Online Comprehension of Newly Acquired Nouns and Abstract Knowledge of Grammatical Gender

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Abstract

This study examined whether infants encode abstract grammatical features and relations during early acquisition. We tested this question using grammatical gender. In previous studies 2-3-year-olds learning gender languages showed the ability of using gender-marked determiners for online comprehension of familiar nouns (Johnson, 2005; Lew-Williams & Fernald 2007; Van Heugten & Shi, 2009). This processing, however, may be due to unanalyzed specific phrases that infants have memorized from their environment. We therefore used pseudo-words to assess abstract gender knowledge. In a split-screen procedure, French-learning 30-month-olds were familiarized with pseudo-words paired with novel objects, one feminine (marked only by a preceding feminine determiner), and another masculine, e.g., \une_{FEM} ravole, \un_{MASC} cagère. Test trials presented both objects with speech naming one of them. In Grammatical trials, the target noun followed a new determiner of the same gender as the familiarization determiner (e.g., \le_{MAS} cagère). Ungrammatical trials named the target with a new determiner of incorrect gender (e.g., \la_{FEM} cagère). Neutral trials used a determiner that contained no gender feature (e.g., \les_{NEUT} cagère). Infants looked longer to targets in Grammatical trials, in which they recognized the targets. Recognition of the same targets was impeded in Ungrammatical and Neutral trials. These results show that during familiarization infants encoded the abstract gender feature from determiners onto pseudo-nouns in addition to associating the pseudo-nouns to objects, all as integral parts of noun representation. The gender feature was readily activated during subsequent pseudo-noun comprehension. Abstract knowledge of gender feature and agreement had an immediate impact on online processing.

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