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#### Abstract

The effects of low to moderate alcohol consumption and binge drinking in early pregnancy on selective and sustained attention in 5-year-old children.

**Objective** The aim was to examine the effects of low to moderate maternal alcohol consumption and binge drinking in early pregnancy on children's attention at 5 years of age.

**Design** Prospective follow-up study.

**Setting** Neuropsychological testing in four Danish cities 2003-2008. **Population** A cohort of 1628 women and their children sampled from the Danish National Birth Cohort.

**Methods** Participants were sampled based on maternal alcohol consumption during pregnancy. At 5 years of age, the children were tested with the recently developed Test of Everyday Attention for Children at Five (TEACh-5). Parental education, maternal IQ, maternal smoking in pregnancy, the child's age at testing, gender, and tester were considered core confounding factors, whereas the full model also controlled the following potential confounding factors: maternal binge drinking or low to moderate alcohol consumption, age, body mass index (BMI), parity, home environment, postnatal smoking in the home, child's health status, and indicators for hearing and vision impairments. **Main outcome measures** TEACh-5 attention scores.

**Results** There were no significant effects on test performance in children of mothers drinking up to 8 drinks per week compared with children of mothers who abstained, but there was a significant association between maternal consumption of 9 or more drinks per week and risk of a low overall attention score (OR 3.50, 95% CI 1.15-10.68). No consistent or significant associations were observed between binge drinking and attention test scores.

**Conclusions** The findings suggest an effect of maternal consumption of 9 or more drinks per week on attention functions in children, but the study detected no effects of lower levels of maternal consumption and no consistent effects of maternal binge drinking.