

**BOOK REVIEW**

## G is for Genes: The Impact of Genetics on Education and Achievement

Kathryn Asbury and Robert Plomin (2014), John Wiley, Chichester, UK, 197 pp. ISBN 978-1-118-48281-0  
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The authors have very graciously dedicated this book to the thousands of families who participate in the Twins' Early Development Studies (TEDS), as it could never have been written without their long-term participation and support. Kathryn Asbury is now a lecturer in the Centre for Psychology in Education at the University of York (UK) after having spent a decade working as a researcher at TEDS. Robert Plomin is Professor of Behavioural Genetics at the MRC Social, Genetic and Developmental Psychiatry Centre, King's College London (UK) and the founder of TEDS. The TEDS longitudinal twin cohort explores how nature and nurture and their interplay influence the development of children from birth to young adulthood in different areas, including cognitive ability, educational achievement, and behavior.

*G is for Genes* is an easy-to-read book for a general audience, providing an extensive overview of findings from behavioral genetic studies related to education and achievement. While it is primarily written for interested teachers, parents, and policy makers, it also provides an excellent outline of the genetics of education that may inspire researchers to design studies to obtain knowledge that eventually can be applied in the current education system. Public discussions relating education to genetics have been difficult and, at times, even controversial. However, the authors stipulate that although genetic differences between children influence educational achievement, this certainly does not mean that they determine how an individual child will perform at school.

The book is divided into two parts: 'In Theory' and 'In Practice'. In the theoretical part, the genetics of the

three Rs — Reading, wRiting and 'Rithmetic — are discussed. Eighty per cent of the differences between children in learning to read and write can be explained by genetics, while this is about 60–70% for arithmetic. Science, in contrast, appears to be a different way of thinking compared with the three basic skill subjects. Genes only explain 50–60% of the differences between children in their understanding of science. The environment that is shared between children has an influence, while this is not observed for other subjects. The first part of the book continues with a comprehensive discussion of the possibility that a range of other factors, such as intelligence, motivation, self-confidence, social status, and school quality, could have an influence on educational achievement. Although intelligence is the strongest predictor of educational achievement, intelligence and achievement are definitely not the same thing. The intriguing question remains: Why some children out- or underperform in school based on their general intelligence.

The second part of the book starts with a list of 11 policy ideas based on findings from genetic studies. The authors fantasise about being education secretary for a day, and describe how they would like to see a genetically sensitive education system realised. They propose a school that is completely different from a regular school as it incorporates a primary school, a secondary school, and a center for children with special needs. The number of children attending this school will be enormous in order to offer all sorts of extra facilities, for example, sports fields, a leisure center, library, music rooms, and a theatre. All children would be provided with a unique curriculum — an Individual

Education Plan — that will help them in learning basic skills as well as support the development of their talents and interests. Scientific research has not yet been able to confirm that (computer) programs developed to personal-

ize education in the current system actually have a positive effect on achievement, but all teachers would probably agree with the statement that education should be adapted to the specific needs of each child.

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