

**S1**

## **A Cross-linguistic Study of Word Recognition in ASL-English Bilinguals: Deaf Children, Deaf Adults, and Hearing Adults Compared**

**Erin WILKINSON**

(University of New Mexico, USA)

### **ABSTRACT**

Traditionally, most studies on bilingualism have investigated the acquisition and usage of each language separately. However, more recent studies have shown that, even if only one language is overtly present, proficient adult bilinguals seem to co-activate both – for example, during reading (Dijkstra, 2005), and listening (Marian & Spivey, 2003), but also while speaking (Kroll, Bobb, & Wodniecka, 2006). These studies demonstrate that non-selective lexical access in hearing bilinguals is the norm rather than the exception.

Little is known, however, about cross-language influence in deaf bilinguals who rely on a signed language for daily communication, but are also fluent readers of the written form of a spoken language. In the absence of phonologically- and orthographically-similar words and signs, is it possible for deaf bilinguals to exhibit non-selective lexical access? Is lexical access non-selective for both children and adults? To what extent can knowledge of a signed language actually support the acquisition of a spoken/print language? These questions are addressed with studies evaluating lexical access in both children and adult signers (Morford, Wilkinson, Villwock, Piñar & Kroll, 2011; Morford, Kroll, Piñar & Wilkinson, 2014; Ormel, Hermans, Knoors, & Verhoeven, 2012). This talk will describe a series of studies of American Sign Language (ASL)-English bilinguals that investigated whether written words activate signed translation equivalents in three groups of deaf children, deaf adults, and hearing adults. Participants completed a monolingual task, in which they saw two English words and had to decide whether they were semantically related or unrelated. Unbeknownst to participants, some of the words had translation equivalents of similar ASL signs (e.g., bird – duck; movie-paper) while others did not (e.g., brain-heart; engine-button). Phonologically related translation equivalents shared at least two of three phonological parameters (handshape, location and/or movement). In accordance with our predictions, the results showed significant effects of phonological relatedness on the performance in the deaf groups, but not in hearing controls. Thus, deaf bilinguals seem to automatically activate the sign translations of written words – even if there are no ASL stimuli present. Subsequently, we aimed at investigating the development of bilingual lexical processing. Applying the implicit priming paradigm that was used with adults (Morford et al., 2011), we asked deaf ASL-English bilingual (N = 39, ages 11-15)

and hearing English monolingual (N = 26, age 11-14) children to participate in an English semantic relatedness task. In their model of bilingual development in signing bilinguals, Hermans et al. (2008) have suggested that deaf children access second language (L2) word forms through lexical mediation in the first language (L1). In this case, it could be expected that deaf children, like deaf adults in previous studies, will show co-activation of written words and signs. However, a parallel activation of signs and words could also be the result of activating and using both languages over many years. In this case, it could be expected that deaf children will show no or less evidence of co-activation than adults. In accordance with the first prediction, the results showed a significant effect of sign phonology in the deaf children, but not the hearing controls. We conclude that co-activation of the L1 and L2 is already present in signing deaf bilingual children, and that language processing is non-selective regardless of the degree of similarity of a bilingual's two languages.

Findings on the interaction between semantic relatedness and sign phonology will be compared across three groups of deaf children, deaf adults, and hearing adults. The role of ASL proficiency and language dominance in cross-language activation will be discussed along with broad implications on the nature of signing participants' bilingualism.