

School performance as a determinant of health in a life course perspective

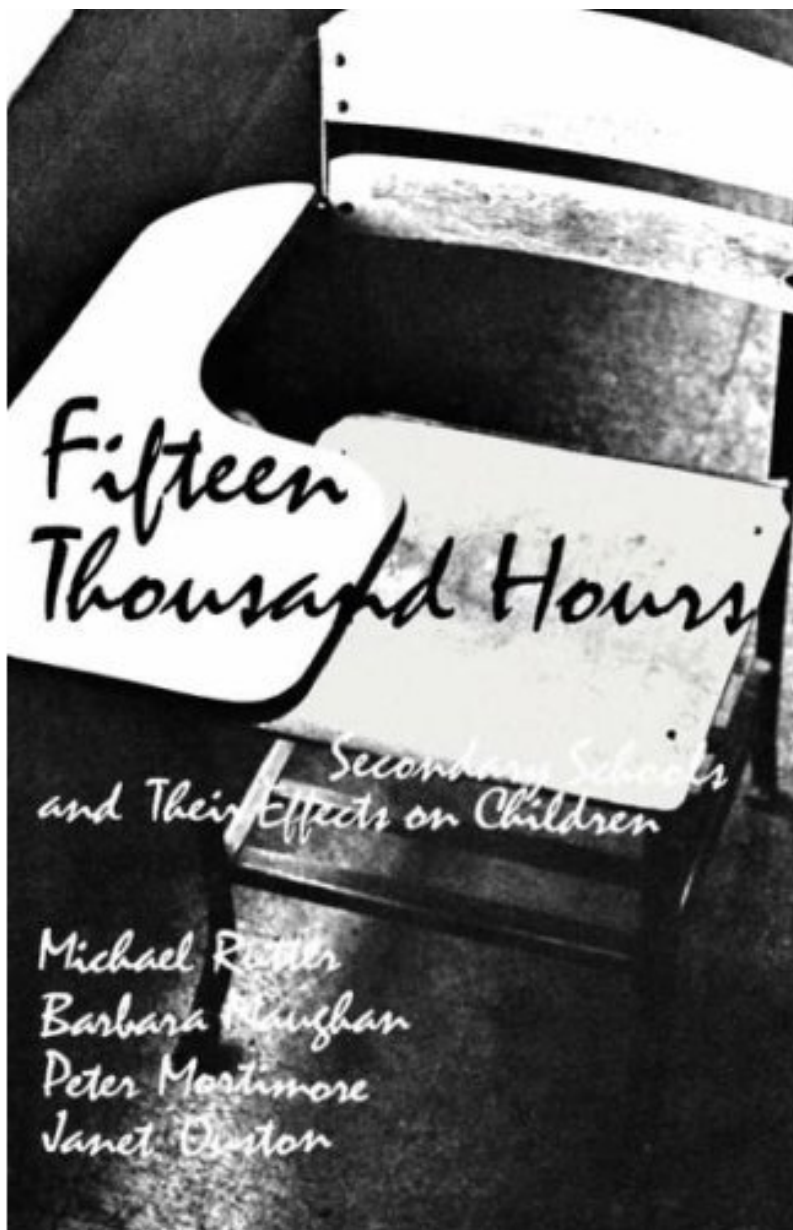
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Fifteen Thousand Hours

*Secondary Schools
and Their Effects on Children*

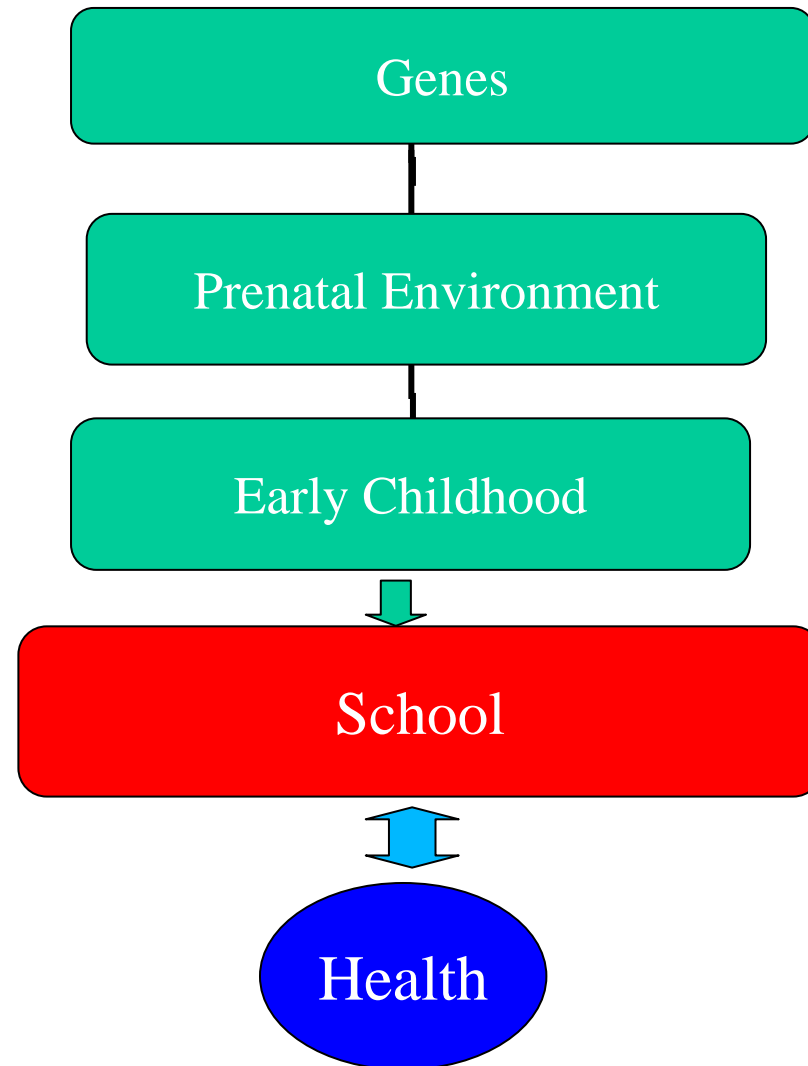
*Michael Rutter
Barbara Maughan
Peter Mortimore
Janet Ouston*

Rutter:

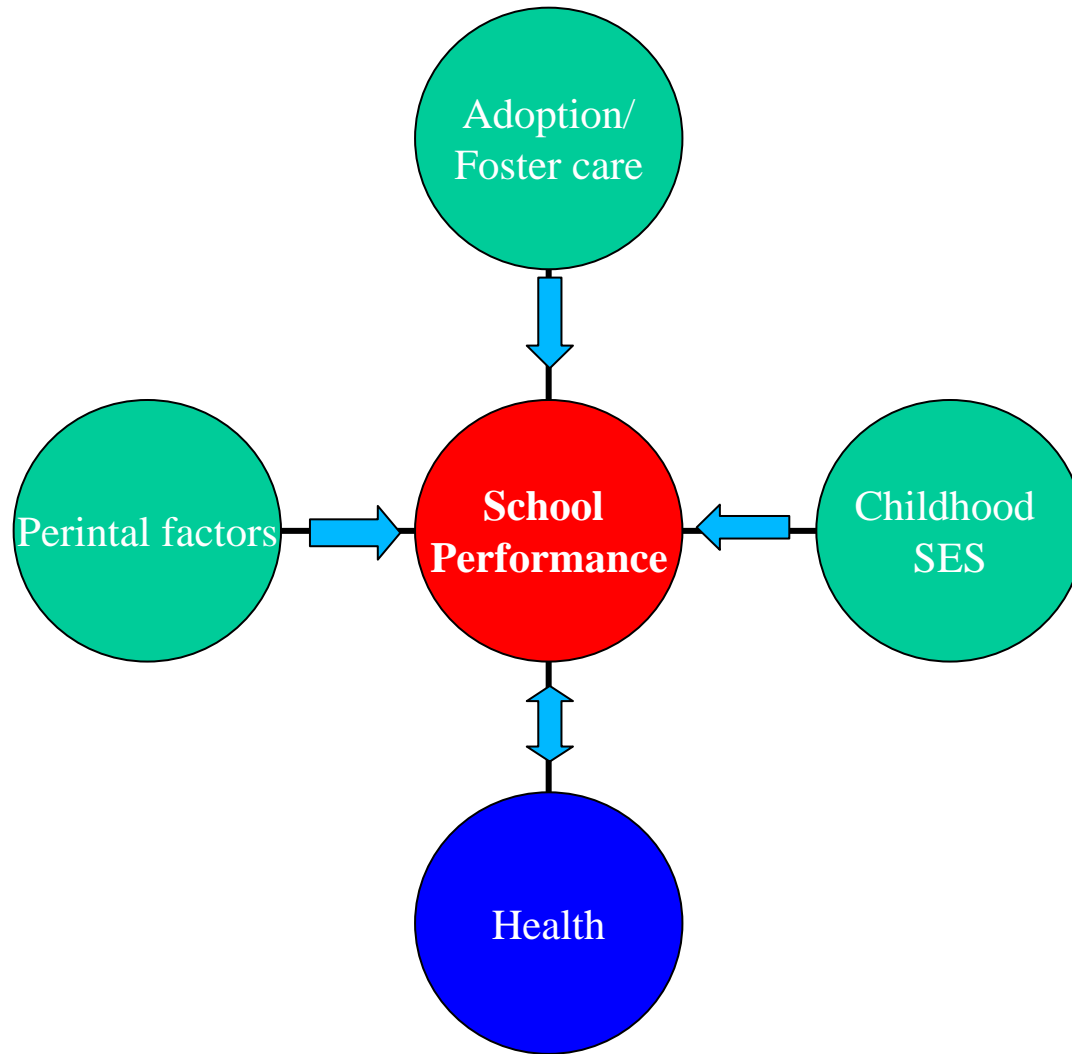
- The school unit has an effect on mental health that cannot be explained by individual risk factors alone
- School performance is closely linked to this quality of the school; schools where children perform well are also schools where children tend to have a favourable mental health situation



