



Alcohol and Drug Prevention in Colleges and Universities

A Review of the Literature

Apostolos Polymerou

March 2007

Mentor UK

Mentor UK's mission is to focus on the prevention of drug misuse in our efforts to promote the health and wellbeing of children and young people and to reduce the damage to their lives.

Abstract

Colleges and universities can play an important role in preventing alcohol and drug use and related harm. The aim of this paper is to review the evidence around the harm that alcohol and/or drugs cause among further education college and university students in the UK and examine the effectiveness of drug prevention. Little is known about the harm that alcohol and/or drugs cause among students in the UK and about the effectiveness of universities and colleges' efforts to prevent substance misuse and related harm. Evidence about the effectiveness of drug education/ awareness campaigns, social norms interventions, extracurricular activities and motivational interviewing is discussed. The paper concludes that more effort is needed to build the evidence base of drug prevention, increase the profile of drug prevention in further and higher education and support further education colleges and universities to deliver effective interventions.

Introduction

The aim of this literature review is to outline the UK experience of drug prevention in further and higher education and to discuss the effectiveness of existing approaches.

Going to college or university can be a very exciting period but one where young people can face a number of challenges. Many students may experience, often for the first time in their lives, a wide range of demands on individual, interpersonal, academic and societal levels such as leaving home, developing autonomy, making new friends and peer pressure which may put them at risk of substance misuse (Larimer et al., 2005). In addition, environmental, individual, personality and family factors such as drug-using peers, parental substance abuse and mental health problems continue to play a significant role as risk factors (Canning et al., 2004). The majority of students who use drugs at university first did so prior to entering, but a significant number of students start to do so after entering university. Additionally, the pattern of drug and alcohol use varies considerably between different department groups. For example, Webb et al (1997) found higher use of cannabis amongst arts and social science students than in students from other faculties.

There is evidence that experimenting with illegal drugs is considered to be normal by many students who appear to overlook the negative consequences drug and alcohol use may have (Larimer et al., 2005). There is a lack of information about the extent of the damage that drug and alcohol misuse causes in UK's university and college students. Evidence within the general population shows that binge drinkers have an increased risk of accidents and alcohol poisoning and that around 1.2 million violent incidents are alcohol related (Prime Minister's Strategy Unit, 2004). In addition, 18% of people killed in road accidents have traces of illegal drugs in their blood (The Royal Society for the Prevention of Accidents, 2007). A survey among US college students showed that over 1,400 students aged 18-24 died in 1998 from alcohol-related causes, including fatal motor vehicle crashes (Hingson & Howland, 2002). Additionally, over 500,000 full-time 4-year college students were unintentionally injured under the influence of alcohol and over 600,000 were physically hit or assaulted by another student who had been drinking (Hingson et al., 2005).

Alcohol is the most popular drug misused by young people (Advisory Council on the Misuse of Drugs, 2006). Gill (2002), reviewing 25 years of research in alcohol consumption and binge drinking within UK undergraduate students, found that a significant number of male and female students drink more than the recommended weekly upper limit (14 units for women 21 for men). Additionally, she concluded that the level of binge drinking in undergraduates may exceed the level observed in the general population and this observed in US university students. Nearly half of young people drink above the sensible drinking recommendations (Home Office, 2006b). Data from the general population show that young people age 16-24 are more likely to exceed the recommended upper alcohol limit and be drunk compared with older adults. Additionally, hazardous drinking also increased over the decade 1992-2002 amongst young people (Advisory Council on the Misuse of Drugs, 2006).

Evidence from the student and general population suggests that drinking behaviour in females has changed over time. It appears that alcohol consumption has increased amongst women students and it resembles alcohol consumption in male students (Gill, 2002). For example, in a recent study, the highest rate of heavy drinking (4 or more drinks at least at 1 occasion over the past 2 weeks) was reported by female university students (Dantzer et al., 2006). There is evidence that binge drinking may have become normalised and that young people consider this pattern of drinking alcohol as acceptable (Gill, 2002).

