

## EDUCATION

## The *Sesame Street* Effect

How the children's show has enhanced learning in America—and why it's a reminder of what's lacking from education today

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LARRY DOWNING / REUTERS

“It ain’t easy bein’ green,” a despondent Kermit the Frog explains as he meanders through some foliage, lamenting the color of his skin. The year is 1970, and it’s one of the famous Muppet’s many cameos on *Sesame Street*. At first, Kermit doesn’t like that green blends in with so many other things—he’d prefer to be red, for example, or gold. But he soon cheers up, realizing there are lots of cool things about being green, too: It’s the color of spring and tall like a tree. “I think it’s what I want to be.”

If *Sesame Street*’s origins are any indication, that song had much more to do with showcasing self-esteem and diversity than it did a puppet who was uncomfortable with the hue of his felt. The public-broadcast children’s show first aired in 1969—the civil-rights movement was making its mark, and solving socioeconomic inequality had become a central mission. Education reform was at the forefront of

that national agenda: For the first time, federal funding was earmarked for poor kids, and Head Start was founded so those children could attend preschool.

But it turns out that what *ain't so easy*, even today, is ensuring that every child has access to preschool. Only 40 percent of 4-year-olds nationwide are enrolled in publicly funded preschool programs, a good chunk of which are considered to be low-quality. According to a growing body of research, this contributes to great inequality in academic achievement. And although comprehensive data on the long-term benefits of preschool is hard to come by, experts tend to agree that having a quality early-education experience can have a significant impact on the first chapter of a kid's life. The payoff appears to be especially strong for disadvantaged children, who might not otherwise have exposure to the stuff emphasized in quality preschools, such as vocabulary and good nutrition.

A combination of factors has made expanding access particularly difficult. The money part is B-I-G: Teaching young children can be pricey, entailing far more than naptime and playing with blocks, and securing the public funding for it is politically fraught. Head Start only serves the most economically disadvantaged of children: Virtually all of them live below the poverty line.

But what if part of the solution has been *Sesame Street* all along?

A new study out of the National Bureau of Economic Research suggests that the TV show is “the largest and least-costly [early childhood] intervention that’s ever been implemented” in the United States, said Phillip Levine, an economics professor at Wellesley College who co-authored the paper. The analysis used data on early viewers, supporting past research likening the show to Head Start in its effect on children’s cognitive skills; data from the 1970s indicated comparable effects on young kids’ test scores. The new analysis goes on to argue that, like Head Start, *Sesame Street’s* academic effects persisted for some time after that, increasing the likelihood that kids were ready for school and advanced through their education at rates “appropriate for their age.” And, in another nod to Head Start, the biggest impact was found among disadvantaged children.

But unlike Head Start, *Sesame Street* costs very little—“pennies on the dollar,” according to Levine and co-author Melissa Kearney, an economics professor at the University of Maryland. Head Start now costs the country about \$7,600 annually.

per child, while, according to Kearney and Levine, the annual per-child cost of *Sesame Street* (in today's dollars) was just \$5.

“In essence,” the study argues, “*Sesame Street* was the first MOOC.”

*Sesame Street* was, and in some ways remains, revolutionary in its pedagogy. The show was launched at a turning point in thinking among child psychologists and educators—a time when experts were abandoning the belief that cognitive ability was entirely inherited. The federal government even subsidized the show's launch. There were other educational children's programs, such as *Mister Rogers Neighborhood* and *Captain Kangaroo*, but *Sesame Street* was arguably the first in the country to explicitly focus on educational content using a research-based curriculum. The idea was to foster preschoolers' “intellectual and cultural development” and, perhaps more importantly, to “reduce the educational deficits experienced by disadvantaged youth based on differences in their environment,” according to Kearney and Levine. In particular, the show targeted poor, urban kids —“the ones,” as *Newsweek* has described, “who lived on streets with garbage cans sitting in front of their rowhouse apartments.”

In that sense, *Sesame Street*'s virtue could extend beyond cost-effectiveness and scope. It's notoriously difficult to draw conclusions about the long-term impacts of early education, whether it's a TV show or a classroom program. Direct, reliable longitudinal data doesn't exist; even Head Start's merits are widely disputed. But if nothing else, this new study is a reminder of what's lacking from today's preschools: diversity. As The Century Foundation (TCF) recently found, pre-k centers tend to suffer from significant socioeconomic and racial segregation—problems that could be undermining young children's learning and achievement.

*Sesame Street*, which celebrated its 45th anniversary this year, was developed at a time that was as hostile as it was progressive: an era of riots and race-based violence. “It was intentional from the beginning to show different races living together,” David Kleeman, who formerly oversaw the American Center for Children and Media, told *Newsweek*. “[Its developers] were very conscious of the modeling that kids and parents would take away from that.” It normalizes other kinds of diversity, too—from learning disabilities to destitution to imaginary friends, the show teaches children that it was okay to be different, that everyone struggles and develops in their own ways.

