Short and Long Term Impacts of Early Head Start

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EHS Research Consortium

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Early Head Start
Research and Evaluation Project

- 3,001 children and families randomly assigned to EHS program or control group in impact study with experimental design:

- 17 of first programs funded-center-based, home-based and mixed
- Data collection: 14, 24 and 36 months; prekindergarten and fifth grade follow-up

Impact Analyses: Methods

Regression adjusted, controlling for baseline characteristics, and sites weighted equally

Reported: per-participant and intent to treat

Sensitivity analyses- Weighted for missing data

Response rates

- Response Rate – Family Interview Age 3 = 70%
- Response Rate – Family Interview age 5 = 69%

Patterns of impacts

Overall Impacts for Children: Age 3

- Higher immunization rate ($p<.10$)
- Fewer emergency room visits for accidents and injuries
- Cognitive development (higher Bayley scores)
- Larger receptive vocabularies
- Lower levels of aggressive behavior
- Greater sustained attention with objects, engagement of parent, and less negativity

Overall Impacts for Parents: Age 3

- More positive (and less negative) parenting observed in parent-child play: both mothers and fathers
- Higher HOME scores, more stimulating home environments, support for learning
- More daily reading
- Less spanking: both mother and father report
- More hours in education and job training

Overall Impacts for Children 2 Years After Early Head Start

- Decreased behavior problems
- Higher level of positive approaches to learning
- Larger receptive vocabularies for Spanish-speaking children, but not for English speakers
- More likely to be in formal care and education at ages 3-5

Overall Impacts for Parents 2 Years After Early Head Start

- Higher scores on HOME total scale and warmth scale
- Higher on summary of 8 teaching activities
- Higher percentage read to child daily
- Lower risk for maternal depression
- Parent more likely to attend meetings or open houses at child's program (if child was in a program)

Grade 5

Grade 5 sample
55% of original 3001

Internal Validity

- Program-comparison differences in nonresponse are small--comparison group has slightly higher nonresponse
- Baseline characteristics of respondents in the program and control groups do not differ significantly

External Validity

- Despite sample loss over 11 years of follow-up, characteristics of respondents at grade 5 are remarkably similar to those of full baseline sample
- More likely to lose lower-educated and highest-risk mothers by grade 5, and those in urban programs

Impacts 7 years later

- Higher scores on child social emotional success index ($p < .10$)

Impacts for Select Program and Family Subgroups

Home-Based Programs

Age 3: Mostly for parents, effect sizes .15-.19

Age 5: Effect sizes .15-.20

- Reduced hyperactivity, behavior problems, and withdrawn behavior
- Positive social skills and approaches to learning
- Increase in applied problems score (W-J)
- Percent reading daily
- HOME total, learning environment, warmth
- Monthly income $2,408 vs. $2,106

Home-Based Programs, continued

Grade 5: Effect sizes .12-.15

- Reduced ADD/ADHD (p <.10)
- Fewer parental depressive symptoms (p <. 10)
- Fewer household moves
- Reduced family conflict (p < .10)
- Increased family income (p < .10)

Center-Based Programs

Few impacts at age 3 and 5

Grade 5: Effect sizes .26-.34

- Improved social-emotional success ($p < .10$)
- Less retention in school
- Increased parenting stress (both subscales)

Mixed-Approach Programs

Age 3: Effect sizes range from .20-.30

Broadest pattern of impacts for children and families

Age 5: Effect sizes range from .14-.30

- Fewer behavior problems
- Parents more likely to attend open houses or meetings

Grade 5: (all $p < .10$), effect sizes .17-.20

- More family involvement in school
- Lower parenting distress
- Lower current welfare participation

African Americans Largest Patterns of Positive Impacts Over Time

Age 3: Effect sizes in the .25-.45 range

- Child: less aggressive behavior, more optimal behavior playing with parent, larger vocabulary, more likely to have IEP
- Family/parent: increased home support for language and learning, more optimal behavior during play, regular bedtime, maternal employment

Age 5: Effect sizes in the .20-.35 range

- Child: less aggressive behavior, improved approaches toward learning, improved attention, larger vocabulary
- Family/parent: more books, parent more supportive in play, less depression, child less likely to live with someone with drug or alcohol problem

African Americans, continued

Grade 5: Effect sizes in the .20-.37 range

- Child-level: less externalizing behavior, anxious/depressed, rule breaking, fewer social problems, fewer attention problems, less likely to be bullied by peers ($p < .10$)
- Family/parent level: increased family involvement in school, fewer depressive symptoms, less alcohol use; fewer moves and greater support for education internal to the home ($p < .10$)

