

0.72, for girls 5.5 vs 7.7%, OR 0.72) scores compared with those born to abstainers. For boys the association for total difficulties remained statistically significant in fully adjusted models. Boys born to light drinkers had higher mean cognitive test scores compared to those born to abstainers: Naming Vocabulary (58 vs 55), Picture Similarities (56 vs 55), and Pattern Construction (52 vs 50) and the differences for Naming Vocabulary and Picture Similarities remained statistically significant in fully adjusted models. Girls born to light drinkers compared to those born to abstainers had higher mean scores on the Pattern Completion sub-scale (53 vs 52) but this difference was attenuated in fully adjusted models.

Conclusions: At age 5 years cohort members born to mothers who drank up to 1–2 drinks per week or per occasion during pregnancy were not at increased risk of clinically relevant behavioural difficulties or cognitive deficits compared with children of abstinent mothers.

035 LONGITUDINAL LATENT CLASS ANALYSIS OF ALCOHOL CONSUMPTION

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doi:10.1136/jech.2009.096719i

Objective: We aim to use longitudinal latent class analysis (LLCA) to explore patterns of alcohol consumption over time, while considering the impact of associated covariates.

Background and Data: Data were collected to investigate the social impact of drinking in students at a UK University, during the period 2006–2007. The number of units of alcohol consumed each day, over a period of seven days, is the outcome measure, giving differing patterns of consumption over time (trajectories) for each student. Non-drinkers ($n = 289$) were excluded, giving a total of 3183 students available for analysis.

Methods: Alcohol consumption may vary according to many other factors related to the student or their course, such as: gender, age, smoking status and year of study. We use LLCA to classify the study participants into latent classes, to investigate how these trajectories are associated with covariates of interest. Instead of undertaking analysis over all students, this method simplifies by looking at natural clusterings of trajectories of alcohol consumption over time and the emerging classes then contain types of students rather than all individuals. LLCA model fit was explored comparing log-likelihood statistics and misclassification rates.

Results: As the number of latent classes is increased, the model fit continues to improve. Selecting only a few classes provides a clear picture of behaviour whereas including many classes has the ability to express more diversity in the associated alcohol consumption trajectories. To provide a balance between simplicity and sufficient expression, the model with four latent classes was chosen. The model contained one class of heavy drinkers, with a high number of units consumed daily; two classes of moderate drinkers, with differing patterns of consumption; and one class of light drinkers, with a low number of units consumed at the weekend only. Class profiles differed by student characteristics (sex, age, smoking status, ethnicity, number of dependents, UK resident status) and by course characteristics (faculty, mature student status, year of study).

Conclusions: The longitudinal latent class structure was informative: the model suggests differing natural clusterings of trajectories of alcohol consumption over time and these trajectories may be associated with characteristics of the student and/or their course. By assessment of these characteristics, there may be an opportunity to identify those students who might consume excess alcohol, and so permit the targeting of a social intervention.

036 DO IMPRECISE MEASURES OF ALCOHOL INTAKE INFLUENCE DRINKING RECOMMENDATIONS RELATING TO ISCHAEMIC HEART DISEASE?

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doi:10.1136/jech.2009.096719j

Objective: To establish whether measurement error introduced by imprecise measurement of alcohol intake introduces may lead to incorrect guidance on safe levels of alcohol consumption.

Design and Setting: Using repeat alcohol intake from the United Kingdom Women's Cohort Study, a prospective, longitudinal cohort of UK women recruited in 1995.

Participants: 33 732 women reporting alcohol intake using both frequency and quantity of specific drinks flagged with the Office for National Statistics. Repeat questionnaires were available on 1918 women (5%).

Main Outcome Measures: Death from ischaemic heart disease, fitting a fractional polynomial logistic regression model to the expected nonlinear curve, adjusting just for age at baseline.

Results: The mean age of the women at baseline (in 1995) was 52 (SD = 9). Mean alcohol intake was 9 (SD = 11) g/day, i.e. a mean of approximately one unit of alcohol per day, or seven units per week. The intraclass correlation between repeat measures of alcohol intake was 0.79 (95% CI 0.77 to 0.80). 133 women died from ischaemic heart disease. Without correction for measurement error, the estimated range of protective effect of alcohol consumption (compared to non-consumers) was from 0 to 89 g/day (11 units/day), statistically significant ($p < 0.05$) up to 46 g/day (6 units/day), and with the lowest point of the curve at 13 g/day (1.6 units/day). With correction for measurement error, the estimated range of protective effect of alcohol consumption (compared to non-consumers) was lower than without adjustment for measurement error, from 0 to 55 g/day (7 units/day), statistically significant up to 37 g/day (5 units/day), and with the lowest point of the curve at 8 g/day (1 unit/day).

Conclusions: Adjusting for measurement error led to protective effects at substantially lower intakes than ignoring measurement error. Current guidelines recommend limiting alcohol intake for women to less than 16 to 24 g/day, stating that 1 to 2 units/day can help protect against coronary heart disease, but these ignore measurement error. Correction for imprecise measures of long term alcohol intake may lead to substantially reduced recommended limits.

Adolescents

037 SOCIAL HIERARCHIES IN YOUTH: SCHOOL-BASED PEER HIERARCHIES ARE MORE IMPORTANT THAN FAMILY SOCIOECONOMIC STATUS FOR STRESS (CORTISOL)

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doi:10.1136/jech.2009.096719k

Background: Psychosocial explanations for socioeconomic status (SES) differences in health draw on non-human primate research to demonstrate how position in the social hierarchy is related to stress, as measured by cortisol. In stable social systems, stress is elevated in subordinate positions; in less stable systems, higher positions may also be stressful. In addition to their SES position, young people are involved in multiple school-based social hierarchies, each of which may have different implications for stress.

Objective: To examine the relationship between morning cortisol and social position in school-based peer hierarchies compared with that of family SES in youth.