Early childhood education yields big benefits — just not the ones you think [1]

Any academic boost from preschool fades out after a few years. Surprisingly, it still has lifelong effects.
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Source: Vox
Format: Article
Publication Date: 15 Oct 2018

AVAILABILITY
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EXCERPTS

There's a bizarre-seeming paradox sitting at the heart of research into early childhood education. On the one hand, there's a sizable body of research suggesting that kids who go through intensive education at the ages of 3 and 4 don't really come out ahead in terms of academic abilities. By kindergarten much of their advantage has receded, and by second grade researchers typically can't detect it at all.

On the other hand, there's an equally substantive body of research suggesting that early childhood education produces a profound, lifelong advantage. Kids who enter intensive preschool programs are less likely to be arrested, more likely to graduate, and less likely to struggle with substance abuse as adults. One study with a followup when the students were in their mid-30s found that they were likelier to have eventually attended and completed college.

This is an area where research is fiercely debated — and really important. In 2017, the US spent $9 billion on Head Start, the flagship early childhood education program launched in the 1970s. If one set of studies is wrong, that has profound implications for how we should be spending that money instead.

Here's an explanation that makes sense of all the research: The benefits of early childhood education aren't coming from the academic skills they teach students. Early childhood education helps because it's reliable daycare.

Early childhood education's effects fade — except the ones that persist decades later

In the past few years, early childhood education has taken a beating in studies of its effects a few years down the road. The Department of Health and Human Services commissioned a massive study of Head Start, the flagship early childhood education program, and found "the benefits of access to Head Start at age four are largely absent by 1st grade for the program population as a whole."

In the 2008 to 2009 school year, when Tennessee had to assign spaces in their early childhood education program by lottery, it created the conditions for the perfect natural experiment. Researchers found, if anything, negative effects: "the control children caught up with the pre-k participants on [kindergarten and subsequent] tests and generally surpassed them."

There are studies out there which have found lasting benefits to test scores. But in general, the better-conducted the study, the more discouraging the results.

How is that compatible with the impressive list of positive long-term effects discussed above?

One explanation commonly entertained in the debate over early childhood education is that the studies for one side or the other are just wrong. Pessimists about education interventions have pointed out that the recent studies, which found no effects from early childhood education interventions, are randomized control trials (RCTs), which are considered the gold standard for research into policies like these.

Meanwhile, the findings of long-term benefits come from longitudinal studies, tracking all of the kids in a program. RCTs are generally more reliable on a complex question like this one. So maybe the RCTs are right, the longitudinal studies are all turning up noise, and there are no effects from preschool.

But defenders of early childhood education can retort that the evidence base for the long-term effects is actually quite solid. Some of the studies that find a long-term advantage from education are very carefully designed to avoid the methodological problems associated with not having a control group.

For example, the Brookings Institution tried to compare kids who attended Head Start with their siblings who didn't, and found long-term effects on graduation rates, college attendance, and adulthood self-control and self-esteem. They even found that Head Start improved parenting practices for the next generation.

A different analysis by the National Bureau of Economic Research used a regression discontinuity design — exploiting the fact that Head

Start was provided to the poorest counties but was not provided to some nearly identical counties just over the income threshold. They found effects from Head Start on child mortality, graduation rates, and college attendance.

Optimists, then, have often argued that it's the RCTs that must be wrong — maybe there are persistent effects on what students learn even though most studies don't turn them up. There are some studies in which researchers found persistent gains from early-childhood school programs. They're often the ones that go well beyond preschool, offering five or six years of high-quality intensive education. It might be that a few standout programs actually do deliver academic results. But they seem to be rare, small, and hard-to-scale.

There are also some independent reasons to suspect that early gains from preschools don't last. In general, education in kindergarten just does not predict performance by the end of elementary school very well. Researchers Guanglei Hong and Bing Yu, looking at data from a large longitudinal study of kindergarteners, found "no evidence that early-grade retention brings benefits to the retainees' reading and math learning toward the end of the elementary years."

One more thing to look into is health interventions. Early childhood education programs have life-affecting long-term health outcomes, which is likely because the education interventions are often packaged with health interventions. Head Start, thought of as a preschool intervention, also provides meals, social services, parenting services, immunizations, and thorough health screenings that catch diabetes, anemia, and hearing and vision problems.

It seems possible that much of the benefits from early childhood education are actually from the health interventions — which is a big deal because those parts of the program are much less expensive than the preschool parts.

This can't be the whole story, though, because not every education program that showed some results included health interventions. (And one study was thoughtful enough to provide health interventions to their control group as well, and still found results.)

Some room for the role of preschool — but not as an educational intervention

So if there's still some effect from preschool, but it doesn't come from teaching children skills they'll retain in school, what's driving it?

The study I just mentioned — the one that provided health interventions to the control group as well — is suggestive. Called the Abecedarian Project, it was an experiment conducted in the 1970s and it remains one of the most promising pieces of evidence for early childhood education.

