

BOOK REVIEW

Twin Mythconceptions: False Beliefs, Fables, and Facts about Twins

Nancy Segal (2017), Academic Press, 334 pages, eBook ISBN: 9780128039953, Paperback ISBN: 9780128039946

Reviewed by Dorret I. Boomsma, Netherlands Twin Register, Vrije Universiteit, Amsterdam, the Netherlands.

E-mail: di.boomsma@vu.nl

doi:10.1017/thg.2017.29

Twin Mythconceptions is not Nancy Segal's first book about twins and twin research, but it is very possibly her best and most comprehensive one. The title might be a bit misleading: the most important part of the book is not about false beliefs but about numerous and diverse facts about twins and twin studies. Nancy Segal may have read every paper that was published on twins in the last few decades, and before. We learn about the risk of child abuse to twins (increased), the divorce rates in parents of twins (likely to be higher than in parents of singletons), about the genes for twinning, and the two research approaches that involve twins. Segal labels one of these as the 'twins for twins' approach, which focuses on questions that are exclusive to twins, including questions about their delayed language development or mandatory separation in schools (and nowadays even in day care). The question of whether DNA evidence can tell monozygotic twins apart in, for example, paternity cases or forensics receives an affirmative answer (based on ultra-deep next generation sequencing and at least one twin having offspring). The other approach in twin research involves comparing the resemblance of mono- and dizygotic twins to estimate heritability and to assess the contribution of genetics to variation in and covariation among traits. This research design has its own historical chapter, the last chapter in the book. Perhaps I can use this

review to add one more historical fact. Sir Ronald Fisher, the geneticist who united the Galton/Pearson biometrical view of continuous variation and Mendelian genetics, did not accept that there were two types in twins and put forward in the *Genetics* journal in 1919 the hypothesis 'that the ordinary mode of genesis of human twins is intermediate in character between the fraternal and identical modes of genesis, and in particular that while the maternal inheritance is identical, the twins being derived from a common ovum, the paternal inheritance is merely fraternal, the twins being derived from different spermatozoa'. Later, in *Eugenics* in 1922 he revisited this topic and wrote 'numbers are far from conclusive, and have been put forward to show that the subject should be thoroughly investigated. We hope that this may be done in London, where over a thousand pairs of twins could rapidly be obtained; but at present the work is delayed for lack of funds'. Nothing very much seems to have changed in the life of scientists, at least with respect to funding.

For those interested in twins and how they have contributed so much to our knowledge of the human condition, I would thoroughly recommend this latest authoritative but eminently readable contribution by Nancy Segal, one of the leading twin researchers of our time (and, of course, a twin herself).