

Right-handers, but not left-handers, are biased to select their dominant hand

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The vast majority of humans – over 90% – prefer to use their right hand for most skilled tasks. For decades, researchers have been trying to understand why this asymmetry exists. Why, with our two cerebral hemispheres and motor cortices, are we not equally skilled with both hands? A study from the University of Aberdeen in the UK, published in the April 2011 issue of *Cortex*, suggests that the explanation may stem from actions that require us to use both hands at the same time, which may bias right-handers toward choosing their right hands.

Gavin Buckingham, now a postdoctoral researcher at the Centre for Brain and Mind at the University of Western Ontario in Canada, and his PhD supervisor Dr. David Carey, asked left- and right-handed participants to reach first toward a pair of targets with both hands at the same time and, immediately afterwards, toward a new single target with only their closest [hand](#). Just before they began the reach, subjects were given a short vibratory pulse on one of their hands, giving them a clue about where the new target would appear, and hence which hand should perform this second portion of the reach. On a small proportion of trials, the pulse was given to the wrong hand, which meant that subjects had to restrain the reach with this incorrectly-cued hand in order to make the reach with the correct hand.

The right-handed subjects had far greater trouble dealing with this incorrect cue when it was given to their right hands, making more mistakes and taking longer to successfully inhibit the reaches, almost as if the right hand was already pre-selected to carry on during the

bimanual reach. The left-handed subjects showed no such asymmetries, suggesting that they are less inherently biased to select one hand over the other.

These findings build on a series of studies from the same researchers which have indicated that right-handers have their attention largely directed at their right hands during bimanual tasks. "One explanation for these data is that hand choice is related to hemispheric specialisation for speech and language" says Dr Carey. "Many left-handed people have "right-handed" brains, which weakens the typical bias towards choosing their dominant left hand."

More information: The article is "Asymmetries in motor attention during a cued bimanual reaching task: Left and right handers compared" by Gavin Buckingham, Julie C. Main, David P. Carey, and appears in Cortex, Volume 47, Issue 4 (April 2011)

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