Drinking patterns among Portuguese university students: gender differences and association with self-perception of mental health[*]

Luisa Santos[1], Feliciano Veiga[2] & Anabela Pereira[1]

[1] University of Aveiro, Portugal and [2] University of Lisbon, Portugal

Abstract: Alcohol abuse is one of the most concerning risk behaviours in higher education. Therefore, this study aims to: characterize alcohol consumption among Portuguese university students; investigate gender differences; analyse the association between alcohol use and the perception of mental health. 174 Portuguese students completed a questionnaire about risk behaviours and rated their self-perceptions of mental health. Results show that 17.3% of the students haven't consumed any alcohol during the last month, while, on the opposite side, 11% of those who drank, reported having binge episodes at least twice a week. Men drank significantly more often; more drinks at a time and had more risk behaviours associated with alcohol, than women. A significant, yet very weak, positive correlation was found between the amount of alcohol consumed and the self-perception of mental health. Results are debated in light of relevant literature and suggestions for prevention are discussed.

Keywords: university students, alcohol, mental health perception; risk behaviours.

Introduction

Alcohol use is higher in young adulthood than in any other period of life (Grant & Dawson, 1997). According to Arnett (2005), this peak is normative in western societies because of the numerous changes inherent to this phase, which is characterized by experimentation, risk taking and limits testing. In this context, alcohol use may play a role in developmental terms, such as providing opportunities for learning, growth and identity formation (Dworkin, 2005; Schulenberg & Maggs, 2002).

A setting that seems to be particularly encouraging of the drinking behaviour in young adults is college. First of all, the transition from high school to university is commonly marked by an increment in the frequency of opportunities for peer interaction, which may lead to an increase importance of perceived norms regarding drinking behaviour (Read et al., 2003). In fact, drinking in university is perceived as an

act that enhances socialization, bonding and deshinibition and that may even promote sexual opportunities. Moreover, university environment is characterized by a high level of freedom and low responsibility, which may be seen as a time-out from the real world. In this context, heavy drinking is permissible (Colby et al., 2009).

Not only is alcohol consumption accepted, but it is also available inside some campuses, contributing as well to the rise in heavy drinking (White & Jackson, 2004). Therefore, it is no surprising that university populations present higher rates of heavy drinking and that they are more likely to receive a diagnosis for alcohol abuse than their peers who don't attend college (O'Malley & Johnston, 2002; Slutske, 2005).

We must not forget that, despite its potential role in development, alcohol may seriously compromise physical and mental health. It is responsible for about sixty diseases, including cardiovascular and gastrointestinal problems (Anderson & Baumberg, 2006) and it is associated with several psychopathologies, such as depression (Jané-Llopis & Matytsina, 2006) and generalized anxiety disorder (Cranford et. al., 2009) among others.

In addition, alcohol consumption is frequently associated with other risk behaviours, such as drinking and driving (Steptoe et al., 2004), violence (Sommers & Sommers, 2006) or sexual risk behaviour (Cooper, 2002, Sumnall et al., 2007), which may lead to morbidity and even mortality, not only of those who drink, but also of other people (Hingston et al., 2005; Lown et al., 2007; Perkins, 2002). Recent data state that alcohol is responsible for 7.4% of all the incapacities and premature deaths in European Union (Madelin, 2008).

The Portuguese National Plan for the Reduction of Alcohol Related Problems 2009-2012 alerts for the need of developing studies to identify and characterize alcohol consumption in general population and in several risk groups (Instituto da Droga e da Toxicodependência [IDT], 2009). Therefore, considering that higher education students are a risk group, the present study aims to: characterize drinking patterns in Portuguese university students, comparing genders, and to analyse the association between alcohol use and mental health perception.

Methodology

Participants

The sample consisted in 174 students of the University of Aveiro, Portugal, 76 (43.7%) being male and 98 (56.3%) female. The mean age was 21 years old (SD=2.41), with a range of 18 to 32 years. Subjects were attending 1st to 5th year of several courses in the areas of Engineering (43.7%), Natural Sciences (25.3%) and Health (31%).

