Cognitive and Linguistic Development in Bilinguals and Bi-Dialectals

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Introduction

Studies have shown that bilingual and monolingual children develop differently:

- Bilingual children outperform monolingual peers in cognitive control tasks [9,10,11].
- Bilingual children lag behind monolingual peers in linguistic development [3,6,9,12].

However, much is still unclear:

- Which executive functions benefit from bilingualism?
- Are all language skills delayed in bilinguals?
- And what about bi-dialectals?

The BiBi project

The impact of bilingualism and bi-dialectalism on cognitive and linguistic development (BiBi)

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Main research questions:

- How does bi-dialectalism affect the development of executive functions?
- Do bi-dialectal patterns with bilinguals or with monolinguals in their cognitive and linguistic development?
- How typologically different should the two languages be to find a "bilingual advantage"?

Monolinguals: 45 children from Eindhoven, who speak only Dutch at home and in school

Bilinguals: 45 children from Brussels, who speak French at home and Dutch in school

Bi-dialectals: 45 children from Ieper, who speak West-Flemish at home and Dutch in school

Materials

Cognitive tasks:

- Attentional Networks Task (alerting, orienting, and executive control) [13]
- Stop Signal Task (response inhibition) [14]
- Digit Span Task (verbal working memory) [15]
- Corsi Blocks Task (non-verbal working memory) [16]
- Silent Films Task (Theory of Mind) [17]
- Switching Task (task switching ability) [18]

Linguistic tasks:

- Peabody Picture Vocabulary Test (receptive vocabulary) [19]
- Word Definitions (productive vocabulary) [20]
- Pragmatics Task (pragmatic language comprehension) [21]
- Sentence Completion Task, (agreement production) [22]
- Picture Description Task (agreement production) [23]

Sub-project 1: Pragmatics

Pragmatic skills seem to be better developed in bilinguals compared to monolinguals [24].

Question: How does bilingualism and bi-dialectalism affect children’s ability to understand various types of implicature?

Method: Look at comprehension of implicatures, irony, metaphors, relevance, manner, and contrast in bilinguals, bi-dialectals, and monolinguals

Sub-project 2: Agreement

Healthy native speakers produce subject-verb agreement errors [e.g., the key to the cabinets are missing] [25,26]. This might be related to executive control.

Question: Which executive functions are used during subject-verb agreement?

Method: Look at the relation between executive functions and agreement production

Sub-project 3: ToM

Bilingualism enhances Theory of Mind (ToM) development [27]. Having siblings also enhances ToM development [28].

Question: Are the effects of bilingualism and siblings on ToM development related?

Method: Look at effects of bilingualism/bi-dialectalism and number of siblings on Theory of Mind scores

References


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