

Researchers explore causes of right-left confusion

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Around 15% of all Dutch people say they can't distinguish between left and right. People taking their driving test regularly take wrong turns and arguments flare up because that all-important turn is missed on the way

to the camp site. Researchers in Leiden and Utrecht are trying to find out what's behind the confusion.

What makes left and right so confusing? "Left and right are symmetrical, so there's no really clear difference between them," explains Ineke van der Ham, Leiden neuropsychologist. "Almost nobody has a problem with above and below or in front of and behind, because they can see the difference." Time to do some research.

Help needed

When asked, 15% of people say they can't distinguish between left and right and 85% say it's not an issue. However, the research showed a different picture: Forty-six percent of the 485 participants could tell the difference, but no fewer than 42% needed help to distinguish between the two. "We saw that they had developed different strategies," Van der Ham explained. "They use their hands, for example, by making an L-shape with the thumb and index finger of their left hand, or they remember which is the hand they write with, or maybe they wear some jewelry on the left or right as an orientation point."

What do we do exactly when we try to determine whether something is left or right? The researchers looked at how we use our own bodies when we need to decide between left and right. In an experiment, participants were shown an image of a doll and they had to indicate as quickly as possible which hand, the left or the right, was colored red. They saw the doll in all kinds of different positions: from the front, the back, with its arms crossed or not. To see whether that caused confusion, the test subjects, too, had their hands in a neutral position or crossed. It was when the doll was in the same position as the participant that the right answer was produced fastest. It made no difference at all what the participants did with their own hands. Van der Ham: "These results show that when indicating left or right we mainly use our fixed knowledge of

our own body. Crossing your own arms or even putting your hands under a cover had no influence on the test."

Practice a lot

Why is it that a large group of people have no problem with distinguishing between left and right? Van der Ham: "It's likely that the process became automatic for them at a very young age." When asked whether you can learn to improve your performance if you find it difficult, Van Ham replied: "For children, I would advise them to practice a lot so they make it automatic. That's also how they learn the times tables. It's much harder to do that at a later age, so the best alternative is to choose a particular strategy, such as making the L-shape with your left hand or remembering which is the [hand](#) you write with, and stick with that."

In any event, it's good to know you're definitely not the only one with the problem.

More information: Ineke van der Ham et al. EXPRESS: Distinguishing left from right: A large scale investigation of left right confusion in healthy individuals, *Quarterly Journal of Experimental Psychology* (2020). [DOI: 10.1177/1747021820968519](https://doi.org/10.1177/1747021820968519)

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