Instruments

Questionário de Comportamentos de Risco em Estudantes Universitários (University Student Risk Behaviours Questionnaire, Santos, Pereira & Veiga, 2007) was an instrument built by us to assess the most common risk behaviours among university students. It is based on Health Behaviour in School-Aged Children (HBSC, Currie et al., 2001) and National College Health Risk Behaviour Survey (CDC, 1997) and has 24 items, with Likert type answer, distributed in 6 categories of behaviours: tobacco consumption, alcohol and other drug use, sexual behaviour, unhealthy dietary behaviours, physical inactivity and safety.

In this study only the questions regarding alcohol consumption, specifically in terms of frequency and type of favourite beverages, were used. The frequency was measured by the number of days alcohol was consumed in the last month. Binge drinking was defined as the consumption of five or more drinks for men and four or more drinks for women in one single occasion and in a limited period of time, during the last month. Those who had four or more binge drinking during the last month were considered frequent binge drinkers. Mental health perception was assessed by the question 'How do find your mental health at the present moment?'. The answer was presented in a five point Likert scale, from 'very bad' to 'very good'.

Procedure

Data for this study were collected as part of a wider investigation about risk behaviours and mental health of university students. Instruments were applied in classroom, after getting professors' approval. The aims of the study were explained to

the students and those interested participated voluntarily, giving their informed consent verbally. Anonymity and confidentiality were naturally guaranteed. Statistical analyses were executed with SPSS (Statistical Package for Social Sciences) software version 17.0.

Results

Alcohol consumption

Considering the last 30 days, 17.3% of students affirm that they hadn't consumed any alcohol during this period of time. The percentage of nondrinkers was higher in women (23.5%) than in men (9.3%). In the opposite side, 11% of students say that they drank at least four or more times a week, during last month. In this case, the percentage was higher in men (18.7%) than in women (5.1%) (Table 1).

Table 1 about here

Although the majority of students admitted they drank at least one drink in the last month, 56.9% didn't have any binge drinking episode. More specifically, 73.5% of women and 35.5% of men are in this category. On the opposite side, 10.3% are frequent binge drinkers, that is, had four or more binge drinking episodes in the last month (Table 2).

Table 2 about here

Favourite Beverages

In global terms, the preferred beverage among students was beer (54.2%), followed by vodka, whisky and liqueurs (30.3%), wine (7.7%) and shots (7.7%). When we analyse both genders separately, we see that men clearly prefer beer (71%) rather other drinks (vodka, whisky and liqueurs – 21.7%, wine – 4.3% and shots – 2.9%). In the case of women, the distribution is more balanced. First comes beer and spirit drinks (both with 38.9%), followed by shots (12.3%) and wine (11.0%). x^2 test (3) =16.28; p=0.001; N=142, shows that the preferred type of beverage depends on gender.

When we asked subjects to measure their mental health, we verify that 28.4% situate themselves at a suboptimal level, considering their health as either bad or fair. Above that level, 47.4% of subjects assess their mental health as good and 24.3% as very good.

To assess the correlation between alcohol consumption and mental health perception, we used Spearmen coefficient. A positive, yet very weak correlation between mental health perception and the number of days of alcohol consumption was found (r=0.161; p<0.05), as well as between mental health perception and the number of days five or more drinks were consumed (r=0.154; p<0.05).

Discussion

Higher education students seem to present a high level of alcohol consumption. Specifically, we verified in this study that 43.1% of subjects had at least one binge drinking episode in the last month. These results are higher than those found by Balsa and colleagues (2008) in a wider study with young Portuguese people between 15 and 24 years old, where 48.3% of them had consumed four to six drinks in a single occasion at least a month during last year. These data support the idea that higher education students are, in fact, a risk population. We can't, however, forget that the consumption begins very often at younger ages and that the prevalences of heavy drinking in young people have risen. The last ESPAD-European School Survey on Alcohol and Other Drugs study, from 2007, showed that binge drinking episodes in people with 16 years old have risen from 25% in 2003 to 56% in 2007 in Portugal (Hibell et al., 2007). Therefore, the battle against alcohol must start at younger ages. Taking this aspect into consideration, the Portuguese National Plan for the Reduction of Alcohol Related Problems (IDT, 2009) points out that children and young people must be priority groups when it comes to intervention.