While several studies imply that there is a relationship between drinking and poor academic performance, more evidence is needed on whether or not alcohol consumption has a detrimental effect on academic performance (Gill, 2002). Additionally, UK university students who drink excessively have not been demonstrated to have higher levels of depressive or anxiety symptoms, although this has been shown to be the case in the general population (Royal College of Psychiatrists, 2003) and with university students outside the UK (Miller et al., 2002). While a relationship between alcohol consumptions and psychopathology has yet to be established, an increase in the number of higher education students accessing counselling or other student health services has been observed. A similar trend has also been found with regards to the severity of their mental health problems. Additionally,

evidence suggests that students report increased symptoms of mental health problems, compared with age-matched controls (Royal College of Psychiatrists, 2003). More research is needed into the relationship between increased alcohol consumption and mental health or academic performance.

While alcohol is the drug most commonly used among young people (Advisory Council on the Misuse of Drugs, 2006), the use of other drugs is much more common among young people aged 16-24, in the general population, than in other age groups (Roe & Man, 2006). The most frequently used illicit drug amongst college and university students is cannabis (Larimer et al., 2005). A survey in ten UK universities showed that 60% of male and 55% of female students reported having used cannabis and 20% reported using cannabis on a regular basis. Approximately one third of the sample had experimented with other drugs, such as LSD and ecstasy (Webb et al., 1996). Roughly the same picture of illicit drug use has also been described by other studies in UK universities (Underwood & Fox, 2000; Newbury-Birch et al., 2002; Sell & Robson, 1998).

It seems that more students use illicit drugs as compared to their age group in the general population. In 2005-06, 45% of 16-24 year olds in the general population had used one or more illicit drugs in their lifetime, 25.2% had used one or more illicit drugs in the last year and 15.1% had used in the last month. It was also estimated that in 2005-06, 16.9% of 16-24 year olds had used a Class A drug at least once in their lifetime, 8.4% had used at least one Class A drug in the previous year and 4.0% had used in the past month (Roe & Man, 2006).

The Government's drug strategy aims to prevent young people from becoming tomorrow's problem drug users (Home Office, 2004b). Additionally, a key aim of Every Child Matters (HM Government, 2004) is to encourage young people not to choose to take illegal drugs. Educational settings such as universities and colleges are in a prime position to increase awareness and challenge attitudes around drugs and to prevent substance misuse and related harm (Dunne & Somerset, 2004). Additionally, students value and want more effective drug and alcohol prevention (DrugScope & Alcohol Concern, 2004). A range of drug prevention interventions

that aim to reduce substance misuse and related harm among university and college students have been extensively researched in the US. UK Universities and colleges either do not provide drug education /prevention or they deliver it in a low-key-way (Advisory Council on the Misuse of Drugs, 2006).

Drug Prevention approaches

Drug Education and awareness campaigns

Drug education in further or higher education is not a statutory requirement and the efforts invested in it depend mainly on the will of the college or university.

Drugscope and Alcohol concern (2004) developed relevant guidance in order to support the best practice of drug education in colleges. The guidance focused on 16-19 years old and is built on the existing government guidance for drug education in schools (Department for Education and Skills, 2004). The case studies of good practice that are presented as part of the guidance show that colleges are using a variety of methods to educate students around drugs and to challenge their perceptions and attitudes, either by using their own staff (e.g. tutors, youth workers) or by working in partnership. Their efforts include drug education in tutorials, peer education and youth work.

Drug prevention in universities is generally organised and delivered in a wide health promotion framework (Dunne & Somerset, 2004). Although drug and alcohol awareness campaigns have been carried out in universities, little is known about their effectiveness (Aveyard, 1999). The majority are developed and delivered by, or in conjunction with, student unions. A number of the most representative campaigns will be discussed. One of the most well-known campaigns was 'Study Safely'. This campaign was targeted at further and higher education students aged over 18 across London and was run jointly by 26 London Drug Action Teams (DATs). The campaign was based on a non-judgemental, harm-minimisation strategy. An impact evaluation showed high levels of awareness of drugs information among London university students who had seen the campaign. The materials produced were received very positively and the National Union of Students (NUS) encouraged their

nation-wide distribution (Branigan & Wellings, 1998).

