Medical Xpress

Genes account for half of differences in social mobility

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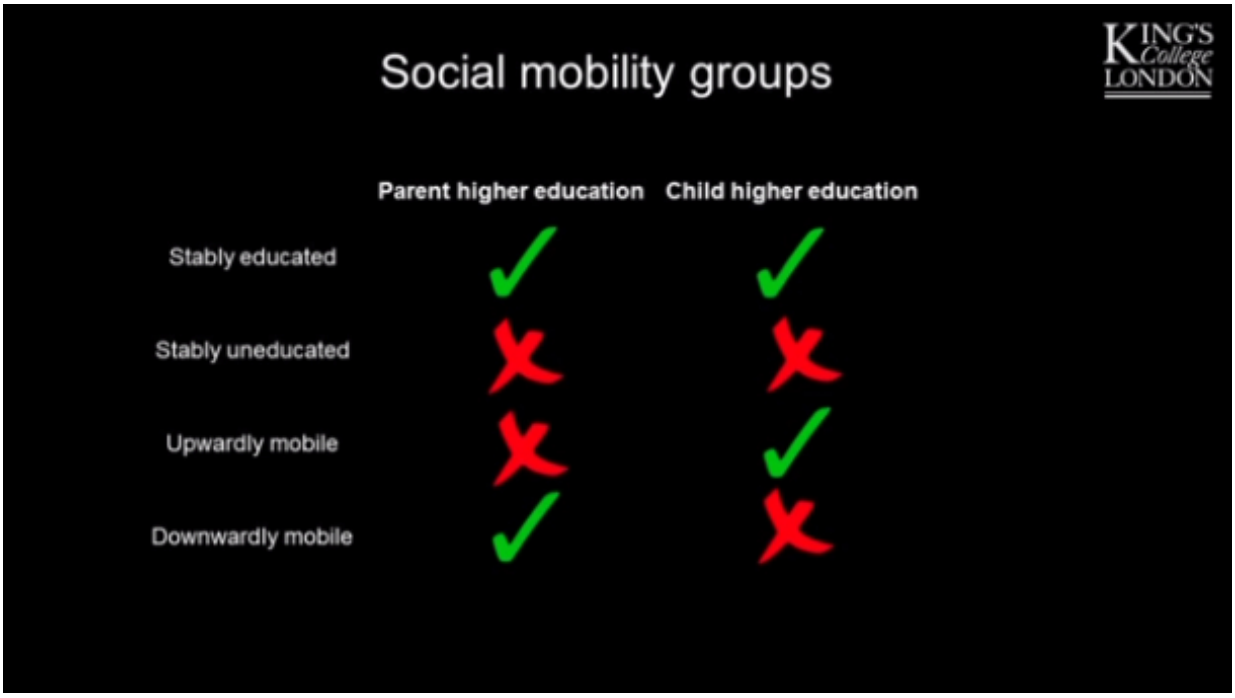

A new King's College London study suggests that genes account for nearly 50 per cent of the differences between whether children are socially mobile or not.

One of the best predictors of children's educational attainment is their parents' educational level and in the past this association was thought to

be environmental, rather than influenced by genes.

Parents with higher levels of educational achievement, for example, are thought to access greater academic and social resources, enabling them to pass on better opportunities for their children than less educated parents.

This new King's study, published today in *Psychological Science*, is the first to find substantial genetic influence on children's social mobility, which could have important implications for reducing educational inequality.

Using a sample of more than 6,000 twin families from the Medical Research Council (MRC) funded Twins Early Development Study, the researchers measured genetic influence on four categories of social mobility:

- Downwardly mobile: children who did not complete A-Levels but were raised in families with a university-educated parent;
- Upwardly mobile: children who completed A-Levels but their parent did not attend university;
- Stably educated: children who completed A-levels and were raised in families with a university-educated parent
- Stably uneducated: children who did not complete A-Levels and whose parents did not attend university

The researchers also used an alternative method to study genetic influences on social mobility that focuses on people's DNA markers for educational achievement, so-called genome-wide polygenic scores (GPS).

They found that children with higher polygenic scores completed A-levels, even if they had come from families where no parent had gone to

university. The highest polygenic scores were found for families that were 'stably educated", the lowest scores for those who were 'stably uneducated", and results fell in the middle for downwardly and upwardly mobile families.

Ziada Ayorech, first author of the study from the Institute of Psychiatry, Psychology & Neuroscience (IoPPN) at King's College London, said: "The role of parent's education in their children's educational outcomes has previously been thought of as environmental, but our study suggests a strong genetic component too. These results show that half of the differences between whether families were socially mobile or not, can be attributed to genetic differences between them.

"This tells us that if we want to reduce educational inequalities, it's important to understand children's genetic propensity for educational achievement. That way, we can better identify those who require more support."

Dr Sophie von Stumm, senior author and a Senior Lecturer at Goldsmiths University of London, added: "Finding genetic influences on social mobility can be viewed as an index of equality, rather than inequality. The reason is that genetics can only play a significant role for children's educational attainment if their environmental opportunities are relatively equal."

Provided by King's College London