COVID-19 related effects on early language development

Sónia Frota[1], Jovana Pejovic[1], Cátia Severino[1], Marina Vigário[1]

[1]University of Lisbon (UL)

sfrota@edu.ulisboa.pt; jpejovic@edu.ulisboa.pt; catiaseverino@campus.ul.pt; mvigario@edu.ulisboa.pt

Language includes auditory and visual cues relevant to language learning. With COVID-19 the use of face masks became pervasive, affecting the speech cues available to infants. Alongside mask use, COVID-19 led to other changes in everyday communication and interaction. We investigated the impact of mask use and COVID-related changes in early word segmentation and language development. Seventy-seven 7-9-month-old infants performed an auditory (AUD) and an audiovisual (AV) word segmentation experiment in two conditions: without and with a N95 face mask. Concurrent and later vocabulary outcomes measured with the CDI at 12, 15 and 18 months were collected. A comparison with segmentation data and CDI measures from pre- pandemic time was performed (Figure 1). Unlike in pre-pandemic studies, no evidence for segmentation was found in AUD. A similar result was obtained for AV, although the mask affected infants' looking patterns. Concurrent CDI measures did not differ from the CDI same age (pre-pandemic) normative data. However, later vocabulary outcomes at 12 months revealed that infants scored lower for expressive vocabulary than same age infants from the CDI (pre-pandemic) norming study (p<.001, Z=-2.9). At 15 and 18 months, infants scored lower both for receptive (15: p=.02, Z=-2.24; 18: p=.01, Z=-2.55) and expressive vocabulary (15:p=.03, Z=-2.1; 18:p=.06, Z=-1.84). Mixed-model analyses showed that despite improving between 8 and 18 months, vocabulary development has not yet converged by 18 months. Our results suggest an overall effect of the pandemic on early segmentation abilities and language development, with significant delay patterns that persist until 18 months of age.
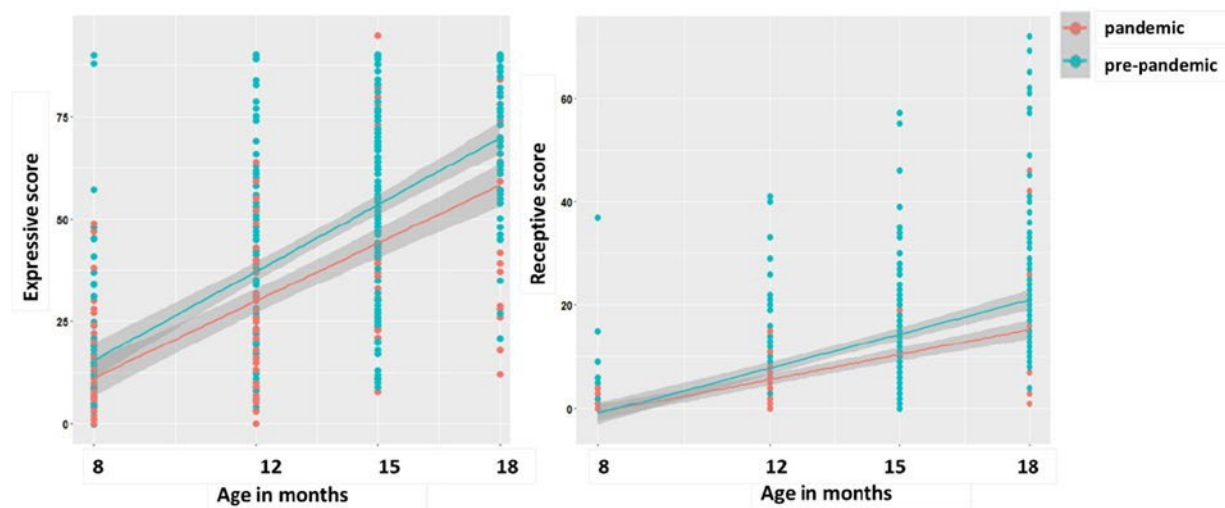

Figure 1. Concurrent and later expressive and receptive CDI scores in infants from the COVID-19 segmentation study (in red), and pre-pandemic normative data (in blue).