The FRANK campaign, a joint initiative between the Home Office and the Department of Health and supported by the Department for Education and Skills, aims to help young people to understand the risks associated with drug use by providing credible and reliable information. The NUS teamed up with FRANK and developed an 'action update', which is a comprehensive pack aimed at student Welfare Officers in Further and Higher Education (Home Office, 2004a). The resource includes statistics and information on drugs, alcohol and sexual health as well as advice, ideas and materials for active campaigning and awareness-raising initiatives. The joint work between NUS and FRANK aimed to inspire and support Welfare Officers to run their own campaigns. In addition to students unions' efforts, the commercial part of the NUS (NUS Services Ltd) and the drink company Diageo launched a responsible drinking campaign in 2005. The aim of the campaign was to inform students about alcohol and safe drinking and to encourage them to think about their alcohol consumption (Curtis, 2005).

There is little available information about what universities and colleges are doing with regards to drug education and awareness campaigns and how effective their efforts are. Universities and colleges are committed to promote health and provide information about alcohol and drugs (Aveyard, 1999). However, this is very understated (Advisory Council on the Misuse of Drugs, 2006) and their practice in most cases is uncoordinated and lacking a theoretical basis (Escolme et al., 2002).

Social norms interventions

Studies have consistently found that students overestimate the frequency and quantity of alcohol and drug use among their peers (Perkins et al., 1999; Perkins et al., 2005). Students' perceptions of peers' alcohol consumption and cannabis use predicts and explains a significant amount of variance in alcohol and cannabis use (Kilmer et al., 2006; Perkins et al., 2005). Drug prevention strategies, mainly around alcohol, have often aimed to change students' inaccurate perceptions and subsequent behaviour. There is also increasing evidence that social norms interventions

maybe an effective strategy in preventing cannabis use (Zhao et al., 2006). Social marketing campaigns that target students' misperceptions about social norms and personalised normative feedback will be discussed here.

Social marketing campaigns are popular interventions in reducing binge drinking in US universities and seem to have some effectiveness in influencing students' beliefs and behaviour (Vicary & Karshin, 2002). For example, Haines and Spear (1996) found that after a social marketing campaign fewer students perceived binge drinking as the norm and a reduction in self-reported binge drinking was observed. Additionally, a recent multi-site randomised trial revealed that the relative risk of alcohol consumption was lower in students attending colleges that implemented this type of intervention (DeJong et al., 2006). While these interventions have shown promising results, their effectiveness of changing drinking behaviour has been questioned. Some studies found that changes in students' beliefs about drinking norms do not always influence changes in drinking behaviour (Clapp et al., 2003; Granfield, 2005). Additionally, Wechsler et al (2003) analysing students' drinking behaviour and their familiarity with social norms marketing messages found that social norms programmes were not effective in decreasing alcohol use, even when student exposure and length of programme existence were taken into account.

Personalised normative feedback interventions provide students with information about actual student drinking norms. This type of intervention is suggested for students at higher risk for heavy alcohol consumption and alcohol related problems. Collins et al., (2002) examined whether personalised normative feedback via mail, targeting university drinkers that are at risk of developing alcohol related problems, is feasible and effective. They found that the group that received the intervention reported consuming significantly fewer drinks per heaviest drinking week and engaging in less heavy episodic drinking. Another study that evaluated the efficacy of a computer-delivered personalised normative feedback intervention in reducing alcohol consumption among heavy-drinking college students found that normative feedback was effective in changing perceived norms and alcohol consumption at 3- and 6-month follow-up assessments (Neighbors et al., 2004). Finally, a recent review of interventions that included feedback (studies with normative feedback were

included) concluded that feedback can be effective in changing perception about the norm and alcohol consumption whether delivered by mail, the internet or face to face (Walters & Neighbors, 2005).

