

The effects of breastfeeding and FADS2 on cognition and hyperactivity / attention problems

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Introduction

There is a beneficial effect of breastfeeding on IQ, and possibly on associated phenotypes such as attention problems. A study by Caspi et al. suggested that the effect on IQ is moderated by polymorphisms in the FADS2 gene, a gene involved in fatty acid metabolism.

Methods

Longitudinal data on IQ, educational attainment overactive behaviour and attention problems from the Netherlands Twin Register were used to test for the effects of breastfeeding and two SNPs in FADS2 (n=886-1667).

Results

A main effect of breastfeeding was found for IQ, educational attainment and overactive behaviour at age 3, which remained significant after correction for maternal education (Figure 1). Neither a main effect of the FADS2 polymorphisms nor an interaction with breastfeeding was detected for any of the phenotypes (Figure 2).

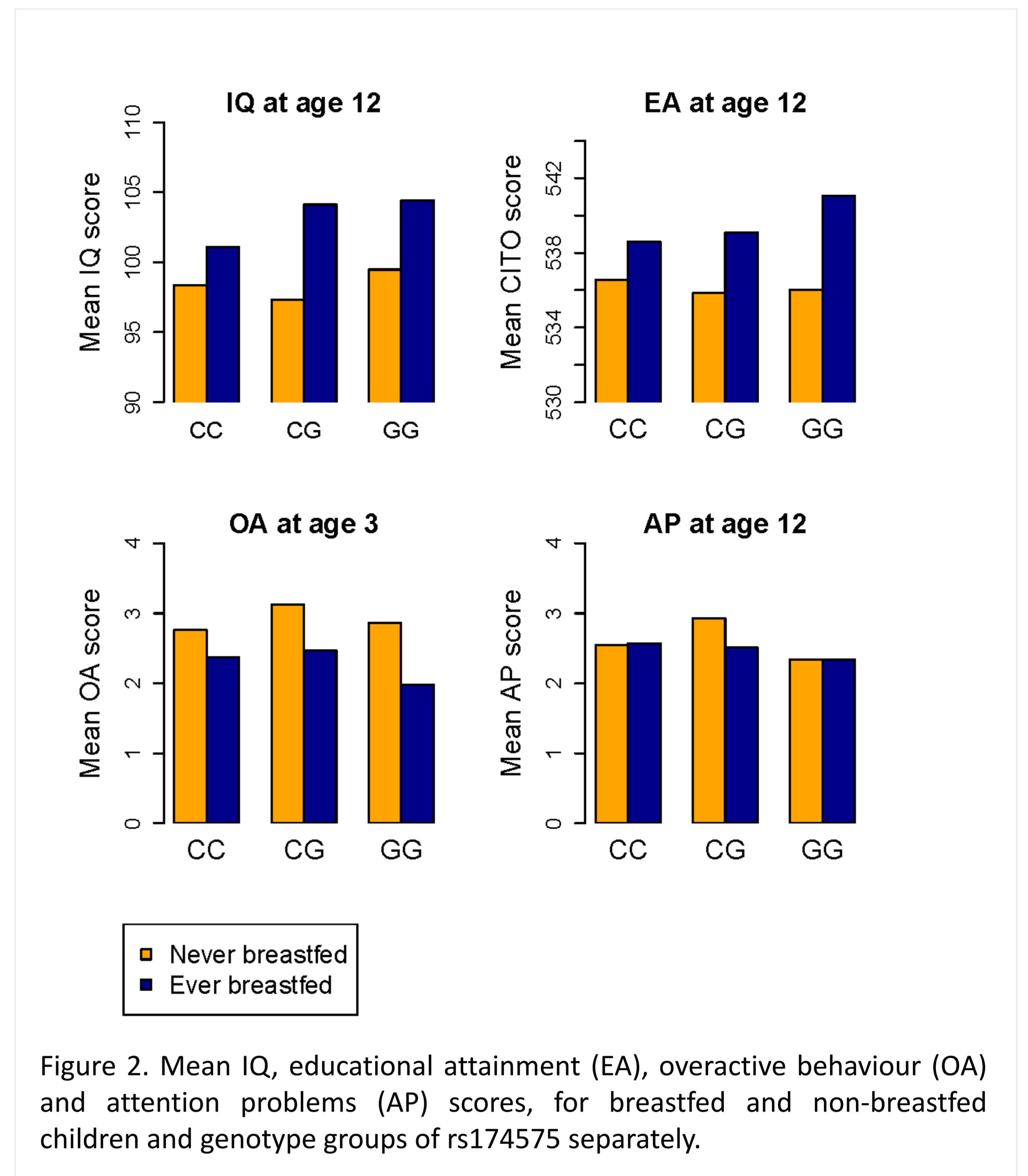


Figure 2. Mean IQ, educational attainment (EA), overactive behaviour (OA) and attention problems (AP) scores, for breastfed and non-breastfed children and genotype groups of rs174575 separately.

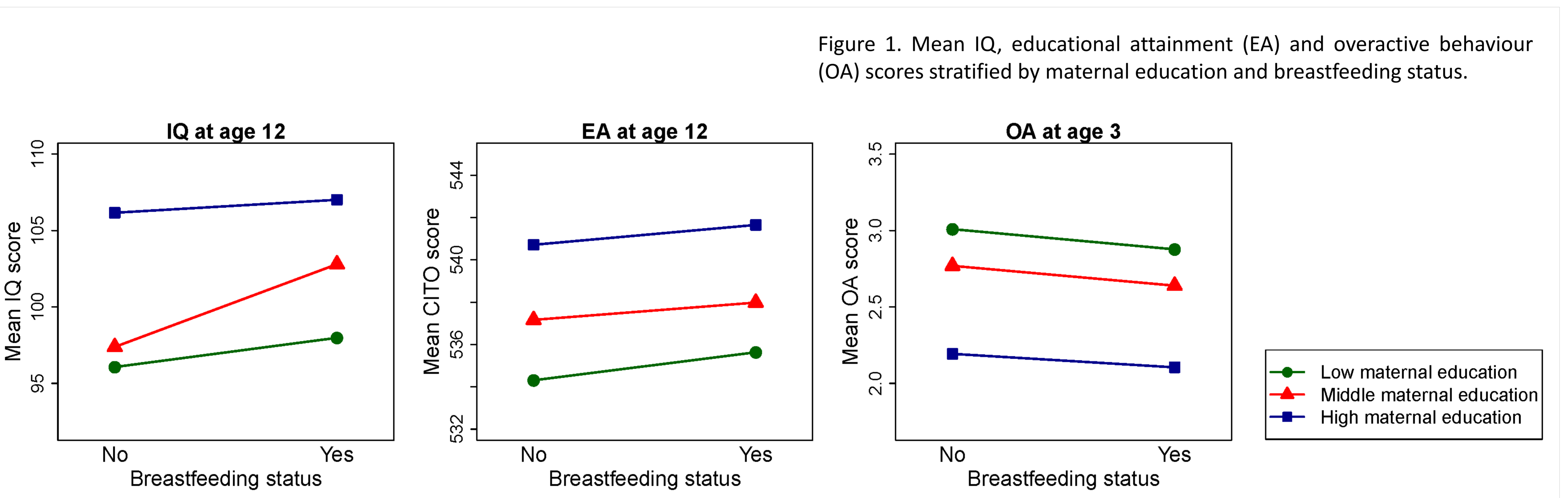


Figure 1. Mean IQ, educational attainment (EA) and overactive behaviour (OA) scores stratified by maternal education and breastfeeding status.

References: Caspi (2007) PNAS: 18860-18865.

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Conclusion

A small beneficial effect of breastfeeding was found for IQ, educational attainment and overactive behaviour, but the previously reported FADS2-by-breastfeeding effect was not replicated in the present study.