



Social-Pragmatic Behaviour Intervention & Communication Skills in Children with ASD

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Language and communication interventions for children with ASD who are under six years of age need to address evidence based predictors so that the developing social communication cognition supports subsequent language learning and social language use. Important prelinguistic predictors of future language are: a) initiating communication for a variety of functions including joint attention, b) responding to joint attention, c) engaging in symbolic play, d) using communicative gestures, e) producing a variety of consonant sounds, and f) developing language comprehension skills (Wetherby et al., 2004). These behavioural predictors may indicate underlying cognitive constructs of social attention. These behaviours are amenable to development using appropriate early interventions (e.g., Kasari et al., 2000; Leew, 2001; Yoder & Stone, 2006) and may bootstrap social cognition. There is limited evidence of social interventions affecting language and functional communication outcomes of preschool children diagnosed with ASD.

Method

This was a retrospective exploratory pre-post comparison study designed to investigate changes in children's communication skills related to Society for Treatment of Autism's early intervention program.

Participants

A total of 24 children, 21 males and 3 females aged between 25 and 61 months ($X = 41$ months) participated in this study. All children received standard-of-care social pragmatic behaviour intervention from a Society for Treatment of Autism (STA) trans-disciplinary treatment team over a 1 - 1.5 year period.

Measures

All prelinguistic and social communication skills were measured using the Communication & Symbolic Behaviour Scales (CSBS; Wetherby &

Prizant, 1993) as is standard procedure at STA. The CSBS provides a structured protocol for assessing prelinguistic, social, and early language or related skills for children who may have severe deficiencies in pre-verbal and pre-intentional communication development.

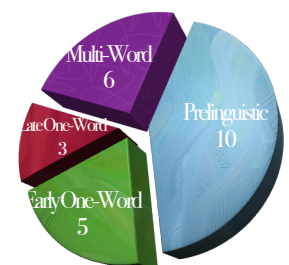
Intervention

STA provides a play/activity based behavioural intervention to children aged 24-72 months in their 'Community Based Options - Early Intervention Program'. Children received direct intervention from a team of Early Intervention Therapists (EIT) and professional staff. Intervention occurred within home, centre, community, and preschool environments 6 hours a day, 5 days a week, 12 months a year. Integration opportunities, such as community classes (e.g., YMCA classes, gymnastics, dance classes) and preschool with typical children, were an essential component of the program.

Each child had an Individualized Program Plan (IPP) developed at intake and for each subsequent year created by a trans-disciplinary treatment team, including the child's parents, a psychologist and behavioural consultant, a speech language pathologist, an occupational therapist, an educational consultant, a family support worker, and an EIT. Daily therapy was provided by a team of EIT to implement objectives and teach new skills. Consultative support was provided by a member of the trans-disciplinary treatment team to model, observe, and train the EIT to implement discipline specific objectives in a variety of environments; it was also provided to parents to teach them skills and ensure consistent expectations of each child.

STA's behavioural modification guidelines provide the basis for all programming. They include: 1) total programming to reduce maladaptive or problematic behaviours and to increase the frequency or quality of

Figure 1.1 Intake Language Levels



positive and adaptive behaviours and 2) education to teach alternative, appropriate ways of behaving to enhance community participation, habilitation, and/or social functioning. Behavioural principles are applied in varied ways to facilitate teaching and acquisition of new skills.

The speech language pathology department at STA developed a communication philosophy, including strategies and guidelines to ensure consistent teaching for social-communication skills. These include:



Form & Function: Ensure the ways to communicate fit the reasons to communicate. Different forms (e.g., eye gaze shifts, gestures, symbolic communication) are used to teach a variety of functions. The main form taught to a child is that which is most effective and efficient for the individual child in a variety of environments.

Developmental Approach:

Social-communication skills are taught based on a child's assessment social-communicative level. Gestures that serve a communicative function are taught prior to verbal communication. Verbal/symbolic communication word types are taught in developmental sequence. A consistent and ordered symbolic hierarchy is used to teach symbolic communication and is considered when using prompts for all skill development.

Total Communication Approach: Primary focus is on teaching social-communication skills rather than verbal expressive communication skills. When introducing and initially teaching symbolic communication, a child is exposed to and taught the most common forms of symbolic communication and the child is allowed to choose the mode that best fits his/her skills and needs at the time.

Visual Supports: A child's understanding of symbols determines the appropriate level of abstractness to be used in treatment. Visual supports are used to prompt a child's understanding of directions, ensure understanding of behavioural expectations, and to assist in teaching sequential tasks. They are used to teach verbal children with ASD to increase their functional use of words and word combinations, and to decrease echolalia; they are also used as an alternative expressive communicative mode.

Functional Language

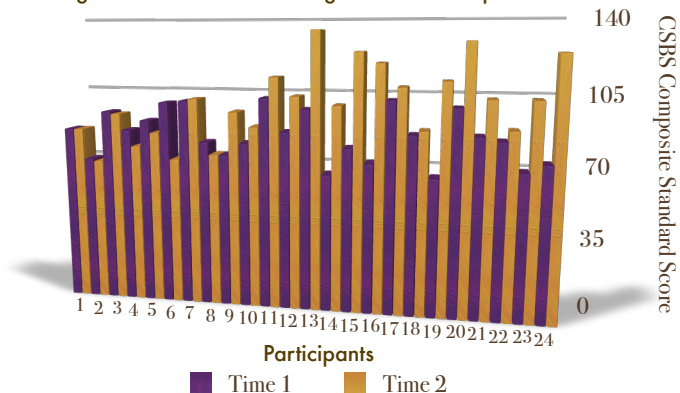
Development & Echolalia Management: Functional language use is taught using visual supports and a consistent color coding system to assist children in "seeing" how language works. Prompting and fading of adult modeling is essential in decreasing echolalia while increasing functional language.

Results

- CSBS composite standard scores increased or remained static for 20 of the participants;
- Language levels increased for 15 of the participants; 6 participants' intake language level were at the highest level measured by the CSBS;
- Composite scores increased for 5/6 of the participants whose intake language level was at the Multi-Word Stage;
- Composite scores increased for all 3 of the participants whose comparison language level remained at the Prelinguistic Stage;
- Significant change ($p = 0.05$) in mean raw scores from intake to comparison in the following

areas: Behaviour Regulation; Social Interaction; Joint Attention; Conventional Gestures; Distal Gestures; Gesture + Vocalization; Gesture - Vocalization; Words Spoken; Word Combinations; Rate of Communication; Gaze Shifts; Language Comprehension; Inventory of Different Action Schemes.

Figure 1.3. Individual Change in CSBS Composite Standard Score



Discussion

Children with ASD who received 1-1.5 years of standard-of-care treatment from STA demonstrated significant gains in social-communication and language skills. While some children did not demonstrate changes in language level, they demonstrated increased Composite standard scores on the CSBS, indicating increased functional communication skills. Others demonstrated increased language levels but decreased Composite scores.

Joint attention and gesture use are among predictors of future language development. This study suggests interventions that target early teaching of these skills can positively impact social-communicative outcomes.

An inherent weakness of this study is its retrospective nature. As such, a measure of treatment fidelity was not available and direct correlations between social-communicative outcomes and STA's intervention cannot be made. Future plans include a prospective study to investigate the effectiveness of STA's intervention using a measure of treatment fidelity.

References

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The children who continually teach us how to teach them.

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