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## **Using genetic markers as instrumental variables to the link between education and fertility**

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### **SHORT ABSTRACT**

The relationship between education and fertility has been a central focus within demography and related social sciences. Higher education is often associated with higher age at first birth and lower number of children, especially among women. The goal of this paper is to dig deeper into the relationship between education and fertility and explore the causal relationship by using genetic markers as instrumental variables. Specifically, by using the genetic markers for educational attainment from a recent GWAS (genome-wide association study), we attempt to unravel the causal relationship between education and age at first birth (AFB), number of children ever born (NEB) and childlessness. Our results using data from three large samples in contemporaneous western populations (LifeLines, TwinsUK and HRS) show that education is causally linked to higher age at first birth and decrease in childlessness but not to fertility. We suggest that the observed association between education and fertility is mainly affected by unobservable factors.