A life course perspective on school performance



Risk/ protective factors for School performance

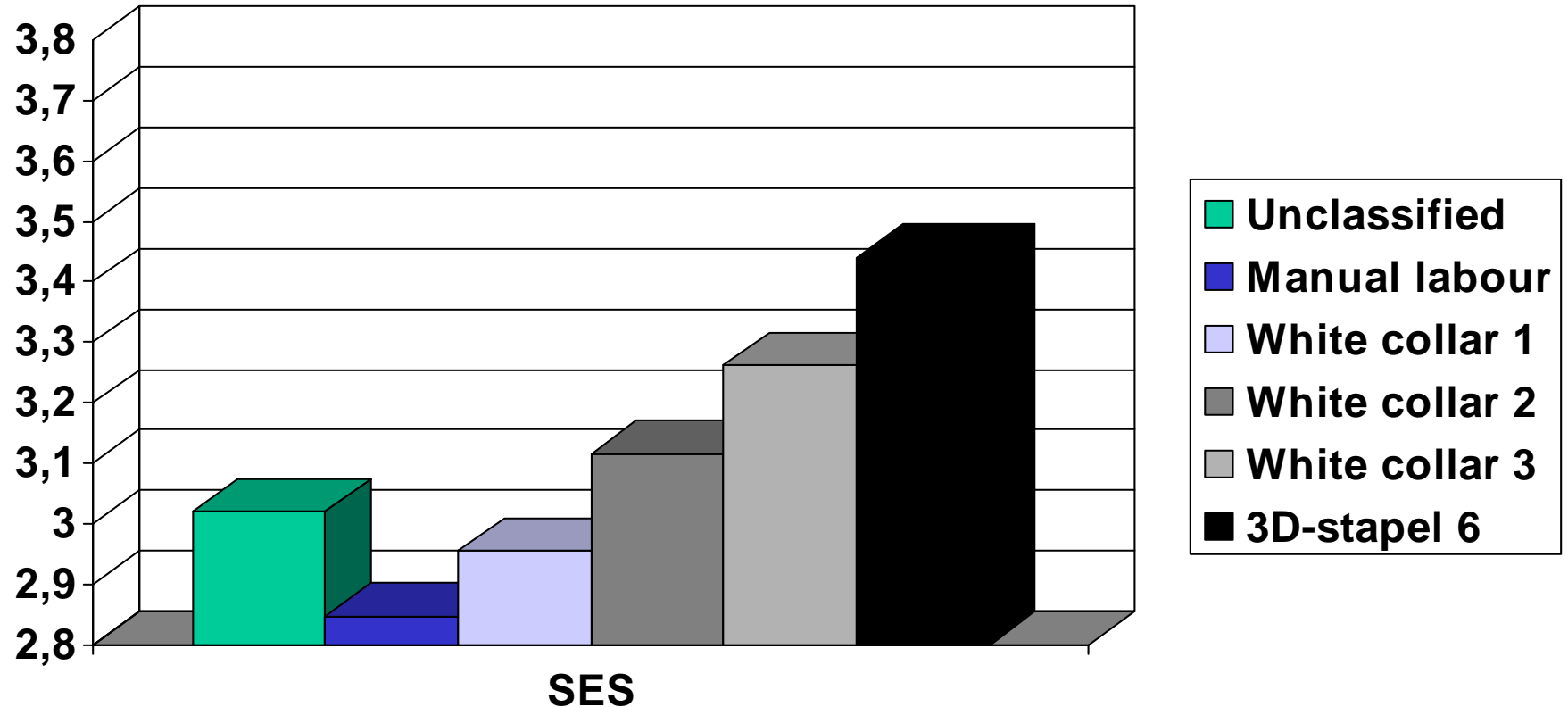


The Swedish school system

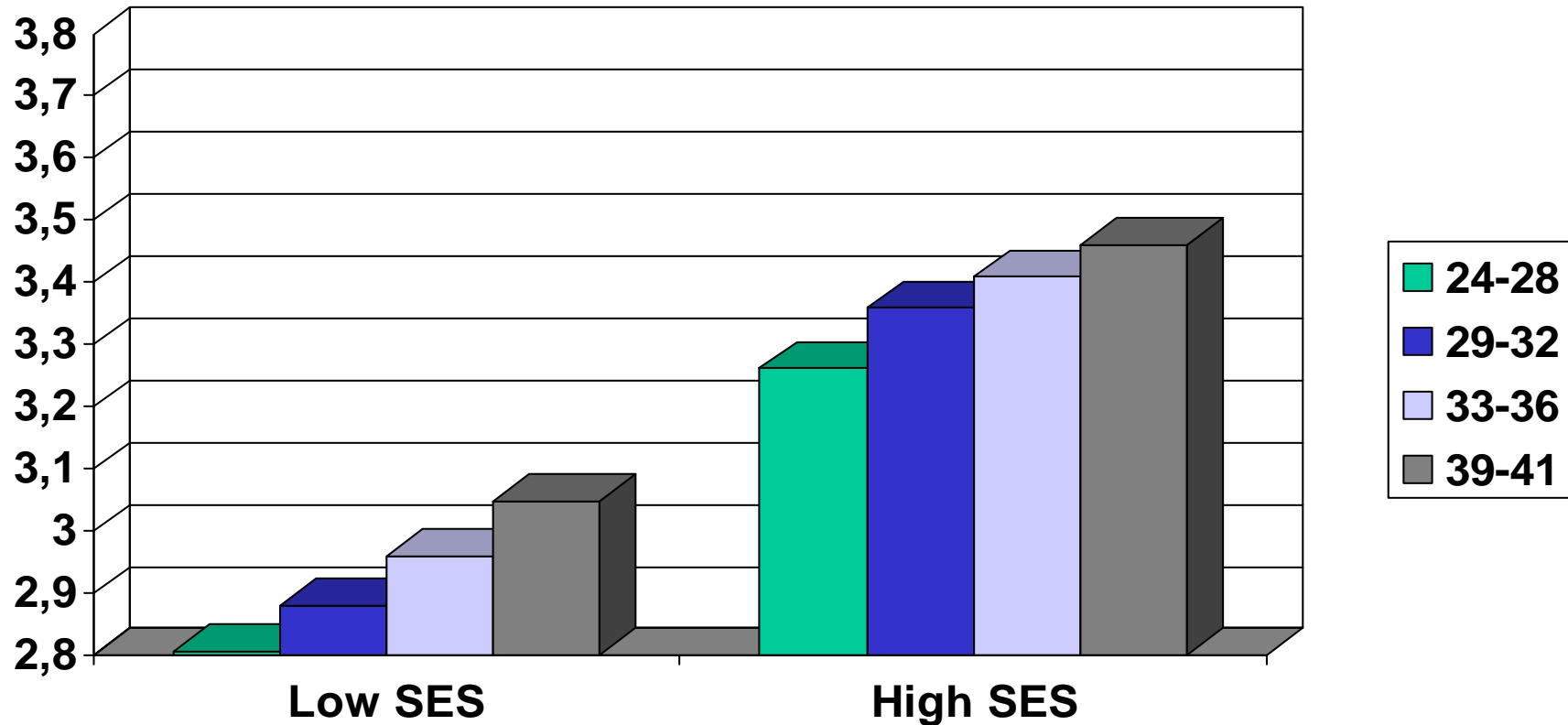
- Pre-school
- Unified primary school (9-10 years)
- Secondary school with diverse content, entry by mean grade point average
- University
- Window of opportunity: Graduating classes from primary school 1986-1994, 5-point grade scale



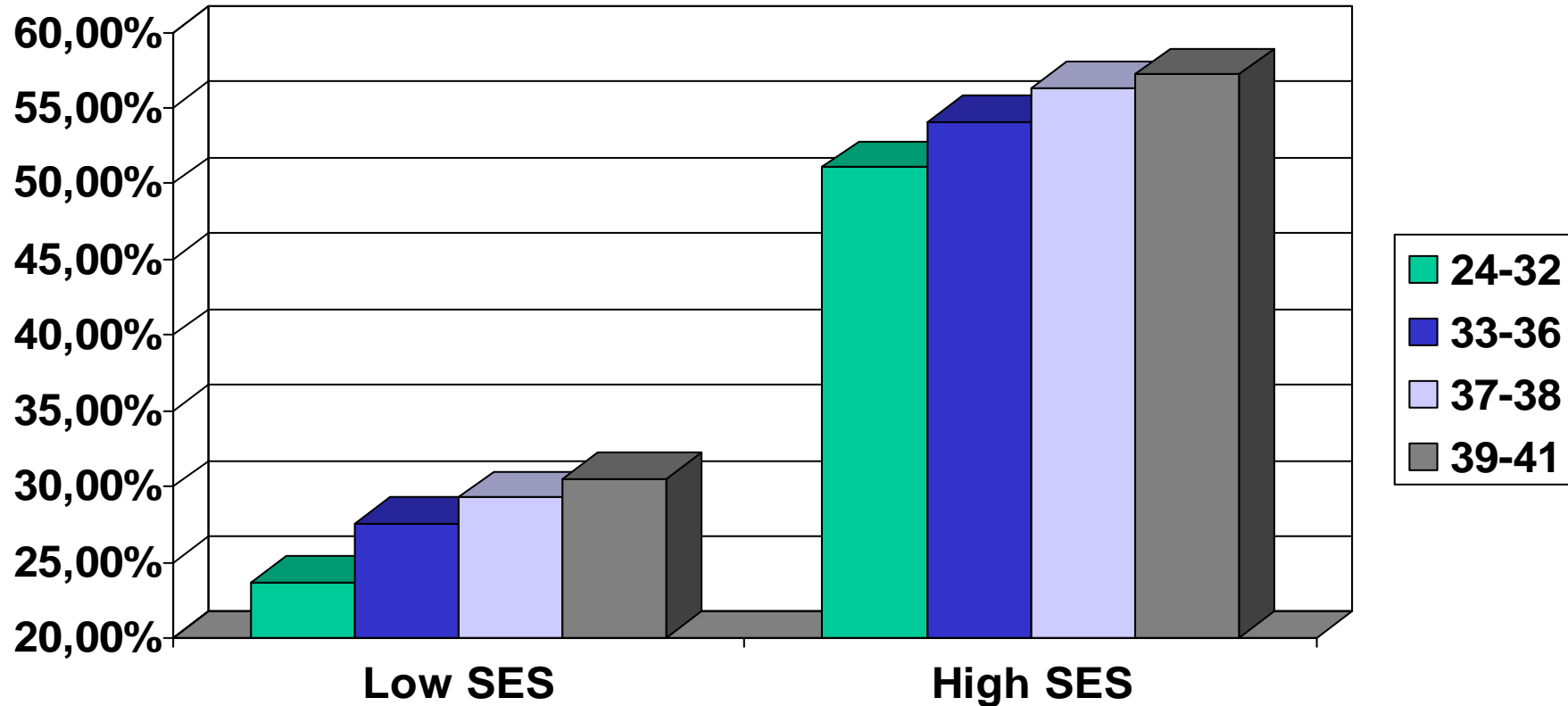
Grade point average in ninth grade by childhood SES in birth cohorts 1973-76



