

Adaptation of the Main Concept Analysis for Catalan-dominant bilinguals

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Introduction

The Main Concept Analysis (MCA; Kong, 2009) assesses oral discourse abilities in individuals with aphasia (IWA) and dementia (Kong et al., 2016). Main concepts measure discourse efficiency by quantifying the production of essential information, each containing at least one main action (Nicholas & Brookshire, 1995). Although available in several languages, such as Mandarin (Gao et al., 2016) and Korean (Kong, 2018), this standardized tool is not yet available for Catalan.

Aim of the study

The goal of this study was to develop an adaptation of the MCA for Catalan and identify main concepts in a normative sample of Catalan-speaking adults as a first step toward clinical implementation.

Methods

A total of 88 unimpaired Catalan-dominant bilinguals (48 females; 33 aged 18-39, 30 aged 40-59, and 25 aged 60-92 years) with different educational backgrounds participated in the study. All participants were native to Catalan-speaking territories: most from Spain, and two from Alghero (Italy).

The MCA consists of four sets of black-and-white sequential pictures involving different characters and actions. Participants were asked to describe what happened in each picture set. Descriptions were recorded, transcribed and scored. We scored target concepts based on a 70% participant consensus threshold.

Conclusion

This study represents the first stage of the Catalan adaptation of the MCA, which will be the first test to evaluate discourse in Catalan-speaking populations. The preliminary normative dataset demonstrated how geographically and linguistically specific norms are needed when evaluating spoken discourse.

Future research will establish normative data, validate the Catalan MCA in clinical populations, and examine whether language-mixing in aphasia mirrors that of unimpaired speakers or reflects clinical-specific patterns.

Selected references

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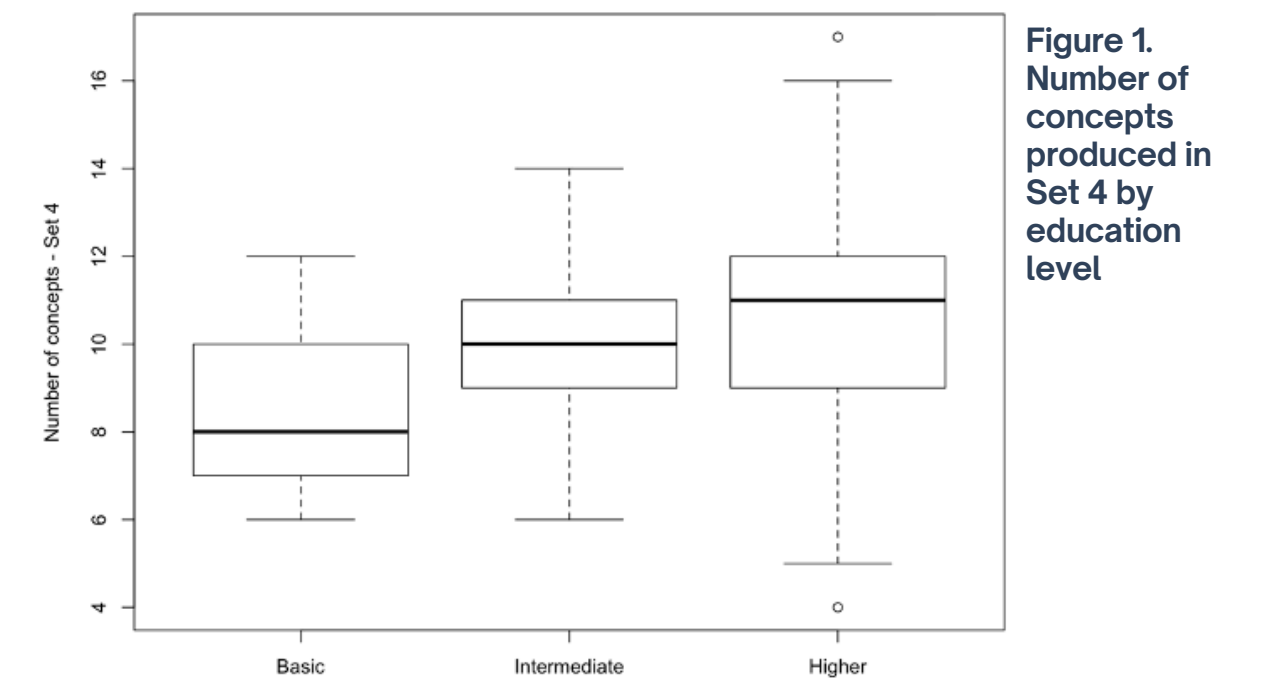
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Results

Descriptions from a subset of participants were rated by two independent researchers. Inter-rater reliability was excellent, with 98.9% agreement (Cohen's $k = .968$, $p < .001$) across 2,961 comparisons.

Participants produced a variable number of concepts across sets: mean concept production ranged from 7.10 (SD = 2.06) in Set 3 to 10.07 (SD = 2.48) in Set 4. Unlike in other versions (e.g., Yazu et al., 2022), the number of concepts produced by set did not differ among educational and age groups, with one exception: in Set 4, participants with higher education produced a significantly greater number of concepts than those with basic education ($F(2, 84) = 3.95$, $p = .023$, Tukey HSD $p = .019$).



A total of 19 concepts met the 70% threshold and were included in the final Catalan MCA list, in line with the Dutch (Criel et al., 2021). The main concept set was comparable to previous adaptations, although it contained fewer concepts than most other languages (Table 1).

Table 1. Number of main concepts per language and set in the MCA

Language	Set 1	Set 2	Set 3	Set 4	Total
Cantonese (Kong, 2009); English (Kong et al., 2012; 2016); Korean (Kong, 2018)	5	6	9	6	26
Dutch (Criel et al., 2021)	4	5	4	6	19
Japanese (Yazu et al., 2022)	5	5	6	7	23
Mainland China Mandarin (Gao et al., 2016)	5	6	5	7	23
Taiwanese Mandarin (Kong & Yeh, 2015)	5	6	8	7	26
Peninsular Spanish (Kong, 2021)	5	6	8	6	25
Catalan (current study)	4	5	4	6	19

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