an absence of such a consensus on the risks of smoking cannabis and driving.

Conclusions

Reports by participants that drink-driving is uncommon in this age group are consistent with their knowledge about risks and the stigma they attach to such behaviour. Extrapolating from the findings of this study, future generations of young people may well be influenced by messages about reduced driving performance and increased risk of accidents caused by smoking cannabis.

In the interim getting similar groups of people to think about and discuss the possible risks of cannabis and driving, especially given their value laden attitudes toward drink-driving is enough to start them realising that there may be risks involved. If parallels can be drawn with the anti drink-driving campaigns one can be optimistic that those brought up with much negative media attention will develop a robust reluctance to drive after smoking cannabis. However, further research is required to evaluate whether the experience of educating young people about the antisocial nature of drink-driving provides a good model for deterring them from smoking cannabis and driving. The lack of solid scientific evidence about the risks involved with smoking cannabis and driving, combined with the fact that cannabis is in

itself illegal, and that there is as yet no well defined way of testing for recent cannabis consumption, potentially weaken the validity of extrapolating from this model.

References

1 Ashton CH Pharmacology and effects of cannabis: a brief review. *British Journal of Psychiatry* 2001:178 :101-106.

2 Hall W Reducing the harms caused by cannabis use: the policy debate in Australia. *Drug and Alcohol Dependence* 2001: 62 : 163-174.

3 Strang J, Witton J, Hall W. Improving the quality of the cannabis debate: defining the different domains. *British Medical Journal* 2001:320:108-110.

4 DETR Cannabis and Driving: A Review of the Literature and Commentary: 1999

5 Tomaszewski C, Kirk M, Bingham E, Saltzman B, Cook R, Kulig K Urine toxicology screen in drivers suspected of driving while impaired from drugs. *Journal of Toxicology and clinical Toxicology* 1996, 34, 37-44.

6 World Health Organisation. Programme on Substance Abuse. *Cannabis: a Health Perspective and Research Agenda*. Division of Mental Health and Prevention of Substance Abuse. WHO: 1997.

7 Robbe HWJ. *Influence of Marijuana on Driving. Institue for Human Psychopharmacology*. University of Limberg, Maastrcicht.

8 Berghaus, G., Krüger, H-P. & Vollrath, M. (1998). Beeinträchtigung fahrrelevanter Leistungsprofile Rauchen von Cannabis und nach Alkoholkonsum - eine vergleichende Metaanalyse experimenteller Studien. In G.Berghaus & H-P. Krüger (eds.) Cannabis im Straßenverkehr. Stuttgart: Gustav Fischer Verlag.

9 Chait LD and Perri J. *Effects of smoking marijuana on human performance: a critical review*. In: Murphy A, Bartke J (Eds) Marijuana/Cannabinoids: neurobiology and neurophysiology. CRC,Boca Raton. 1992.

10 Smiley A. *Marijuana: on road and driving simulator studies*. In: Kalant H, Corrigall W, Hall W,Smart R (Eds) The Health Effects of Cannabis. Addiction Research Foundation, Torronton. 1999.

11 Chesher G *Cannabis and road safety: an outline of research studies to examine the effects of cannabis on driving skills and actual driving performance*. In : The Effects of Drugs (Other then Alcohol) on Road Safety. Road Safety Committee, Parliament of Victoria, Melbourne. 67-96.

12 Cimbura, G. Drugs detected in fatally injured drivers and pedestrians in the province of Ontario. *Traffic Injury Research Foundation of Canada.; T I R F reports* 1980 p113.

13 Cimbura,G, Lucas D.M, Bennett R.C, Warren R.A, Simpson H.M Incidence and toxicological aspects of drugs detected in 484 fatally injured drivers and pedestrians in Ontario. *Journal of Forensic Science* 1982: 27: 855-67.

14 Fergusson DM , Horwood LJ Cannabis use and traffic accidents in a birth cohort of young adults. *Accident; Analysis and Prevention* 2001: 33: 703-711.

15 Hall W, Solowij N, Lemon J *The health and psychological effects of cannabis use*. National Drug Strategy Monograph No. 25. Australian Government Publication Service. Canberra.

16 Levy S Jones A The effects of cannabis on driving are difficult to evaluate. *British Medical Journal*: 2000, : 320: 1672.

17 Ramsay, M. & Spiller, J. *Drug misuse declared in 1996: latest results from the British Crime Survey.* 1996 Home Office Research and Statistics Directorate.

18 Border, P. & Norton, M. *Common Illegal Drugs and Their Effects: Cannabis, Ecstasy, Amphetamines and LSD. Report 79*. 1996 London: Parliamentary Office of Science and Technology.

19 Johnston L, O'Malley P and Bachman J. National Survey results on drug use from Monitoring the Future Study,1975-1994: Vol. 1,Secondary school students. Washington, DC: National Institute of Drug Abuse.

20 Grilly DM. People's views on marihuana, drugs, and driving: A changing scene. *Journal of Psychedelic Drugs*. 1977 : 9: 311-316.

21 BMA Parliamentary Brief on Driving: Drugs and Driving, British Medical Association, 12 March 2002. www.bma.org.uk.

22 Altman DG *Practical statistics for medical research*. Chapman and Hall., London. 1993.

23 Page R.M. and Scanlan A. Perceptions of the prevalence of marijuana use among college students: A comparison between current users and nonusers. *Journal of Child and Adolescent Substance Abuse*. 1999; Vol. 9(2): 1-12.

24 Schwartz S, Bilsky W. Toward a universal psychological structure of human values. *Journal of Personality and Social Psychology*. 1987: 53:550-562.

25 Mieczkowski T., Newel R., Wraight B Using hair analysis, urinalysis, and self-reports to estimate drug use in a sample of detained juveniles. *Substance Use and Misuse.* 1998 Jun; Vol. 33(7): 1547-1567.

26 May C and Foxcroft D. Minimizing bias in self-reports of health beliefs and behaviours. *Health Education Research*, 1995:10,107-112.

27 Myers DG and Lamm H. The group polarisation phenomenon. *Psychological Bulletin*, 1976: 83,602-627.

28 Myers DG and Lamm H The polarisation effect of group discussion. *American Scientist*, 1978: 63,297-303.

Table 1: Demographic information for each group

Group	Institution	M: F	Age range	Proportion Driving
Group 1	College	5:1	18-19	5/6
Group 2	College	5:0	16-17	0/5
Group 3	College	5:1	17-20	6/6
Group 4	College	5:0	16-25	4/5
Group 5	Workplace	2:5	18-25	6/7