

IQ differences between right-handers and left-handers are negligible

How can we best approach the question of IQ differences between left-handers and right-handers?

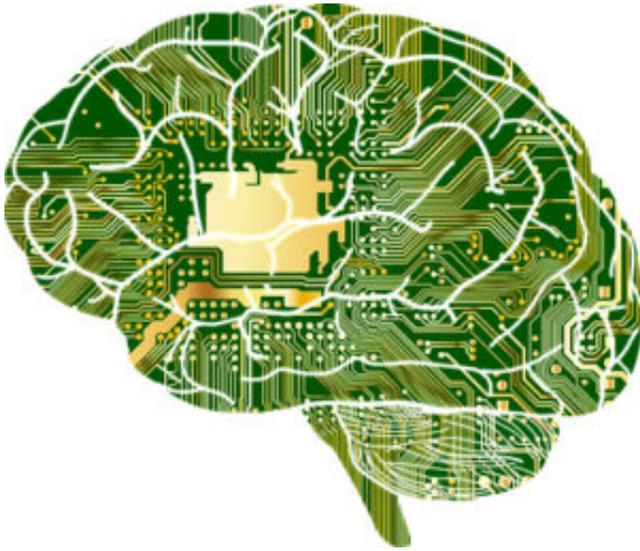


Fig. 1.

As with any scientific question, one should look at the scientific literature. Only there is an issue: when trying combinations of words, such as «handedness», «hand skill», «hand preference», «intelligence», and «IQ», in search engines such as Pubmed and PsychInfo, one gets more than 8,700 records. This is what we got when we set out to answer this question more than a year ago. Looking at the articles in more detail we found that 36 published studies to date have measured full IQ scores using standardized IQ tests for both left-handers and right-handers who are healthy. Eighteen of those studies further provided the numbers we needed in order to perform a meta-analysis, that is to synthesize all the findings in a statistical manner.

What the meta-analysis showed is that, contrary to popular belief, the differences in IQ scores between right-handers and left-handers are trivial. As an illustration, if the mean IQ score of a group of 100 left-handers were exactly 100 (with a standard deviation of 15), the mean IQ score for a group of 100 right-handers would be 101.05 (if the standard deviation was again 15). Of note, when the study with the largest sample size was excluded from our analysis, then the difference in IQ between the two handedness groups was no longer there.

In other words, when we look at healthy individuals, we should not expect to find meaningful differences in IQ scores between right-handers and left-handers.

However, this does not hold true when we look at atypical populations, such as people with intellectual disabilities or gifted individuals. In a previous meta-analysis (Papadatou-Pastou & Tomprou, 2015, *Neuroscience and Biobehavioural Reviews*, 56, 151-65), we found that individuals with intellectual disability present elevated levels of left-handedness compared to the general population. The same meta-analysis showed further that intellectually gifted individuals are 0.76 times less likely to be left-handed compared to the general population (so if the prevalence of left-handedness in typically developing individuals were exactly 10%, then 7.79% of intellectually gifted individuals would be left-handed). A word of caution is in order here; only five published studies have compared handedness prevalence between intellectually gifted individuals and typical ones, so this is a question that calls for further research.

Left-handers being smarter than right-handers is a therefore a myth. One that should not be perpetuated.

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Publication

[Right-handers have negligibly higher IQ scores than left-handers: Systematic review and meta-analyses.](#)

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