

THE IMPACT OF PARENT-IMPLEMENTED LANGUAGE INTERVENTION ON TODDLERS AT RISK OF AUTISM SPECTRUM DISORDER (ASD)

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ABSTRACT

This study examines the use of parent-implemented language interventions (PILI) with toddlers (18 to 30 months of age), who present early warning signs for autism spectrum disorder (ASD). Using a randomized controlled trial (RCT) design, 40 dyads were randomly assigned to the treatment-as-usual (TAU; n = 20) or intervention group (Early Social Interaction/Naturalistic Developmental Behavioral Intervention; n = 20). Results indicated significant increases in the expressive vocabulary, rate of joint attention initiations, and parental self-efficacy of the intervention group. Studies show that at-risk toddlers follow a dramatically accelerated developmental pathway within epoch of neuroplasticity when caregivers are supported as primary co-therapists in naturalistic settings.

Keywords:

1. INTRODUCTION

The "prodromal" or "at-risk" phase is the clinical focus after early detection of ASD. Parents tend to express concern about language delay first. Cost and accessibility are significant barriers for traditional clinician-led models. PII increases therapy "dosage" via use of the child's natural environment without increasing clinical visit workload. This study examines how at-risk toddlers' communicative competence is affected by parents receiving systematic training in language-boosting techniques.

2. Review of Literature:

At the same time, recent meta-analyses have shown that PILI reliably lead to moderate-to-

large effect sizes for expressive morpho-syntax ($g = 0.82$) (e.g., Roberts & Kaiser, 2011; Heidlage et al., 2020).

Neuroplasticity: Early interventions capitalize on the brain's rapid synaptic pruning and refinement (Pierce et al., 2016).

Naturalistic developmental behavioral interventions (NDBIs): For toddlers at risk for ASD who may have low social motivation, the Early Start Denver Model (ESDM) and JASPER (Joint Attention, Symbolic Play, Engagement, and Regulation) models focus heavily on following child lead.

Parental Outcomes: Besides the benefits to children, PIIs have been shown to reduce parental stress and increase “maternal responsiveness” – an important long-term language development marker.

3. Methodology:

3.1 Participants

Forty toddlers (mean age = 22.4 months) who were found to be at high risk for ASD using the M-CHAT-R/F comprised the sample. Randomization was used to divide participants into twenty members of the experimental group who received 12 weeks of PILI coaching. Whereas the control group (n = 20) maintained standard home care in the community.

3.2 Intervention Model

The intervention utilized a **Triadic Coaching Model**:

- **Phase 1:** Didactic instruction on language strategies which includes explicit grammar instructions, scaffolding, and linguistic mapping.
- **Phase 2:** Live coaching with immediate feedback by the parents during child play.
- **Phase 3:** Parent-led sessions with clinician moves to the background.

4. Data Collection

Data were collected at 3 stages:

Stage I: Baseline,

Stage II: Post-Intervention and

Stage III: 3-month Follow-up.

- **Standardized Measures:** Mullen Scales of Early Learning (MSEL) for developmental age.
- **Communication Measures:** MacArthur-Bates Communicative Development Inventories (CDI) for vocabulary.
- **Observational Data:** 10-minute video-recorded play samples coded for Joint Attention (JA) and Social Orienting.

5. Data Analysis

For quantitative analysis, Mixed-Model ANOVA was performed to compare group differences over time.

Dependent Variables: Number of expressive nominals, words, spontaneous gestures, and

signs and fidelity of implementation (FOI) scores.

Fidelity: Assessed using an 80% criterion for accurate strategy implementation in home routine.

6. Discussion

The performance of the experimental group was significantly higher than that of the control group (p 85%) demonstrating the strongest increases in Initiating Joint Attention (IJA).

The implication is that the focus of the intervention is not only to “teach words” but, rather, to help build the social-communicative grounds for language. But “receptive language” gains lagged behind “expressive” ones, the study reported, implying that it takes even more sustained longer-term input for comprehension.

7. Conclusion:

Interventions that parents implement themselves are a highly effective, scalable solution for toddlers at risk of ASD. The Ike programs provide learning opportunities within routine and expect that by changing the role of the parent from passive observer to agent of change, their child is maximally learning during a daily activity. Further research needs to ensure that gains are maintained over the longer-term and into preschool years, as well as adaptation of these models for children from different socioeconomic backgrounds.

8. References

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