Little is known about the misperceptions of norms around alcohol or other drugs and social norms interventions in the UK. There is evidence that UK students also misperceive norms. The Student Life and Alcohol survey at York University found that university students misperceived the norms about drinking alcohol. While the majority of the students (80%) drank twice a week or less, 71% of the participants believed that most students drink alcohol three times a week or more (M. Bradby-Drinkaware Trust, personal communication, November 22, 2006). Similarly, a recent study found that university students who consumed alcohol above-average levels tended to overestimate the amount that their peers drank when compared to estimates by participants who drank less than the average (Hollands & Myer, 2006).

Extracurricular activities

There is a growing body of research demonstrating the beneficial effects of youth activities in adolescent development (Larson, 2000). However, little is known about drug and alcohol prevention programmes that use extracurricular activities and target college or university students. The effectiveness of extracurricular activities as part of drug prevention programmes for adolescents (Stigler et al., 2006) and the findings about the role of extracurricular substance free activities among college and university students (Murphy et al., 2005) have potential implications for prevention programmes in universities and colleges.

Adolescents that participate in extracurricular activities such as prosocial activities, team sports and performing arts have better academic performance and college attendance as well as a lower risk of dropping out. Participation also predicts reduced involvement of risk taking behaviours, including alcohol and drugs and better self-esteem (Eccles et al., 2003). Different types of activities are related with different types of outcomes. For example, prosocial and performance activities predict lower increase in alcohol use while participation in sports has produced mixed results in

youth substance use (Fredricks & Eccles, 2006; Eccles et al., 2003).

Studies have noted that some types of sports and athletic involvement do not protect young people from substance misuse (Moore & Werch, 2005; Hoffmann, 2006; Eccles et al., 2003). The majority of the studies that examine the relationship between sport activities with alcohol and drug use do not examine why some individuals choose to participate in these activities and others do not. As a consequence, this relationship may reflect pre-existing differences between those who choose to participate in sport activities and those who do not. For example, when self-selection factors were controlled, Fredricks and Eccles (2006) found that adolescents involved in athletics reported lower alcohol use than those individuals who were not involved. Additional support for the role of sport in drug prevention comes from the Positive Future programme, a social inclusion programme in England that engages young people in sport activities. There is evidence that the programme may have a positive influence on participants' substance misuse, physical activity and offending behaviour (Home Office, 2005; Home Office, 2006a).

The potential beneficial role of extracurricular activities in students attending university is supported by research that shows the important reinforcing role that student activities have on reducing drinking in the campus. Murphy et al. (2005) found that students who decreased their drinking showed increased reinforcement from substance free activities. The authors conclude that prevention attempts in universities should increase the availability of substance free activities. These findings suggest that extracurricular activities may have drug prevention potential. Certainly, a better understanding is needed about which substance free activities can engage more students and how participation supports desirable alcohol and drug prevention outcomes (Murphy et al., 2006).

Brief motivational interviewing

Motivational interviewing (MI) is a client centred, non-confrontational and directive counselling style that has been applied in a wide range of behaviours. Research has shown that the application of MI is effective in drug and alcohol dependency treatment (Burke et al., 2003). Brief MI has recently been developed for prevention pur-

poses (secondary prevention) and it targets young people at early stages of drug misuse. Brief MI in secondary prevention aims to reduce drug consumption, prevent further involvement in drug use and facilitate informed choice (McCambridge & Strang, 2003).

McCambridge & Strang (2004) examined the efficacy of single-session motivational interviewing in reducing drug consumption and perceptions of drug-related risk/harm among young people. The research took place in ten further education colleges across inner London. Students that received the MI intervention reduced the use of alcohol, cannabis, other drugs and cigarettes at three months follow up compared to students who received 'education as usual'/assessment. Changes were also observed in the students' perceptions of risk and harm. However, the positive effects of the intervention were not maintained at 12 months follow-up (McCambridge & Strang, 2005). Unexpected improvements in a number of outcomes were also observed in the assessment control group. Although somewhat encouraging, the above results should be interpreted with caution because problems were observed with the randomisation procedure (Larimer et al., 2005).

