

Language Intervention Research in Low Income Families: A Synthesis of Research Quality

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Introduction

- Hart and Risley (1995) reported that low SES children in their first years of life were at risk of not developing vocabulary on track due to a 30 Million Word Gap in exposure to language in the home.
- Prevention depends on our capacity to change the individual communication styles of adults and young children using evidence-based practices.
- This knowledge depends on the trustworthiness of findings and quality of methods used to evaluate impacts.
- Given that 26% of children in the U.S. grow up in poverty, the scale of vulnerability is catastrophic.
- Our purpose was to examine the quality of the methods and analyses of extant language intervention research that has included low SES children and families vulnerable to the Word Gap.

Prevention Research Quality Framework

- Ecological validity reflects success in the real-world.
- Scientific rigor determines trustworthiness of findings.
- Scalability indicates ease and ability to increase in size.

Prevention Research Quality Framework

ECOLOGICAL VALIDITY:

I. Included Low SES Participants in Authentic Settings

- Participating organizations and settings
- Participants' characteristics
- Authentic Settings
- Intervention implementers

SCIENTIFIC RIGOR:

II. Intervention Happened as Expected

- Fidelity of implementation measurement
- Language environment measurement

III. Methods were Trustworthy

- Research design
- Child outcome measurement
- Statistical analysis
- Study limitations/recommendations reported

IV. Why or How the Intervention was Working

- Moderator/mediator analyses
- Adult outcome measurement

SCALABILITY:

V. Intervention was Accessible and Usable at Scale

- Teaching adults to use the intervention strategies
- Social validity
- Digital technology

Research Questions

- Were the interventions implemented by low SES participants in authentic settings?
- Did interventions happen as expected?
- Were the interventions trustworthy?
- Was there evidence regarding why or how interventions were working?
- Were interventions accessible and usable at scale?

Methods

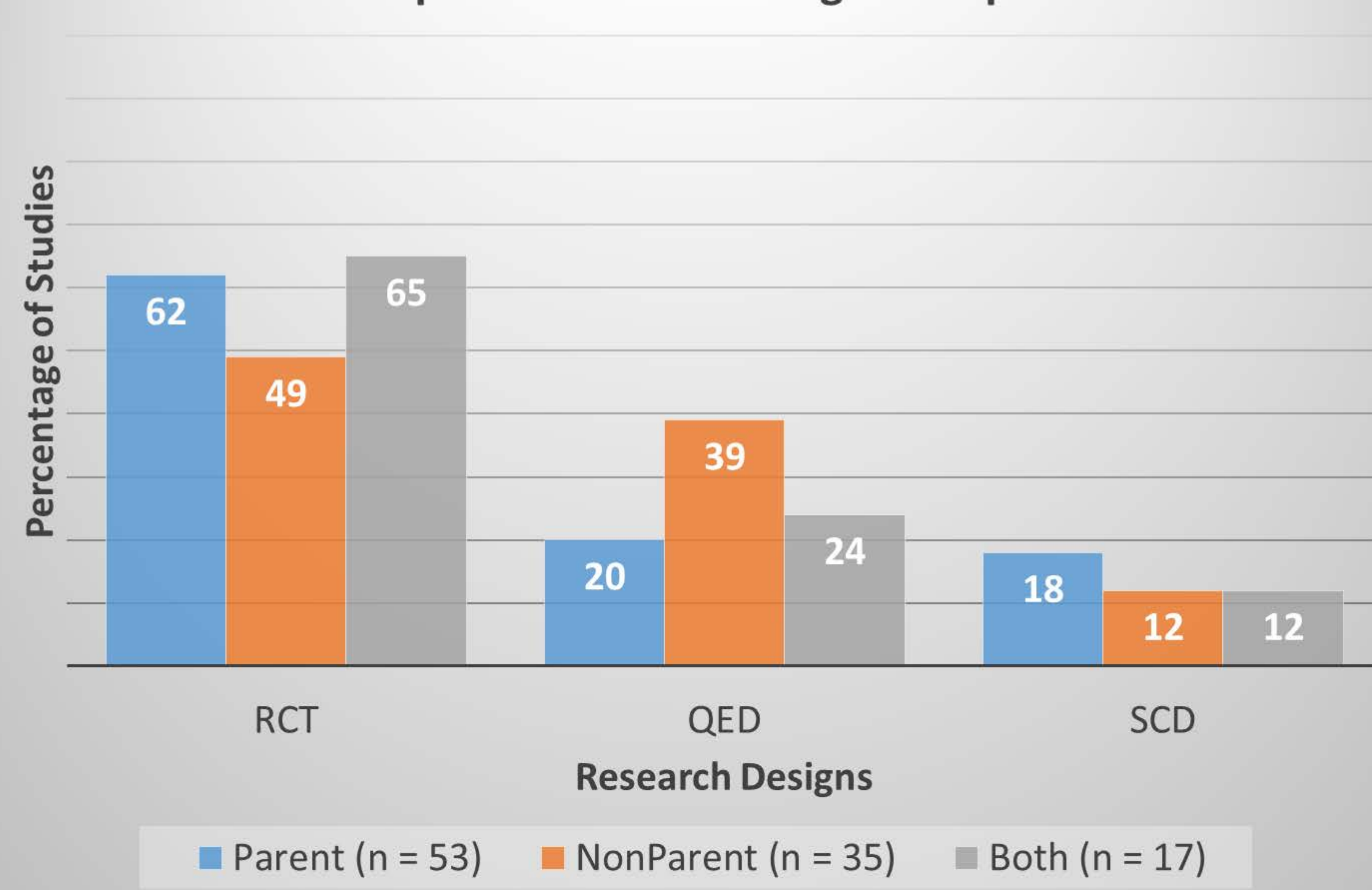
The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) was used (Liberati et al., 2009).

