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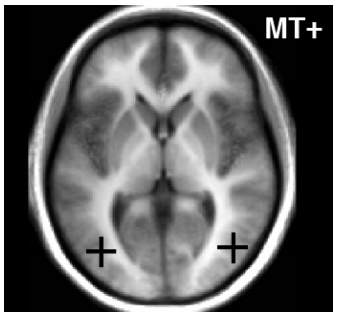
Why do Codas *code-blend*?

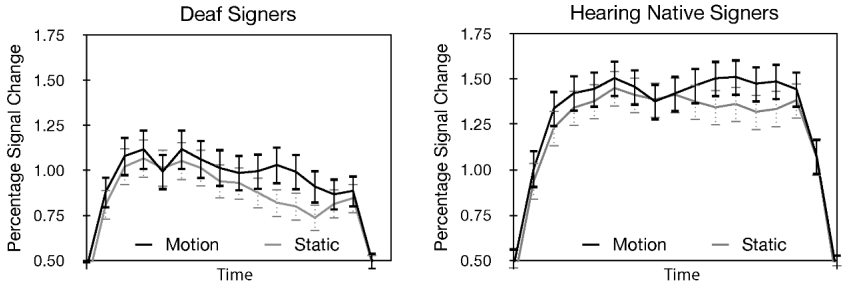
At this conference, many of you may produce ASL signs while you are speaking to each other – we have termed this phenomenon "code-blending" (as opposed to "code-switching") to capture the simultaneous nature of language mixing for ASL-English bilinguals. To understand how and why Codas code-blend, we compared the time to name pictures in English, in ASL, and with a code-blend (English and ASL at the same time; see Figure). We found that code-blending did not slow down access to ASL or English and actually helped Codas retrieve low frequency ASL signs. In addition, Codas were faster to make semantic judgments (is it edible?) for code-blends than for either spoken English words or ASL signs alone. These results show that code-blending is strikingly different from code-switching because code-switching has been shown to incur significant processing costs for spoken language bilinguals. The fact code-blending does not slow down the language processing system (at least at the word level) may explain why Codas code-blend more often than they code-switch between signing and speaking.

Emmorey, K., Petrich, J.A.F., & Gollan, T.H. (2012). Bilingual processing of ASL-English code-blends: The consequences of accessing two lexical representations simultaneously. *Journal of Memory and Language*, 67, 199-210. http://dx.doi.org/10.1016/j.jml.2012.04.005

Coda brains work a little harder than deaf brains



In a study designed to examine how the brain responds to ASL sentences about motion (e.g., *The horse galloped across the field* vs. *The horse stood in the field*), we found that when Codas comprehended ASL motion and static sentences, the neural response was greater than that for Deaf ASL signers. The neural signal for Codas was larger in both the motion-sensitive area of the brain (called **MT+**; see Figure) and in an important language area of the brain (the left inferior frontal gyrus). We think that the difference between deaf signers and Codas occurs because ASL is the dominant language only for the deaf signers. Comprehension of a less dominant language requires more neural resources. Although Codas may be ASL dominant as young children, English may rapidly become their dominant language due to immersion in an English-speaking environment outside the home. Such switched dominance also occurs for many spoken language bilinguals living in the US. Codas may exhibit greater neural activity during ASL comprehension compared to deaf signers because, although highly proficient and native-learners, they have less daily exposure to ASL and may require more neural resources for equally accurate performance.



McCulluogh, S., Saygin, A.P., Korpics, K., & Emmorey, K. (2012). Motion-sensitive cortex and motion semantics in American Sign Language. *NeuroImage*. doi:10.1016/j.neuroimage.

THANK YOU! None of these studies could happen without the contributions of Codas like yourselves. We would like to take the opportunity to thank each of you who have generously given your time. For more info, please contact **Jennie Pyers at this conference**, or email Karen Emmorey at kemmorey@projects.sdsu.edu