Discussion

Beyond available evidence, little is known about the harm that alcohol and/or drugs cause among further education college and university students in the UK. Studies conducted in some English universities describe a picture of alcohol and drug consumption that may not be the one observed in the general population (16 - 24 year olds). For example, binge drinking in undergraduates may exceed the level observed amongst the same aged individuals in the general population (Gill, 2002). Additionally, when we compare the Crime Survey (Roe & Man, 2006) with studies conducted in universities (Webb et al., 1996; Underwood & Fox, 2000), even though the studies are not directly comparable, students' illicit drug use is likely to be higher. There is a lack of alcohol and drug use data for further and higher education students and there are no recent studies that examine the harm that alcohol and drug cause among them. **Better quality epidemiological data is needed for this specific population and the similar age group in the general population** (Advisory Council on the Misuse of Drugs, 2006).

Universities and colleges are committed in promoting students' health and wellbeing and are in a good position to prevent alcohol and drug misuse and related harm (Dunne & Somerset, 2004; Aveyard, 1999). However, there is a general lack of good quality evidence about drug education in colleges and universities. Colleges are using a variety of approaches such as drug education, peer education and youth work to educate and challenge students' perceptions and attitudes toward drugs and alcohol (DrugScope & Alcohol Concern, 2004). Drug and alcohol awareness campaigns carried out in conjunction with students' unions appear popular in universities. However, little is known about the impact of existing awareness campaigns, and although efforts show promising good practice (Branigan & Wellings, 1998), **more emphasis is needed on monitoring and evaluating the effectiveness of drug education/ prevention** (Aveyard, 1999; Advisory Council on the Misuse of Drugs, 2006).

Social norms interventions aim to reduce students' misperceptions around alcohol and drugs by providing information around alcohol and drug norms (Perkins et al., 1999). There is increasing evidence about the effectiveness of this type of intervention in reducing alcohol consumption and relative risk (DeJong et al., 2006; Collins et al., 2002). However, some studies have found that although this can impact on students' perceptions about drinking norms, this does not always translate into behaviour change (Granfield, 2005; Clapp et al., 2003). **Further research is needed to examine the effectiveness and applicability of these interventions to the UK and their effectiveness in preventing cannabis and other drugs use** (Zhao et al., 2006).

Research about extracurricular activities has shown their beneficial role in adolescents' development and their potential to prevent risky behaviour, including alcohol and drug use among adolescents, adult college and university students (Larson, 2000; Eccles et al., 2003; Murphy et al., 2005). Not all activities have the same beneficial effect. Evidence around the protective role of sport involvement is varied. For example, the Positive Futures programme reports that it may have an impact on participants' likelihood of misusing drugs (Home Office, 2006a), while other studies

suggest that participation in sports is a predictor of substance use (e.g. Moore & Werch, 2005). However, the relationship between sport participation and substance use may reflect pre-existing differences between those who choose to participate and those who don't (Fredricks & Eccles, 2006). Additional support for the important role of who selects which activity and the impact that this may have on substance misuse comes from research among U.S. university athletes. College athletes are a high risk group for binge drinking and alcohol related harm (Nelson & Wechsler, 2001). The majority of evidence that supports the drug prevention role of extracurricular activities is found in a specific age group (15-18 yrs old attending high school) in a different education system from that in the UK. Consequently, the applicability of the above findings in the UK is questionable. **More research is needed to examine further the protective role of extracurricular activities in the UK education system and involve a wider range of age groups that attend further or higher education.**

In terms of interventions, students who are at risk of developing alcohol and substance misuse dependency seem to benefit from brief MI. Brief MI has shown promising but short term positive results in reducing alcohol, cannabis, other drugs and cigarettes' use among further education students (McCambridge & Strang, 2004; McCambridge & Strang, 2005). **Future research should focus on maintaining these positive results and extending the brief MI to university students.**

