Book review

Digit Ratio: A Pointer to Fertility, Behavior, and Health

John T Manning

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The main message of this book is simple and John Manning does an excellent job of delivering it clearly. The ratio of second and fourth (finger) digit lengths (2D:4D) appears to be affected by foetal testosterone exposure, may be fixed before birth, and so may be a reliable indicator of early prenatal conditions and subsequent health factors.

Through sequential chapters, Manning relates 2D:4D to various evolutionary concepts such as reproductive success, individual performance, heritability, and mate choice; to social factors such as aggression, sexual preferences, and individual status; through to more applied medical studies of health and illness. Clearly, some of these relationships are better supported than others, and Manning presents the weakest correlations with a few well-placed caveats.

In general, the book builds from relatively basic claims to declarations that many readers will construe as 'over-interpretation'. If we take Manning's conclusions literally, you could predict a team's performance at the next World Cup by the digit ratio of team members (p 139) – the lower 2D:4D the better their chances. This means we should all head to Ladbrokes and bet on rank outsiders Jamaica – they have the lowest digit ratio of the cultures sampled so far (p 19), and yet will offer quite staggering odds!

The book is aimed as an introductory text into this field and, as such, presents data that has been analysed with varying statistical rigour. Manning also adopts a fairly uncritical tone throughout. It is fair to say that several of the correlations presented have marginal significance, and r^2 values and effect sizes are largely not reported. Many bivariate plots resemble shotgun blasts, and much of the data are not published. Maybe this will change as the field grows. Or perhaps we should expect weak correlations when analysing such complex, multidimensional traits (such as human sexual orientation)?

I was a little surprised at the apparent holes in the data. It is unclear to what extent 2D:4D is affected by foetal testosterone, and how much of the variance in the digit

ratio of adults is explained by uterine conditions. Manning reports a lack of longitudinal data on relative changes in finger lengths with age. Yet several of his own datasets point to digit ratio differences among age cohorts (eg, pp 87 and 91). Also, he has previously reported significant within-individual changes in finger dimensions over short time periods (Manning *et al*, 1996; Scutt and Manning, 1996; Manning *et al*, 2002). Personally, I am not sure how to reconcile these discrepancies and it would have been useful for Manning to address this head-on.

Readers will undoubtedly adopt more welcoming or more damning views of the book's thesis. Clearly this is a field of interest to many health care professionals and yet some fundamentally important questions remain unexplored. Manning communicates this well. Every student entering graduate school in a related field should be licking their chops! There is plenty to achieve here. With this in mind, I hope that researchers working in this field steer clear of wholly adaptive scenarios and adopt quantitative rigor in interpreting the strengths and weaknesses of their data. The field of digit ratio research, and any medical advances that accrue, will be better for it.

The book is designed to open people's eyes to possibilities rather than make definitive statements. There is just too little data at present. Manning's style is jovial, easy to read, and will make digit ratio research interesting and accessible to many. This is a great book for students to read, but may frustrate many seasoned evolutionary biologists. If it is read with the appropriate caveats in mind, it will be a good basis for seminars and discussion classes.

References

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