- From 1495 studies located, 534 were identified as language intervention studies and sent to workgroups in an IBM SPSS file for analysis.

Results

- From a population of 534 intervention studies, only 140 (26%) included low SES participants.
- The implementers of the interventions in these studies were: 53% (parents), 35%, non-parent caregivers, and 15% (both).

Percentage of 140 Studies by Intervention Implementer and Design Groups



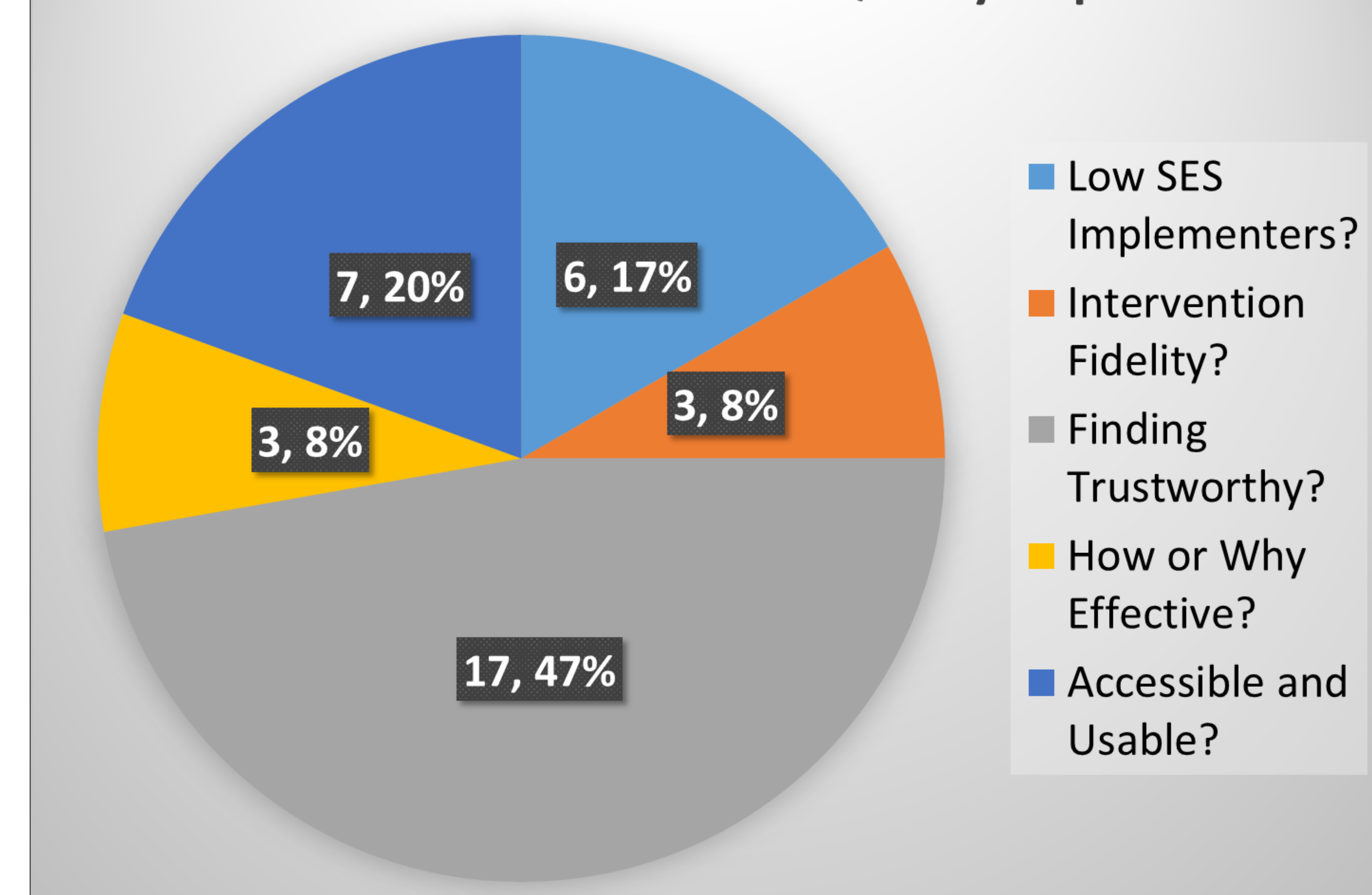
Selected Research Gaps

- Low SES.** Only 12% of studies investigated effects of interventions in more than one setting
- Fidelity.** Less than half reported fidelity; most reported in Single Case Designs (SCD) studies; when reported, fidelity was less than adequate or unclear
- Trustworthiness.** The frequent use of Quasi-Experimental (QED) and SCD rather than Randomized-Control Trials (RCT) designs suggested that the intervention questions asked were pilot/intervention development in nature, rather an impact in nature

IV. **Moderation.** Measuring only a child outcome limits greater understanding of what, and for whom, the intervention makes a positive impact

V. **Scalability.** 21% of studies lacked information on delivery of the intervention to adults; an overreliance on using only one method: group parent training was observed; and minimal use of digital technology to support access and use of interventions.

Identified 36 Research Quality Gaps



Discussion/Implications

- Implications from this synthesis indicated that much more is needed in future intervention research to improve the ecological validity, trustworthiness, and accessibility/usability for scaling up
- Policy should support this effort, and some strategies that are ready for practice may be difficult to access, learn, and use

Handout Attached

References

Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore: Brookes.

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Inannidis, J. P. A., & Mohr, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. *PLoS Med*, 6(7), e1000100. doi:10.1371/journal.pmed.1000100

Acknowledgements

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