The drinking patterns of higher education students seem to vary accordingly to gender the same way as in general population (Harrel & Karim, 2008; O'Malley & Johnston, 2002). In other words, male young adults report higher levels of alcohol consumption than female and that fact is particularly visible in higher education

students (Engs & Hansen, 1990). Altogether, our study corroborated previous research showing that male students seem to drink more, more often and more drinks at a time than female students (Clements, 1999; Steenbarger, 1998).

In what concerns to preferred beverage, beer occupies undoubtedly the first place (54.2%), followed by spirit drinks (30.3%) and at last wine and shots (both with 7.7%). Similar results were found with a Portuguese sample in ESPAD, where beer was also the favourite drink, representing 40% of the alcoholic beverages consumed in the last day of alcohol consumption, followed by 30% of spirit drinks and 13% of wine (Hibell et al., 2007). In both studies beer was the dominant beverage in men, while women presented a more balanced pattern, where spirit drinks also occupied an important position.

The association between alcohol consumption and mental health perception seems to be very weak in students. A possible explanation for this data lies on the motives why people drink. Young adults seem to drink more for positive or celebratory motives than to deal with negative emotions (Read et al., 2003). Investigations carried out with university students corroborate this hypothesis, showing that most students drink for celebratory or social motives and only a minority for coping motives (Barroso, 2004, Kuntsche et al., 2005). Dawson and colleagues (2005) add that university students rarely report anxiety, mood or personality disorders associated with alcohol consumption in comparison to the rest of population, except in those students who are classified with alcohol dependency. These investigators suggest that, because heavy drinking occasions are such a regular part of the university environment, binge drinking is less selective of persons with comorbid disorders in students than in other groups in society.

Before discussing some implications for investigation and practice, we must refer some limitations of the present study. First of all, the sampling process was not random, but of convenience. Second, the data collection took place at a single university, which may jeopardize the generalization of the results to other higher education institutions. Furthermore, we used single questions regarding alcohol and not a screening alcohol test, such as AUDIT-Alcohol Use Disorders Identification Test (Barbor et al., 2001) with cut-off points and that allowed us to assess alcohol dependency. Finally, since this study is transversal, it is not possible to infer a cause and effect relationship between alcohol and mental health.

It would be important to develop a longitudinal study, even because it would allow us to observe the evolution of drinking patterns across time and to verify if that evolution corresponds to what is described in literature, that is, the prevalence, amount and frequency of alcohol consumption typically increase with the transition from high school to higher education and reduce in the transition for work (Schulenberg & Maggs, 2002). It would also be interesting to investigate the motives underlying drinking in students to enhance our understanding of the relations between alcohol and mental health perception. Moreover, in this study we don't mention drinking patterns during academic festivities, but it is our intention to compare drinking patterns during those festivities and during the rest of the year, soon.

Alcohol consumption during higher education attendance seems like a normative activity for many students. Although it is a transitory behaviour for some, it will become problematic and even tragic for others. If we get to know and understand drinking patterns, we have a solider ground to raise an effective positive change. The development of *quasi-experimental* studies regarding the implementation of intervention programs for this problematic behaviour will certainly benefit from the data here gathered.

References

Anderson, P., & Baumberg, B. (2006). *Alcohol in Europe: A Public Health Perpective: A report for the European Commission*. UK: Institute of Alcohol Studies.

Arnett, J. J. (2005). The developmental context of substance use in emerging adulthood. *Journal of Drug Issues*, 35, 235-253.

