



NSW Speech Pathology Evidence Based Practice Interest Group

Critically Appraised Paper (CAP)

CLINICAL BOTTOM LINE: This paper provides emerging evidence that a large amount of highly structured behavioural intervention conducted by teachers at preschool using discrete trial training and pivotal response training can increase response and initiation of JA in preschoolers with Autism. Further therapy conducted at home by parents can facilitate generalisation of JA skills. This therapy targeting JA skills was associated with increased use of language. There was significant variation in the length of time children required to master the target skills. Low numbers of subjects and no comparison or control group means the results are preliminary and need further investigation.

Clinical Question [patient/problem, intervention, (comparison), outcome]: In Children with Autism, does joint attention (JA) intervention improve social communication skills?

Citation: Jones, E., Carr, E., Feeley, K. (2006) Multiple Effects of Joint Attention Intervention for children with Autism. *Behaviour Modification*. 30. 782-833.

Design/Method: The paper is divided into 3 studies;

Study 1: Multiple baseline probe design. Investigated effectiveness of teachers and teachers assistants using Pivotal Response training and Discrete Trial training with preferable toys (cause and effect type) to teach Joint Attention (JA) skills.

Study 2: Extension of JA instruction clinically to additional partners (parents) at home. Taught initially with original toys and then moved towards natural occurrences e.g. at the park.

Study 3: Examination of 'collateral effects' (social behaviour and language) and social validity. Assessed play interactions between mother and child.

Participants:

Study 1: Five children between the ages of 2-3 years. 3 subjects diagnosed with PDD-NOS, 1 subject diagnosed with Autism and 1 subject "likely ASD". All children attended a specialist preschool program for children with Autism. All children demonstrated eye contact in response to having their name called, the instruction 'look' or specific prompts e.g. reinforcer held in front of eyes.

Study 2: Two children from study 1. Diagnosis of Autism and "likely ASD" and their parents.

Study 3: Four children from study 1 (one parent did not give consent to video their child) and age matched peer 'Mike' (used as a comparison, he did not undergo intervention).

Experimental Group:

Study 1: All children received therapy at preschool in at least 2 settings with 2 teachers. Baselines of response and initiation of JA were recorded. Therapy for responding to JA bids was given first then therapy for initiation of JA. Therapy used 6 sets of 6 toys of high salience and novelty to children. Children received 1-4 sessions/day with 10 opportunities for required behaviour each session. The paper provides a detailed description of the prompting procedures and the definitions of the target behaviours. Once the skills were mastered further data was collected on the children's response with additional toys and behaviour and their maintenance of skills with the original toys used in the first stage of the therapy. Reliability measures for therapy fidelity and coding of children's responses reported to be satisfactory.

Study 2: Parents taught JA teaching procedure using same original 36 toys from study 1. Once the children had mastered the target skill, parents then expanded JA teaching to novel toys, pictures and naturally occurring activities. Once JA mastered in 5 original routines, parents then further expanded JA to additional toys, pictures and routines. Reliability measures for coding of behaviours and therapy fidelity reported to be satisfactory.

Study 3: The following measures were taken during study 1 for 2 children (both PDD-NOS) and study 1 & 2 for 2 children (Autism and 'likely ASD'): Transcription of language and vocalisations during video taped recordings, comparison of JA skills with a typically developing peer, changes in social-communicative characteristics and levels of engagement during play with parent. Reliability measures for all assessments reported.

Control Group: None

Results:

Study 1: All participants mastered responding to JA in 19-78 sessions (M=39), and initiation of JA in 26-157 sessions (M = 44). Data of maintenance of skills and expansion of skills to new stimuli recorded over varying periods 1.5 months – 10 months. Maintenance of skills ranged from 20-100% (average = 91%), expansion of skills ranged from 11-100% (average = 89%).

Study 2: Mastery of responding to JA with parents using standard set of toys = 22 and 19 sessions. Initiation of JA with parents = 35 and 36 sessions. Responding to JA in 5 home routines was mastered in 11 and 12 sessions and initiation of JA in 5 home routines = 32 and 18 sessions.

Study 3: All subjects had increased in vocalisations and words post therapy. Once subject was compared with typically developing peer and demonstrated similar JA skills post therapy. ½ subjects showed increased supported joint engagement in play post therapy and ½ subjects had increased co-ordinated joint engagement in play with their parent. 2 subjects were rated as appearing more like a typical developing peer post intervention.

Comments – Strengths/weaknesses of paper: Low number of subjects. No control group for intervention. Previous training/experience of parents is unknown.

Level of Evidence (NH&MRC): IV

Appraised By:

Clinical Group: Autism EBP, Oct 2011

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