Hispanics

Age 3: Effect sizes in the .20-.30 range

- Increased parent support for language and learning
- Increased maternal education (in school or job training)

Age 5: Effect sizes in the .25-.40 range

- Improved approaches toward learning
- Improved Spanish vocabulary
- Fewer speech problems
- Parents more likely to attend open house
- Parents more likely to read daily ($p < .10$)
- Maternal employment ($p < .10$)

Grade 5: Effect sizes .22-.23

- Lower academic success ($p<.10$)
- Maternal educational attainment ($p < .10$)

Whites

Few impacts at ages 3 and 5

Grade 5 (all p < .10): Effect sizes .17-.21

- Fewer externalizing behaviors
- Less rule breaking behavior
- Less anxious/depressed
- Improved matrix reasoning (WISC subtest)
- Reduced parenting distress
- Reduced family conflict
- Reduced welfare participation

Highest-Risk Families

No impacts at 3 (possible negative for vocabulary)

Age 5: effect sizes .24-.35

- Improved approaches to learning
- Fewer speech problems ($p < .10$)
- Parents more supportive during play
- Reduced living with someone using drugs
- Reduced neighborhood exposure to violence
- Reduced parent experiencing$_{abuse}$
- But *reduced* letter-word identification (negative impact)

Grade 5: Effect sizes .21-.33

- Negative impacts-children's vocabulary and math

Non-experimental Analysis

How do the accumulation of program and school experiences relate to outcomes?

Classified children based on:

- Early Head Start
- Formal pre-kindergarten program at ages 3 and 4
- Lower poverty school (percentage free/reduced-price lunch less than median)

ANCOVA compared outcomes across the groups

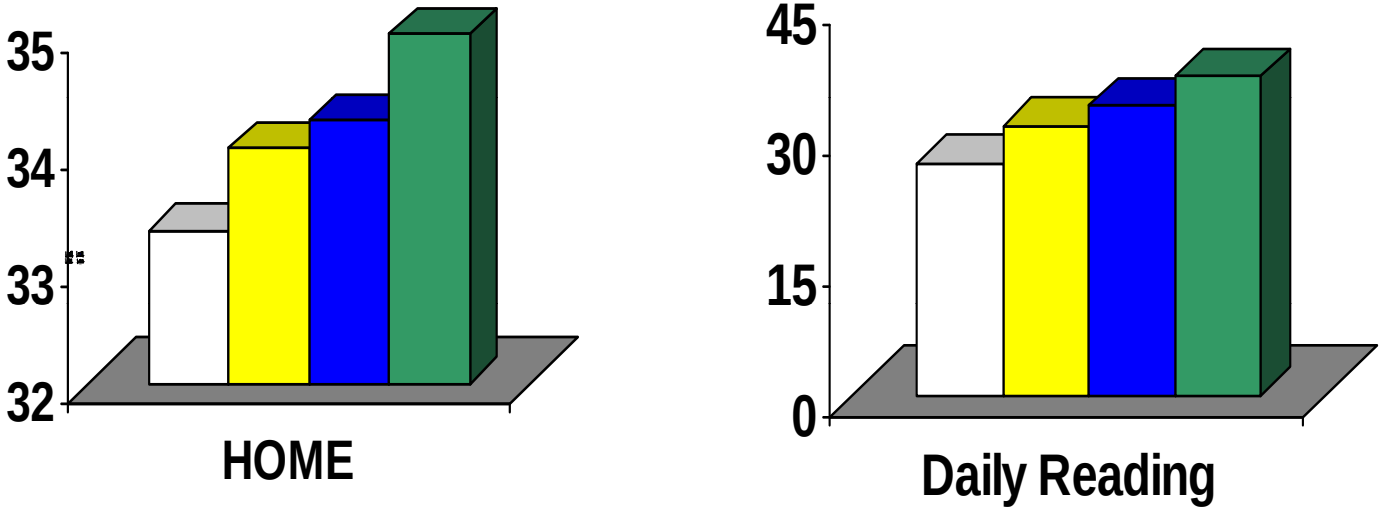
Putting it All Together: Non-experimental At Age 5

Children with EHS *and* 3-5 fared the best, followed by those with EHS only (for child social-emotional and parent outcomes) or HS/formal program only (for child school-related outcomes).

