

Comparing Joint Attention Metrics: Insights from Infant-Caregiver Interactions

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Joint attention (JA), the coordinated shared attention of an infant-caregiver interaction on an object or action of interest (Tomasello & Todd, 1983), has been linked to children's later language abilities (e.g., Yu, Suanda & Smith, 2019). However, variations in JA definition and metrics across studies pose challenges in result comparing and understanding which aspects of JA influence language acquisition. In this study, we applied two established JA metrics to the same dataset, aiming to compare various JA measures surrounding caregiver naming events (NE) and investigate their relationship with vocabulary size. Using video recordings of naturalistic toy-play interactions from 47 British-English-speaking 12-month-old infants and their caregivers, we coded JA events surrounding NE using two established coding schemes (associative account: Yu et al., 2019; social account: Gabouer and Bortfeld, 2021). Measures related to general JA event properties and NE timing were derived from both metrics. Children's vocabulary at 15 and 18 months was assessed through the CDI. JA measures from these two approaches mostly assessed different JA characteristics, measures involving NE were highly correlated and aspects of JA relating to the timing of the NE within JA predict later vocabulary size. Significant effects of different JA measures on later language abilities were found for the two accounts, and measures of social awareness showed relevance beyond effects of measures of shared focus. This study is the first to compare different JA metrics using the same dataset, investigating the relationship between different JA measures and later language abilities. The social account consistently showed that NE within JA episodes significantly influenced JA's impact on later language outcomes. We found substantial differences in the way the approaches define JA, emphasizing the complexity of JA measurement and its nuanced relationship with language development.