How does maternal responsivity relate to communication skills in young children with fragile X syndrome?

Nancy Brady, Audra Sterling, Steve Warren, Kandace Fleming, and Janet Marquis
University of Kansas

Joanne Roberts
University of North Carolina Chapel Hill

Introduction
How does maternal responsivity affect child communication?
Children of highly responsive mothers have been found to have relatively higher scores or measures in the following areas of communication development:
- Language comprehension (Bierman et al., 1997)
- Production vocabulary (Tomasello & Farrar, 1986; Tomasello & Todd, 1986)
- Social interactions (Landry, Smith, Swank, & Webel, 2000)
- Prelinguistic communication (Yoder & Marmor, 1988)

The effect of maternal responsivity and child language development is thought to be transactional.

Methods
The data presented in this poster were derived from the first observation point of an ongoing longitudinal study of children with FXS.

Who were the participants?
- 18 mother-child dyads
- There were 47 boys and 11 girls in the sample
- Mean child chronological age was 26.5 months and the range was between 14 and 46 months.
- All of the children had full mutation FXS.
- Four mothers also had full mutation FXS.

How were the data collected?
- Videotaped observations of mother-child interactions were collected at one interaction.
- The videotapes were collected in four different contexts: joint book reading, making and eating a snack, free play, and activities of daily living.

What behaviors were coded?
- Child communication variables:
  - Rate of non-verbalized communication (rate per minute of all verbal and nonverbal communication acts that were not initiated)
  - MSL and mean length of verbal utterances
  - Number of different words used per interaction
- Maternal interactions variables:
  - Facilitative interaction style (concept = complex ideas + codes + gestures + request for initiation)
  - Behavioral management style (appraisal + redirects + requests for behavioral compliance)
- Reliability: Coefficient alpha was used for child and maternal behavior codes. Inter-rater reliability prior to consensus was as follows:
  - 0.84 for MSL variables
  - 0.77 for maternal variables
  - 0.70 for maternal affect and 0.76 for maternal flexibility

Results
What were the medians and ranges of the children’s communication variables?
For each graph, the box indicates the middle 50% of the data, the line indicates the medians and the whiskers indicate the range. Outliers are noted with asterisks.

How did children’s communication scores relate to maternal responsivity measures?
We use multiple regression models for the effect of maternal responsivity on child communication variables. The maternal responsivity factor was called facilitative interaction style significantly predicted communication scores, even after accounting for differences in children’s developmental levels.

The maternal responsivity factor called behavior management style did not significantly predict child communication scores.

Summary and Discussion
- Children with FXS, whose mothers had relatively more of a facilitative interaction style communicated more often and used more words and combined words into longer utterances compared to children with less responsive mothers.
- These findings are consistent with other studies that have documented a significant relationship between maternal responsivity and child language outcomes.
- These results are for one point in time only. Data are currently being collected for second and third time points. These results will be analyzed to further learn more about the complex nature of mother-child interactions as they develop over time in families with fragile syndromes.

Literature Cited

Acknowledgments
This research is supported in part by NICHD grants (5U54HD41203-06). For more information please contact:
Nancy Brady
University of Kansas
1000 Sanitary Drive
Lawrence, KS 66045
nbrady@ku.edu

To download a handbook of this poster please visit http://www.ku.edu/interlab/interlabonline/flyer/down.html