

# Research finds brain treats dialects as language

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A distinctive Scots brogue is at the centre of new international research that shows the brain treats a dialect and a language in the same way.

Abertay University in Dundee, Scotland partnered with RWTH Aachen University, Germany, to study how quickly the brain can react when asked to switch between standard speech and [regional dialects](#).

During research in Dundee, funded by the Leverhulme Trust, [study participants](#) were given a list of both English and Dundonian words which then appeared on a colour-coded screen in randomised order.

Depending on the colour, they were asked to say that word in either English or Dundonian - for example they would respond 'house' if the image was coloured green or 'hoose' if the image was blue.

Other words included in the survey were girl/lassie, armpit/oxter, heart/hert, sausages/sassages, ears/lugs, and children/bairns.

Abertay researchers measured the length of time that elapsed from an image appearing on screen to the participant saying each word, thereby calculating how long each person took to switch between dialects.

At RWTH, Matthieu Declerck and Andrea Philipp carried out the same experiment with people who use standard German and the regional Öcher Platt dialect.

Both studies found a 'switch cost' where it took participants longer to name pictures when they were asked to move from speaking one variety to another.

It was also discovered that this 'switch cost' remained the same for people comfortable with both English and Dundonian, regardless of which direction the switch went.

However, for those with one [language](#) stronger than the other - in this case English participants with little or no previous experience of

Dundonian – the 'switch cost' was greater when reverting back to speaking English.

Project leader Dr Neil Kirk of Abertay's Division of Psychology said: "One explanation for this is that both varieties are always active, but in order to speak one of them, you need to suppress or inhibit the other variety.

"More cognitive effort is required to suppress a stronger variety and this creates a delay in being able to activate it again."

When compared to previous language research, the results of the study showed bidialectals displayed the same 'switch cost' pattern as bilinguals who have two equally strong languages, suggesting that different dialects (or closely related language varieties) are stored in the brain in similar ways as different languages,

Dr Kirk, who conducted this research as part of his PhD, supervised by Vera Kempe and Ken-Scott Brown, added: "In most other studies our bidialectal participants would simply be considered "monolingual," as language background questionnaires typically do not enquire about [dialect](#) usage. Yet the results of our study show that some monolinguals and bilinguals are cognitively not that different."

**More information:** Neil W. Kirk et al. Can monolinguals be like bilinguals? Evidence from dialect switching, *Cognition* (2017). [DOI: 10.1016/j.cognition.2017.10.001](https://doi.org/10.1016/j.cognition.2017.10.001)

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