

# School of Economics

# FOCUS PAPER

## *The early origins of birth order differences in children's outcomes and parental behavior*

by Jee-Yeon K. Lehmann, Ana Nuevo-Chiquero and Marian Vidal-Fernández

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Many studies show that children born earlier in the family enjoy better wages and more education. Our findings are the first to suggest that advantages of earlier-born siblings start very early in life. We observe parents changing their behaviour as new children are born, and offering less cognitive stimulation to children of higher birth order.

### **The birth order puzzle**

It now seems clear that for those born and raised in high-income countries such as the United States, the UK or Norway (Behrman and Taubman, 1986; Black et al., 2005; Booth and Kee, 2009) earlier-born children enjoy higher wages and education as adults - known as the "birth order effect". Comparing two siblings, the greater the difference in their birth order, the greater the relative benefit to the older child.

However, we had no clear evidence that explains how such differences arise even between children within the same family. Parents earn more money and gain experience as they get older

and have more children, but they also need to divide their economic resources and attention among any children that arrive after the first born (Price 2008).

### **The origins of the birth order effect**

We investigated when birth order differences appear and how they evolve from birth to adolescence, using a longitudinal analysis of around 5,000 observations from the US children of the National Longitudinal Survey of Youth.

Our findings suggest that birth order differences can start before the age of three. We see a substantial effect of birth order on measures of the physical and



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social development of children. Such differences increase slightly with age, and show up in a wide array of test scores that measure verbal, reading, math and comprehension abilities. Somewhat surprisingly, the birth order effect does not seem to be related to an obvious biological advantage at birth.



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## Quality of parental investment is key

We explored changes in parental behaviour as a potential contributor to the birth order effect. We found that children of higher order of birth - that is, those born second, third or further on from the first child - receive lower-quality parental cognitive stimulation. Our measures encompass beneficial inputs for the child's cognitive development, such as reading with the child, cultural outings, or availability of musical instruments in the house. They seem to make a difference. Furthermore, this shift in parental behaviour appears to start in the womb. In pregnancies subsequent to their first, we found that mothers are less likely to reduce drinking and smoking or seek timely prenatal care. Once born, non-first-born babies are breastfed less often.

## Birth order does not shape your temperament

Contrary to popular belief, we

did not find that birth order is associated with differences in temperament, attachment or behavioural problems among siblings. Regardless of birth position, we also found children to have the same overall self-confidence as teenagers.

Also, we did not see any evidence that parents make any distinction in the emotional support provided to each of their children. Parental interaction aimed at ensuring appropriate emotional development does not diminish for younger siblings.

### References

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## Relaxing non-essential rearing needs

Taken together, our findings suggest that a plausible explanation for the negative relation between birth order and educational achievement is a broad shift in parenting, especially with respect to parents' ability to foster early cognitive development.

For most parents, it is probably not difficult to understand how and why parenting focus and behaviour changes with later-born children. Lessons from past experience and additional constraints on time, resources, and attention necessitate adjustments in attitudes and beliefs about what may be possible to accomplish as parents. Parents may choose to relax some non-essential rearing needs for their later born children. These changes in parental behaviour appear to set later born children on a lower path for cognitive development and academic achievement, with lasting impact on adult economic outcomes.