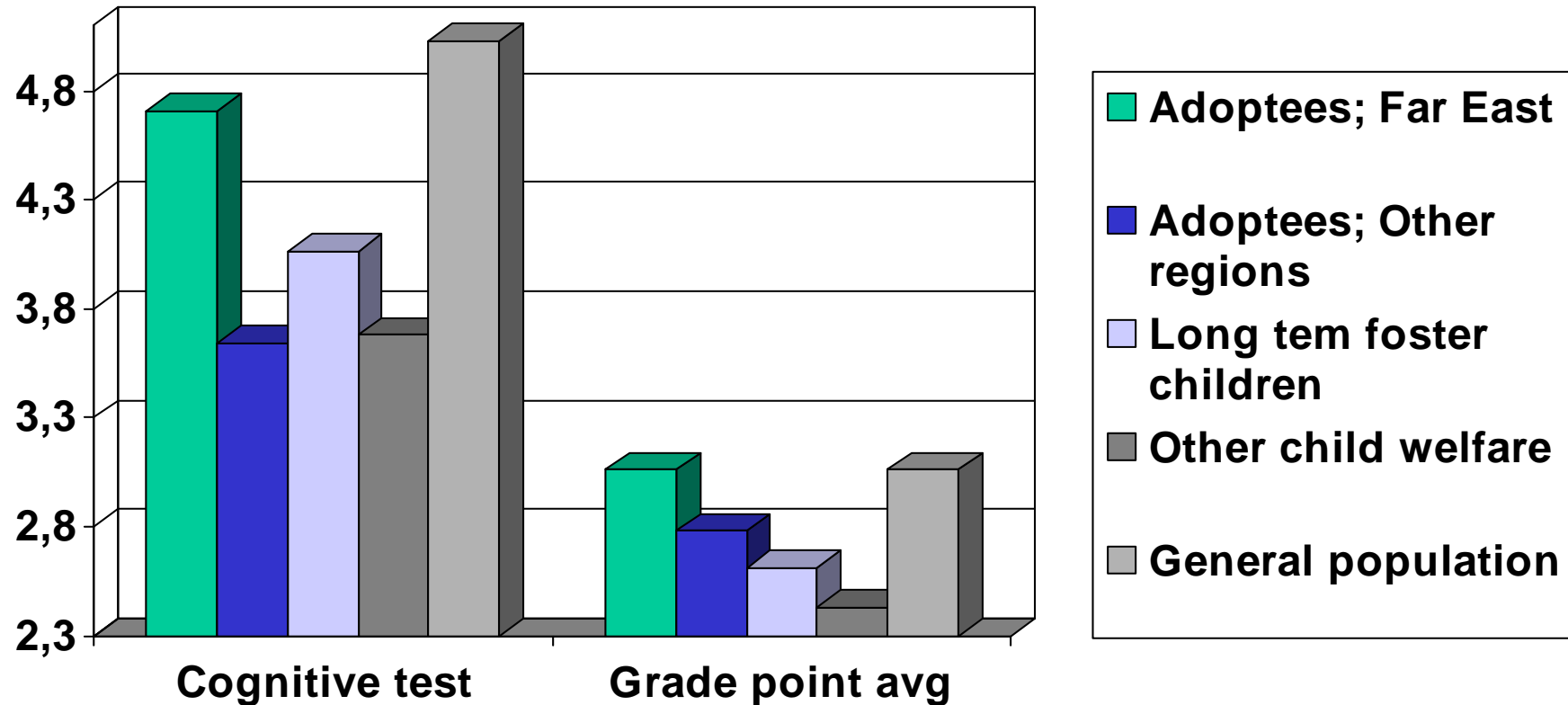
Grade point average in ninth grade in birth cohorts 1973-76 by gestational age



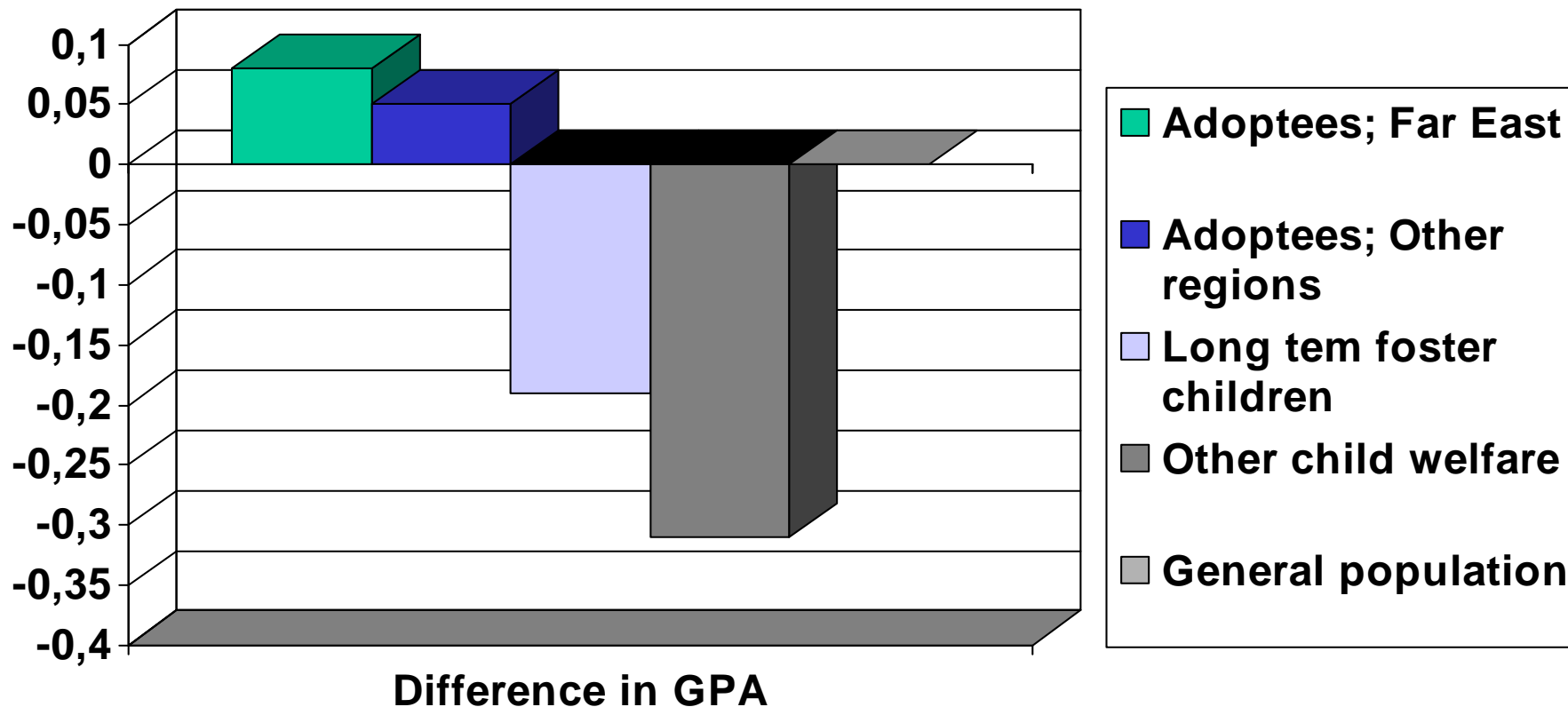
University education in Swedish cohorts born 1973-79 by gestational age at birth



