

# First-borns may have higher IQ but sibling bonds are what really shape our future

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First-borns are responsible, middle children are people pleasers and the youngest are attention seekers, we [often hear](#). But scientists have failed to find any real evidence for a link between birth order and personality.

Now a [new study](#), published in the *Proceedings of the National Academy of Sciences* and based on data from 20,000 individuals, concludes that birth order does matter when it comes to IQ – with the oldest having slightly higher IQ than their younger [siblings](#). However, the difference is small and it is likely that the relationships we have with our siblings have a much bigger influence on what we are able to achieve later in life.

## The science of siblings

Most children have siblings and, apart from twins who are usually born within minutes of each other (but still squabble about who is older), will fit into a birth order. The first-born usually has the undivided attention of their parents for some time but is also subject to first-time "experimental" caretaking while the new parents explore what works and what does not. When brothers or sisters arrive, attention needs to be divided by the parents, leaving the first-born child "dethroned".

Whether birth order matters has occupied scientists for centuries. [Francis Galton](#) found that first-borns were over-represented among English scientists in the late 19th century. [Alfred Adler](#), the philosopher and psychoanalyst, believed that [comparisons to siblings may make us feel inferior](#). He postulated (but never tested) that the first-born receives the most attention but also has the highest burden to look after [younger siblings](#). Adler, the second child in a family of six, suggested that this may make them more neurotic. In contrast, the youngest would tend to be overindulged, leading to poor social empathy while the middle child was neither burdened nor overindulged and most likely to be well adjusted.

Evolutionist [Frank Sulloway](#) believed that birth order reflects disparities in age, size and power. Because of this, he suggested, the best way to reduce competition and facilitate cooperation would be for siblings to find niches that enhance the fitness of sibships – much [like Darwin's](#)

[finches](#). So the roles within the family may shape our personality, for example, the eldest might be more dominant and less agreeable while the later born would compensate by being more sociable and thus extroverted to compete within the family.



Cain Killing Abel, 1618-1620. Credit: wikimedia

Studying the effects of birth order sounds simple but it is not. Siblings differ in age, sex and number across families. Cohort studies, those that follow children born at a certain time from birth, usually only follow one child from each family. That means that birth-order effects have previously been compared between families rather than within families.

The new study used data from three longitudinal or panel studies in the US, UK and Germany, allowing for replication across studies and

between and within family comparisons. All studies assessed intelligence with standard general or verbal ability tests in childhood (two studies) or adulthood (one study). Personality was assessed in all studies in adulthood (when siblings were usually living apart) with different versions of the so-called "[Big Five](#)" personality trait scales: extroversion, emotional stability, agreeableness, conscientiousness and openness.

However the researchers looked at it, first-borns had, on average, an IQ of 1.5 points higher than second-born siblings, who in turn had a 1.5 higher IQ than third-borns and so on. Indeed, earlier-born siblings also evaluated their own intellectual abilities in relation to younger born siblings as more favourable such as "being able to quicker understand things".

This small advantage may be because parents had more time to invest in the early cognitive and language development of the first or earlier-borns (the [social-rank hypothesis](#)), or because older siblings profit intellectually from being "teachers" to younger siblings. Furthermore, older children are born when mothers are younger and with each pregnancy maternal antibody levels tend to increase and may affect brain development (the [gestational hypothesis](#)). Evidence so far has been [most consistent](#) with the social-rank hypothesis.

Although this is a robust and statistically significant finding the IQ difference is small. It means that in six out of ten cases the older sibling will have a higher IQ than the next youngest sibling. Conversely, it also means that in four out of ten cases younger siblings have a higher IQ.

Contrary to Adler's or Sulloway's predictions, no differences in personality traits was found – indicating there is very little evidence to support claims that birth order makes us different in our personality from our siblings.

## The power of the sibling bond

But it may not be birth order that matters but rather how we relate to our siblings – older and younger. Siblings play an [important role](#) in each others' lives as companions, teachers, and caregivers. This means they can also [significantly influence](#) one another's development and adjustment.

Positive sibling ties and interactions can [facilitate cognitive development](#), provide emotional support, and [buffer siblings from adverse life events](#), including marital conflicts or poor peer relationships.

Sibling relationships, however, are not always harmonious and supportive. Severe sibling jealousy and rivalry have been documented since ancient times, most notably through the Old Testament story of Cain and Abel. Sibling bullying, when there is repeated aggression, either physical or psychological, is frequent with up to [40% of them involved in it every week](#).

What is most surprising is that the effects of physical assault and verbal abuse between siblings and their effect on personality and mental health has been mostly ignored, perhaps because it is so common. But there is now increasing evidence that being bullied by siblings [doubles the risk of mental health problems](#) such as depression and anxiety disorder into adulthood. Some have been [tormented by their siblings](#) in such a way that they wished they had never been born.

This surely supports the view that the quality of the sibling relationship rather than the actual [birth order](#) has significant influence on mental well-being. In particular, reducing bullying between siblings is likely to have a significant influence on population mental health, and sibling relationships [should be considered as much as parent-child relationships](#) in research and mental health settings.

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