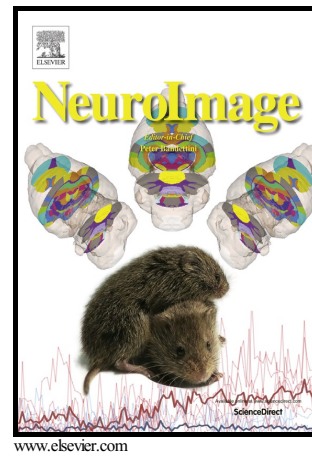


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Individual differences in the dominance of interhemispheric connections predict cognitive ability beyond sex and brain size.

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ABSTRACT

Global structural brain connectivity has been reported to be sex-dependent with women having increased interhemispheric connectivity (InterHc) and men having greater intrahemispheric connectivity (IntraHc). However, (a) smaller brains show greater InterHc, (b) larger brains show greater IntraHc, and (c) women have, on average, smaller brains than men. Therefore, sex differences in brain size may modulate sex differences in global brain connectivity. At the behavioural level, sex-dependent differences in connectivity are thought to contribute to men-women differences in spatial and verbal abilities. But this has never been tested at the individual level. The current study assessed whether individual differences in global structural connectome measures (InterHc, IntraHc and the ratio of InterHc relative to IntraHc) predict spatial and verbal ability while accounting for the effect of

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