**Category**  
Hearing and Language

**Project title**  
Life-span development of speech processing

**Associated Researcher(s)**  
Matt Davis

**Project details**  
Spoken language provides many compelling demonstrations of sensitive periods for learning and development. Our accent in adulthood shows the native language(s) we acquired in childhood and where we learned to speak them (e.g. UK/US English). Even after extensive training, adult learners may struggle to hear second-language speech sounds correctly (e.g. Japanese speakers confuse *right/*light*). The proposed project will quantify these effects in online experiments assessing how speaking and listening abilities change with age and language background. Developmental changes in speech sound processing [1] can be linked to age-related changes in neuroanatomy (grey matter density, white matter connectivity in existing datasets), and to brain responses to speech (measured with MVPA fMRI or MEG) at different ages. Understanding the neural mechanisms that support the development of speech sound processing may suggest new methods to enhance language learning in adulthood.

**References and URL(s)**

**URL**  
https://doi.org/10.31234/osf.io/ktsey