

Left-handedness – mysteries and myths

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If we account for cultural pressures and forced switching to right handedness, approximately 10 per cent of the population prefer to use their left hands for precision motor movements. There are no definite answers as to why. Art forms depicting uni-manual actions over the last 5000 years suggest this percentage has been stable across time and place. Until the last 30–40 years that is, since when rates have increased to 15–20 per cent, a rate of change far too quick to be accounted for by genetic models.

Genetic theories of handedness also struggle to account for twin data. The dizygotic (non-identical) twins pictured, my own, have no left-handed parents or grandparents. There seems to be a higher prevalence of left-handedness in twins generally, irrespective of zygosity. The myth of ‘mirror twins’ (based on quadruplet embryology in armadillos, which may involve rotational splitting and mirroring) was invoked to account for observed discordance in handedness in monozygotic (identical) twins. Neither are the brains of left-handers simply mirror images of a right-hander’s brain; the majority of left-handers retain language in the left hemisphere for example.

Do left-handers die younger? Not if correct methods and statistical analyses are applied to cohorts studied. What about morbidity? My own research suggests that left-handers do not experience more trauma than right-handers, but have double the prevalence of post-traumatic stress disorder; other research suggests left-handedness may be associated with increased prevalence of schizophrenia.

It’s not all bad. Left-handedness may be an advantage in certain sports, not because left-handers have any inherent visuospatial advantage, but because of perceptual frequency effects: right-handers encounter left-handers more rarely than vice versa.