Babor, T.F., Biddle-Higgins, J.C., Saunders, J.B. & Monteiro, M.G. (2001). AUDIT: *The Alcohol Use Disorders Identification Test: Guidelines for Use in Primary Health Care*. Geneva, Switzerland: World Health Organization.

Balsa, C., Vital, C., Urbano, C. & Pascueiro, L. (2008). *Inquérito Nacional ao Consumo de Substâncias Psicoactivas na População Geral: Portugal 2007*. Lisboa: CEOS/FCSH/UNL.

Barroso, T. (2004). *Álcool e comportamentos de risco em jovens estudantes*. In Actas do 5º Congresso Nacional de Psicologia da Saúde. Lisboa: Fundação Calouste Gulbenkian.

Clements, R. (1999). Prevalence of alcohol-use disorders and alcohol-related problems in a college student sample. *Journal of American College Health*, 48, 111-118.

Colby, S. M., Colby, J., & Raymond, G. (2009). College versus the real world: Student perceptions and implications for understanding heavy drinking among college students, *Addictive Behaviors*, 34 (1), 17-27.

Cooper, M. L. (2002). Alcohol use and sexual risk behavior among college students and youth: evaluating the evidence. *Journal of Studies n Alcohol.* Supp 14, 101-117.

Cranford, J., Eisenberg, D., & Serras, A. (2009). Substance use behaviors, mental health problems, and use of mental health services in a probability sample of college students. *Addictive Behaviors*, 34 (2), 134-145.

Currie, C., Samdal, O., Boyce, W. & Smith. R. (2001). *HBSC, a WHO cross national study: research protocol for the 2001/2002 survey*. Copenhagen: WHO.

Dworkin, J. (2005). Risk taking as developmentally appropriate experimentation for college students. *Journal of Adolescent Research*, 20 (2), 219-241.

Engs, R. C., & Hanson, D. J. (1990). Gender differences in drinking patterns and problems among college students: A review of the literature. *Journal of Alcohol and Drug Education,* 35(2):36-4.

Grant, B., & Dawson, D. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence. Results from the National Longitudinal Epidemiologic Survey. *Journal of Substance Abuse,* 9,103-110.

Harrel, Z., & Karim, N. (2008). Is gender relevant only for problem alcohol behaviors? An examination of correlates of alcohol use among college students. *Addictive Behaviors*, 33, 359-365.

Hibell, B., Guttormsson, U., Ahlström, S., Balakireva, O., Biarnason, T., Kokkevi, A., & Kraus, L. (2007). *The 2007 ESPAD Report: Substance Use among Students in 35 European Countries.* Stockholm: CAN/Pompidou Group/Council of Europe.

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. *Annu. Rev. Public Health*, 26, 259-279.

Instituto da Droga e da Toxicodependência [IDT] (2009). *Plano Nacional para a Redução dos Problemas Ligados ao Álcool 2009-2012*. Retirado a 8 de Agosto de 2009 de http://www.portaldasaude.pt/NR/rdonlyres/DFF7BEF4-9F5F-4470-B058-8376F8644B16/0/PlanoNacionalPLA202009II.pdf

Jané-Llopis, E., & Matytsina, I. (2006). Mental health and alcohol, drugs and tobacco: a review of the comorbidity between mental health disorders and the use of alcohol, tobacco and illicit drugs. *Drug and Alcohol Review*, 25, 515-536.

Kuntsche, E., Knibbe, R., Gmel, G., & Engels, R. (2005). Why do young people drink? A review of drinking motives. *Clinical Psychology Review*, 25, 841-861.

Lown, E., Greenfield, T., & Rogers, J. (2007). Health effects from drinking: type, severity and associated drinking patterns based on qualitative questions in a methodological survey. *Substance Use and Misuse*, 42, 793-810.

Madelin, R. (2008). *Alcohol and Health: the EU Strategy*: European Alcohol an Health Forum. Brussels: EU.

O'Malley, P., & Johnston, L. (2002). Epidemiology of alcohol and other drug use among American college students. *Journal of Studies on Alcohol* (Supp. 14), 23-39.