The program provided intensive intervention from birth to age 5, spending about $20,000 a child in today's dollars. The project had a small sample size compared to many of the other studies of this topic. (One hundred and twenty families compared to nearly 5,000 in the latest examination of Head Start.) And it included departures from random assignment that should make us less confident in their results.

Still, it found students in the intervention program did amazingly better than the control group — including being four times likelier to graduate from college, five times less likely to have been on public assistance, significantly reduced chances of being arrested or charged with a crime, and significant improvements in adult math and reading ability.

The Abecedarian Project did something differently from other early childhood education programs — it started at birth. Here's why that's significant: For infants, we might expect that the benefits of an education intervention are less a result of teaching them things and more a result of providing them with a consistent, warm, and safe environment.

We wouldn't expect to see academic benefits from providing infants with play, care, and affection, and providing their parents with free child care. We might expect, however, to see them grow up into healthier, happier people.

When you look more closely, it looks like that's what's going on with three-year-olds as well. Teaching them to read may not make them stronger readers at age eight, but having a safe place for them to go full-time during the workday is an enormous boon to their families at a critical age.

Low-income parents are often under intense pressure due to lack of access to daycare. Without childcare, it's much more difficult to work a consistent job — as you'll frequently need to call in sick to cover gaps in informal child care or take care of a sick child. Without child care, it's much more difficult to pursue additional education as an adult and move up to a higher-income position.

Without child care, it's much more difficult to leave a violent or dangerous home because it involves moving yourself and your children away from your only sources of child care, which are typically hyper-local — a neighbor or a relative. (Many of the children in programs like Head Start have homes with multiple risk factors such as abuse, neglect, and substance abuse.)

So the most important effect from early childhood education may be that these programs are places where parents can leave their children all day, allowing the parents to work a full-time job or pursue higher education.

In other words, early childhood education may change children's lives not by teaching them things they'll retain in elementary school, but simply by being in a safe, predictable, and consistent environment for them to play in — and by providing their parents with the stability to get and keep better jobs.

Evidence from Washington, DC's preschool program

There's substantial evidence for the power of preschool to achieve exactly that. Washington, D.C. made preschool free and universal a few years ago, and the city saw huge benefits for low-income parents. Labor force participation for women with young children in DC increased from about 65 percent to 76.4 percent over a decade. (Compare that to the 2 percentage-point increase nationally during the same time period.) The effect was even more pronounced for low-income mothers, whose labor force participation increased by 15 percent.

It's rare to see a jump that large from a single intervention. But studies of universal child care programs in other countries (such as Canada) have found significant effects, about the same magnitude as the effects in DC, which suggests these effects are real.

If we look back on the earlier, contradictory-seeming studies with this theory in mind, a lot of the evidence stops looking so contradictory. Head Start and similar programs produce effects — like lower incarceration rates and higher graduation rates — that have long been known to be related to a stable environment in early childhood and parental labor force participation.

Such programs don't typically produce lasting improvements in academic success in elementary school and middle school, which should be unsurprising, as the evidence suggests sustained gains in academic ability are hard to achieve under any circumstances.

In short, early childhood education programs do have real effects — but these effects likely don't stem from their merits at educating children. The effects likely come from these programs' function as child care.

If this is true, it should change how we think about early childhood education. Head Start's mission statement is to improve school readiness. But school readiness seems to be an area where Head Start doesn't really matter, while it has lifelong effects in other areas.

Since Head Start is focused on school readiness and not on providing reliable child care, only about half of Head Start programs are full-time — even though this theory predicts that the long-term benefits will be much, much stronger for full-time programs. (Indeed, there's already some research into which Head Start programs are best suggesting teacher education, class size, and curriculum don't matter, while program hours matter a lot.)

Expansions to Head Start have focused on requiring teachers to have more advanced degrees and qualifications, which raises the cost of the program and shouldn't affect outcomes if the outcomes are a consequence of having reliable child care rather than of teaching children to read early.

Furthermore, if the benefits of early childhood education come from its effect on low-income families, everyone trying to evaluate it by testing second-grade math scores is looking in the wrong direction. There have been calls to cancel Head Start because of the fade out of test scores, and even proponents of early childhood education have argued that we shouldn't aim for universal preschool since the tests show it doesn't help. From this perspective, those studies are all concerned with the wrong thing — and will turn up null results whether the program is working or not.

And this way of thinking isn't limited to Head Start. In announcing his philanthropic venture into early childhood education, Jeff Bezos said, "Education is not the filling of a pail, but the lighting of a fire. And lighting that fire early is a huge leg-up for any child." That's compelling — and it's not related to the real case for the impact of these programs.

There's actually not much evidence that starting education early makes any difference for children. What there is evidence for is that a safe daycare and a stable home environment make a big difference, and that greater family stability and wealth — which child care enables — produce lasting, positive results.

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