# Alcohol abuse and truancy among Spanish adolescents: A count-data approach

R. Duarte*, J.J. Escario

*Department of Economic Analysis, University of Zaragoza, C/ Gran Vía 2, 50005 Zaragoza, Spain*

## Abstract

Alcohol abuse and truancy are two widespread problems among the adolescent Spanish population. Given the negative consequences of both behaviours for human capital acquiring and their origin in adolescence, our study lies in analysing the relationship between these risk behaviours. From a methodological point of view, our contribution consists of considering unobserved factors that influence both alcohol abuse and truancy, that is to say, to test if there are individual or social factors that orient the adolescent to take both decisions. Given the nature of the data, we consider this relation by using a bivariate negative binomial model, which is estimated for a representative sample of the school population in Spain in 1996, 1998 and 2000. The results confirm the existence of these unobserved factors underlying the decisions to drink alcohol in excess and to play truant. The results also reveal the importance of the family environment in the truant-behaviour of the adolescent, as well as the usefulness of being a member of a social association and information campaigns about drugs in the reduction of alcohol abuse among adolescents.

## 1. Introduction

A recent study published by the OECD (2003) pointed out that Spain is one of the OECD countries with a higher rate of truancy, more than 34% among adolescents at school. That is to say, 34 out of every 100 students have voluntarily skipped classes during the last academic year. Similarly, there is ample evidence that situates Spain among the first positions with respect to alcohol abuse among adolescents, this being accompanied by a progressive reduction in the starting age of

alcohol abuse. Furthermore, the most recent data provided by the Spanish Surveys on Drug Use in the School Population (SDUSP) for 2000 show that alcohol consumption and abuse is widespread among the adolescent population (in 2000, 20.4% of the adolescent population had drunk in excess and more than 70% admitted having drunk alcohol during the previous month). Spain is situated among the countries in the European Region with the highest level of per capita consumption of alcohol, being only surpassed by the Czech Republic, Finland, France, Germany, Lithuania, Luxembourg, Portugal and Slovenia (Rehn, Room, & Edwards, 2001; World Health Organization, 2001).

Apart from the personal consequences that both activities or decisions, that is to say, to skip classes and

*Corresponding author. Tel.: +34 976 762213;
fax: +34 976 761996.

*E-mail address:* rduarte@unizar.es (R. Duarte).

to drink alcohol in excess, have in present and in future behaviour, there is no doubt about the social cost associated with both behaviours.

The consequences of alcohol consumption are thoroughly studied in the literature. Murray and López (1997), as well as Jernigan (2001), pointed out that, world-wide 5% of all deaths of people between the ages of 5 and 29 in 1990 were attributable to alcohol use. English, Holman, and Milne (1995) estimated that 34% of all motor vehicle crash deaths, 47% of homicides, 41% of suicides and 44% of burns were attributable to alcohol use. More focused on adolescent behaviours, Hawkins, Catalano, and Miller (1992) concluded that drug and alcohol abuse undermines motivation, interferes with cognitive processes, contributes to mood disorders and increases the risk of accidental injury or death. Moreover, alcohol and other drugs are a major factor in acquiring AIDS, violent crimes, child abuse and neglect and unemployment (Hawkins et al., 1992). Other studies show that the probability of alcohol dependence is higher among people who started to drink alcohol in adolescence (Grant & Dawson, 1997). Similarly, young people who started to consume alcohol in adolescence are more likely to have incidents related to this consumption, such as traffic fatalities (Hingson, Heeren, Jamanka, & Howland, 2000). Other studies research into the social costs associated with these consumptions, which result in a loss of human capital and reductions in productivity (Rice, Kelman, Miller, & Dunmeyer, 1990).

With respect to truancy, as Baker, Sigman, and Nugent (2001) stated, truancy, or unexcused absence from school, has been linked to serious delinquent activity in youth and to significant negative behaviour in adults. Garry (1996) cited chronic absenteeism as the most powerful predictor of delinquent behaviour. In the same line, Bell, Rosen, and Dynlacht (1994) established skipping school as a risk factor for substance abuse, delinquency, teen pregnancy and dropping out of school and Baker et al. (2001), suggest that investigations have identified a link between truancy and later problems such as violence, marital problems, job problems or adult criminality.

Given the importance of both problems and their origins in adolescence, it seems logical that investigations try to establish a relationship between both problems, that is to say, try to link alcohol and drug consumption with a poor integration at school and, as a consequence, with a worse attendance in compulsory classes. With respect to this relationship, Register, Williams, and Grimes (2001) found that alcohol and drug consumption in adolescence reduced educational attainment by at least 1 year. Similarly, Roebuck, French, and Dennis (2004) pointed out that marijuana users are more likely to be school dropouts and, conditional on being enrolled in school, skip more school days than non-marijuana users. Other authors such as Yamada, Kendix, and Yamada (1996) also established alcohol and drug consumption as a powerful explanatory factor of failure at school and dropping out of school.

Against this background, and given the importance of the problem in Spain, our particular interest lies in analysing the relationship between alcohol abuse and school truancy among Spanish adolescent students. From a methodological point of view, our contribution consists of examining the existence of unobserved factors such as unexpected events that influence both risk behaviours (alcohol abuse and truancy). The consideration of these factors is very important, because, as Becker and Murphy (1988) stated, some stressful events raise the marginal utility of addictive goods and can cause addiction. While in the literature there is evidence in both directions, that is to say, considering truancy as an exogenous determinant of alcohol consumption and considering alcohol consumption as an underlying and explanatory factor in the personality of the adolescent-truant, to the best of our knowledge there are no studies, which incorporate these unobserved effects into the model.

The application of our analysis is also particularly relevant to the case of Spain where this is the first paper which focuses on the relationship between alcohol abuse and school truancy among adolescents, both being important topics for educators and educational policy-makers.

Given the nature of the relevant variables, which follow a count data process, we propose a bivariate negative binomial model which is estimated by maximum likelihood using the most recent information provided by the last three waves of the Spanish SDUSP for 1996, 1998 and 2000. The specification includes two equations which model alcohol abuse and truancy, respectively. In addition, we consider covariates for physical, environmental and peer group aspects of the adolescent.

The rest of the paper is organized as follows. Section 2 is devoted to presenting the theoretical model and to deriving the empirical specification. Section 3 presents the data and variables. The empirical results are included in Section 4. Finally, Section 5 closes the paper with a summary of the most relevant conclusions.

## 2. Model and methodology

Our starting point is to consider that people are used to their level of effort, in the sense that, the higher the level of leisure a person enjoys, the less interest in working he/she has. This implies that students who start to miss classes reduce the time they devote to school and get used to doing so, raising the marginal utility of