There is a lack of a statutory framework and guidance where colleges and universities can work to prevent alcohol and drug use and related harm. The good practice guidelines published for further education (DrugScope & Alcohol Concern, 2004) filled an important gap. It is difficult though to follow up the impact the guidance had. Additionally, there is not a structure/body that aims to support colleges and universities to deliver effective drug prevention. The Higher Education Center for alcohol and other drug abuse and violence prevention in the U.S. is an example of such a body. The center was established by the U.S. Department of Education. It works with colleges, universities and community leaders to develop, implement, and evaluate programs and policies to reduce student problems related to alcohol and other drug use and provides training, technical assistance, and publications to support

these efforts. **The need for a body/organisation that will support colleges and universities in the UK needs to be carefully considered.**

To sum up, colleges and universities can play an important role in preventing alcohol and drug use and related harm and there is promising evidence about the effectiveness of drug prevention. However, **more effort is needed to increase the profile of drug prevention in further and higher education, build the evidence base of drug prevention and support further education colleges and universities to deliver effective interventions.**

References

- Advisory Council on the Misuse of Drugs (2006). *Pathways to Problems; Hazardous use of tobacco, alcohol and other drugs by young people in the UK and its implications for policy*. London: Home Office.
- Aveyard, H. (1999). Illicit drug use: information-giving strategies requested by students in higher education. *Health Education Journal*, *58*, 239-248.
- Branigan, P. & Wellings, K. (1998). *Evaluation of the study safely campaign*. London: School of Hygiene and Tropical Medicine.
- Burke, B. L., Arkowitz, H., & Menchola, M. (2003). The efficacy of motivational interviewing: a meta-analysis of controlled clinical trials. *Journal of Consulting and Clinical Psychology*, *71*, 843-861.
- Canning, U., Millward, L., Raj, T., & Warm, D. (2004). *Drug use prevention among young people: a review of reviews*. London: Health Development Agency.
- Clapp, J. D., Lange, J. E., Russell, C., Shillington, A., & Voas, R. B. (2003). A failed norms social marketing campaign. *Journal of Studies on Alcohol*, *64*, 409-414.
- Collins, S. E., Carey, K. B., & Sliwinski, M. J. (2002). Mailed personalized normative feedback as a brief intervention for at-risk college drinkers. *Journal of Studies on Alcohol*, *63*, 559-567.
- Curtis, P. (2005). Campaign targets student drinking. <http://education.guardian.co.uk/students/health/story/0,,1643165,00.html> [On-line].
- Dantzer, C., Wardle, J., Fuller, R., Pampalone, S. Z., & Steptoe, A. (2006). International study of heavy drinking: attitudes and sociodemographic factors in university students. *Journal of American College Health*, *55*, 83-89.
- DeJong, W., Schneider, S. K., Towvim, L. G., Murphy, M. J., Doerr, E. E., Simonsen, N. R. et al. (2006). A multisite randomized trial of social norms marketing campaigns to reduce college student drinking. *Journal of Studies on Alcohol*, *67*, 868-879.

- Department for Education and Skills (2004). *Drugs: Guidance for schools*. London: Department for Education and Skills.
- DrugScope & Alcohol Concern (2004). *Drugs: guidance for further education institutions*. London: DrugScope.
- Dunne, C. & Somerset, M. (2004). Health promotion in university: what do students want? *Health Education, 104*, 360-370.
- Eccles, J. S., Barber, B. L., Stone, M., & Hunt, J. (2003). Extracurricular Activities and Adolescent Development. *Journal of Social Issues, 59*, 865-889.
- Escolme, R., James, K., & Aylward, N. (2002). *Healthy Colleges, A study and report into how Further Education Colleges can promote health and well-being*. Leicester: NIACE.
- Fredricks, J. A. & Eccles, J. S. (2006). Is extracurricular participation associated with beneficial outcomes? Concurrent and longitudinal relations. *Developmental Psychology, 42*, 698-713.
- Gill, J. S. (2002). Reported levels of alcohol consumption and binge drinking within the UK undergraduate student population over the last 25 years. *Alcohol and Alcoholism, 37*, 109-120.
- Granfield, R. (2005). Alcohol use in college: Limitations on the transformation of social norms. *Addiction Research and Theory, 13*, 281-292.
- Haines, M. & Spear, S. F. (1996). Changing the perception of the norm: a strategy to decrease binge drinking among college students. *Journal of American College Health, 45*, 134-140.
- Hingson, R., Heeren, T., Winter, M., & Wechsler, H. (2005). Magnitude of alcohol-related mortality and morbidity among U.S. college students ages 18-24: changes from 1998 to 2001. *Annual Review of Public Health, 26*, 259-279.
- Hingson, R. W. & Howland, J. (2002). Comprehensive community interventions to promote health: implications for college-age drinking problems. *Journal of Studies on Alcohol Supplement, 226-240*.

