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8th Sepex conference
1st Joint conference of the EPS and SEPEX

Book of Abstracts

Eds.

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[8D3] Early word learning in nine month olds: Dynamics of picture word priming

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How do infants learn words? Most studies focus on novel word learning to address this question. Only a few studies concentrate on the stage when infants learn their first words. Schafer (2005) showed that 12 month olds can recognize novel exemplars of early typical word categories, but only after training them from nine months on. What happens in the brain during such a training? With event related potentials, we studied the effect of training context on word comprehension. 24 Normal developing Dutch nine month olds (± 14 days, 12 boys) participated. Twenty easily depictive words were chosen based on parental vocabulary reports for 15 months olds. All trials consisted of a high resolution photograph shown for 2200ms, with an acoustic label presented at 1000ms. Each training test block contrasted two words that did not share initial phonemes or semantic class. The training phase started with six trials of one category, followed by six trials of the second category. We manipulated the type/token ratio of the training context (one versus six exemplars). Results show more negative responses for the more frequent pairings, consistent with word familiarization studies in older infants (Torkildsen et al., 2008; Friedrich & Friederici, 2008). This increase appears to be larger if the pictures changed. In the test phase we tested word comprehension for novel exemplars with the picture word mismatch paradigm. Here, we observed a similar N400 as Mills et al. (2005) did for 13 month olds. German 12 month olds, however, did not show such an effect (Friedrich & Friederici, 2005). Our study makes it implausible that the latter is due to an immaturity of the N400 mechanism. The N400 was present in Dutch 9 month olds, even though some parents judged their child not to understand most of the words. There was no interaction by training type, suggesting that type/token ratio does not affect infants' word recognition of novel exemplars.