

## **Multimodal indicators as predictors of linguistic and communicative development in atypically developing children**

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### **ABSTRACT**

Multimodal communicative skills are associated with linguistic and communicative abilities in typically developing children under 6 years of age. However, little is known about the predictive value of multimodal communicative behaviors on subsequent linguistic abilities in children with atypical developmental trajectories. The aim of the present review is to identify multimodal markers within the first six years of life that indicate a risk of presenting an NDD, specifically autism spectrum disorder (ASD), developmental language disorder (DLD), or a heightened risk of atypical communicative and linguistic development, considering potential gender-related differences. The search was conducted using the following citation databases: PubMed/MEDLINE, EBSCOhost, Academic Search Premier, APA PsycArticles, APA PsycInfo, Education Source, ERIC, Psychology and Behavioral Sciences Collection, and Teacher Reference Center. Eligible articles were identified using multiple terms related to diagnostic categories, age, and multimodal communication, in both English and Spanish. A total of 18 studies meeting the eligibility criteria were selected. Of these, 10 were cross-sectional studies exploring differences between populations in the coordination of multimodal elements, while 8 were longitudinal studies investigating the predictive value of early multimodal indicators for communicative and linguistic development. The results showed that, as in typical development, the presence of multimodal communicative behaviors is a predictor of subsequent linguistic development in children with ASD, DLD, and preterm children. We also found that there are specific patterns in the use of multimodal elements depending on the diagnostic group, and that information about potential differences between boys and girls is largely unexplored.

**Keywords:** Multimodal communication; language development; autism; developmental language disorder.