- HM Government (2004). *Every Child Matters – Change for Children: Young People and Drugs*. Norwich: The Stationery Office.
- Hoffmann, J. P. (2006). Extracurricular Activities, Athletic Participation, and Adolescent Alcohol Use: Gender-Differentiated and School-Contextual Effects. *Journal of Health and Social Behavior*, 47, 275-290.
- Home Office (2004a). Action update. Drugs - the deal for students. http://www.homeoffice.gov.uk/materials/COI21_005_Main_pages.pdf [On-line].
- Home Office (2004b). *Tackling Drugs. Changing Lives*. London: Home Office.
- Home Office (2005). *Positive Futures impact report. Staying in touch*. London: Home Office.
- Home Office (2006a). *Positive Futures impact report: End of season review*. London: Home Office.
- Home Office (2006b). When it Comes to Alcohol - Know Your Limits. <http://www.drugs.gov.uk/news-events/latest-news/02061> [On-line].
- Kilmer, J. R., Walker, D. D., Lee, C. M., Palmer, R. S., Mallett, K. A., Fabiano, P. et al. (2006). Misperceptions of college student marijuana use: implications for prevention. *Journal of Studies on Alcohol*, 67, 277-281.
- Larimer, M., Kilmer, J., & Lee, C. (2005). College Student Drug Prevention: A Review of Individually-Oriented Prevention Strategies. *Journal of Drug Issues*, 35, 431-456.
- Larson, R. W. (2000). Toward a psychology of positive youth development. *American Psychologist*, 55, 170-183.
- McCambridge, J. & Strang, J. (2003). Development of a structured generic drug intervention model for public health purposes: a brief application of motivational interviewing with young people. *Drug and Alcohol Review*, 22, 391-399.
- McCambridge, J. & Strang, J. (2004). The efficacy of single-session motivational interviewing in reducing drug consumption and perceptions of drug-related risk and harm among young people:

- results from a multi-site cluster randomized trial. *Addiction*, *99*, 39-52.
- McCambridge, J. & Strang, J. (2005). Deterioration over time in effect of Motivational Interviewing in reducing drug consumption and related risk among young people. *Addiction*, *100*, 470-478.
- Miller, B. E., Miller, M. N., Verhegge, R., Linville, H. H., & Pumariega, A. J. (2002). Alcohol misuse among college athletes: self-medication for psychiatric symptoms? *Journal of Drug Education*, *32*, 41-52.
- Moore, M. J. & Werch, C. E. (2005). Sport and physical activity participation and substance use among adolescents. *Journal of Adolescent Health*, *36*, 486-493.
- Murphy, J. G., Barnett, N. P., & Colby, S. M. (2006). Alcohol-related and alcohol-free activity participation and enjoyment among college students: a behavioral theories of choice analysis. *Experimental and Clinical Psychopharmacology*, *14*, 339-349.
- Murphy, J. G., Correia, C. J., Colby, S. M., & Vuchinich, R. E. (2005). Using behavioral theories of choice to predict drinking outcomes following a brief intervention. *Experimental and Clinical Psychopharmacology*, *13*, 93-101.
- Neighbors, C., Larimer, M. E., & Lewis, M. A. (2004). Targeting misperceptions of descriptive drinking norms: efficacy of a computer-delivered personalized normative feedback intervention. *Journal of Consulting and Clinical Psychology*, *72*, 434-447.
- Nelson, T. F. & Wechsler, H. (2001). Alcohol and college athletes. *Medicine & Science in Sports & Exercise*, *33*, 43-47.
- Newbury-Birch, D., Lowry, R. J., & Kamali, F. (2002). The changing patterns of drinking, illicit drug use, stress, anxiety and depression in dental students in a UK dental school: a longitudinal study. *British Dental Journal*, *192*, 646-649.
- Perkins, H. W., Haines, M. P., & Rice, R. (2005). Misperceiving the college drinking norm and related problems: a nationwide study of exposure to prevention information, perceived norms and student alcohol misuse. *Journal of Studies on Alcohol*, *66*, 470-478.

