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Introduction

People with aphasia often exhibit lexical access deficits, which have been systematically examined in monolinguals (Dell & Schwartz, 2007). Systematic investigation of the characteristics of such deficits in bilinguals is required (Khachatryan et al., 2016).

Research signposts that (a) error types in naming in bilinguals are coherent with error types observed in monolinguals whereas additional 'wrong language'-naming errors occur (Cargnelutti et al., 2019), (b) error rates and patterns in bilinguals are mostly coherent across languages. However, differences between languages in naming errors in bilinguals will only be identified by more precisely, and detailed studies including influencing factors (Khachatryan et al., 2016).

Therefore, this case-series study investigates picture-naming errors in bilinguals within and across languages to expose differences by discussing influential factors, entailing the bilingual language profile (e.g., dominance, age-of-acquisition), the language impairment, and linguistic variables with influence on naming (e.g., name agreement). Patterns will be used to extend theories of bilingual speech production (Kroll et al., 2010) and its breakdown in aphasia.

Methods

Five late bilingual speakers with aphasia and word retrieval impairments were recruited (mean=65years, SD=7.11, languages: Dutch-German [P1+P2], English-German [P3], French-English [P4], English-French [P5]).

Bilinguals named ~350 object pictures from MultiPic (Duñabeitia et al., 2017) with at least 80% name agreement, in each of their languages, counterbalanced over four sessions. Responses were coded for accuracy and error type. We analysed the distribution of errors across languages. Participants' bilingual language profiles and language impairments were assessed by the BAT (Paradis, 1987), LEMO (Stadie et al., 2013) and LEAP-Q (Marian et al., 2007).

Results

All participants showed greater naming accuracy in their dominant language (three significantly so) regardless of whether this language was the first or second language acquired. One participant (P4) displayed the same error rates across languages for all error

types, all others showed different error rates across languages (see table). To understand error distribution across languages, we will perform linear regression and correlation analyses.

Table 1. Naming accuracy and error patterns

Participant	L1-%correct	L2-%correct	McNemar's test exact p (2-tailed)	Patterns across languages
P1	58	63*	.434	L1: semantic[10%]>no response [6%]>phonological[1%] L2: phonological[10%]>semantic [8%]>no response[3%]
P2	41	58*	***.001***	L1: no response[12%]>semantic [10%]>phonological[2%] L2: semantic[10%]>phonological [5%]>no response[4%]
P3	80*	59	***.001***	L1: semantic [7%]> no response[4%]>phonological[1%] L2: semantic [7%]>phonological[6%] >no response[5%]
P4	69	72*	.660	L1: no response[10%]> semantic[7%]> phonological[1%] L2: no response[7%]+semantic[7%]> phonological[1%]
P5	87*	52	***<.001***	L1: semantic[2%]>no response [1%]>phonological[0%] L2: no response[10%]>semantic [8%]>phonological[6%]

Note. *Dominant language; ***bold italics*** represent a significant difference

Conclusion

Naming accuracy was greater in the dominant language of all bilingual participants. Dominance seems to predict naming accuracy. Therefore, the factor dominance seems to be important to consider when planning speech pathology services. Additionally analyses will be conducted to classify the participants' patterns, entailing various factors mentioned above. Results will extent current theories of (impaired) bilingual speech production.

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