

EXPLORING REGRESSION TO THE MEAN IN AN AUSTRALIAN COHORT OF YOUNG HEAVY DRINKERS

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Introduction and Aims: Alcohol consumption studies typically report average consumption generated through graduated-frequency measures or equivalent that are prone to regression to the mean (RTM), a statistical artefact whereby observations of a group approximate to the mean of that group. Some studies have focused on peak consumption, calculated as the maximum number of drinks consumed in a recent heavy drinking occasion. In this study we examined whether these measures are also subject to RTM.

Design and Methods: Data were drawn from three waves (2012, 2013, 2015) of the Young Adults and Alcohol Study, a prospective cohort study of young Australian heavy drinkers ($n=186$). Weekly consumption was derived from a graduated quantity-frequency measure. Peak consumption was estimated from self-reporting of a single heavy drinking occasion in the previous twelve months. The average amounts (in Australian Standard Drinks; ASD) of each method in each wave were compared.

Results: We find an effect of RTM in weekly consumption for gender and consumption tercile. An increase in reported consumption was observed in the lower tercile (2012:5.0ASD, 2015:7.0ASD) compared to a decrease in the higher tercile (2012:31.1ASD, 2015:18.3ASD). There was little evidence of RTM in peak consumption, but an effect of age was detected. The youngest age group (18-21) displayed a general increase in consumption, whereas the older age group (22-25) remained relatively consistent.

Discussions and Conclusions: Our findings provide tentative evidence that peak consumption may be less susceptible to RTM than weekly consumption amongst heavy drinkers, suggesting its utility in measuring alcohol consumption trajectories.

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