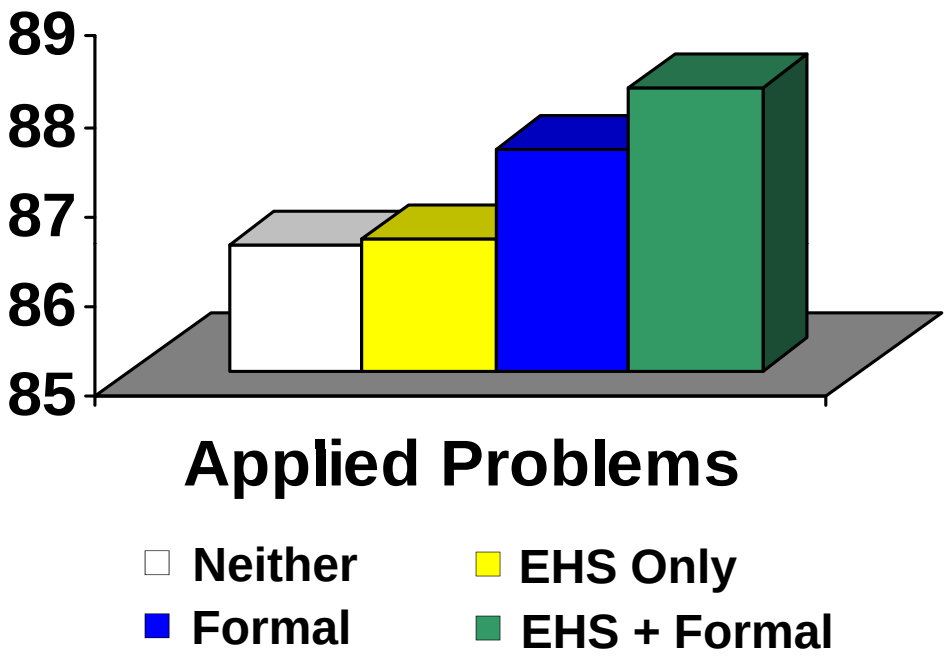
Important for 0-3 services to be supported by 3-5 services.

NOTE: for Highest Risk families better outcomes if EHS followed by HS

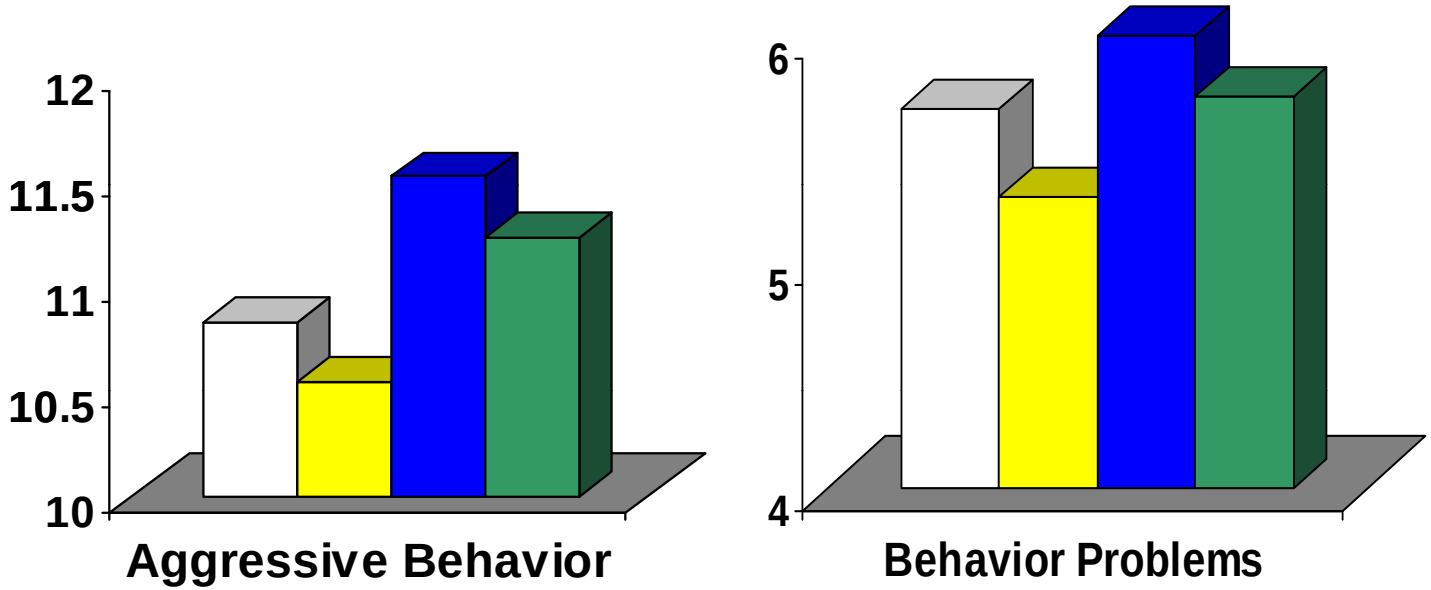
Children with EHS and Formal Care Fared Best: Home Environment



