An Analysis of the Effects of Early Intervention Practices on the Spoken Language Skills of Minimally Verbal Children with ASD

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Background

• Children with ASD are likely to:
  • Have spoken language delay
  • Remain minimally verbal or non-verbal throughout their lives.
Inspiration for this Review

• Hampton & Kaiser 2016:
  • Review detailed the existing literature on various intervention protocols & effects on spoken language outcomes of children with ASD
  • Findings included:
    • Early intervention practices could potentially increase spoken language by ~4 points on standardized measures
    • Highest increase in spoken language with parent & clinician jointly delivered therapy
  • Need for updated research:
    • Increased technological advances (Speech-Generated Devices)
    • Changes in diagnostic criteria for ASD
• This review explores early intervention studies targeting spoken language from 2014-2019
Methods

Inclusionary Criteria:

- Subjects > 8 Years
- English Speakers
- Behavioral/Early Intervention
- Measured Spoken Language

Flowchart:

1. Title Screen: 
   - ERIC
   - PSYCInfo
   - PubMed
   - 144 Articles

2. Abstract Review:
   - Exclusions: Study Design, Outcome Measures, Subjects, Type of Intervention
   - 32 Articles

3. Full Article Review:
   - Exclusions: Age of Subjects, Outcome Measures
   - 18 Articles
Evidence Quality

Study Design

- Multiple Baseline Across: 11.1%
- Single Subject: 16.7%
- Cohort Study: 16.7%
- Sequential Multiple: 5.6%
- Low Quality Pre-Post: 5.6%
- Randomized Control Trial: 44.4%
Results!

**Manding Interventions**

Increasing spoken language through requests

- Can modestly increase MLU and frequency of verbal requests
- SGD interventions can *increase*, not hinder, a child’s spoken language

**TOBY**

iPad app designed to increase language & social skills

- 20 minutes per day can modestly increase developmental skills
- Mixed efficacy regarding effect on expressive language
Results!

Parent-Mediated Interventions
Interventions administered by parents/JASPER

- Significant increases of independent initiations, responses and vocabulary words.
- Increase of MLU

Peer-Mediated Interventions
Children learn through modeling by typically developing (TD) peers

- Strongest results when TD peers were coached on how to interact with the child
- Can increase initiations, responses to peers, and vocabulary
Results!

Pivotal Response Treatment

- Designed to increase social motivation & response
  - Increases in total # of independent utterances, vocalizations per minute, and expressive language scores on standardized assessments

Miscellaneous

- Physical and computerized spacing boards can assist with multisyllabic words
- Music therapy can potentially increase independent verbalizations
- Minimal results through behavioral intervention
Key Findings

- H & K’s 2016 findings remain relatively unchallenged by recent literature
- Evidence supports H & K’s conclusions of efficacy of parent and clinician jointly delivered therapy
- Strongest evidence from measurement of multiple aspects of spoken language (i.e. TTR, MLU, initiations, responses, standardized measures)
- Strong evidence with peer-mediated interventions when TD peers are coached
Future Research

• Only one study in this review controlled for gender effects
  • Ratio of boys to girls with ASD is 4:1
• Children with ASD can appear to be more verbal than they actually are
  • Initiations vs. reciprocal conversation.
  • The content of a child’s language is of equal importance as total # of words said
• Studies using a standardized test should include:
  • Informal observational evaluation
  • Naturalistic language evaluation
  • Content of the language
What Should SLPs Take Away?

If the goal is to increase spoken language...

- Involve the parents
- Coach typically developing peers
- Focus on the QUALITY of the child’s language, not QUANTITY
**Special Shout Outs!**

*Amanda Van Horne*, for guiding me and keeping me motivated while completing this project

*Hampton & Kaiser* for inspiring this review

My brother, *Nicholas John Beahan*, who always inspires me to become the best SLP I can be to help children with ASD!
Questions?


References


