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SUMMARY:

Using video data collected in their federally funded, longitudinal study, the researchers looked to see whether the Baby Signing experience stimulates development of the ability to actively direct an adult's attention to something in which the baby is interested. Called, "joint attention," this ability is known to be an important contributor to learning to talk. Much to the researchers' delight, the Baby Signing babies were indeed found to engage in more joint attention episodes with their mothers than did non-Baby Signers during laboratory play sessions at 19 and 24 months. Moreover, the effect held independently of linguistic skill, indicating that Baby Signing itself was a unique contributor to the joint attention scores. These data are important because they help explain why Baby Signing babies tend to learn to talk earlier than non-Baby Signers. The study may also help explain why the Baby Signing experience has been found to have a positive effect on IQ at age 8.

Symbolic Gesturing and Joint Attention: Partners in Facilitating Verbal Development

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The "Baby Signs" research team at the University of California has just had a research paper accepted for presentation at the April 2001 meetings of the leading international research organization in the field, the Society for Research in Child Development. The project described in the paper was the brain-child of Brie Moore, a graduate student in the lab, as her Masters Thesis.

Abstract

Evidence is growing that 10- to 24-month-old infants are quite capable of bypassing the articulatory demands of verbal words by using simple physical gestures to stand for concepts about which they would like to communicate. Such "symbolic gestures" (also known as "Baby Signs")

might include such actions as flapping the arms for "bird," a knob-turning gesture for "out," or panting for "dog" (e.g., Acredolo, Goodwyn, Horobin, & Emmons, 1999). Moreover, the results of a longitudinal study, in which infants being encouraged to use this strategy were compared to infants who were not, indicated that the experience of using symbolic gestures during the second year was associated with faster verbal language development (Goodwyn, Acredolo, & Brown, 2000).

Among the hypotheses advanced to explain this positive relationship is the possibility that having symbolic gestures in one's repertoire enables a child to more successfully initiate episodes of joint attention specifically focused on topics of immediate interest to the child (e.g., "Oh BIRDIE! You see a little bird over there!"). Such joint attention episodes, as Tomasello and his colleagues have repeatedly demonstrated, are themselves predictive of faster language acquisition (e.g., Tomasello & Farrar, 1986). The purpose of the present study was to explore this hypothesis by determining whether the gesturing infants from Acredolo and Goodwyn's original study were any more likely than the control infants to engage their mothers in joint attention episodes during laboratory play interactions at 19 and 24 months.

Participants included 103 infants divided into three groups, one symbolic gesturing group ("Sign Training") and two control groups ("Non-Intervention" and "Verbal Training" groups). The study began at 11 months with baseline measures, including a measure designed to be sure there were no initial differences between the groups in the propensity of the infants to elicit attention from their mothers. No differences were found. The frequency and complexity of infant-initiated joint attention behaviors were recorded using an adaptation of Tomasello and Todd's (1983, 1986) coding system, and verbal language at 24 months was assessed using the Expressive-One-Word-Picture-Vocabulary Test (EOWPVT).

Analyses revealed that, as predicted based on previous research, infants who received high, infant-initiated joint attention scores exhibited more advanced expressive language abilities at 24 months. In addition, infants in the symbolic gesturing group initiated joint attention with their caregivers significantly more frequently than infants in the comparison groups and utilized significantly more complex strategies to this end. Furthermore, multiple regression analyses indicated that symbolic gesturing, independently of linguistic skill, uniquely contributed to joint attention scores, indicating that the

increased joint attention behavior of the gesturing children was not simply a function of more advanced language skills. Finally, when symbolic gesturing was controlled, joint attention did not continue to predict verbal language scores, indicating that the gesturing experience was the more inclusive contributor of the two. This pattern of results supports the hypothesis that the effect of symbolic gesturing on verbal development is, as predicted, mediated at least in part by increases in the infant's effectiveness at initiating joint attention.

References

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