OP52 SOCIO-ECONOMIC POSITION OVER THE LIFE COURSE AND ALL-CAUSE, CIRCULATORY DISEASES, AND NEOPLASMS MORTALITY IN ADULTHOOD AND OLD AGE: RESULTS FROM A SWEDISH BIRTH COHORT

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Objective To compare alternative lifecourse models in predicting the effects of child and adult socio-economic position (SEP) upon adult mortality.
Design Life-long follow-up of a representative, population-based birth cohort (Uppsala Birth Cohort Study), with linkage to routinely collected data. Participants still alive in 1980 were followed up for mortality from 1980 to 2002.
Setting Sweden.
Participants 5138 males and 5069 females born 1915–1929 and still alive in 1980.
Exposures SEP at birth; in adulthood (age 31–45); and in later life (age 51–65).
Outcome measures Mortality (all-cause, circulatory disease, and neoplasms) at age 51–87 years.
Analysis We compared four lifecourse models for the effect of SEP upon mortality: accumulation models (same effect at all time periods), critical period models (specific effect at one period), accumulation models with sensitive periods (varying effects from period to period) and social mobility models (interacting effects). We evaluated these models by comparing the goodness of fit of alternative Cox proportional hazards regression models. We used likelihood ratio tests to compare each model to the fully saturated model, and used the Akaike Information Criterion (AIC) to compare goodness of fit across non-nested models.
Results For all-cause mortality, accumulation models with sensitive periods showed the best fit in both sexes, with the strongest effects seen for SEP in later life (HR for advantaged SEP in males: 0.89 at birth, 0.90 in adulthood 0.74 in later life, p=0.63 compared to saturated model; in females: HR 0.87, 0.95, 0.73 and p=0.49 respectively). For circulatory diseases, accumulation models with sensitive periods again showed good fit (HR in males: 0.77, 0.84, 0.80, p=0.51; in females: 0.98, 0.87, 0.64; p=0.31). In males (but not females) the accumulation model also showed good fit (HR 0.81 per additional time

period of high SEP, p=0.69) and the AIC was lowest for this more parsimonious model. For neoplasms no model showed evidence of inferiority to the saturated model, suggesting inadequate power. The critical period models were generally not supported and adding interaction terms between time periods to capture social mobility did not improve model fit (judged by AIC) for any outcome.

Conclusions With adequate power, statistical models can evaluate competing theoretical models for how SEP affects health across the lifecourse. In this population, accumulation models with later-life sensitive period were best supported for effects of SEP on all-cause and circulatory disease mortality while critical period and social mobility models were not supported.