

# **Language Resources for Charting Linguistic Diversity in Neuroexpansive Populations**

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Linguistic heterogeneity is the near-direct result of underlying neurological variation; that is, the brain whirrs, and words pop out. Normal variation in how that “whirring” occurs is vast; sometimes, extreme versions are categorized into clinical diagnoses that can be detected or supported using linguistic approaches. A wide range of linguistic features including pace, articulation, word choice, and pitch variation can be mapped to the motor, cognitive, and emotional functions of the human brain, all of which change over the course of development. Speech-language is a high-dimensional new frontier for identifying meaningful profiles of neurodiversity and mental illness (e.g., psychosis), as well as charting less-common neurodevelopmental pathways (e.g., autism) and early markers of neurodegeneration (e.g., dementia). Perhaps unsurprisingly, the most fruitful context for gathering markers of human communication is during actual human communication. Standardized tests and structured elicitation tasks are valuable for detecting canonical features like articulatory precision, but many clinical conditions manifest most clearly in the context of social interaction with peers, children, spouses, parents, employers, and service providers. This fact poses challenges for clinical psycholinguists: how can we effectively collect large samples of naturalistic human vocal interactions from members of adequately characterized clinical populations? What is the cost/benefit of various collection platforms (in-person, telephonic, internet-based) for people of different ages, with heterogeneous clinical needs and skill profiles? Can we strike a balance between standardized and canonical assessments vs. free-form social interactions? Most importantly, can we use knowledge derived from large-scale linguistic research to quickly provide evidence-based clinical care that improves the lives of individuals, families, and society at large? In this talk, I describe ongoing efforts to quantify linguistic markers in an increasingly recognized neuroexpansive population – autism – and focus on the importance of considering (1) key participant characteristics (sex/gender, age, culture, IQ estimates), and (2) contributions of the interlocutor’s behavior and biases, when interpreting results.