Parent-Implemented Intervention for Toddlers with Receptive and Expressive Language Delays: The Impact of Family Income on Child Outcomes

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Introduction

- Families from low income backgrounds face higher levels of stress and have less access to educational materials and programs (Magnuson & Duncan, 2002).
- Children from low income backgrounds have lower vocabularies than their middle and upper income peers (Hart & Risley, 1995; Fernald, Marchman, & Weisleder, 2013).
- Parents can learn and effectively implement language intervention strategies for their young children who exhibit language delays (Roberts & Kaiser, 2011).
- Long-term effects of early communication intervention may be greater when implemented across natural settings (Kaiser & Roberts, 2013).
- No studies have examined the differential effects of income on response to intervention.

Research questions

- Do conversational turns mediate the relationship between SES and child language skills?
- Are there differential effects of early language intervention for language delayed toddlers from low income backgrounds as compared to middle income language delayed peers?

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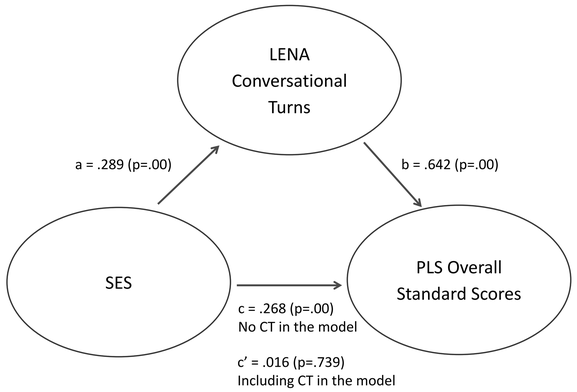
Method

- Data are from RCT study of Enhanced Milieu Teaching (Roberts & Kaiser, 2015).
- 97 parents and their children with receptive and expressive language delays participated in the RCT.
- 25 families (7 intervention; 13 control) were low-income, which was defined as family income-to-needs less than 200% the federal poverty level.
- Eligible participants were randomized to intervention or a control group.
- Intervention participants received 28 individual teaching sessions which included (1) direct child intervention (Enhanced Milieu Teaching; EMT) from a therapist and (2) caregiver training on EMT language support strategies in everyday activities.
- The teach-model-coach-review model was used for caregiver training (Roberts & Kaiser, 2015).
- LENA home observations were collected pre and post (average length > 8 hours).

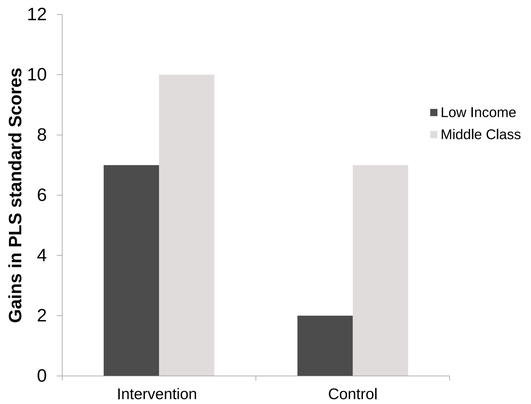
Participant Baseline Demographics

	Intervention	Control	Typical
n	45	52	84
Age in months	30.3 (5.0)	30.6 (5.1)	30.3 (4.9)
Male (%)	82	81	83
Race (%)			
African American	18	19	13
Caucasian	78	79	75
Other	4	2	12
Income-to-needs (%)			
<200% FPL	16	38	17
>200% FPL	84	62	83
PLS-4 Scores	74 (11)	72 (10)	115 (15)
Mother's education (%)			
High school	38	46	13
Undergraduate	38	25	23
Graduate	24	29	64

Results



The differences in PLS-4 standard scores were mediated by adult conversational turns observed (LENA) in the home setting at the start of the study.



There were no differences between low and middle income children at the pretest. There was an over all difference between the treatment and control group [ES .40, p>. .05] at post; however, the interaction between income and group was not significant. Children who participated in intervention in the low income group had smaller gains on the PLS-4. Children from low income households in the control group also gained fewer points on standard scores than their higher income peers.

Discussion

- This exploratory study suggests the importance of examining response to treatment for families from different income backgrounds.
- Mediation findings suggest that specific adaptations to the intervention may increase positive outcomes for some families. For example, it may be important to specifically target increasing communication turns at home to promote the effects of the intervention.
- "Recovery" from language delay in community samples may be more likely for middle income children. Children from low income backgrounds may be at greater risk for persistent language delays.
- Further research with larger sample of low income families is needed.

Limitations

- Small number of participants came from low income households; sample may have impacted results.
- All low income mothers had at least a high school education, making this sample different from other low income samples.
- Important longer term outcomes have not been examined.

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