THE DENVER PRESCHOOL PROGRAM: CHILD OUTCOMES

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Primary goal of the COVID-19 analysis

How does the kindergarten readiness of the COVID-affected DPP cohort compare to the previous DPP cohorts?

- Executive functioning:
  - Working memory – e.g., when asked to do several things, the child only remembers the first or last
  - Inhibition – e.g., when something needs to be done, the child is often distracted by something more appealing

- Social skills:
  - Protective factors – initiative (e.g., shows persistence), self-regulation (e.g., shows patience), and attachment/relationships (e.g., trusts familiar adults)
  - Behavioral concerns – e.g., fights with other children

- Cognitive: receptive vocabulary, letter word identification, applied problems
How do we make the COVID and non-COVID cohorts “equal?”

Before Weighting

- Income Tier 1: Covid cohort = 14, NonCOVID cohorts = 23.9
- Income Tier 2: Covid cohort = 14, NonCOVID cohorts = 20.1
- Income Tier 3: Covid cohort = 14, NonCOVID cohorts = 12.2
- Income Tier 4: Covid cohort = 3.7, NonCOVID cohorts = 5.5
- Income Tier 5: Covid cohort = 25, NonCOVID cohorts = 38.4

After Weighting

- Income Tier 1: Covid cohort = 14, NonCOVID cohorts = 17
- Income Tier 2: Covid cohort = 17, NonCOVID cohorts = 20.1
- Income Tier 3: Covid cohort = 14, NonCOVID cohorts = 16.9
- Income Tier 4: Covid cohort = 3.7, NonCOVID cohorts = 3.1
- Income Tier 5: Covid cohort = 25, NonCOVID cohorts = 34.3
Laying the groundwork to interpret the findings

- Learning loss – the extent to which the COVID-affected cohort are not reaching the same levels of kindergarten readiness as the previous DPP cohorts
- Statistical significance – the likelihood that the observed differences are not due to chance
- Effect sizes (ES) – emphasizes magnitude of the difference
  - ES of 0.20 and larger are considered substantively important
# COVID Learning Loss

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<th>Measure</th>
<th>Significance</th>
<th>Effect Size</th>
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<td>Receptive vocabulary</td>
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<td>Applied problems</td>
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<td>Working memory</td>
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Negative ES denotes potential learning loss
Our analysis is the first known study in the nation to...

- Evaluate the effects of the pandemic on children who were in preschool when the pandemic started
- Examine young children’s math skills development during the pandemic
- Assess executive functioning and social skills using a before- and after-pandemic design
What are our next steps?

• Examine subgroup variations
• Explore how child resiliency and the home learning environment can mitigate loss
• Larger question: What can we do to get children back on track?
Questions? Please email us at: le-vinhuan@norc.org