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Language intervention in French–English bilingual aphasia: Evidence of limited therapy transfer

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ABSTRACT

This study investigated the effect of treatment in the second language (L2) for a previously proficient French-English bilingual with aphasia, at 5 years post-stroke. Assessment on the Bilingual Aphasia Test (BAT) enabled objective measurement of language skills in each language, and comparison across languages, before and after treatment in L2 (English). Previous therapy had been provided exclusively in L1 (French). Pre-treatment assessment on the BAT revealed greater impairment in L2 than L1, indicating differential recovery and limited transfer from previous L1 intervention. Following treatment, re-assessment on the BAT in French and English showed significant gains in spoken expression and syntactic comprehension in L2 but not L1. Translation in both directions was unchanged. Gains in L2 did not exceed L1 pre-treatment scores. These results demonstrate language-specific improvement following treatment in L2, and indicate caution in assuming therapy transfer will occur in proficient, highly motivated late bilinguals. The use of the BAT as a cross-linguistically valid assessment tool is recommended for future bilingual aphasia research.

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1. Introduction

One of the central issues in bilingual aphasia research is that of therapy transfer, or cross-language generalisation. Essentially, the question is whether speech-language intervention in one language results in improvement of the untreated language(s). If improvement attributable to speech-language intervention is demonstrated in an untreated language, then therapy transfer can be said to have

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occurred. Conversely, a lack of improvement in an untreated language would indicate that no therapy transfer occurred. Given that at least fifty to eighty per cent of the world population is bilingual (Azarpazhooh, Jahangiri, & Ghaleh, 2010; Grosjean, 2008) and that there are increasing numbers of bilingual individuals with aphasia (Paradis, 1998, 2001), the potential for therapy transfer across languages clearly is of great significance.[1] It is particularly relevant, moreover, as bilingual speech-language pathologists are generally under-represented in many countries with significant bilingual populations (cf. Stow & Dodd, 2003; Wiener, Obler, & Sarno, 1995), and the potential range and number of languages spoken by bilingual individuals exceeds the capacity of services to deliver treatment in all required languages (Roger & Code, 2011). Hence while intervention provided by a bilingual clinician speaking the same pair (or set) of languages as the person with aphasia is the ideal (Baker, 1993; Roberts & Deslauriers, 1999; Roger & Code, 2011; Whitworth & Sjardin, 1993), in many cases this will not be possible.[2] Consequently, the potential for treatment in one language to benefit the untreated language(s) is pertinent to the rehabilitation of many bilingual individuals with aphasia.

Therapy transfer across languages is of importance moreover to our understanding and models of bilingual language organisation (Faroqi-Shah, Frymark, Mullen, & Wang, 2010; Galvez & Hinckley, 2003; Kiran & Roberts, 2010; Miertsch, Meisel, & Isel, 2009). For example, research reporting a difference in transfer effects on naming tasks for cognate versus non-cognate lexical items (Kohnert, 2004; Tainturier & Roberts, 2010; see also Detry, Pillon, & de Partz, 2005; Lalor & Kirsner, 2001) has implications for bilingual lexical models that posit direct links between L1 and L2 lexical items irrespective of cognate status (e.g. Kroll & Stewart, 1994).

A number of recent studies have investigated cross-language generalisation (e.g. Abutalebi, Della Rosa, Tettamanti, Green, & Cappa, 2009; Croft, Marshall, Pring, & Hardwick, 2011; Goral, Levy, & Kastl, 2010; Hinckley, Galvez, Manasala-Eary, Bourji, & Carr, 2005; Kiran & Roberts, 2010; Meinzer, Obleser, Flaisch, Eulitz, & Rockstroh, 2007; Miertsch et al., 2009).[3] Varied results have been reported, showing evidence both of transfer and of a lack of transfer across languages after intervention in one language (see Faroqi-Shah et al., 2010; Kohnert, 2009; Miertsch et al., 2009; Roberts, 2008, Roberts & Kiran, 2007 for reviews). Interpretation of the results requires caution due to the limited number of studies and differences across studies (Kohnert, 2009; see also Kiran & Roberts, 2010; Paradis, 2001, 2004), including variation in the assessment measures, treatment approaches, aphasic deficits and the bilingual proficiency and acquisition history of participants. Furthermore studies conducted within the spontaneous recovery period without adequate control measures make interpretation of the results problematic (see Kohnert, 2009; Miller, 1993). Consequently there is a need for further research in this area.

This study investigated the effects of intervention in L2 (English) at 5 years post-onset for a proficient, late French–English bilingual with chronic aphasia. Assessment on the French and English versions of the Bilingual Aphasia Test (Paradis & Libben, 1987) was conducted pre- and post-treatment. The aim of the study was to determine whether treatment in the second language, English, would result in improvement of both French, the first and untreated language, and English. The article is organised as follows. First the literature regarding evidence for and against therapy transfer is reviewed, and some issues pertaining to the discrepancy of findings to date are addressed. Second, the necessity of utilising

[1] Previous estimates suggest at least 45,000 new cases of bilinguals with aphasia each year and 200,000 bilinguals with aphasia at any one time in the USA (Paradis, 2001) although that figure would be considerably higher now. Recent speech pathology caseload statistics for the Aged Care Assessment and Rehabilitation team, Prince of Wales Hospital, Sydney reported 60% bilingual, 30% monolingual English, and 10% monolingual languages other than English speakers (Miller Amberber, 2011b).

[2] Note that in contrast to treatment, assessment of the languages spoken by a bilingual or multilingual person with aphasia should be conducted preferably by a different native speaker of each language, to minimise interference from the other languages, as recommended for the administration of the Bilingual Aphasia Test (Paradis & Libben, 1987).

[3] In this paper we will refer to therapy transfer and generalisation interchangeably, consistent with current use in the literature. However we note that therapy transfer implies that the benefits of therapy carry over to the untreated language. Generalisation implies improvement of the underlying language function or skill in the untreated language. As is discussed in Sections 2.3 and 5.3, the majority of studies reporting improvement of the untreated language have used explicit treatment approaches, and thus the improvement appears to result from the application of metalinguistic strategies across languages, rather than improvement of the implicit language skills in the untreated language. Hence we generally prefer the term therapy transfer as this more adequately reflects the focus of change.

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