

# Early Intervention and Preschool Child Outcomes Evaluation: A Closer Look

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# Focus of this webinar

The Office of Special Education Programs' (OSEP) approach to evaluating child outcomes, for IDEA Part C (early intervention) and Section 619/Part B (preschool) programs, is flawed because it cannot distinguish child progress that is due to EI services from changes caused by other factors.

We hope this presentation will encourage conversations about the best ways to measure the effectiveness of EI and preschool services.

# Background

The US Department of Education is required to report on the effectiveness of Part C and Part B Section 619 services in its Annual Report to Congress on the Implementation of the IDEA.

States are required to annually report on indicators of program compliance and results.

For Part C, the child outcomes component of this system is called Indicator 3. The analogous indicator for Part B Section 619 is Indicator 7.

# Child Outcomes

For the purposes of this webinar we're focusing on Part C EI

The Indicator 3 outcomes are based on a comparison of each child's level of functioning, at Entry and Exit of the EI program (or age 3), as determined by formal assessment and/or parent and clinician judgment.

# Child Outcomes

Indicator 3 outcomes are reported for three domains:

- a) Positive social-emotional skills;
- b) Acquisition and use of knowledge and skills;
- c) Use of appropriate behaviors to meet their needs.

# Child Outcomes

All states are required to aggregate the data for children exiting EI, in a given fiscal year, so as to calculate two metrics for each outcome area:

- a) the percentage of children “who substantially increased their rate of growth by the time they turned 3 years of age or exited the program;” and
- b) the percentage of children “who were functioning within age expectations in each Outcome by the time they turned 3 years of age or exited the program.”

# How the indicator results are used

OSEP's determination of whether a state has met the requirements of IDEA includes two comparisons related to child outcomes:

- A comparison of each state's indicator percentages from one year to the next. An increase is interpreted to indicate improved program effectiveness over time.
- States' child outcomes are compared to one another. States with higher percentages are judged to have more effective programs than states with lower percentages.

# OSEP's child outcomes evaluation design

Evaluation<sub>pre</sub> → Early Intervention → Evaluation<sub>post</sub>

Evaluation<sub>pre</sub> is the pre-treatment assessment

Evaluation<sub>post</sub> is the post-treatment assessment

This is a single group pre-post (*SGPP*) comparison design.



# The SGPP design from the perspective of research methodology

“We should not expect hard-headed causal inferences from the simple before-after design when it is used by itself. . . Our hope is that persons considering the use of this design will hesitate before resorting to it . . . ”  
(p. 103).

*Cook, T. D., & Campbell, D. T. (1979). Quasi-experimentation: Design and analysis issues for field settings. Boston: Houghton Mifflin.*

# The SGPP design from the perspective of performance measurement and evaluation

“Why can’t evaluators just use [pre-post] performance measurement or similar data to assess impact? The answer [is]..... changes observed in participant outcomes cannot be entirely attributed, on their own, to the effects of the program. For one thing, some participants may have improved their outcomes even without the program’s help” (p. 9).

*Tatian, P. A. Performance measurement to evaluation. (2016). Urban Institute.  
[https://www.urban.org/sites/default/files/publication/78571/2000555-performance-measurement-to-evaluation-march-2016-update\\_1.pdf](https://www.urban.org/sites/default/files/publication/78571/2000555-performance-measurement-to-evaluation-march-2016-update_1.pdf)*

# Conclusions regarding the SGPP comparison design to evaluate EI

The SGPP design is not appropriate for evaluating program effectiveness because changes observed in participant outcomes cannot be entirely attributed to the effects of the program.

To justify using the single group pre-post design, it would be necessary to demonstrate that children's delays only change in response to EI. If children improve for any other reason we can't tell if EI caused the improvements.

# Problem: We can't show that children make progress only as a result of EI

Many factors can influence children's progress. For example:

- Changes in environmental factors can influence outcomes
- Changes in health can influence outcomes
- Maturation in the child, such as increased mobility, can effect outcomes
- Imperfect measures of child progress impact our results

As a result:

- Young children's growth rates fluctuate over time.
- Delays can resolve without EI.
- Developmental measures are subject to regression to the mean.

# Illustration

We wanted to illustrate how infants and toddlers with delays could be shown to make progress using OSEP's child outcomes evaluation process, despite having received no EI.

# Sample Used to Create Illustration

A No-EI group was constituted from the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B). The ECLS-B is a nationally representative sample of infants born in 2001 collected by the National Center for Education Statistics (NCES).

For this study, data from the 9- and 24-month follow-up periods were utilized.

The ECLS-B sample included approximately 1,100 children who had delays and participated in developmental testing at both 9 and 24 months.

# Illustration's Outcome Measure

Children's motor and cognitive development at 9 and 24 months were measured using the Bayley Short Form—Research Edition (BSF-R), an abbreviated form of the Bayley Scales of Infant Development, Second Edition (BSID-II). The BSF-R was developed with a core set of items that are appropriate for most of the infants and toddlers in the target age-group.

For this work, developmental progress is reported for children evaluated with the BSF-R who scored under 1.5 SD and under 2.0 SD below the mean on cognitive and/or motor abilities at 9 months.

# Progress of children with delays who did not receive EI services: Acquiring and Using Knowledge and Skills

	Level of Mental or Motor Delay at 9 Months	
	-1.5 <i>SD</i> <sup>a</sup>	-2.0 <i>SD</i> <sup>b</sup>
Child Outcomes		
a) Children who substantially increased their rate of growth	79.5%	83.6%
b) Children within age expectations at 24 months	84.3%	82.4%

<sup>a</sup>*N* = 1,100, <sup>b</sup>*N* = 500



# Summary of Results

About 80% of children in the No-EI group, showed “greater than expected growth.”

OSEP’s child outcomes design, as applied to the ECLS-B data, showed that children with delays can make substantial progress without services.

This illustrates our problem. Children change for many reasons. The SGPP design can’t tell us how much EI has contributed to child progress.

# Conclusions and Implications

OSEP's child outcomes pre-post evaluation process is not valid for demonstrating the effectiveness of Part C services or Part B preschool services.

A better approach is needed to evaluate the contribution of EI and preschool to child outcomes.

Can alternate approaches to the evaluation of child outcomes be identified?  
Is this something that should be discussed?

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# Reference

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From Flawed Design to Misleading Information: The U.S. Department of  
Education's Early Intervention Child Outcomes Evaluation

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