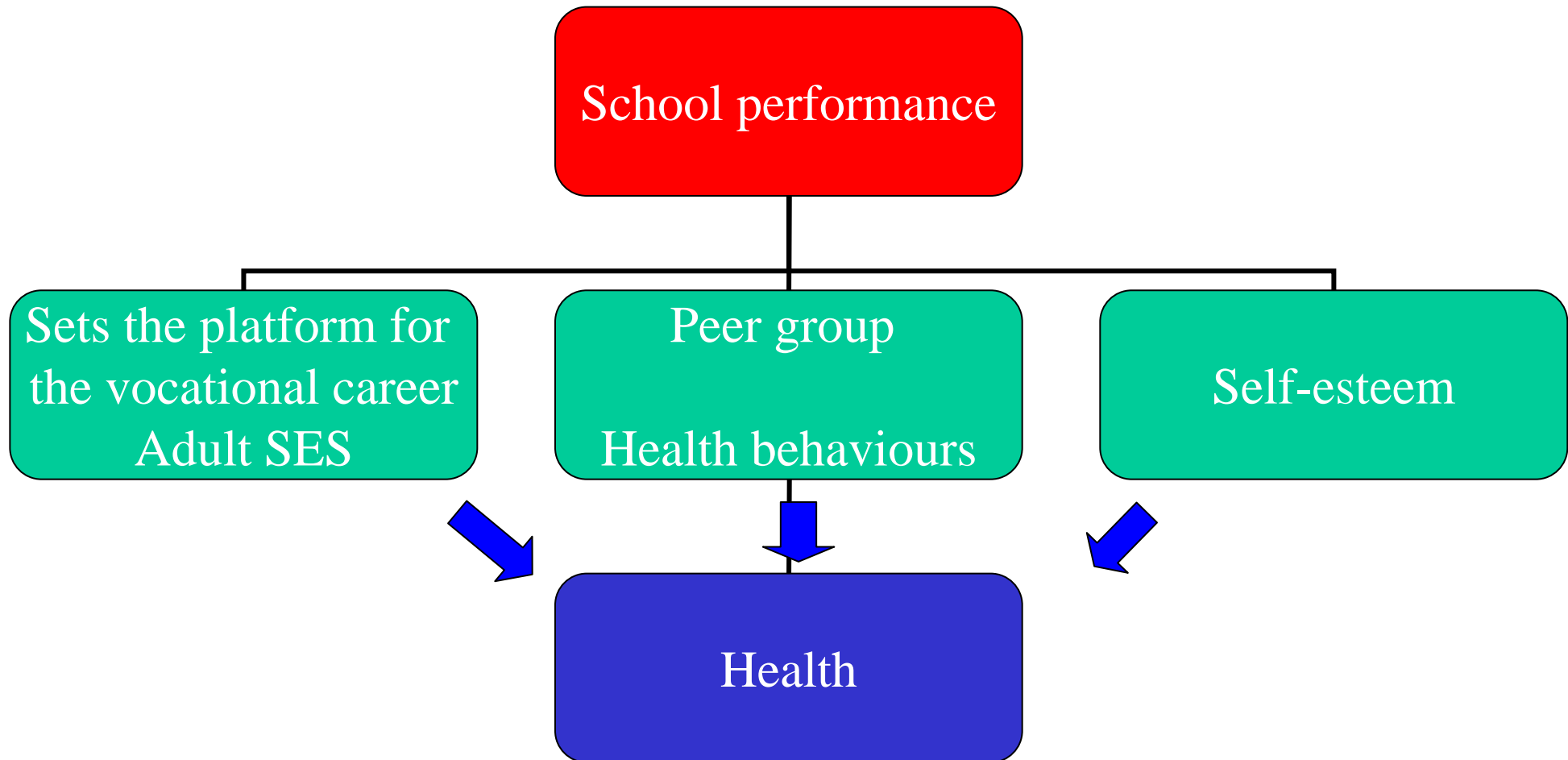
Cognitive test scores and grade point averages in ninth grade in male birth cohorts 1973-76 by adoption and child welfare status



Grade point averages in ninth grade adjusted for cognitive test scores in male birth cohorts 1973-76 by adoption and child welfare status



How does school performance affect health?



The case of smoking

- Data from COMPASS- a school based population health survey of 15 year olds in Stockholm
- The National School Register
- Socio-economic confounders from National Educational, Population and Income registers

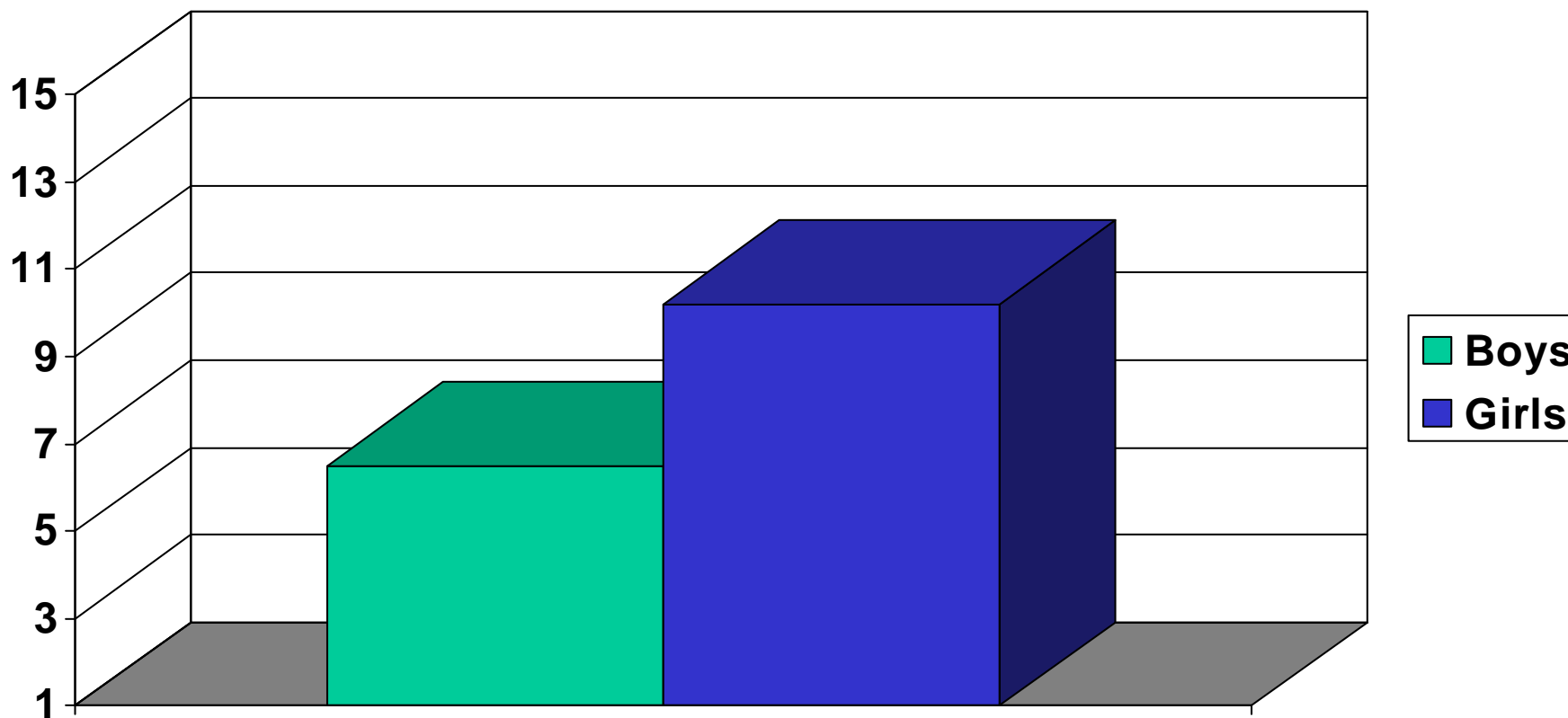


Statistical analysis

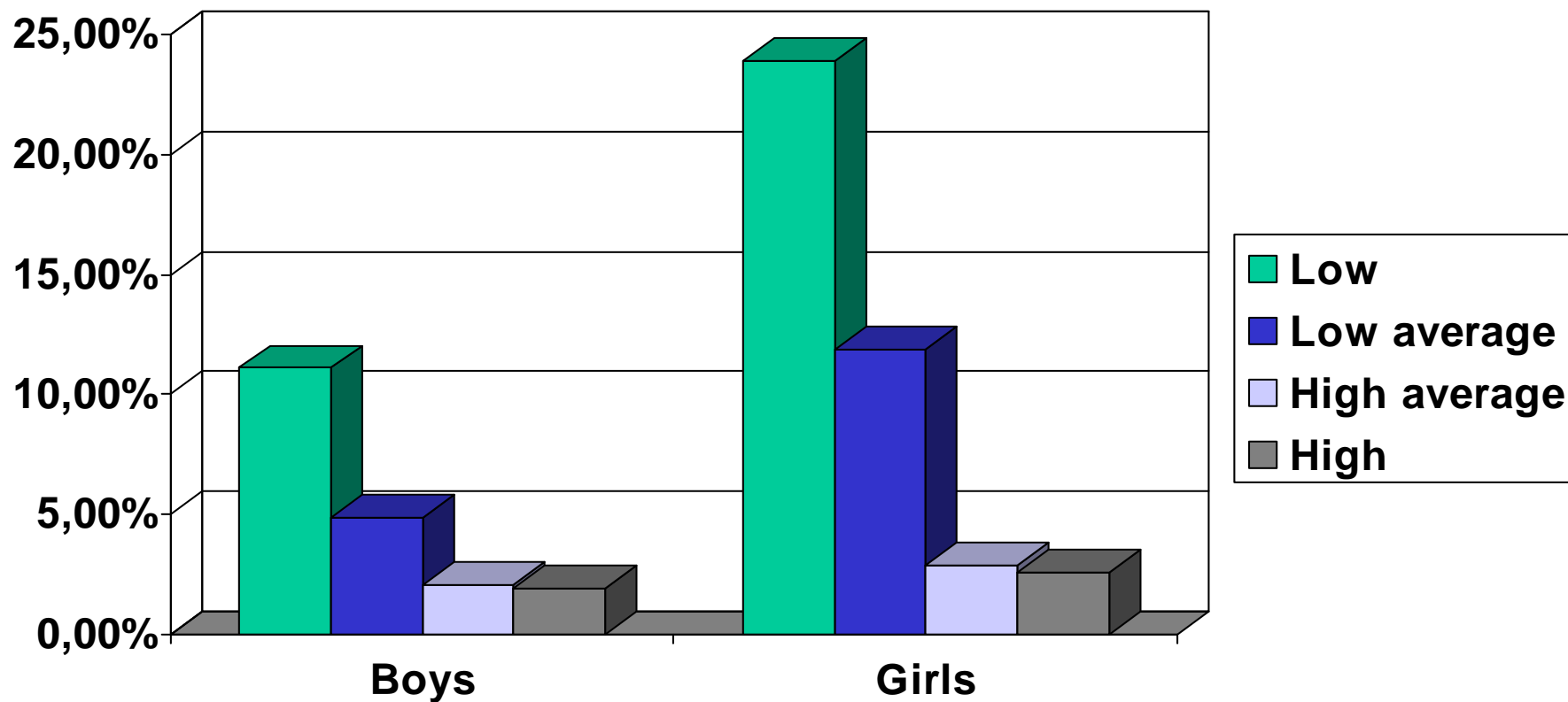
- Population size; 4174
- Attrition: 662 (15.9%)
- Multivariate OR:s were calculated by logistic regression