Perkins, H. (2002). Surveying the damage: a review of research on consequences of alcohol misuse in college populations. *Drug and Alcohol Dependence*, 14, 91-100.

Read, J. P., Wood, M. D., Kahler, C., Maddock, J., & Palfai, T. (2003). Examining the role of drinking motives in college student alcohol use and problems. *Psychology of Addictive Behavior*, 17, 13-23.

Santos, L., Pereira, A., & Veiga, F. (2007, Maio). *Saúde Mental e Comportamentos de Risco no Ensino Superior*. Comunicação apresentada nas 1ª Jornadas de Psicologia Clínica: Investigação em Diferentes Contextos. Vila Real, Portugal.

Schulenberg, J., & Maggs, J. (2002). A developmental perspective on alcohol use and heavy drinking during adolescence and the transition to young adulthood. J. *Stud Alcohol Supp.* 14, 54-70.

Slutske, W. (2005). Alcohol use disorders among U.S. college students and their non-college attending peers. *Arch Gen. Psychiatry*, 62 (3), 321-327.

Sommers, A., & Sommers, I. (2006). The co-ocurrence of substance use and high-risk behaviors. *Journal of Adolescence Health*, 38, 609-611.

Steenbarger, B. N. (1998). Alcohol use and college counselling: an overview of research and practice. *Journal of College Counseling*, 1, 81-92.

Steptoe, A., Wardle, J., Bages, N., Sallies, J., Sanabria-Ferrand, P., & Sanchez, M. (2004). Drinking and driving in university students: an international study of 23 countries. *Psychology and Health*, 19 (4), 527-540.

Sumnall, H., Beynon, C., Conchie, S., Riley, S., & Cole, J. (2007). An investigation of the subjective experiences of sex after alcohol or drug intoxication. *J. Psychopharmacol.* 21 (5), 525-537.

White, H., & Jackson, K. (2004). Social and psychological influences on emerging adult drinking behaviour. *Alcohol Research & Health*, 28 (4), 182-189.

Luísa Santos is a PhD student at the University of Aveiro, with a Fundação para a Ciência e a Tecnologia grant (SFRH/BD/30085/2006). **Address:** Departamento de Ciências da Educação. Universidade de Aveiro. Campus Universitário de Santiago. 3810-193 Aveiro, Portugal. Email: luisa.santos@ua.pt

Feliciano H. Veiga, PhD, is a Professor of Educational Psychology at the University of Lisbon. His research interests include educational psychology, self-concept, violence in schools and children's rights. **Address:** Department of Education and Center for Research in Education, University of Lisbon, Faculty of Sciences, R. Ernesto Vasconcelos, Edif. C6-2º, 1749-016, Lisbon, Portugal.
Email: fhveiga@fc.ul.pt

Anabela Pereira: PhD, is a Professor of Educational Psychology and Health Education at the University of Aveiro. Her research interests are: stress and coping in academic life, promotion of students' mental health; counselling in higher education.
Address: Departamento de Ciências da Educação. Universidade de Aveiro. Campus Universitário de Santiago. 3810-193 Aveiro, Portugal. Email: anabelapereira@ua.pt

Table 1 – Frequency of alcohol consumption during the last month

Nr of days of alcohol use	Percentage (%)		
	Men (N=76)	Women (N=98)	Overall (N=174)
0 days (nondrinkers)	9.3	23.5	17.3
1 day	12	27.6	20.8
2 to 4 days	33.3	36.7	35.3
5 to 12 days	26.7	7.1	15.6
13 or more days	18.7	5.1	11.0
Total	100	100	100

Table 2 – Binge Drinking

Category	Percentage (%)		
	Men (N=76)	Women (N=98)	Overall (N=174)
Nondrinkers + nonbinge drinkers	35.5	73.5	56.9
Occasional binge drinkers	50	19.4	32.8
Frequent binge drinkers	14.5	7.1	10.3
Total	100	100	100