Children with EHS and Formal Care Fared Best: Academic Skills



EHS Buffered Negative Social Emotional Outcomes Associated with Formal Care

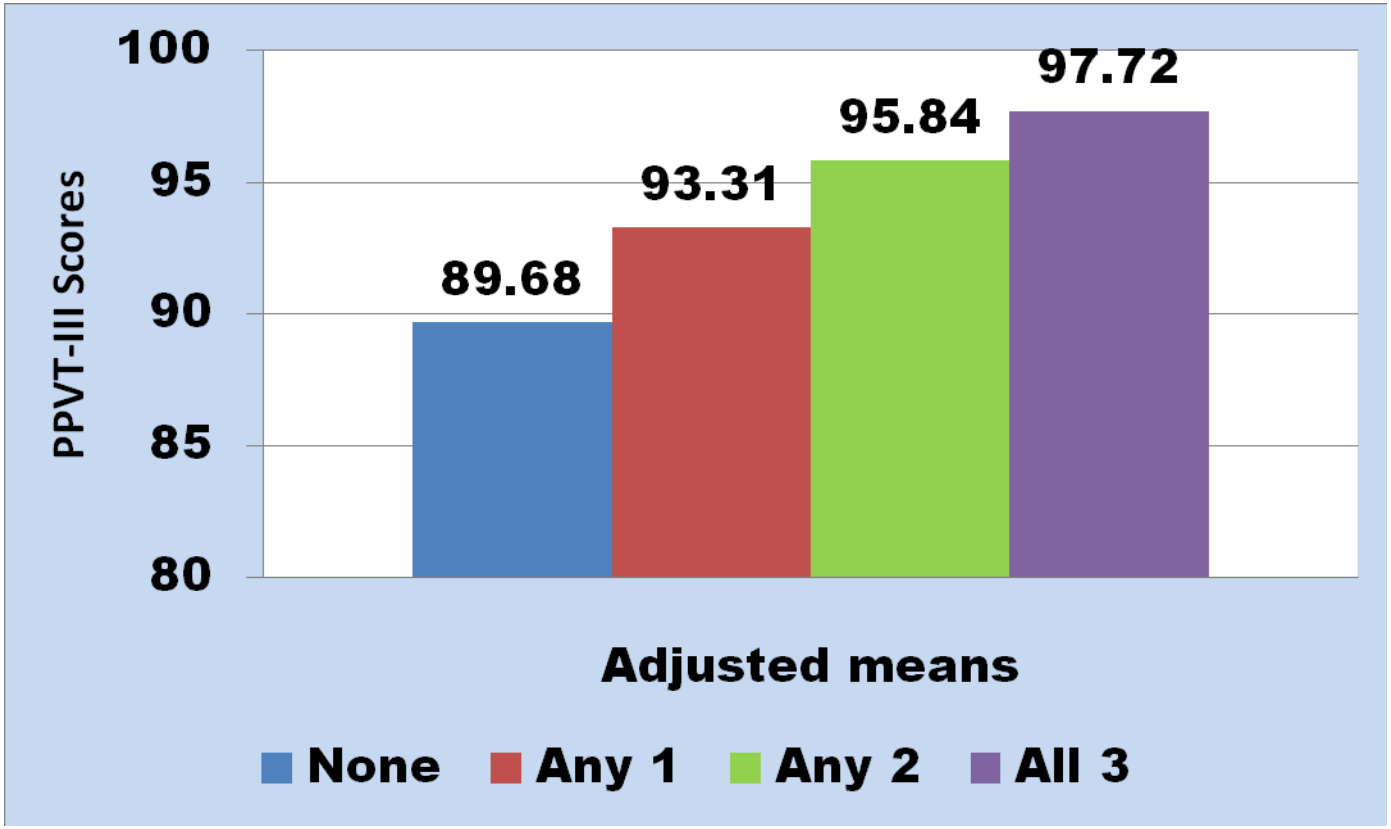


Non-experimental At Grade 5

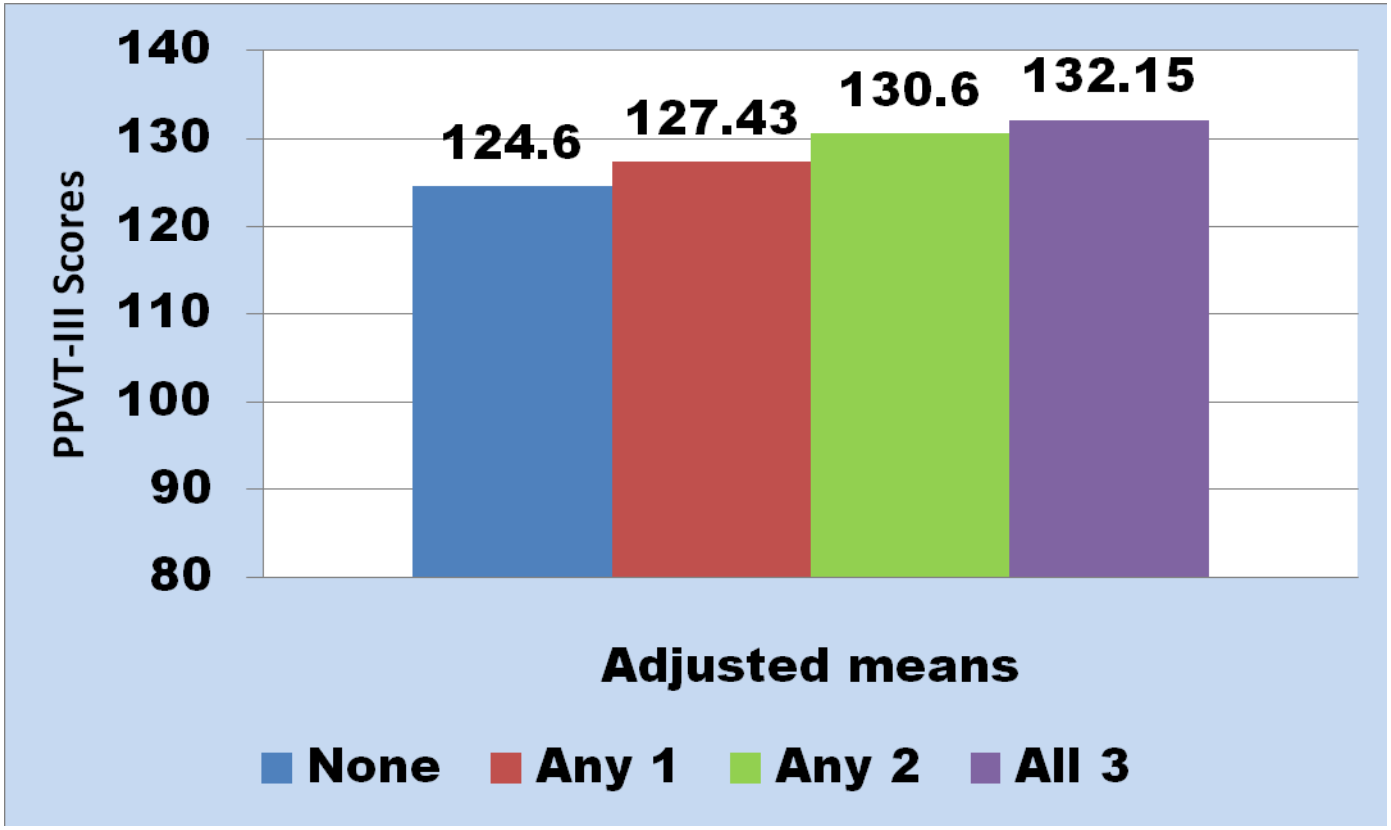
- More program and educational experiences were associated with better cognitive and academic outcomes in fifth grade

- Number of cumulative experiences was not associated with social-emotional outcomes

Cumulative Experience on PPVT-III



Cumulative Experience on ECLS-K Reading



Take Away Messages

Overall, broad pattern of modest impacts at age 3 at finish of program.

On follow up, age 5 impacts sustain in social emotional and parenting areas.

At Grade 5,$_{onl}$ y a social emotional composite (trend)$_{im}$ pact remains. Some subgroups of children and families show long term benefits from EHS.

Take Away Messages

Four notable patterns:

- Sustaining: African Americans had broad impacts that were sustained after the end of the program at age 5 and Grade 5, reducing only slightly.
- Increasing: Impacts of home-based programs and for Whites grew over time.
- Increasing then Diminishing: Impacts for Hispanics and Highest Risk increased from age 3 to age 5 then diminished.
- Diminishing: Mixed-Approach group had initially strong impacts then diminished.

EHS continues to be part of the story, but later experiences and settings influence child outcomes