Daily smokers (%)



Daily smokers by grade point average (%)



The case of obesity

- Data from Swedish national registers on male birth cohorts of 1972-79
- The National School Register 1987-1996
- National Register of Military Conscription
- Census of 1985

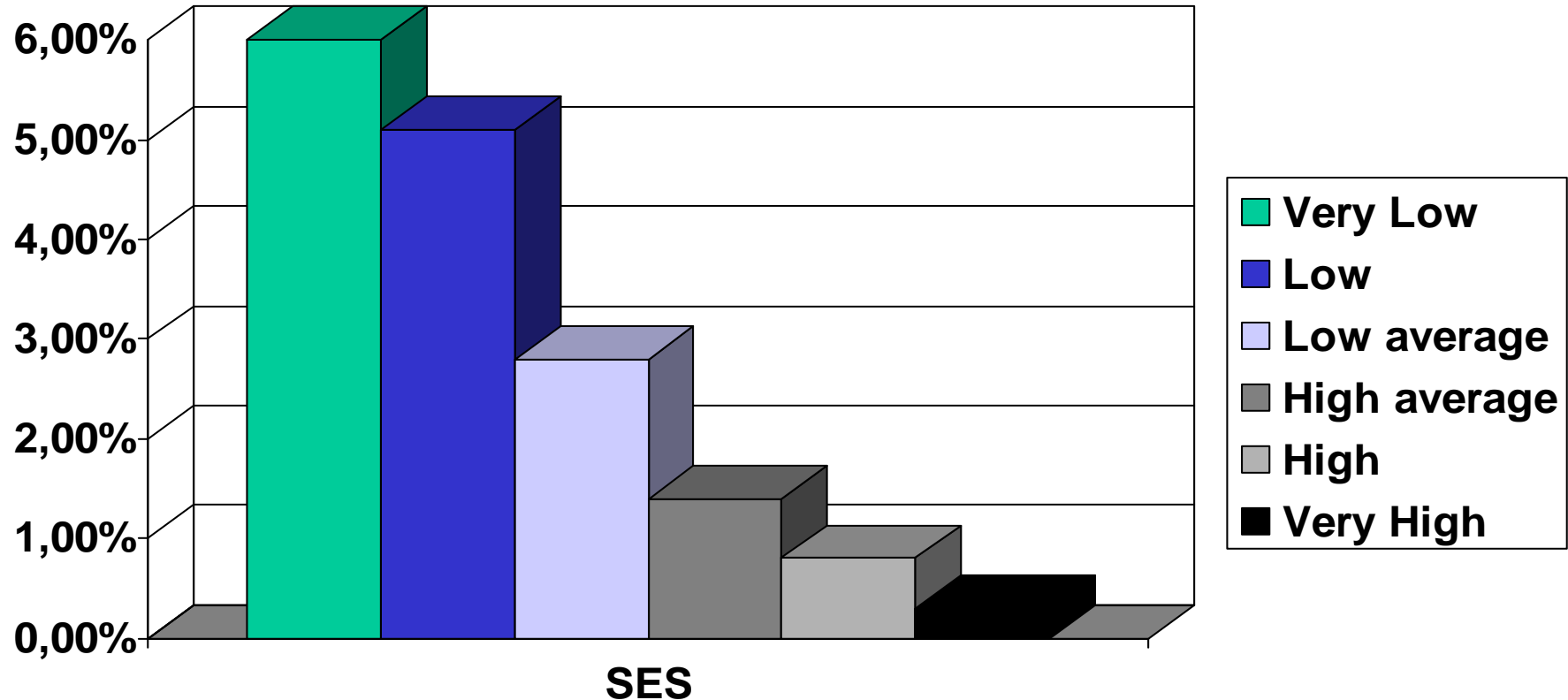


Statistical analysis

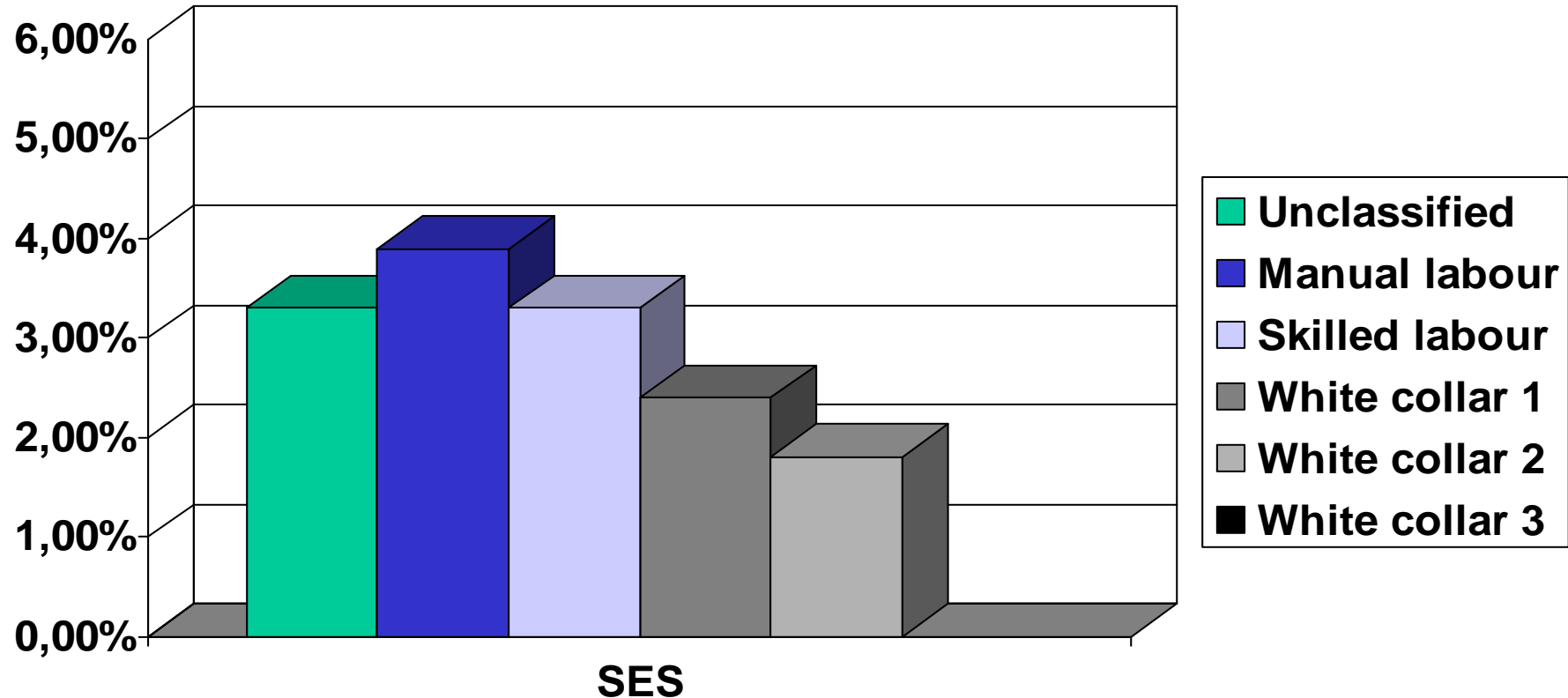
- Population size: 360 000
- Multivariate ORs were calculated by logistic regression
- All models were adjusted for year of birth



