

**Critical Review: Can joint attention, imitation, and/or play skills predict future language abilities**

worked on in speech-language therapy sessions. It may be confusing to parents when the clinician is targeting pre-linguistic skills such as joint attention, imitation or play. It may be more helpful for parents to understand the reasoning behind their child's goals if clinicians can support their goal selections with evidenced-based research.

Being able to predict a child's skills such as joint attention

**Longitudinal Study #2.** Charman et al. (2003) sought to define longitudinal associations between joint attention, play, and imitation abilities and language outcome in infants with ASD. Measures of joint attention, play and imitation were conducted with a sample of 18 infants with ASD at age 20 months. Language outcome was assessed at age 42 months. Scores were not normally distributed so the Mann-Whitney U-test, which is a non-parametric analysis, was adopted. This allowed the researchers to divide performance into dichotomous groups („high ability and „low ability ), and then determine whether and to what degree the two groups differed in shape. Play skills were not statistically significant for predicting both receptive and expressive language skills. Joint attention and imitation tasks were significantly positively associated with receptive language only.

Research found no significant predictive abilities of joint attention, imitation or play skills on expressive language. Also, this article does not provide support for assessment of play skills for receptive language predictions. It does, however, provide support for joint attention and imitation tasks being assessed at 20 months of age in order to predict receptive language outcomes at 42 months of age in children with ASD.

As stated by the authors, these results should be interpreted with caution as a small sample size was used. Also, the researchers were unable to use a formal measure of language at initial assessment due to the majority of the sample falling below basal. Instead, the researchers used an ordinal method of coding to demonstrate whether or not the targeted variable was present or absent. As the authors declared, this weakness is a reflection of the limitations in formal assessment protocol that are available to test young children with ASD.

**Longitudinal Study #3.** Thurm et al. (2007) sought to determine predictors at ages 2 and 3 years for receptive and expressive language at 4 or 5 years of age in children with ASD/PDD-NOS. Initial and follow-up assessments were administered to a sample of 83 children with ASD/PDD-NOS. Pearson correlations were used to analyze the relationships between the predictive variables and outcome variables.

Nonverbal cognitive ability at age 2 w





explored further. In combination, all of the seven studies support the proposal of assessing joint attention, imitation and play skills of children with ASD in the early preschool years in order to predict future expressive and receptive language outcomes. Although the research is not absolute in the degree to which each variable can predict future language, together the research supports all three as being important factors to consider when assessing and treating language in children with ASD.

After critically evaluating the literature, there are three important recommendations that are suggested for future research in this area: Firstly, it is recommended that more studies with adequate sample sizes be conducted on these factors in order to have concrete evidence of the predictive abilities of joint attention, imitation and play skills on future language outcomes. Studies should be conducted on children with ASD being approximately 2 years of age at the time of initial assessment. Secondly, studies should attempt to control for the type and amount of speech-language therapy the children in the study are receiving. This was the most clinically significant limitation of the research conducted thus far, and therefore must be corrected for. Ideally, this could be accomplished by providing speech

