



BRIEF COMMUNICATIONS

Is an Arcade-style Computer Game an Effective Medium for Providing Drug Education to Schoolchildren?

ALISON NOBLE, DAVID BEST, CLARE SIDWELL & JOHN STRANG

The National Addiction Centre, Maudsley Hospital/Institute of Psychiatry, 4 Windsor Walk, London SE5 8AF, UK

Introduction

Multiple studies have reported high and increasing adolescent exposure to, and use of, legal and illegal drugs in the UK (Miller & Plant, 1996; Ramsay & Percy, 1996) and further afield (NIDA, 1997; EMCDDA, 1998). Although research suggests that early interventions may provide some protective effect (Hurry & Lloyd, 1997), the effectiveness of interventions based on deterrence, or the provision of information, has been challenged (Swadi, 1988; Wragg, 1992). The limited efficacy of primary prevention may also relate to inconsistencies in drug education provision. Dowds & Redfern (1994) found that only 44% of 12–15 year olds in the UK reported ever having received drug education. Shiner & Newburn (1996) have examined alternative approaches to delivering prevention messages and have suggested that interactive approaches may be beneficial for some young people. The aim of this project was to explore an alternative method of engaging young people in a drug education effort using an arcade-style computer game based on an operant learning task.

Method and Results

Data were collected using an interview-administered questionnaire conducted by independent researchers. A total of 101 children, ages 10 and 11, from two

Author for correspondence: David Best, The National Addiction Centre, Maudsley Hospital/Institute of Psychiatry, 4 Windsor Walk, London SE5 8AF, UK. Tel: 020 7740 5754. Fax: 020 7740 5730. E-mail: D.Best@kcl.iop.ac.uk

schools were interviewed. The sample consisted of 44 boys and 57 girls who took part in a study assessing the acceptability and efficacy of a computer-based drug education game.

The game attempted to engage the interest of young people, while providing a clear information-based preventative message. The game is an interactive CD-ROM-based arcade-style motorcycle racing game. When the game starts, the player is given two options: to play “without drugs”—a traditional format for a racing game, or “with cocaine”—where the game simulates the effects of cocaine on the player’s driving. The “without drugs” version is a winnable game, whereas in the “with cocaine” version performance becomes more impaired over time and the race cannot be won as increased tolerance leads to more frequent stops for more drugs. Each participant was asked to play the game using each version of the game (once using the “with cocaine” option and the other with the “without drugs” option).

While none of the children reported ever taking drugs, 40 reported that they had drunk alcohol. Forty-six children said they did not know how cocaine might affect them if taken, but the majority (90) knew that it was a drug. In the last year, most (86) reported that they had received no drug education.

Ninety-eight reported enjoying the game, that they had learned something about cocaine (85) and that they thought it was a good way to teach young people about drugs (93). Participants were also asked what the game had taught them about cocaine and about what they had learned. The most common answers were that “once you have some you want more and more” ($n = 30$), “never take cocaine/drugs” ($n = 22$), “drugs are bad for you” ($n = 13$), and “it’s dangerous to take” ($n = 11$). When asked why they had to stop when they played the “with cocaine” version, answers included “you want more and more” ($n = 29$), “you become addicted” ($n = 18$), and that “the drug wears off quickly” ($n = 16$)—an effective transmission of the drug tolerance message.

All but one of the participants said they would play the game again. Ninety-two reported that they would be interested in versions involving different drugs.

Conclusion

The results from this preliminary examination indicate high levels of acceptability, even enthusiasm, for the computer game. The operant learning message achieved explicit recognition of the tolerance message and an increase in awareness from the qualitative comments made. The majority realized that once you had taken the drug you needed more and that you would perform better in the version “without drugs”.

The limited success of drug education to date and the increased prevalence of drug use among young people suggest that other drug education options are explored, in formats acceptable and engaging to young people. It also points to

a possible mechanism for shaping attitudes and transmitting knowledge that could be utilized in training health professionals and in assisting them to convey positive health messages.

The acceptability of the message (and that it is not perceived as a “lesson”) makes the interactive game approach a simple and effective way of transmitting positive health messages that could be adapted for healthy eating, smoking and drinking and other risk behaviors, and reconstituted in other delivery mechanisms, including board games. The key concept is to encourage the target population to derive their own health education message from participating in a behavior that they find engaging and entertaining. As a consequence, it permits health promotion and health education to occur in a distal way without direct professional involvement, albeit with careful piloting and ongoing management.

Acknowledgements

Thanks are due to the pupils and staff at St. Mary’s Junior School, Oxted, and Edmund Waller School, New Cross, and to Juan Legarda.

References

- DOWDS, L. & REDFERN, J. (1994). *Drug education amongst teenagers: a 1992 British crime survey analysis*. Research and Planning Unit, Paper 86. London: HMSO.
- EUROPEAN MONITORING CENTRE FOR DRUGS AND DRUG ADDICTION (EMCDDA). (1998). *Annual report on the state of the drug problem in the European Union*. Lisbon: EMCDDA.
- HURRY, J. & LLOYD, C. (1997). *A follow-up evaluation of project Charlie: a life skills drug education programme for primary schools*. Drug Prevention Initiative, Paper 16. London: Home Office.
- 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.
- NATIONAL INSTITUTE ON DRUG ABUSE (NIDA). (1997). *Prevention drug abuse among children and adolescents*. Rockville, MD: National Institute of Health Publication.
- RAMSAY, M. & PERCY, A. (1996). *Drug misuse declared: results of the 1994 British crime survey. Research Findings* (London: Home Office).
- SHINER, M. & NEWBURN, T. (1996). *Young people, drugs and peer education: an evaluation of the Youth Awareness Programme (YAP)*. Drug Prevention Initiative, Paper 13. London: HMSO.
- SWADI, H. (1988). Substance use among 3,333 London adolescents. *British Journal of Addiction*, 85, 935–942.
- WRAGG, J. (1992). *National campaign against drug abuse, an evaluation of a model of drug education*. Monograph Series No. 22. Canberra: Australian Government Publishing Service.