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**The effects of the intrauterine and extrauterine language experience on the world stress processing:
An ERP study**

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There is growing evidence that prosody is a powerful cue infants make use for segmenting spoken utterances into word-like units. The language specific segmentation, as well as the syntactic elements are bootstrapped via perceptual patterns available at both lexical and phrase levels. Supposedly, the attunement to the native language prosodic properties starts prenatally, emphasizing the prominent role of the intrauterine period in language acquisition. A total of 82 term and preterm infants were studied on one occasion at corrected 6 months of age (n=40) or at 10 months of age (n=42) respectively. Preterm infants (n=34) were divided regarding gestational age into 30-32 weeks (n=17) and 33-36 weeks (n=17) groups and compared. Mismatch negativity event related brain potential (ERP) component (mismatch response, e.g. MMR in more general) was recorded and analyzed. The ERPs elicited by frequent (standard) and rare (deviant) pseudo-words by using a passive oddball paradigm of two conditions: (1) standards of legal stress patterns interspersed with deviants of illegal one (stress on the second syllable), and (2) standards of illegal stress and deviants of legal one. We found no significant difference in MMR responses between 6th and 10th months of age, however processing patterns differed ($p < 0.02$) between preterm and term infants. Furthermore severity of prematurity associated with less stress discrimination accuracy at the illegal deviant condition ($p < 0.05$). These results strengthen the view that longer extra-uterine language exposure doesn't redound as a compensatory effect.

Biography

Zsuzsanna Varga is completing her PhD at the Budapest University of Technology and Economics at the Doctoral School of Psychology (Cognitive Science). She is working as a Research Psychologist at the Neonatal Intensive Care Unit of the Semmelweis University 1st Department of Pediatrics and also as guest Young Researcher at the Research Group of the Neurocognitive Development of the Natural Sciences of the Hungarian Academy of Sciences.

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