

Home speech environment of Japanese infants from six- to 12-months: evidence from day-long recordings study

Irena Lovcevic, Jiarui Li & Sho Tsuji

International Research Center for Neurointelligence (WPI-IRCN), The University of Tokyo
Institutes for Advanced Studies

One crucial environmental factor in language development is the speech input that a child receives (Hart & Risley, 1995) especially during the first three years of life (Gilkerson & Ricards, 2009). Previous evidence identified socio-economic status (SES) as a driving force of observed variability in speech input quantity (Dailey & Bergelson, 2022). However, high SES in previous studies is often confounded with Western culture. We here assess input quantity to infants growing up in Japan, a non-Western culture with average SES comparable to Western industrialized countries. Previous evidence suggests significant cultural differences in quality of speech input to infants between American and Japanese caregivers (Fernald & Morikawa, 1993), but research on speech quantity is limited. We examined the quantity of adult speech input to Japanese-acquiring monolingual urban infants from high SES families. Data were collected from 30 infants longitudinally every three-months starting at infants' age of six- until 18-months, allowing us to additionally assess the evolution of input quantity over time. At each timepoint, infants' home speech environment was recorded for two days in a row via a wearable audio recorder. We estimated the frequency of adult speech per recording hour at infants' ages of six-, nine-, and 12-months (using ALICE, Räsänen et al., 2021). The results demonstrated stability in the frequency of speech input from six- to 12-months (6m: N=29, Median =20.5%, SD=7.03; 9m: N=26, Median=17.6, S=5.3, and 12m: N=25, Median=19.6, SD=5.77), with no significant age differences, $p=.31$. The overall quantities reported are consistent with findings from urban high SES North American families (Median=16.41%, Cristia, 2022) suggesting that speech input to infants growing up in high SES environments is comparable between North American and Japanese samples. In the next step, we will assess how the observed quantity of speech affects developmental patterns of infants' native and non-native speech perception.