

Population impact of reducing alcohol positive expectations on risky consumption and heavy episodic drinking among young people

Impacto en la población de la reducción de expectativas positivas sobre consumo de riesgo e intensivo de alcohol en jóvenes

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Expectations regarding alcohol consumption are the implicit or explicit beliefs that a person has on the consequences of his/her own consumption. Despite referring to the consequences of self-consumption, Miller et al. remind us that a person's expectations regarding alcohol use are created even before the actual consumption has started (Miller, Smith & Goldman, 1990), probably generated from observation and deeply influenced by cultural norms. Having positive expectations regarding alcohol use has been related to higher levels of alcohol consumption, and the maintenance of them, while the opposite effect has been found for negative expectations (Carey, 1995; Linden, Lau-Barraco & Millettich, 2014).

Expectancies regarding alcohol use have also been related to the age of onset (Janssen, Treloar, Merrill & Jackson, 2018), variable of high interest, related itself to alcohol consumption during youth and even to negative consequences of this consumption.

We are conducting a cohort study of 12 years follow-up among university students (Compostela Cohort, Spain) since 2005 to identify predictors and prevalence of alcohol consumption among university students (N = 1,382). This study was approved by the Bioethics Committee of the

Universidade de Santiago de Compostela. The Compostela Cohort study has showed that some people start college not having consumed alcohol while others already practice Risky Consumption (RC) or Heavy Episodic Drinking (HED). Also, among the Compostela Cohort students, the expectations of alcohol consumption at 17-18 years of age enabled us to predict their consumption patterns and trends, even for the 9year follow-up. Taking into account these results, we aim to determine the impact of reducing alcohol positive expectations on RC and HED.

RC (dichotomous variable generated from AUDIT score) and HED (dichotomous variable generated from the third AUDIT question) (Varela, Carrera, Rial, Braña & Osorio, 2006) were measured, such as other factors associated with alcohol use (educational level and alcohol use of parents, age of onset of use and expectations about alcohol use, among others). Regarding expectations about alcohol use: students were required to rank 7 positive and 7 negative expectations about the effects of alcohol (Defensor del Menor de la Comunidad de Madrid, 2002). Taking the number of positive and negative expectations into account, a score ranging from 0 to 14 was generated (0 being the maximum of negative expectancies and 14 the maximum of positive expectancies). Scores were divided into tertiles.

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In order to determine the impact of reducing alcohol positive expectations on RC and HED, we carried out new analysis to calculate the population attributable fractions (PAF) for both variables. The population attributable fraction allows us to calculate the burden of expectations in the practice of RC and HED in university students, and therefore, what effect would reducing these expectations have on both drinking patterns. We used the formula proposed by Morgenstern and Bursic (1982), because it allows to perform calculations based on effects adjusted for other variables and therefore with less bias. Moreover, this formula goes beyond a classical calculation assuming that the risk factor will disappear from the population under study, allowing estimations of the reduction of these behaviors in scenarios in which the distribution of the risk factor under study and object of the intervention changes, with lower exposure in the population but without disappearing. Therefore, it provides calculations that are more applicable to reality. Further details regarding this method are reported by Caamano-Isorna, Adkins, Aliev, Moure-Rodríguez and Dick, 2020. We considered adjusted relative risks for alcohol positive expectations, prevalence rates of consumption, and proportion of drinkers of each level of expectations from Moure-Rodríguez et al. 2016.

The PAFs for the alcohol high-positive expectations in RC and HED were respectively 64.6% and 56.7% in fema-

les and 49.4% and 48.0% in males. Taken into account that it would be unrealistic to assume that all young people reduce completely their alcohol positive expectations, we also calculated the proportion of RC and HED that would be removed if adolescents reduced partially their alcohol expectations (Figure 1). As a result, we obtained representative figures of the effect that population interventions would have for a reduction of positive expectations among young people with different levels of effectiveness. These calculations are of great interest for decision-making in public health and their use is increasingly common as they allow us to translate theoretical approximations into reality.

It is known that youth change their expectations regarding alcohol use throughout adolescence, increasing the positive expectations as they grow older (Copeland, Proctor, Terlecki, Kulesza & Williamson, 2014). Our results suggest that with interventions focused on avoiding this increase in positive expectations and working on the maintenance of negative expectations from an early age, we could considerably reduce these risky behaviors among university students.

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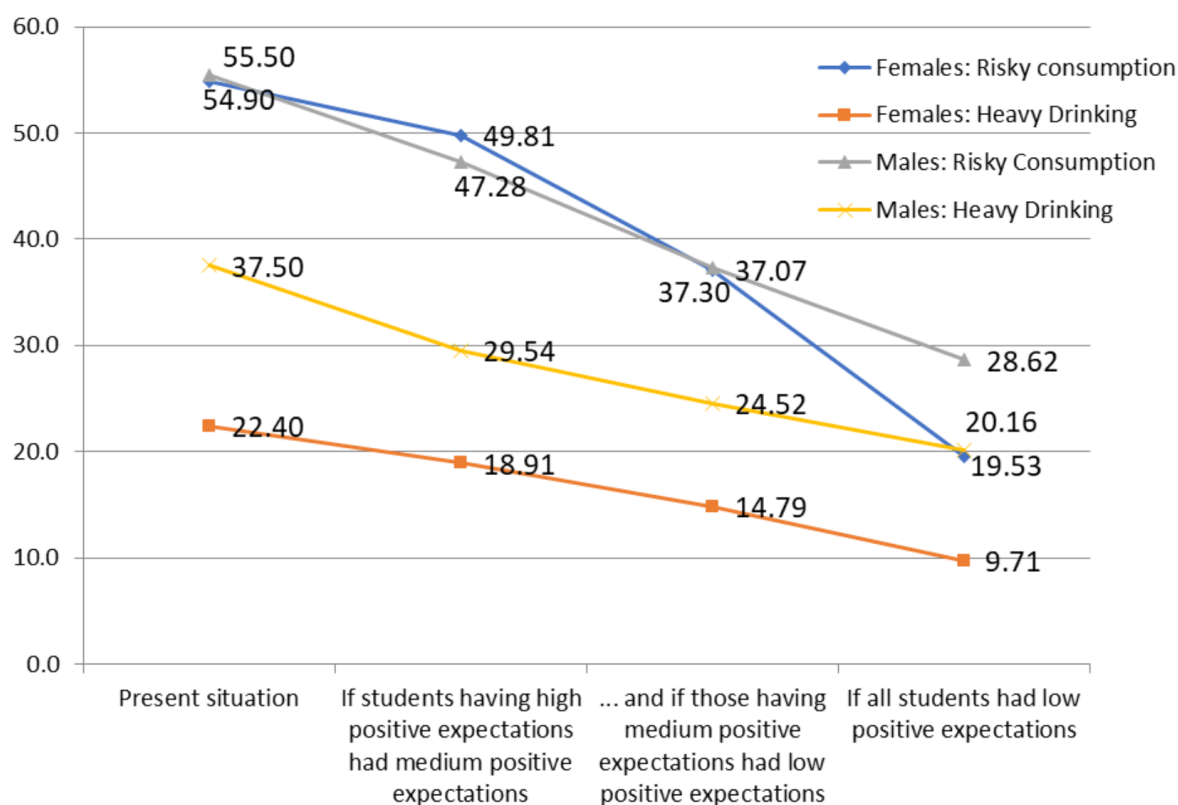


Figure 1. Estimated impact of reducing alcohol positive expectations on the prevalence (%) of Risky consumption and Heavy episodic drinking.

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Conflict of interests

Authors declare they have no conflicts of interest.

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