Comparison of Quantitative Methods for Measuring Effects of Parental Sensitivity and Cognitive Stimulation on Toddler’s Vocabulary

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There are many different ways that individual and dyadic behaviors have been quantified and used as either outcomes or predictors in the study of child development (e.g., Coleman et al., 2003, Crnic et al., 2005, Dawson et al., 2003). Rating systems give one score (from a continuous scale) on each dimension which summarizes the total observation, while micro-analytic coding systems categorize each relevant behavior during the interaction. Both methods have unique methodological advantages, and each may be best suited to answering different kinds of analytic questions. This study examines the types of developmental processes that may be elucidated through summative ratings and micro-analytic coding systems. Further, this approach compares two different methods of quantifying observed parent-child interactions in order to test the effects of two different qualities of interaction style on children’s language development: parental cognitive stimulation (intentional teaching) and parental sensitivity.

Results

Question 1 was answered using the rating scales in which the two dimensions were rated independently and on the same 7-point scale, allowing use in growth models to simultaneously predict children’s outcomes and to compare their effects to each other.

Question 2 was answered using a micro-analytic coding system. Using this system, each behavior is coded with a mutually exclusive and exhaustive set of codes, and codes that carry the precise meaning from one wave of the analysis to the next wave. ANOVA was used to determine whether the frequency of sensitive and stimulating behaviors changed over time.

Discussion

When parents attend to their child’s own interests and follow children’s cues, their expressive and receptive vocabularies are greater (e.g. Baldwin & Moses, 1994; Punungto et al, 2009). Further, maternal sensitivity has also been documented as increasingly important to children’s developing language and communication skills. Others (e.g., Raviv, Kessenich & Morrison, 2004) found that cognitive stimulation was even more important to children’s language than maternal sensitivity at 36 months. Both sensitivity and cognitive stimulation are linked to children’s language development, and are often the focus of early intervention—including Early Head Start. The comparison of the analytic methods used in this study allow us to understand the variation in the effects of these two parent-child interaction qualities and their relative contributions to young children’s language development. Understanding the relative effects of sensitivity and cognitive stimulation across developmental time points may have important implications for early intervention contexts and strategies.

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