Contingent Interactions Between Parents and Children with Severe Impairments

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Abstract

Parents and children with severe expressive impairment may have limited successful exchanges due to each partner's difficulty in recognizing and responding to communicative behaviors of the other. This study examined the types and modes of communication that receive contingent responses in 20 dyads of parents and young children with severe expressive impairments. Parents responded more often to children's non-vocal and intentional communication than vocal and non-intentional behaviors. The children responded more often to parent communication about goal-directed than non-goal-directed tasks.

Background

• Preintentional communication acts can be unclear because their interpretation requires more subjective judgments by the adult (Iacono, Carter, & Hook, 1998).
• Intentional communication elicits more contingent parent responses. Even when children produce low levels of intentional communication, parents attribute meaning to children's subtle cues as a basis for responsive interaction (Yoder & Warren, 1999).
• Children with severe expressive impairment must use other modalities, such as facial expression, posture or eye gaze, to communicate with their partners (Sigafoos et al., 2000).
• Hanzlik (1990) observed the frequency of parent and child behaviors in children with physical impairments but did not study which ones parents responded to most often.

Research Questions: The purpose of this study is to examine which parent and child behaviors get more responses from partners during interaction with children with severe expressive impairments. Specifically:
a) Will parents respond more when children initiate communicative intent verbally than nonverbally?
b) Will children's intentional gestures elicit more contingent responses from parents than non-intentional gestures?
c) Will the child respond more if the parent prompts in the context of a goal-directed interaction rather than a non-goal-directed interaction?

Method.

Subjects:

• A random sample of 20 children, 10 females and 10 males, was selected from a 50 participant longitudinal data set addressing communication development in children with severe expressive communication impairments (Cress, 1995).
• Children had a mean age of 22.5 months (range 15-32 mos.), corrected for prematurity.
• All participants had severe expressive communication disabilities associated with: cerebral palsy, acquired brain injury/illness, congenital conditions, or oral/motor dysfunction.
• Participants had the following mean age equivalence scores: developmental age 9.7 mos., receptive communication 16.5 mos., expressive communication 10.5 mos.

Procedure

• Free play samples were collected at naturally occurring opportunities during the 2 to 4 hour visits conducted for the larger longitudinal study.
• During home visits, parents and children were encouraged to explore a large bag of toys and play together while the experimenter arranged other paperwork and materials. Also, if the parents or children spontaneously began a social routine or play activity together, experimental tasks were paused until they completed this period of play.
• The goal was to remove the experimenter from the play interaction and reduce the likelihood that play episodes were deliberately constructed for display.
• All segments of parent-child interaction and play were videotaped and dubbed onto coding tapes, averaging 15.52 minutes total play for each dyad (range 8.5 - 22.5 minutes).

Data Coding

• Communication modes and functions were scored for both adult- and child-initiated behaviors during play interaction (see coding sheet).
• To be scored, the child or adult's behavior had to successfully receive partner response within 3 seconds. Behaviors were scored in 15-second intervals and intra-rater agreement ranged from 67-83% for different scales.
• Modes included gesture, vocalization, eye gaze, body movement, and facial expression.
• Functions were coded individually, then grouped into goal-directed (request/prompt, initiate routine, functional act) or a non-goal-directed interaction (indicate state, share attention, comment, imitate).
• Functions were coded separately for intentional and non-intentional behaviors that successfully elicited partner responses.

Results/Discussion.

Question #1:Nonvocal vs. Vocal communication acts:

- Parents had significantly more contingent responses to children's non-vocal acts (body movement and gaze) than vocal acts, contrary to expectations for typically developing children.
- Children with expressive impairments tend to rely on other modalities to express their wants and needs, such as eye gaze, body movement, and facial expression. Parents learn to interpret non-verbal signals as communicative and respond to them naturally, as parents of typically developing children respond to vocalizations. These results are consistent with Sigafoos et al. (2000) and Yoder and Feagans (1988).
- This study only examined contingent responses between the parent and child. Occasionally the child displayed communicative acts but the parent did not respond appropriately. The modes of communication that the parents most often missed were subtle behaviors like eye gaze, slight body movements, and facial expression.

Question #2: Intentional vs. Non-intentional behaviors:

- Parents responded significantly more often when the child used intentional communication rather than non-intentional behaviors.
- Intentional communication acts are typically easier to interpret than non-intentional behaviors, even for parents who attend to all behaviors (Yoder & Warren, 1999).
- Children's intentional behaviors usually consisted of eye gaze and body movements, which are easier to detect than non-intentional communication behaviors such as facial expression.

Question #3: Goal-directed vs. non-goal-directed activities.

- Children with severe expressive communication impairments responded significantly more often when the parent provided goal-directed communication (e.g. prompts for requests or routines) rather than non-goal-directed communication (e.g. comments, prompts for imitation).
- Children with severe expressive impairments fatigue easily and communication can be difficult for them due to their cognitive and/or motor limitations.
- These results support arguments that communicative functions such as joint attention that do not achieve clear and tangible results are less salient for children with expressive impairments (Cress, Andrews, & Reynolds, 1998).
- Not only did children in this population produce fewer joint attention acts (Cress, Shapley, et al.), they also responded less often to parent joint attention bids in this study.
- Children tended to respond most often when the parent used body movement and/or vocalization to elicit responses. They rarely responded if the parent communicated with eye gaze or facial expression alone.

Clinical Implications • Prelinguistic intervention can effectively promote nonvocal acts as communicative modes, and parents tend to be able to recognize these behaviors in their children.
• Intentionality is a key skill to target in prelinguistic intervention, to increase the ease of partner response as well as child awareness of communicative effectiveness.
• Initial promotion of new interactive skills is likely to be more effective in goal-directed than non-goal-directed activities, particularly for children with physical impairments. Intervention also needs to target non-goal-directed functions such as joint attention, since these are typically difficult functions for children with severe expressive impairments.

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