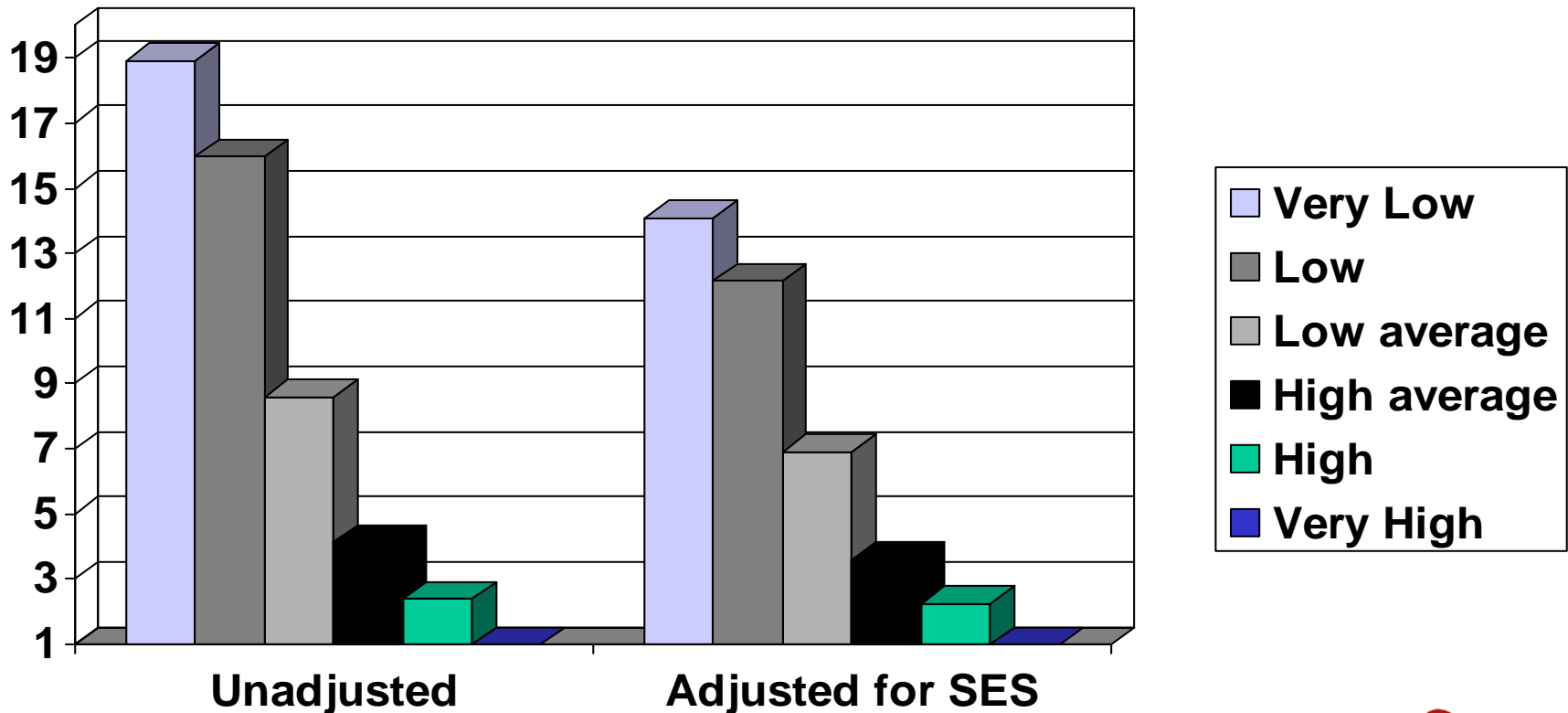
Prevalence of obesity (BMI>30) by grade point average categories (%)



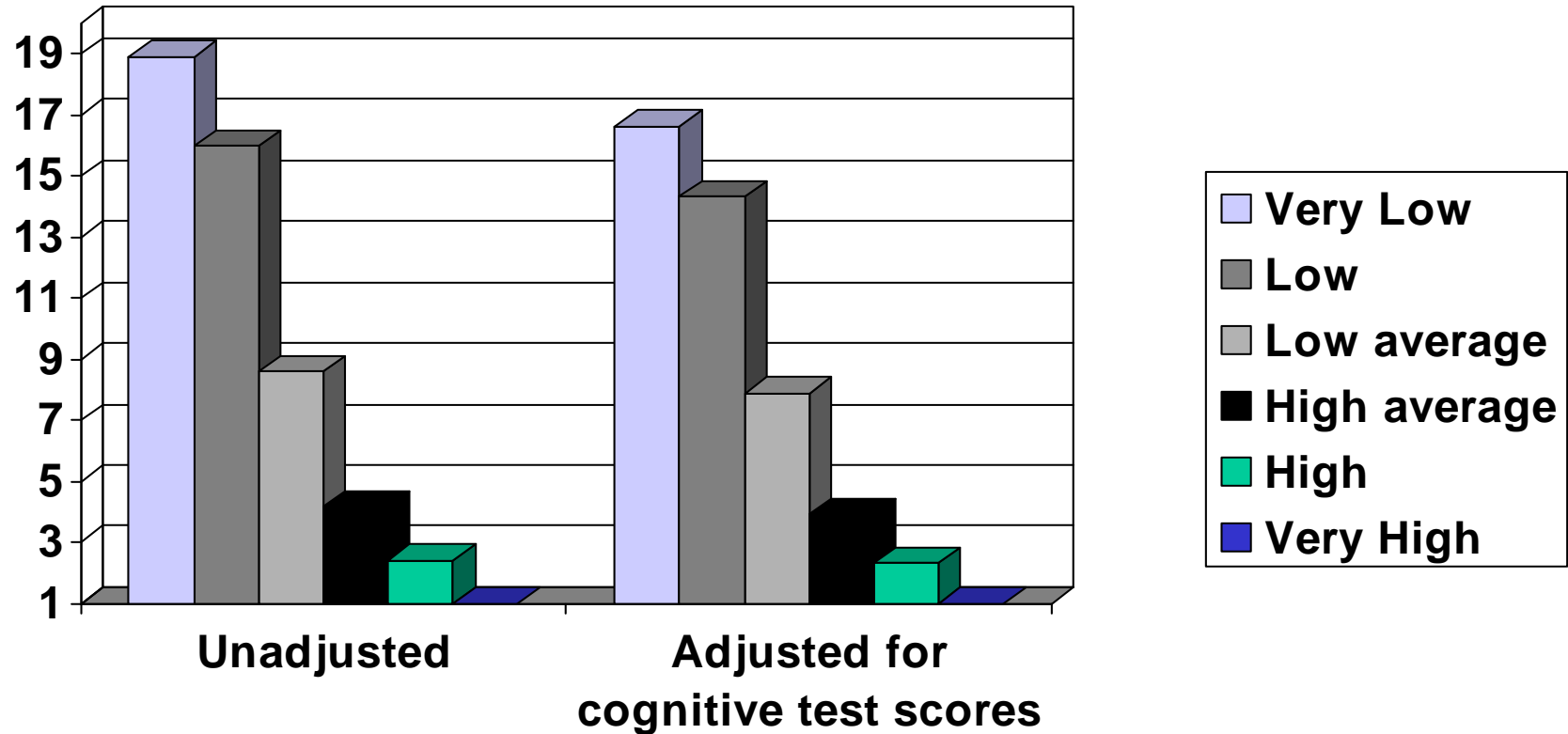
Prevalence of obesity (BMI>30) by childhood SES (%)



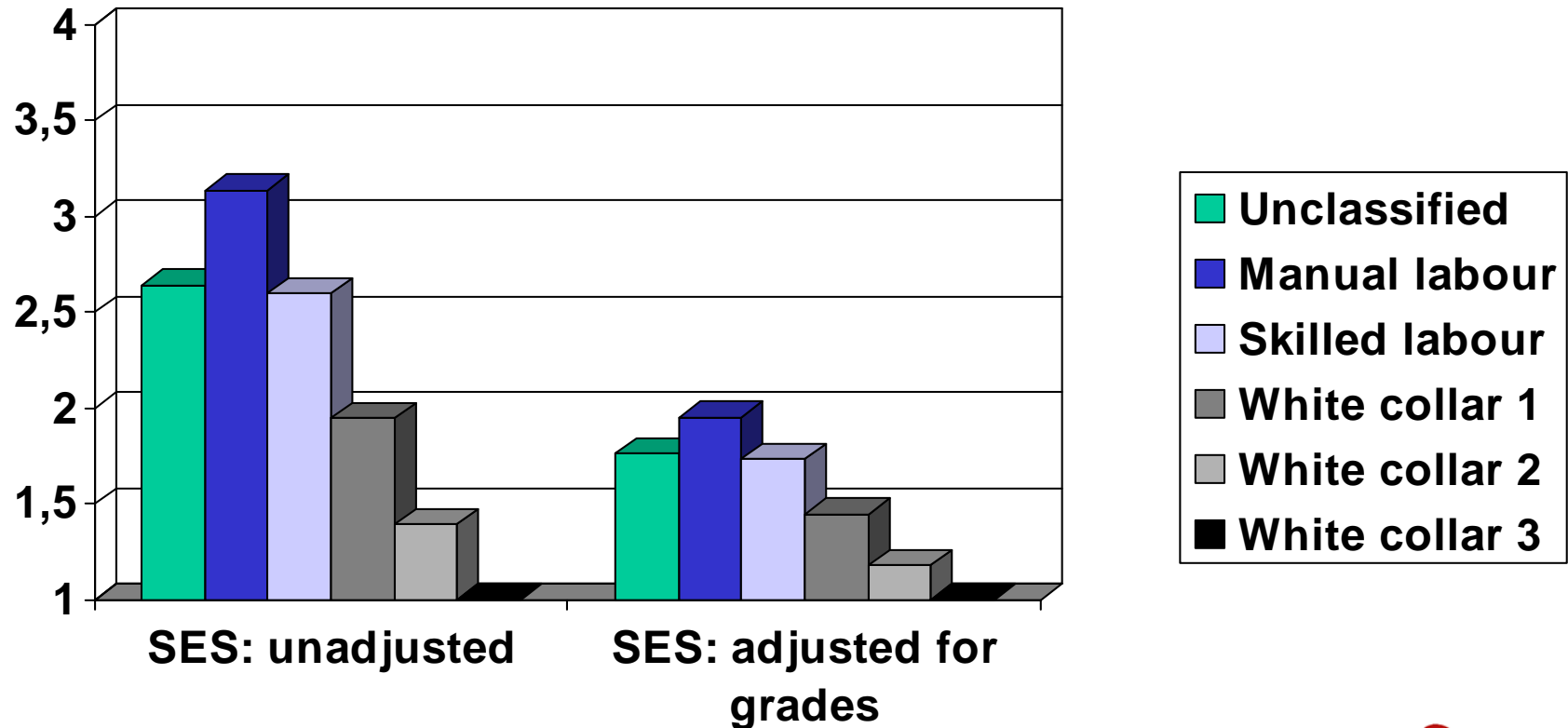
Odds ratios for obesity by grade point average category



