

Dr. Nelson Cowan
Editor, *Journal of Experimental Psychology: General*

December 12, 2018

Dear Dr. Cowan,

My co-authors and I would like to submit an original research article entitled "Children flexibly seek visual information during signed and spoken language comprehension" for publication in the *Journal of Experimental Psychology: General*.

Language comprehension in grounded, social contexts provides children access to a rich set of multimodal cues that could support the linking of linguistic information to the world. But do children flexibly seek useful visual information to help them comprehend language in real time? In this work, we integrate ideas from language-driven visual attention and goal-based theories of vision to show that young listeners can adapt their gaze to gather visual information that supports their language comprehension. We present evidence for this explanation by measuring changes in how listeners decide to allocate visual attention across two diverse processing contexts: (1) children's real-time comprehension of familiar words in spoken English compared to American Sign Language and (2) children's and adults' processing of spoken English in clear compared to noisy auditory environments. Across both case studies, listeners showed parallel adaptations of their gaze such that they gathered more visual information from social partners when it was useful for real-time language understanding.

We believe that this manuscript is appropriate for publication in the *Journal of Experimental Psychology: General* because it synthesizes ideas from several research programs in developmental and cognitive psychology, including work on language-driven visual attention (Tanenhaus et al., 1995), goal-based accounts of vision (Hayhoe & Ballard, 2005), and language perception as multisensory integration (Vigliocco et al., 2014). This synthesis allows for a deeper understanding of children's decisions about where to direct gaze during real-time lexical comprehension, a widely studied phenomenon in early language development. We think our findings would be of interest to readers who study language processing, cognitive development, multimodal perception, sign languages, vision, and information seeking.

Here is a list of five appropriate reviewers with no conflict of interest and relevant expertise in development, sign language, vision, and/or the computational approaches used in our work:

- John Franchak (john.franchak@ucr.edu)
- Umay Suanda (s.suanda@uconn.edu)
- Amy Lieberman (alieber@bu.edu)
- John M Henderson (johnhenderson@ucdavis.edu)
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This manuscript has not been published and is not under consideration for publication elsewhere, and we do not have any conflicts of interests to disclose.

Thank you for your consideration.

Sincerely,

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