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# How to Make Sense of the Latest Tennessee Pre-K Study

BLOG POST



Long Story Short Media

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If you closely follow early education news, you're surely aware of **the latest findings** from a multi-year, randomized control study out of Vanderbilt University that followed about

2,000 children in Tennessee to measure the long-term effects of the state's public pre-K

5,000 children in Tennessee to measure the long-term effects of the state's public pre-K program, the Tennessee Voluntary Pre-K Program (TN-VPK). The study includes children who attended TN-VPK during the 2009-2010 and 2010-2011 school years. Researchers found significant positive effects of TN-VPK at the end of pre-K. But they also found that, by the end of sixth grade, children enrolled in TN-VPK had lower state achievement test scores, higher rates of discipline infractions, and a greater portion had special education placements than their peers who were not selected for TN-VPK. The study's findings are worth examining closely, but it's also important to view the findings in context and understand that one study doesn't undermine the cause for greatly expanding access to pre-K via the Build Back Better Act.

This is a high-quality study that raises important questions about the best way to design pre-K programs in order to improve the life outcomes of children, especially children from families with low incomes, such as **the approximately 18,000 four-year-olds** currently enrolled in TN-VPK. But it's also important to keep in mind that this is one study that shows negative long-term effects of a single state's pre-K program (back in 2009 and 2010) and not a sweeping pronouncement about the efficacy of pre-kindergarten nationwide in 2022. A **recent randomized control study** of the long-term effects of Boston's pre-K program found promising results: pre-K attendees were less likely to be suspended in high school, less likely to be sentenced to juvenile incarceration, more likely to graduate from high school, and more likely to enroll and graduate from college than children who did not gain admission into Boston's pre-K program. In 2020, the Education Commission of the States conducted **an analysis** of 15 research studies of pre-K and found significantly more long-term positive outcomes than results suggesting that positive effects diminished over time. And there are **plenty of other recent studies** that show both short- and long-term benefits for children who attend high-quality pre-K programs. With the large body of research showing positive outcomes from pre-K, it is inaccurate when researchers, policymakers, or politicians use the single Tennessee study to conclude that pre-K doesn't work.

There are some unique features of the TN-VPK study and program that should be kept in mind when drawing conclusions. First, we should learn from the findings of the study, but

be careful not to exaggerate. The outcomes were not positive, but a closer look at statistical methods reveals that differences in outcomes between groups were small. While this study found third grade and sixth grade statewide test scores to be higher for students in the study who did not attend TN-VPK, the difference in test scores that can be attributed to TN-VPK attendance is small. The details are a bit wonky: in effect size measurements, effect sizes are considered small (0.2), medium (0.5), large (0.8), or very large (1.3). The effect sizes calculated in the study for third grade test scores (-0.293 or below) and sixth grade test scores (-0.399 or below) are considered small. No effect sizes reached even the medium range. (It is also important to note that many factors between pre-K and sixth grade contribute to a student's sixth grade test scores.) Similarly, the differences in IEPs at sixth grade that can be attributed to TN-VPK attendance are small (effect size of -0.272). Effect sizes are also small for school rules violations (-0.253) and major offenses (0.123). There were no significant differences in grade retention rates found between TN-VPK participants and their peers.

It's also worth noting that, over the last decade, Tennessee has taken steps to improve the quality of the TN-VPK program. The study measures the outcomes of children who attended TN-VPK during the 2009-2010 and 2010-2011 school years. A study of TN-VPK classrooms at that time by Vanderbilt University found that **85 percent** of classrooms observed scored "less than good quality" on a widely used early childhood instrument. This might at first seem at odds with the National Institute for Early Education Research (NIEER) *State of Preschool Yearbook* assessment that Tennessee met 9 of 10 quality benchmarks in 2009. But, as Steven Barnett, the Senior Co-Director of NIEER, has **noted**, "The benchmarks represent minimal standards to support quality." They focus on structural aspects of a program like class size and teacher qualifications and do not measure **process** quality features like whether teacher-child interactions are warm, responsive, and learning-focused. As Barnett has explained, "Structural features are weakly related to actual quality because even though they facilitate and may even be necessary for quality, they are far from sufficient." For a pre-K program to be high quality and garner lifelong results for children, it must have both structural and process quality features.

As a field, our knowledge about providing high-quality process features in pre-K has grown significantly since 2009, and Tennessee has invested in some important quality improvements during that time. For example, since 2013, Metro Nashville Public Schools has been working to improve the quality of its pre-K programs and better understand what is and isn't working. The district has partnered with Vanderbilt to provide **intensive professional development for pre-K teachers** in recent years. Based on these types of investments and growing knowledge about developmentally appropriate practice in pre-K, TN-VPK quality may very well look different today than it did 12 years ago.

The Build Back Better Act, currently stalled in Congress, would help states, such as Tennessee, expand and strengthen their pre-K programs. Build Back Better would enable Tennessee to increase the amount of funding it spends on pre-K. In 2020, it only spent about **\$4,500** in state funding per child. This is lower than the national average of about **\$5,500** per child and much lower than the **\$10,750** per child NIEER estimates it would cost for the state to provide high-quality, full day pre-K.

There are some notable differences between what Build Back Better aims to achieve and the TN-VPK program. TN-VPK is an income-based program. Build Back Better is supporting states to build universal programs. Recent research **suggests** that children enrolled in universal pre-K programs experience greater academic gains than children in targeted programs, particularly children from families with low incomes. A program that is open to all, regardless of income, could also help reduce the **racial** and **economic** segregation that's widespread across too many early childhood programs.

And while TN-VPK only has enough funding to serve **22 percent** of the state's four-year-olds, Build Back Better funds states to start offering pre-K at age three, giving kids two years of pre-K, which **research** suggests is more effective than one year. Many of the children in the TN-VPK study comparison group received early learning services in Head Start and child care settings. Their outcomes at sixth grade are an important argument in favor of Build Back Better's support for a mixed-delivery system where children can attend pre-K or child care in the setting that best meets their needs. The early childhood education programs that show the most impressive long-term outcomes tend to be those that are most comprehensive and intensive. One year of pre-K of questionable quality is

that are most comprehensive and intensive. One year of pre-K of questionable quality is not an inoculation that protects children against all future challenges that they may face.

This study should serve as a reminder that the quality matters, and that scaling pilots to statewide programs is difficult. More attention to the science of scaling up pilot programs is needed if we hope to achieve the same positive outcomes at scale.

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