Odds ratios for obesity by grade point average category



Odds ratios for obesity (BMI>30) by childhood SES (%)



The case of self-inflicted injuries

- Data from Swedish national registers on birth cohorts of 1973-76 (foreign-born excluded)
- The National School Register 1987-1996
- National Hospital Discharge Register 1987-2002
- National Cause of Death Register 1987-2002
- Census of 1985
- Only injuries after finishing school were included

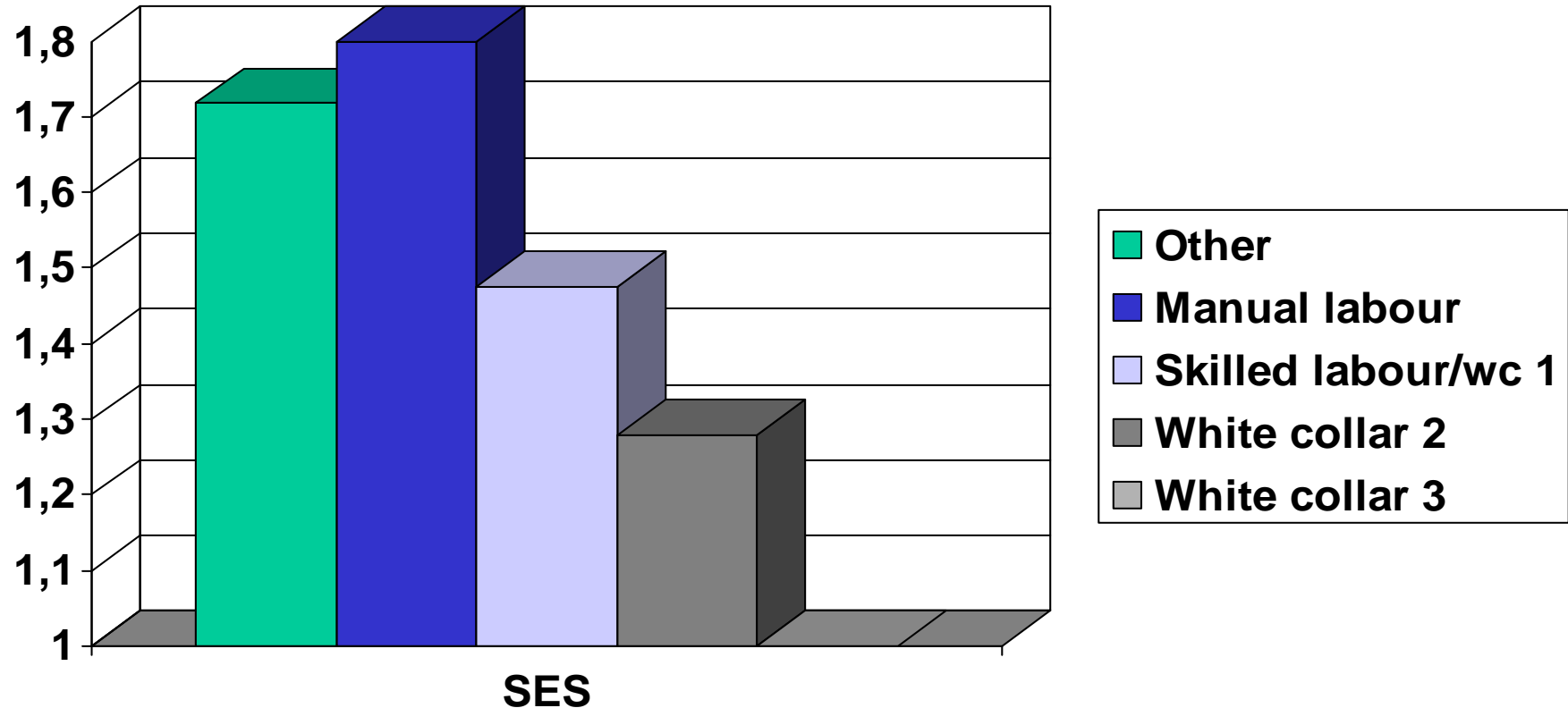


Statistical analysis

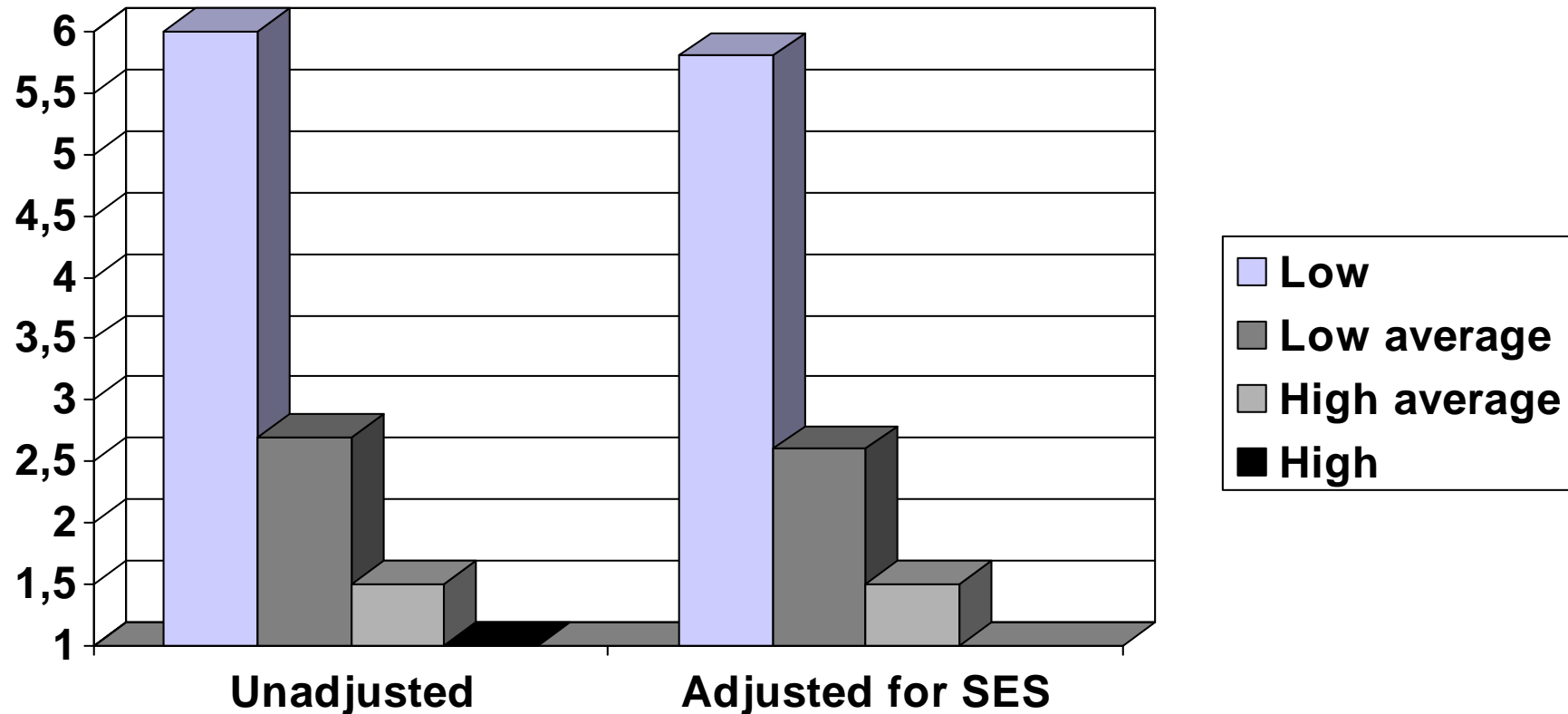
- Population size: 490 000
- Multivariate Hazard ratios/RR were calculated by Cox regression in time to event models
- All models were adjusted for age and sex
- Data is presented for both sexes together since the RR:s were very similar for men and women



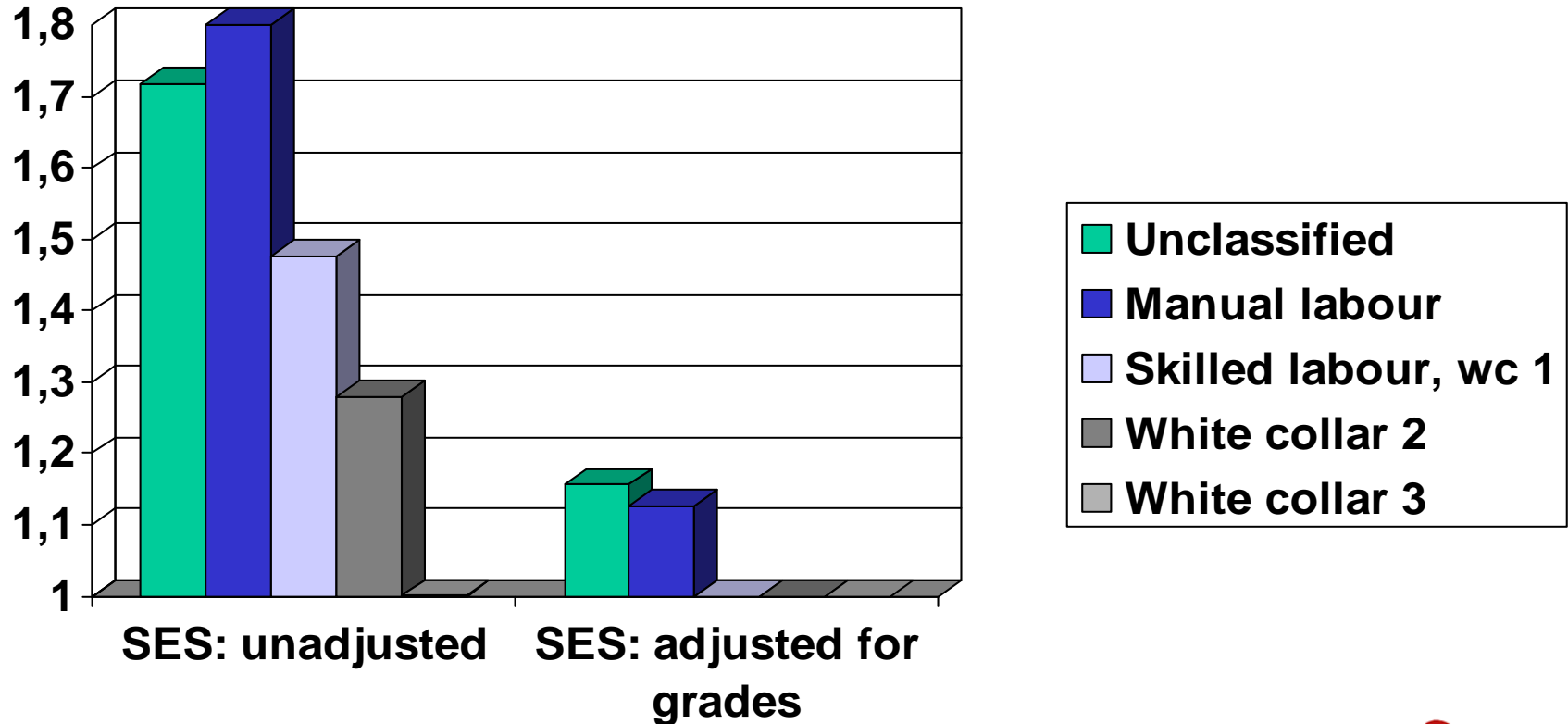
RR of self-inflicted injury by SES of the household in 1990 in birth cohorts 1973-76



