

**Your Question:**

You inquired about research regarding the effectiveness of pre-K programs, both short- and long-term.

**Our Response:**

There is quite a bit of research in this area — most of it pointing in the general direction that pre-K has provided sustained positive benefits for children in several areas, including literacy, math, science and other social and emotional skills.

It may be most helpful to start with a meta-analysis of pre-K research done by the Learning Policy Institute ([full report](#) and [brief](#)). It reviewed 33 independent studies/evaluations of 21 different programs (state-level and Head Start) and found:

- 1) For impacts at school entry, compared with children with no pre-K, among pre-K participants (see graphic below):
  - a. 17/18 studies found positive impacts for literacy.
  - b. 14/16 studies found positive impacts for math.
  - c. 4/6 studies found positive impacts for social and emotional learning.

**Impacts of Preschool at School Entry**

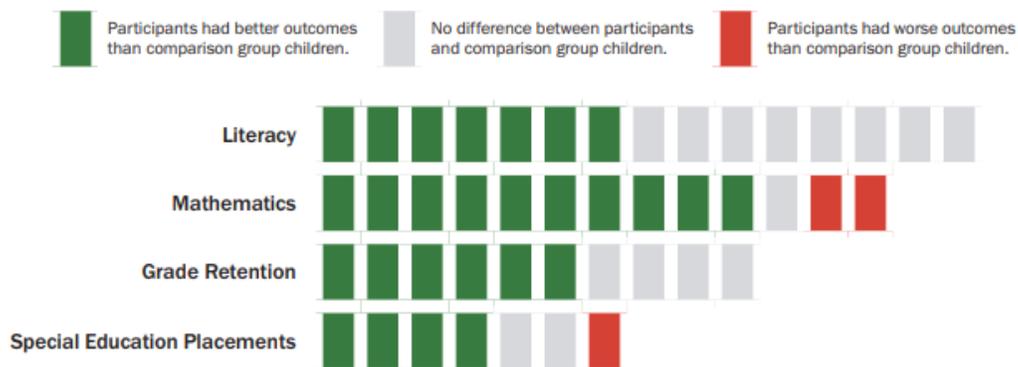
Each box represents a separate evaluation of a preschool program.



- 2) For impacts throughout school (often through third grade, sometimes beyond), among pre-K participants:
  - a. 7/15 found positive benefits for literacy (8 found no difference).
  - b. 10/13 found positive benefits for math (1 found no difference, 2 found worse outcomes\*).
  - c. 6/10 found positive benefits regarding reduced grade retention later on.
  - d. 4/7 found reduced special education placements later on, 1 found worse outcomes.\*

## Impacts of Preschool Throughout School

Each box represents a separate evaluation of a preschool program.



\*LPI highlights a major caveat regarding the studies that found worse outcomes later on; they are primarily from the [TN study of its state pre-K program](#) or [Head Start](#). The TN study was not consistent or rigorous in its approach to controlling for the comparison and experimental groups (i.e., comparison groups — those who were thought to not have any pre-K experience — were often found to be enrolled in some type of pre-K, often of higher quality). This really muddies the water when making comparisons and claiming long-term effects in third grade fadeout. The Head Start study was a bit more rigorous, but still faced similar challenges. Other long-term studies have found mixed results, but more is likely needed to be done to better understand the differences and variability in quality.

In all, researchers emphasize that [quality is paramount](#). Additionally, Dr. Deborah Phillips had a great quote regarding the long-term effectiveness of pre-K: “Do we hold first, second or third grade responsible for outcomes in eighth, ninth and tenth grades? So, why are we holding pre-K accountable for long-term effects?” In all, a better way to frame it is that pre-K can have positive long-term effects, as the majority of research demonstrates, according to the LPI study, which had very rigorous selection criteria.

To sustain high-quality pre-K gains, it is also critical that the K-3 years are high-quality (for more information, see [Education Commission of the States’ K-3 Policymakers’ Guide to Action: Making the Early Years Count](#)). I would also recommend a webinar that the National Conference of State Legislatures hosted in spring 2017, titled [“Preschool Effects: What the Research Does and Does Not Say](#).

