INTRODUCTION

Current understanding of the bilingual mental lexicon is limited by the predominant empirical focus on nouns in word production studies. The bilingual disadvantage, which refers to bilinguals’ poorer naming ability even in the first language, is consistently reported for nouns (Gollan et al., 2011; Ivanova & Costa, 2008). Explanations for the bilingual disadvantage emphasize bilinguals’ lower usage frequency in each language and lexical competition between translation equivalents (Gollan et al., 2011; Sandoval et al., 2010). These mechanisms could operate differently for verbs because of lower sensitivity to frequency effects (Edmonds & Donovan, 2012; Szekely et al., 2005) and lower translatability across languages (van Hell & deGroot, 1998). Research on bilingual verb naming, while scarce, is inconclusive, raising doubts on the ubiquity of bilingual disadvantage across grammatical categories.

Comparisons of grammatical category differences in bilinguals suggest a verb advantage in children (Klassert et al., 2014; Kauschke et al., 2008) while neuropsychological data suggest a disadvantage for verbs (Faroqi-Shah, 2012). It is important to investigate whether grammatical category influences bilingual performance to better understand bilingual lexical organization, and because action naming (particularly action fluency) is sensitive to mild neuropsychological impairment (Beber & Chaves, 2014).

The present study had two goals: to examine if the bilingual disadvantage was influenced by grammatical category and elicitation task (picture naming versus verbal fluency), and to establish bilingual normative data for object and action naming measures commonly used in neuropsychology. We predicted that grammatical category and elicitation task would mediate the bilingual disadvantage, with smaller disadvantage for verbs (relative to nouns) and for category fluency (relative to picture naming). The latter prediction was based on category fluency’s greater reliance on cognitive control, a relative strength for bilinguals (Bialystok, 2009).

METHODS

Participants were neurologically healthy monolingual English speakers (N=41, age range 22-95 years, mean education 16.5 years) and 33 high proficiency bilingual speakers (14 Spanish-English, 19 Asian Indian language-English, age range 22-82 years, mean education 17.5 years, mean self-rating of English proficiency = 5 on 6-point scale). Tasks included picture naming of objects (Goodglass et al., 2001) and actions (Cho-Reyes & Thompson, 2012) and verbal fluency of animals and actions.

RESULTS & DISCUSSION

Figure 1 shows the scores. Language Quotient (LQ, Kertesz, 2006) was treated as a covariate to account for overall language proficiency for both picture naming and fluency. There was an interaction between
grammatical category and bilingualism for both picture naming accuracy ($F(1, 69) = 37.5, p< .001$) and verbal fluency ($F(1,60) = 5.2, p<.05$), such that bilinguals scored lower than monolinguals for noun picture naming ($F(1, 69) = 4.1, p< .05$, LQ-corrected mean difference of 28.2%) animal fluency ($F(1, 60) = 13.9, p< .001$, mean difference = 3.2) but not for actions. This finding of comparable verb retrieval accuracy in high proficiency bilingual speakers could be attributed to fewer cross-language competitors for verbs (Bultena et al., 2013).

This study suggests that 1) bilingual lexical organization is influenced by grammatical category; and 2) action naming tasks may be more reliable for neuropsychological testing of high proficiency bilinguals.

References


