



Sibling differences

Later-borns choose less prestigious programs at university

First-borns are more likely to study more prestigious subjects at university such as medicine and engineering and can thus expect greater earnings than later-borns, who turn to arts, journalism and teaching.

Rostock, Germany. First-borns are more likely to graduate from medical training and engineering programs at university, while later-borns are more likely to study journalism and teaching programs, and to attend art school.

These research findings from scientists at the Max Planck Institute for Demographic Research (MPIDR) in Rostock, Germany, and Stockholm University, Sweden, build upon earlier findings by other researchers that show that later-borns attain lower education than first-borns, and earn less money.

The MPIDR researchers investigated birth order differences in the choice of university subject between siblings in Sweden. They found that the subject choices of siblings explained half of the gap in their long-term earnings.

“Our results suggest that parents invest more in earlier-born children than in later-borns and that this shapes sibling differences in ability and ambitions even within the family,” says MPIDR demographer Kieron Barclay, who now published his findings together with MPIDR director Mikko Myrskylä and Martin Hällsten from Stockholm University in the journal *Social Forces*.

“The differences we found are not a simple distinction between first-borns and all other later-born siblings”, says Kieron Barclay. “For example, second-borns are less likely to study medicine than first-borns, and third-borns are less likely to study medicine than second-borns.”

In relative terms, second-borns are 27 percent less likely than first-borns to apply to medical training programs, and the difference between first-borns and third-borns was 54 percent.

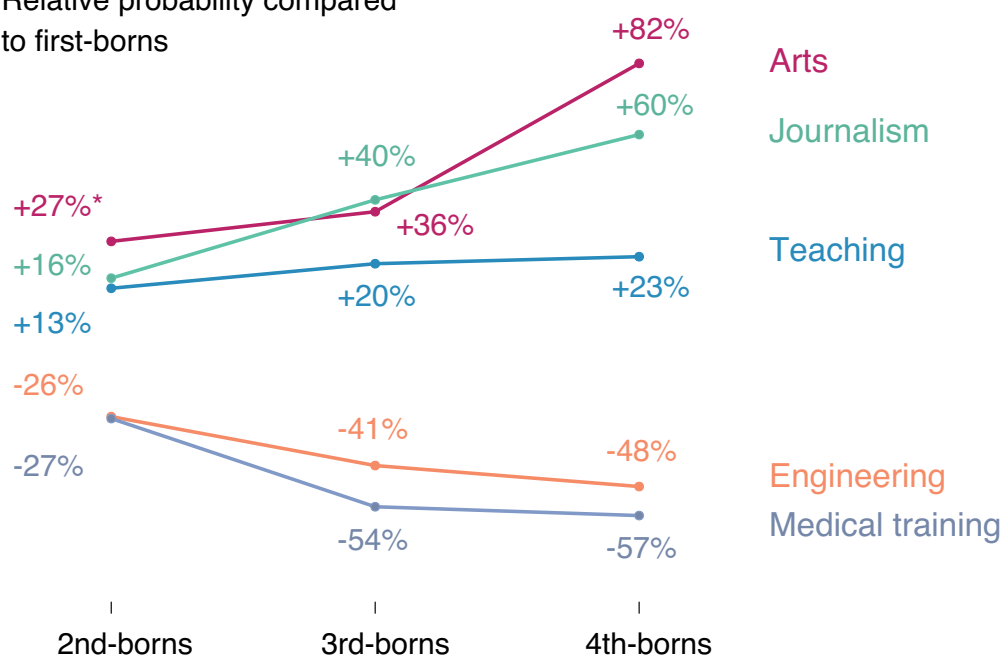
The researchers also found that the relative probability of second-borns studying arts programs was 27 percent higher than for first-borns, while the difference was 36 percent between third-borns and first-borns. (See graph for all subjects up to fourth birth order.)





Which university programs do later-born siblings enrol for?

Relative probability compared to first-borns



* Reading example: In relative terms, second-borns are 27 percent more likely than first-borns to apply for arts programs at university.

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How do later-borns differ from their siblings when choosing a university subject? Reading example: In relative terms second-borns are 16 percent more likely than first-borns to apply to journalism programs, and the difference between first-borns and third-borns is 40 percent. Data: Swedish administrative registers
This graph is available for download at www.demogr.mpg.de/go/university_subjects

“Sibling differences in choice of university program was not just a consequence of first-borns having better grades in school,” says Kieron Barclay. “When we controlled for grades from upper-secondary school, the birth order differences in university programs persisted. This suggests that the home environment shapes attitudes and preferences beyond academic ability.”

Although the new MPIDR study did not deal with the explanation for these birth order differences, it seems like that parental care plays a crucial role. “First-borns benefit exclusively from parents’ attention as long as they are the only child at home,” says Mikko Myrskylä. “This gives them an early head start.”





For their study the researchers used Swedish administrative register data. All families where at least two siblings had applied to a university program were included in the analysis. Overall the study examined 146,000 students born between 1982 and 1990, who enrolled at university during the years 2001 to 2012.

About the MPIDR

The Max Planck Institute for Demographic Research in Rostock (MPIDR) investigates the structure and dynamics of populations. It focuses on issues of political relevance such as demographic change, aging, fertility, the redistribution of work over the course of life, as well as aspects of evolutionary biology and medicine. The MPIDR is one of the largest demographic research bodies in Europe and one of the worldwide leaders in the field. It is part of the Max Planck Society, the internationally renowned German research society.

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This press release and the graphics in high resolution can be found at

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