- Perkins, H. W., Meilman, P. W., Leichliter, J. S., Cashin, J. R., & Presley, C. A. (1999). Misperceptions of the norms for the frequency of alcohol and other drug use on college campuses. *Journal of American College Health, 47*, 253-258.
- Prime Minister's Strategy Unit (2004). *Alcohol Harm Reduction Strategy for England*. London: Cabinet Office.
- Roe, S. & Man, L. (2006). Drug Misuse Declared: Findings from the 2005/06 British Crime Survey (England and Wales). <http://www.homeoffice.gov.uk/rds/pdfs06/hosb1506.pdf> [On-line].
- Royal College of Psychiatrists (2003). *The mental health of students in higher education*. London: RCP.
- Sell, L. & Robson, P. (1998). Perceptions of College Life, Emotional Well-Being and Patterns of Drug and Alcohol Use among Oxford Undergraduates Undergraduates. *Oxford Review of Education, 24*, 235-243.
- Stigler, M. H., Perry, C. L., Komro, K. A., Cudeck, R., & Williams, C. L. (2006). Teasing apart a multiple component approach to adolescent alcohol prevention: what worked in Project Northland? *Prevention Science, 7*, 269-280.
- The Royal Society for the Prevention of Accidents (2007). Drink, drugs and driving. http://www.rosipa.com/roadsafety/citizenship/drink_drugs.pdf [On-line].
- Underwood, B. & Fox, K. (2000). A survey of alcohol and drug use among UK based dental undergraduates. *British Dental Journal, 189*, 314-317.
- Vicary, J. & Karshin, C. (2002). College alcohol abuse: A review of the problems, issues, and prevention approaches. *Journal of Primary Prevention, 22*, 299-331.
- Walters, S. T. & Neighbors, C. (2005). Feedback interventions for college alcohol misuse: what, why and for whom? *Addictive Behaviors, 30*, 1168-1182.
- Webb, E., Ashton, C. H., Kelly, P., & Kamali, F. (1996). Alcohol and drug use in UK university students. *Lancet, 348*, 922-925.

- Webb, E., Ashton, H., Kelly, P., & Kamali, F. (1997). Patterns of alcohol consumption, smoking and illicit drug use in British university students: interfaculty comparisons. *Drug and Alcohol Dependence*, *47*, 145-153.
- Wechsler, H., Nelson, T., Lee, J., Seibring, M., Lewis, C., & Keeling, R. (2003). Perception and reality: A national evaluation of social norms marketing interventions to reduce college students' heavy alcohol use. *Quarterly Journal of Studies on Alcohol*, *64*, 484-494.
- Zhao, X., Sayeed, S., Cappella, J., Hornik, R., Fishbein, M., & Ahern, R. K. (2006). Targeting norm-related beliefs about marijuana use in an adolescent population. *Health Communication*, *19*, 187-196.



Mentor UK
4th Floor
74 Great Eastern Street
London, EC2A3JG

T 020 7739 8494

E admin@mentoruk.org

W www.mentorfoundation.org/uk

Charity No. 1112339
Registered Company No. 5609241