## Speakers of two dialects may share cognitive advantage with speakers of two languages

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The ability of children to speak any two dialects - two closely related varieties of the same language-may confer the same cognitive advantages as those reported for multilingual children who speak two or more substantially different languages (such as English and French).

The new findings on bi-dialectalism are published in the journal Cognition, following a study undertaken by researchers from the

University of Cambridge, the University of Cyprus, and the Cyprus University of Technology.

Although a topic of continuing academic and public scrutiny, a lot of research to date reports a positive cognitive net effect for multilingual children compared to children who speak only one language.

The effect is usually manifest in attention, cognitive flexibility and the ability to inhibit irrelevant information, with some researchers arguing that the advantages of bilingualism are evident throughout the human lifespan. Until now, however, there has been very little research on children speaking two dialects which may only be separated by subtle linguistic differences.

Bi-dialectalism, the systematic use of two different dialects of the same language, is widespread in many parts of the world. In the USA millions of children grow up speaking African American English at home as well as Mainstream American English at school.

Similar situations arise in many parts of Europe, such as the Germanspeaking parts of Switzerland, where school-children may only feel comfortable to talk about school subjects in High German, but switch to Swiss-German for everyday conversation.

British English, Gaelic and Welsh have well-established dialects as well as newly emerging ones such as Multicultural London English, which has a rising number of speakers, especially among young, urban people.

To date, bi-dialectalism can be found in Lowland Scotland (in speakers of Scots and Standard Scottish English), in parts of Northern Ireland and elsewhere. However, the criteria for classifying two varieties as dialects rather than independent languages are not strictly objective and it could be debated whether these are cases of bilingualism instead.

Dr Kyriakos Antoniou and Dr Napoleon Katsos from the University of Cambridge studied the cognitive performance of children who grew up speaking both Cypriot Greek and Standard Modern Greek-two varieties of Greek which are closely related but differ from each other on all levels of language analysis (vocabulary, pronunciation and grammar).

The study showed that multilingual and bi-dialectal children exhibited an advantage over monolingual children that was evident in composite cognitive processes including memory, attention and cognitive flexibility; suggesting that advantages previously reported for multilingual children could be shared by children speaking any two or more dialects.

Dr Kyriakos Antoniou, from Cambridge's Department of Theoretical and Applied Linguistics, said: "What is exciting and encouraging about our findings is that we were able to replicate the advantages of bilingualism in children who speak two varieties of the same language. They need not be as diverse as English and Mandarin Chinese.
"The distance between languages and dialects does not make much of a difference according to our tests and findings. Systematically switching between any two forms of language, even quite similar ones, seems to provide the mind with the extra stimulation that leads to higher cognitive performance.
"Our findings could be significant for parents and children in the UK and countries across Europe and beyond where children speak a variety of different dialects. Germany, Italy and Spain all have significant numbers of dialectal speakers, as do parts of the US and China. With the rise and increased recognition of dialects in the UK, bi-dialectalism might become even more relevant in the UK in the near future.
"What our research suggests, contrary to some widely held beliefs, is that we don't have to treat multilingual or bi-dialectal children as problematic. When it comes to language, plurality is an advantage."

The study consisted of 64 bi-dialectal children, 47 multilingual children and 25 monolingual children. Comparisons between the three groups were performed in two stages and the socio-economic status, language proficiency, and general intelligence of all children taking part was factored into the research methodology.

Dr Napoleon Katsos, one of the study authors, said: "Previous research has documented positive associations between childhood bilingualism and cognitive abilities.
"The novel and most important contribution of this study is that it showed similar positive effects extend to children speaking two closely related dialects of the same language. In qualitative terms, the effects of bi-dialectalism and multilingualism were, in general, quite similar. However, more research is needed on this topic.
"Dialects are very much under-recognised and undervalued. This kind of research can make people appreciate there is an advantage to bidialectalism and this may be important when we think about our identity, about how we educate children and the importance of language learning."

Dr Antoniou and Dr Katsos are now retesting and extending their hypotheses on a larger scale in Belgium, in collaboration with researchers at the University of Brussels. Belgium offers an ideal testing ground, with dialects of Dutch such as West-Flemish, being spoken alongside more standard versions of Dutch and French.

The new study includes larger samples and new measures, to better
understand the effects of bi-dialectalism on cognitive and linguistic development and their relation to bilingualism.

## More information: Kyriakos Antoniou et al, The effect of childhood bilectalism and multilingualism on executive control, Cognition (2016). DOI: 10.1016/j.cognition.2015.12.002

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