

# Scientists believe technophobia starts in the womb

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Having a good grasp of, or an aversion towards, using technology can be predicted by the hormones we are exposed to in the womb, researchers at the University of Bath have discovered.

Pre-natal testosterone exposure has been argued to have an effect on the way the [brain](#) develops that makes it either easier or more difficult to understand technology.

Researchers in the Department of Psychology found that levels of pre-natal testosterone exposure were higher in Computer Science students who achieved higher scores in their computer programming assessments.

They measured this by looking at the students' finger, or digit, ratio – the relative length of the ring finger compared to the index finger – which has been found to indicate levels of pre-natal testosterone exposure.

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## [Twin fetuses learn how to be social in the womb](#)

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Computer Science students with a relatively longer ring finger, which indicates higher exposure to pre-natal testosterone, obtained higher grades on their university programming course.

The study compared the finger lengths of 150 students who were studying Computer Science at the University over a number of years, undertaking a range of programming assignments and found a clear link between a student's grades and the relative lengths of their index and ring

fingers on all occasions.

The team also looked at non-Computer Science students to see if aversion to using technology was related to relative finger length. The study comprised of 119 social science students and found that a relatively shorter ring finger related to greater feelings of anxiety about using technology.

The research suggests that lower exposure to pre-natal testosterone relates to a general ‘anxiety sensitivity’, that is, being particularly sensitive to any sensations of anxiety that arise.

Dr. Mark Brosnan, leading the research, said: “It is fascinating that this index of prenatal testosterone exposure is impacting upon university grades twenty years later.

“Lower levels of pre-natal testosterone exposure were related to anxieties concerning the use of new technologies, such as computers. We have come across many technophobes during our research and this will help us better address their computer-related anxieties.

“The relationship between pre-natal [testosterone](#) exposure and sensitivity to anxiety may prove to be useful in understanding how a biological index can relate to anxiety concerning new technologies.”

**More information:** This research will appear in a special issue on digit ratio research in the academic journal *Personality and Individual Differences*.

Provided by University of Bath

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