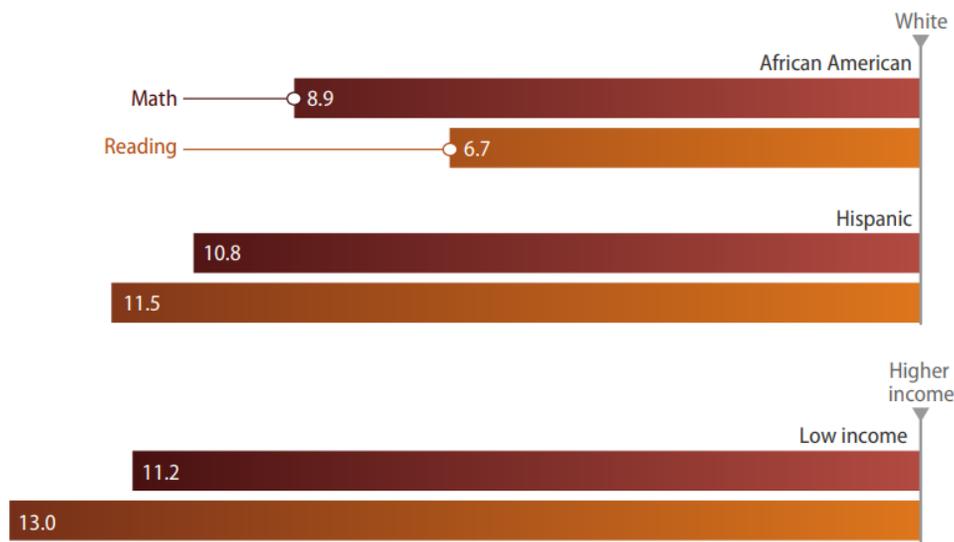
Some additional research:

- Long-term effectiveness
  - In third grade:
    - [Arkansas](#): better outcomes at end of first and second grade for language, math and literacy, and lower grade retention (some effects faded at end of third grade).
    - [Georgia](#): higher test scores in English language arts, math, science and social studies.
    - [Louisiana](#): especially beneficial for low-income students, who had higher third and fourth grade literacy outcomes than non-participants.
    - [New Jersey](#): significant benefits in language, literacy and math skills in second, fourth and fifth grades.
    - [North Carolina](#): positive impacts at age 11 — better reading and math scores, lower special education placements and retention rates.
    - [Oklahoma](#): one cohort found persistence of gains in math but not reading, different outcomes across genders.
    - [Texas](#): better outcomes in literacy and math in third grade, reduced special education placement and grade retention.
    - [Washington](#): positive impact in third, fourth and fifth grade test scores (literacy and math)

- In middle school:
  - [Alabama](#): participants more likely to be proficient in math and reading in grades 3-7.
  - [Oklahoma](#): enduring positive effects on math achievement, enrollment in honors courses and reductions in grade retention.
- In adulthood and generational effects:
  - [Perry Preschool \(NJ\)](#): children of program participants were found to be more likely to: never be suspended from school; complete high school without suspension; never be suspended, addicted or arrested; be employed full-time or self-employed; have at least a high school diploma; or have at least some college experience.
- Short-term impacts at kindergarten entry
  - [New Mexico](#): lowered special education placement and retention rates, improved math and reading proficiency rates.
  - [Tennessee](#): participants performed better across all content tests with low-income and non-native-English speaking students making the highest gains.
- For different demographic groups, [students from low-income families generally enter kindergarten trailing their peers from higher-income families](#) (see graphic below). Pre-K has been found to significantly improve outcomes for these students.

### African American, Hispanic, and low-income children lag behind their white and more affluent peers in math and reading at kindergarten entry

Kindergarten achievement gaps in months of learning by subgroup, 2010



- Return on investment ranges from \$2-\$17 per dollar spent. The wide range reflects very conservative estimates (\$2-\$4 to \$1 in [consensus research](#)) to very generous estimates (in the \$13-\$17 to \$1 range). In either case, even a \$1 to \$1 return means the program pays for itself. [James Heckman's research](#) is often cited; he finds a \$13 to \$1 return.

#### Additional Resources:

- Education Commission of the States
  - [Companion Report: 50-State Comparison: K-3 Quality](#)

- [Strengthening the Early Childhood Education Continuum](#)
- [50-State Comparison: State Kindergarten-Through-Third-Grade Policies](#)
- [Transitions and Alignment from Preschool to Kindergarten](#)
- [Governance in Early Childhood Education](#)
- [How States Fund Pre-K: A Primer for Policymakers](#)
- Brookings Consensus Pre-K Report (meta-analysis): [Brief](#) and [Full Report](#)
- National Conference of State Legislatures
  - [Early Learning and Support Portal Page](#)
  - State Policy and Research for Early Education Working Group (SPREE) [Report](#)
  - [Preschool Effects: Consensus Research](#)