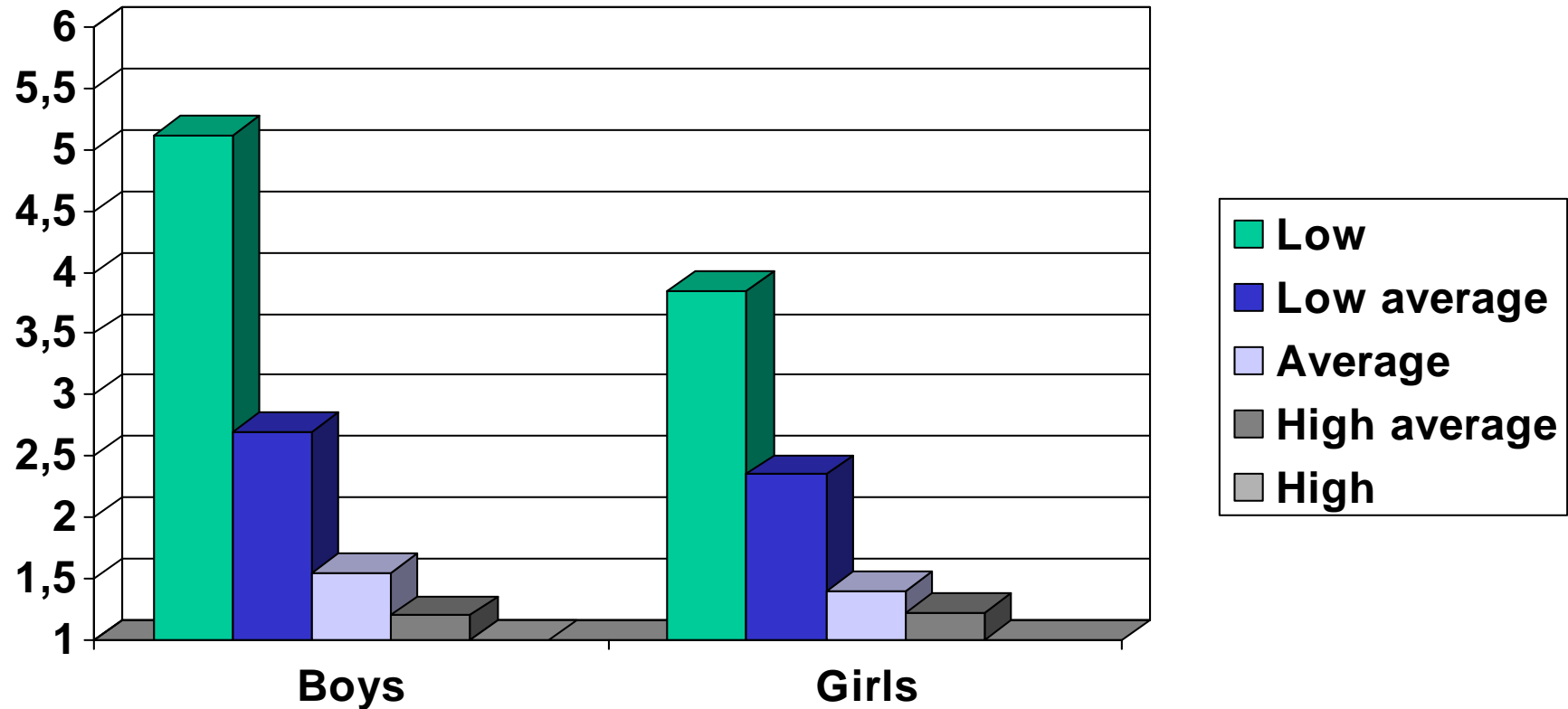
RR of self-inflicted injury until 2002 by grade point average in birth cohorts 1973-76



RR of self-inflicted injury until 2002 by childhood SES



RR of suicide death until 2006 by grade points in 1990 in birth cohorts 1972-79



Conclusions

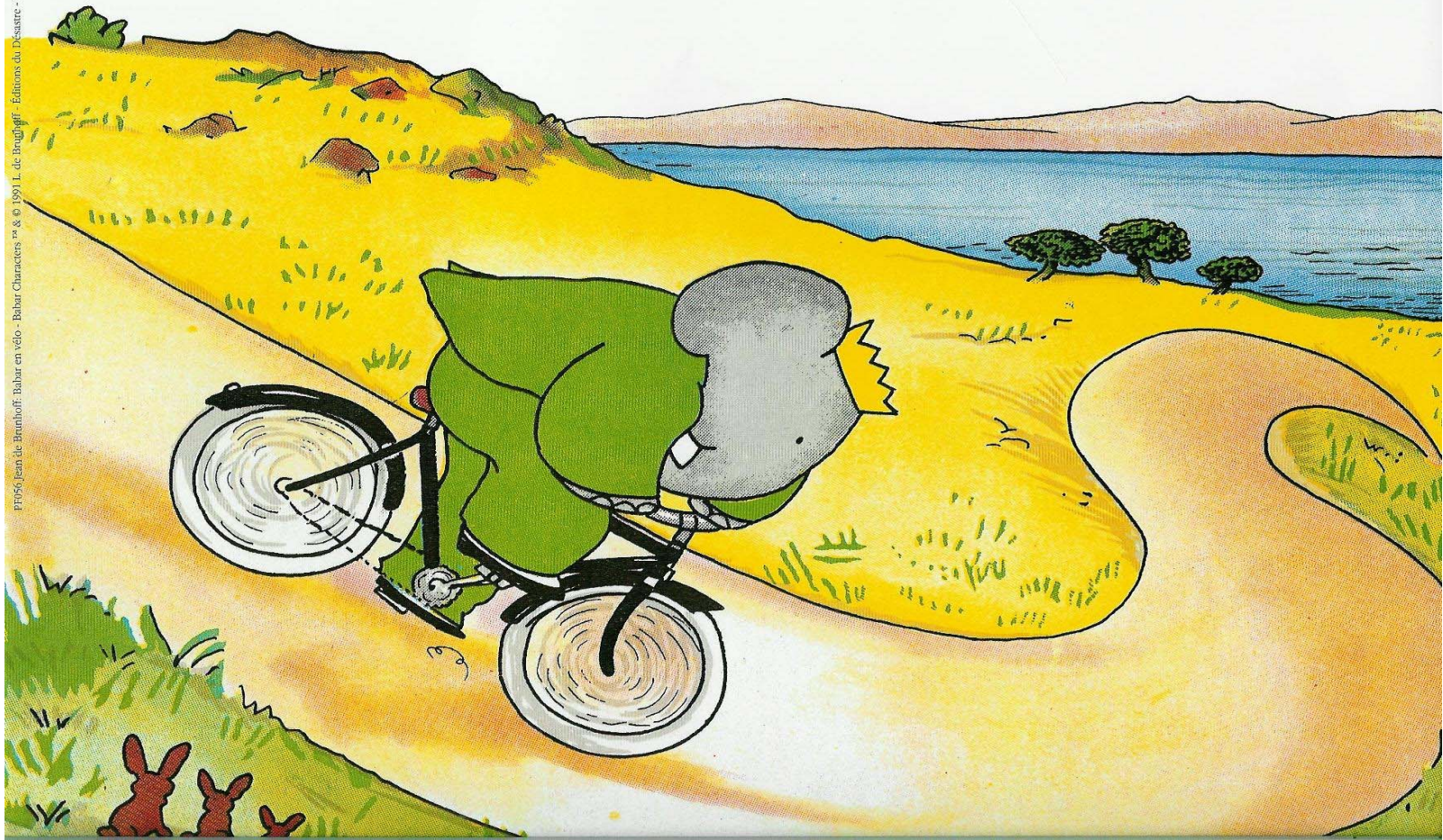
- School performance is a powerful predictors of mental health, obesity and smoking in Sweden
- School performance mediates the entire effect of SES on self-inflicted injuries in Sweden, and much of its effect on obesity as well



Implications for public health

- School performance of disadvantaged children should be considered a primary public health concern
- Secondary prevention for mental health problems should be considered in educational facilities for students with lower than average school performance





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