Today, despite growing diversity and expanding knowledge about the value of school integration, early-education classrooms in the U.S. don't look much like *Sesame Street*. Preschoolers in state-run programs—the majority of whom are racial minorities—tend to be clustered in pre-k classrooms serving high concentrations of impoverished children of color, according to the TCF report, which was published in partnership with the Poverty & Race Research Action Council. Only a sliver of the children sampled in the TCF report were enrolled in classrooms that were both racially diverse and medium- to high-income. Analysts surveyed the position statements of more than a dozen of the country's leading early-learning organizations (including the Children's Defense Fund and the National Black Child Development Institute) and found that none of them cited socioeconomic or racial integration in preschools as an explicit goal.

From the get go, *Sesame Street* showed kids a different world than the one found in a typical pre-k classroom today. And it was a lot of kids. When it first launched, the show certainly had a broader reach than formal schooling did at the time, considering that just 19 percent of 4-year-olds in 1970 attended preschool, according to the new study. By 1970, meanwhile, as many as 36 percent of preschool-aged children in the country were watching the show—comparable to the percentage of Americans estimated to watch the Super Bowl today.

Research on *Sesame Street* is nothing new; more than 1,000 studies have apparently been conducted on it since it came out, most of them touting the show's success as an educational tool. (When the show first came out, some parents were concerned that its structure—short segments filled with bright colors and simple concepts—might rewire children's brains to shorten their attention spans.)

The new analysis focused on the viewers who were exposed to *Sesame Street* as preschool-aged children when the show first came out. It found that kids who had better access to the show performed better in elementary school than those who were older at the time it came out or lived in areas where it wasn't broadcast. (Because of TV-technology limitations, children in some areas couldn't watch it.) The preschoolers with access were apparently more likely to start school on time and progress through grade levels at the ages deemed appropriate. And the effect appeared to be most significant among children raised in economically disadvantaged areas—an impact that mirrors that of pre-k.

Among boys and black children, a group that has the most room for improvement in academic progress, the researchers extrapolate from the data to reason that exposure to *Sesame Street* reduced the likelihood of being below grade level by 16 percent. Moreover, Kearney and Levine estimate that, were *Sesame Street*'s broadcast to be available in all parts of the country, the rate of black children behind grade level would fall by roughly half. The impact would've also been sizable for white children: a 30 percent reduction. These findings bolster earlier, disputed data on the show's academic benefits, including that from cognitive tests suggesting that exposure to the show amounted to the equivalent of an additional year of learning.

Again, the study is inconclusive about the long-term impact of *Sesame Street*. The TV program didn't seem to have a sizable effect on wages in adulthood, for example, or high-school completion rates. And watching a screen is hardly comparable to learning from a well-trained, attentive preschool teacher. Research shows that these early human-to-human interactions have tremendous impact on the child's life. But *Sesame Street* could serve as a worthy supplement. The researchers say it's like MOOCs (for college students) or Khan Academy (for K-12 ones), both of which provide free educational content to millions of students around the world.

"In general ... the early-childhood-education discussion is one that's taken place completely devoid of this form of an intervention," Levine said, "and we think that's a significant mistake."

Meanwhile, preschool classrooms still tend to lack one of the most celebrated aspects of the show. The observable benefits of diversity mostly have to do with the effect of classroom interactions on cognition, with disadvantaged children demonstrating more literacy skills, for example, when they learn alongside more advantaged peers. But the positive social influences of exposure to diversity at a young age are evident, according to the TCF report.

Preschool diversity can "reduce the prejudices and social isolation of children ... as well as promote cross-cultural relationships that have long-term benefits such as greater social capital, employment opportunities, and comfort in multi-racial settings," the report says. Experts suggest that, by kindergarten, children have typically developed an awareness of ethnic identities and social status, along with

the ability to make social comparisons. Experiencing a variety of backgrounds during this period of development can help shape those perceptions.

Whether *Sesame Street* could contribute to that molding isn't clear; measuring how the media affects qualities such as mutual respect and tolerance among children has proved challenging. But [a report](#) from Princeton University and Brookings's The Future of Children think tank cites [research](#) on *Sesame Street* suggesting that kids who watched it extensively [formed more positive attitudes](#) toward people from different backgrounds, as does Bruce Evan Blaine in his book *Understanding the Psychology of Diversity*. [A 2009 study](#) out of Queens University in Belfast indicated that exposure to Ireland's version of *Sesame Street* promoted an increased tendency toward inclusiveness among Catholic- and Protestant-raised children and an interest in learning about others (although the data is somewhat inconsistent). A study published in *the International Journal of Behavioral Development* produced [similar results](#) for another *Sesame Street* -based series targeted at Israeli and Palestinian children.

Kearney and Levine have partnered on similar research in the past, publishing a paper last year [that found](#) that rates of teen childbearing fell in response to the MTV series *16 and Pregnant*. Both studies, according to Levine, suggest that TV has “the ability to influence positive social outcomes.”

Preschool-aged children in the U.S. watch 32 hours of TV a week—more than four hours a day—according to the [most recent Nielsen findings](#). That screen time certainly [has its downsides](#). And as Levine acknowledged, “watching an hour of TV every day is unlikely to solve the world's problems.” But amid the perennial struggles to expand access to and improve early education—along with the inevitability of children's immersion in technology—perhaps those media habits present an opportunity to augment the limited resources that do exist.

“TV,” he said, “can be a force for good.”

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