Title: Children with Autism Spectrum Disorder May Learn from Caregiver Verb Input Better in Certain Engagement States

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Overview/Introduction: Building a generative vocabulary is an important treatment goal for children with autism spectrum disorder (ASD). Theory suggests that it may be more challenging for children to acquire verbs than nouns that are object labels (Gleitman, Cassidy, Nappa, Papafragou, & Trueswell, 2005; Golinkoff & Hirsh-Pasek, 2006). Relative to nouns that label objects, verb referents are often more abstract or transient, more relational, and reflect more generalized classes of events (Golinkoff & Hirsh-Pasek, 2006; Golinkoff & Hirsh-Pasek, 2008; Johnson & de Villiers, 2009; Lidz, 2006). Adults might use interactional cues to help children overcome these challenges and facilitate the acquisition of targeted verbs. But, because of social attention difficulties, children with ASD may miss some of these cues. One way adults might facilitate verb learning in children with ASD is using verbs in follow-in utterances (i.e. those that map onto the child’s current attentional focus) when they are engaged in a special state of joint engagement, higher order supported joint engagement (HSJE). We thus asked, “does HSJE with caregiver follow-in verb input (HSJE+FV) predict later child expressive verb vocabulary in children with ASD?”

Method: We conducted a longitudinal correlational design with two measurement periods using a sample of twenty-nine toddlers with ASD. These children had an expressive vocabulary of at least one-hundred expressive words at the final time point on the MacArthur-Bates Communicative Developmental Inventory (MCDI; Fenson, Marchman, Thal, Dale, Reznick, & Bates, 2007), which maximized the likelihood of having at least one verb in their vocabulary at the final time point. Videos of parent-child free play sessions from Time 1 were coded for parent linguistic responses with verbs (verb input in follow-in utterances) and engagement state. Generalized linear models using full maximum likelihood estimates of the coefficients and robust standard errors were utilized to test the relation between parents’ verb input in follow-in utterances in HSJE and later child verb expressive vocabulary, as measured by number of words produced from the action word section on the MCDI.

Results: Caregiver verb input in follow-in utterances presented during HSJE accounted for a significant, large amount of variance in later child verb vocabulary; $R^2 = .26$. This relation remained significant when controlling for early verb vocabulary or verb input in other states. Other types of talk in follow-in utterances in HSJE did not correlate with later verb vocabulary.

Discussion: To our knowledge, these findings are the first to confirm a prediction that follow-in verb input presented in one engagement state (HSJE) is differentially associated with later child expressive verb vocabulary. Verbs are crucial for building grammatical utterances and developing generative language. Unfortunately, verbs are a commonly over-looked aspect of language development for children with ASD. This correlational study is a step in a program of research designed to identify how verb input might be best provided to support the verb acquisition of children with ASD.

References/Citations:

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