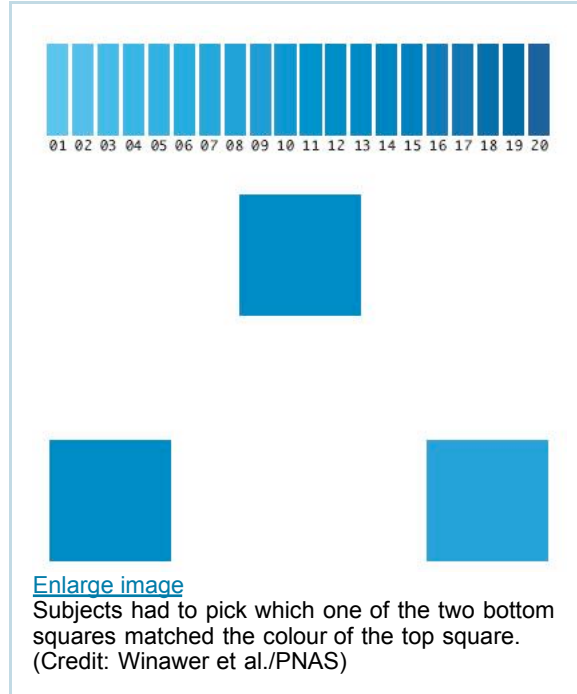# Russian speakers get the blues

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The language you speak can affect how you see the world, a new study of colour perception indicates. Native speakers of Russian – which lacks a single word for "blue" – discriminated between light and dark blues differently from their English-speaking counterparts, researchers found.

The Russian language makes an obligatory distinction between light blue, pronounced "goluboy", and dark blue, pronounced "siniy". Jonathan Winawer at MIT in the US and colleagues set out to determine whether this linguistic distinction influences colour perception.

The team recruited 50 people from the Boston area in Massachusetts, US, roughly half of whom were native Russian speakers.

Volunteers viewed three blue squares on a screen and had to indicate by pushing a button whether the single square on top matched the bottom right or bottom left square in terms of hue (see image for an example). In total there were 20 different shades of blue.

Enlarge image
Subjects had to pick which one of the two bottom squares matched the colour of the top square. (Credit: Winawer et al./PNAS)

True blue

Subjects completed two types of tests: in one version, the three squares were of a similar shade, whereas the other test involved one square that was a markedly different shade - for example, distinguishing a dark blue from a light blue.

English speakers were no better at distinguishing between dark and light blues than they were at telling apart two blues of a similar shade.

Russian speakers, by comparison, were 10% faster at distinguishing between light (goluboy) blues and dark (siniy) blues than at discriminating between blues within the same shade category.

"This is the first time that evidence has been offered to show cross-linguistic differences in colour perception in an objective task," says Winawer.

Moreover, when Russian speakers had to memorise an eight-digit number while doing the colour task, they were no better at distinguishing between dark and light blues and those within of a similar shade.

Winawer believes that this is because the concentration needed to memorise the number interfered with their verbal brainpower – removing the extra boost that the Russian language gives in classifying light and dark blues.

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