

From lab to neighborhood: enhancing child language research through community-based collaborations

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Research in child language and literacy development requires large and diverse samples to capture all facets of development with sufficient power. Accessing these samples can be particularly difficult using traditional psycholinguistic methods: children and their caregivers are invited to a lab where they complete a series of tests. Problematic aspects of this model are the geographic locations of university labs and the lab spaces themselves. One solution to this issue is partnering with community stakeholders. Here we present a successful research partnership between a college research lab and a New England museum which is supporting community science education, inclusive science practices, and methodological innovation.

This NIH-funded partnership was formed around a shared interest in Dr. Seuss: the lab uses his books to evaluate metrical processing in speech and reading; the museum preserves and showcases his work. The lab is currently housed in one of the museum's properties, serendipitously Dr. Seuss's childhood home, in a historical neighborhood in a midsize city. Research participants (young readers) are not invited to an academic building in the suburbs; they are invited to a house in an urban neighborhood. This location removes barriers to research participation as it is centrally located, close to public transportation, with free parking. As opposed to a sterile and uninviting lab, the house is a familiar and comfortable environment for children. The house's history and connection to the research is an additional positive element.

This synergy between the museum and the lab has resulted in successes and special considerations in recruitment, sampling diversity, and general data quality. Through tabling and offering interactive neuroscience programs to young children at the museum we recruit local visitors. While children learn about their brains, caregivers learn about reading development and the lab's literacy research, and have the opportunity to sign up. These efforts have led to a diverse sample, reflecting the diversity of the city and surrounding towns: in a sample of 71 participants collected to date, 58% are White, 12% Hispanic, 8% Black, 10% Hispanic and White, 5% Black and White, and 2% Asian and White. From our sample, 59% report speaking only English, while 21% report also speaking Spanish, 7% Mandarin, 4% Arabic, 4% Greek, and 2% French. Participant diversity has offered opportunities for developing more inclusive data collection protocols, including EEG capping procedures for different hair types, and forced alignment procedures for speech data across diverse speakers. In addition to the benefits to the research, this partnership exposes undergraduates to a new environment, where they work as research assistants, child clinicians, and science communicators. The college students who participate in the research gain experience - hard science and soft skills - with diverse populations, preparing them for many future paths in research, clinical, and industry positions.

This project demonstrates how a partnership between an academic research lab and a community partner enhances the inclusivity of the research and the generalizability of the results, builds community connections, provides valuable opportunities for student engagement and science outreach, and provides inclusive community access to literacy and language research.