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 subscale (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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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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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 with 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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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.

Design: Cross-sectional survey of 2995 15-year-olds via questionnaire and interview, timed to collect two saliva samples for morning cortisol.
Setting: The west of Scotland (Glasgow area).
Measures: Family SES (represented by parental social class, material deprivation and family affluence); school hierarchies (derived from subjective placement on 7 ''ladders'' and factored into three dimensions, termed scholastic, peer and sports status); cortisol (logged to correct for skewness); biological confounds (time of awakening, time of cortisol measurement, day of the week).
Analysis: OLS linear regression (univariate and multivariate) within a multi-level (school) context, all models adjusted for biological confounds.
Results: Little or no variation in cortisol was observed for any SES measure. By contrast, each school hierarchy was independently associated with cortisol in different ways. For the scholastic hierarchy, an inverse linear relationship was found in both genders ($p<0.01$), cortisol increasing with lower position. For peer hierarchy, an opposite linear relationship was observed for males ($p<0.001$), cortisol increasing with higher position, while for females elevated cortisol was associated only with ''top'' position. For sports, elevated cortisol was only associated with ''bottom'' position among males, with all bar the ''top'' among females. Further adjustment for smoking did not alter these results.
Conclusions: These findings are interpretable against predictions about the stress correlates of hierarchical position in more and less stable social systems, the former represented by the scholastic hierarchy involving negative effects on those in lower positions, the latter by peer hierarchy having negative effects higher up. The particularly stressful ''top'' position for females is consistent with evidence from other studies. Overall, the results highlight the much greater importance of school-based peer groups for young peoples' stress than family SES, the latter adding to the evidence-base that youth is characterised by much less SES variation in health than any other stage in the life-course.

038 INEQUALITIES IN THE HEALTH AND WELL-BEING OF 15-YEAR-OLD BOYS AND GIRLS IN SCOTLAND AND THE MEDIATING EFFECT OF THE FAMILY MEAL

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Background: Previous research has shown the importance of the family in young people's health. In particular, family structure has been associated with a range of health outcomes with those living in both-parent families generally faring best.
Objective: The aim of this study is to describe health and health behaviour in different family structures and to assess the mediating role of the family meal on this association.
Methods: Data from the 2006 Health Behaviour in School-Aged Children survey were modelled using Multilevel Binomial modelling for boys and girls, with 14 self-report health and health behaviour outcomes, adjusting for age, family structure and family meals.
Results: Family structure was associated with boys' smoking, drinking, cannabis use, tooth brushing, life satisfaction, self-reported health, sexual intercourse and fruit consumption. Family structure was associated with girls' smoking, drinking, cannabis use, fighting, life satisfaction, happiness, self-reported health, multiple health complains (MHC), sexual intercourse and fruit and vegetable consumption. Physical activity and bullying did not differ by family structure. For the majority of outcomes, boys living in step families and girls from single parent families fared the worst. Around two thirds of young people ate a meal with their family at least 4 days per week and this was associated with positive health and health behaviour for the majority of outcomes. For example, among girls who ate 4 or more times a week with their families, the odds of smoking cannabis were 0.20 (95% CI 0.12 to 0.33) those who ate with their family less often, while the odds of happiness were 1.72 (1.34 to 2.22). Similarly, among boys the odds of smoking tobacco were 0.59 (0.43 to 0.82) and tooth brushing 1.55 (1.21 to 2.00). Among girls, after adjusting for family meals, the association between family structure and vegetable consumption became insignificant, while the association with drinking, fighting, cannabis use, happiness and MHC was attenuated. Among boys, family meals mediated the relationship between family structure and smoking, drinking and cannabis use, and contributed to the association with sexual intercourse and fruit consumption.
Conclusions: Differences in family composition in contemporary society appear to have important implications for health outcomes of adolescents, and living with both parents is generally associated with the most favourable outcomes. While family transitions may be unavoidable, having a family meal 4 or more times a week mediates, in some cases entirely, the potential negative effects of living in single parent and step families.

039 COMPARISON OF TEENAGERS' EARLY SAME SEX AND HETEROSEXUAL BEHAVIOUR IN THE UK: DATA FROM THE SHARE AND RIPPLE STUDIES

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Objectives: To compare the sexual experiences of UK teenagers who have same-sex partners with those who have exclusively opposite-sex partners, in terms of context, quality and risk involved. Pupils' background and attitudes were explored to suggest reasons for differences.
Studies: Self-complete, anonymised questionnaires were administered at ages 13/14 and 15/16 years to pupils in two school-based RCTs of sex education programmes in Scotland (SHARE) England (RIPPLE), giving a combined eligible sample of 10 250 for this study.
Main Measures: ''First sex'' (FS) reported at age 15/16 was defined for a same-sex partner as any genital contact, and for an opposite-sex partner as vaginal intercourse. Teenagers were classified according to gender of sexual partner(s) as reporting exclusively heterosexual, exclusively homosexual, or bisexual behaviour. Additional information was collected on circumstances of, and feelings after, first hetero- and homosexual sex; and on heterosexual risk behaviours (age at FS, condom use, number of partners and pregnancy).
Methods: Regression models of quality of FS and of sexual risk on sexual group adjusted for age, arm of trial and gender, and took account of clustering by school.
Results: Four in ten teenagers (39%, N = 3565) reported heterosexual intercourse and no same-sex genital contact. Same-sex FS was reported by 2.5% (N = 201) teenagers. Bisexual (BS) behaviour was reported by most (72%) of teenagers in the homosexual behaviour group. Girls were more likely than boys to report heterosexual intercourse (43% vs. 35%), but were no different in reporting same-sex genital contact. First same-sex genital contact was more likely than first heterosexual intercourse to be at a younger age, unplanned, involve alcohol or drugs and no prior romantic relationship with partner. These contextual factors helped to account for lower autonomy reported for first same-sex genital contact, compared to first heterosexual intercourse. Boys and teenagers with exclusively same-sex partners were more likely than girls and teenagers with opposite-sex partners to report worse feelings after sex. Heterosexual risk was greater among teenagers who had partners of both sexes than among teenagers with exclusively opposite-sex partners. To some extent, this difference was mediated by attitudinal factors including poorer condom attitudes, as well the context of sexual behaviour.