Dr. Stephen Lindsay

Editor in Chief, *Psychological Science*

April 6, 2016

Dear Dr. Lindsay,

My co-authors and I would like to submit an original research article entitled "Real-time lexical comprehension in young children learning American Sign Language" for publication in *Psychological Science*.

Learning to find meaning in a spoken or a signed language requires learning to establish reference during real-time interaction – relying on audition to interpret spoken words, and on vision to interpret manual signs. Studies of early spoken language comprehension have measured children’s gaze as they look at pairs of familiar objects while listening to speech naming one of the objects (e.g., Fernald et. al., 1998). Such research shows that individual differences in real-time processing efficiency predict vocabulary growth and later language and cognitive outcomes (e.g., Marchman & Fernald, 2008). But, no previous research has explored how young children learning a *visual* *language* develop skill in processing signs from moment to moment.

In this manuscript, we ask whether children learning American Sign Language (ASL) develop skill in real-time processing of signs in ways that are parallel to children learning spoken language. We show that ASL learners’ comprehension skills improved with age and were associated with vocabulary size, showing meaningful links between real-time ASL processing and language learning. Finally, we show that deaf and hearing ASL learners processed ASL in a qualitatively similar way, suggesting that these skills are driven by experience with a visual language, and not by deafness. These novel findings show striking parallels between the development of language comprehension in visual language learners and in children learning spoken languages.

We believe that this manuscript is appropriate for publication in *Psychological Science* because this is the first study to use highly precise measures of language processing, traditionally developed for spoken languages, with children learning a visual-manual language. The striking parallels suggest that processing efficiency is a fundamental skill that forms the foundation of learning for children regardless of language modality. We think our findings would be of interest to those readers who study language development, sign languages, deafness, and language comprehension.

This manuscript has not been published and is not under consideration for publication elsewhere. Please note that Dr. Fernald has served as a consultant on a grant with Rachel Mayberry, so we suggest that Rachel Mayberry, Amy Lieberman, and Arielle Borovsky not serve as reviewers. Instead, we recommend Laura-Ann Pettito and Carol Padden for this role.

Thank you for your consideration.

Sincerely,

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