

Behind THE numbers

For a look at more data and discussion, go to pages 7, 43 and 55.

Childhood Poverty, School Readiness and Two-Generation Programs

Avoiding Poverty, one of the FCFC Community Indicators, has moved in the desired direction for five consecutive years but remains well below where it was twenty years ago. Meanwhile Kindergarten Readiness, another Community Indicator, has decreased for two consecutive years following four years of steady improvement. Here we take a look “behind the numbers” at childhood poverty, school readiness, and some emerging trends in programs addressing these issues.

Mathematician Yitang Zhang recently won a MacArthur “Genius Grant” for solving a difficult and longstanding problem in number theory. During the years that he spent thinking about the problem, Zhang told an interviewer, “I am thinking, ‘Where is the door?’ In the history of this problem, many mathematicians believed that there should be a door, but they couldn’t find it. I tried several doors. Then I start to worry a little that there is no door.”¹

Public policy experts, program planners, social work professionals, and advocates for the poor can be forgiven if they, too, sometimes feel just as thwarted in their efforts to address poverty. After all, following a downward trend in the 1960’s the poverty rate has essentially been stuck between 11% and 15% for over 40 years. (See Figure 1.) Note that the rate had started

to decline before the “War on Poverty” was launched in 1964. It would seem that finding the right “door” to tackle poverty is extremely difficult.

Even more troublesome is the continued high rate of childhood poverty, a rate which has always been at least 16% greater than the overall poverty rate for as long as the U.S. has officially been tracking both of them. The Children’s Defense Fund recently summarized the urgency that many feel:

Growing up poor has lifelong negative consequences, decreasing the likelihood of graduating from high school and increasing the likelihood of becoming a poor adult, suffering from poor health, and becoming involved in the criminal justice system. These impacts cost the nation at least half a trillion dollars a year in lost productivity and increased health and crime costs. Letting a fifth of our children grow up poor prevents them from having equal opportunities to succeed in life and robs the nation of their future contributions.²

Those negative consequences have been documented a number of ways. For example, compared with adults whose families had incomes more than twice the poverty level when they were in early childhood, adults who experienced poverty during early childhood completed much less school, worked far fewer hours per year, received over 12 times as much in food stamps per year, and are nearly three times as likely to report poor overall health. In addition, the men are twice as likely to have been arrested and the women are five times more likely to have had a baby out of wedlock before turning 21.³ (See Figure 2.)

Of course it is well understood that “experiencing poverty during early childhood” is more than a statement about family income. Often associated with poverty are any – perhaps all, for some children – of the following: being raised by a single (usually female) parent; a low amount of parental education; a lack of steady parental employment; substandard housing; unsavory neighborhoods; limited access to or availability of adequate healthcare or child care ... the list can go on. Aware of all of these factors and more like them, the researchers applied some further statistical analyses to the results shown in Figure 2 and

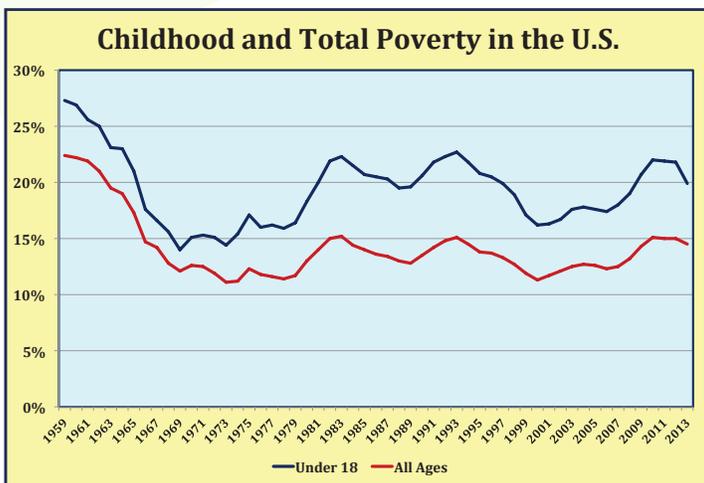


Figure 1. In 1969, the childhood poverty rate (14.0%) was 16% greater than the total poverty rate (12.1%). The largest difference was in 1991 when the childhood poverty rate (21.8%) was 54% greater than the total poverty rate (14.2%). Source: U. S. Census Bureau.

Behind the Numbers (Continued)

Outcomes at ages 30 – 37	Poverty status between the prenatal year and age 5	
	Below the poverty line	More than twice the poverty line
Completed schooling (average number of years)	11.8	14.0
Annual work hours (average)	1,512	1,963
Food stamps per year (average)	\$896	\$70
Percentage reporting poor overall health	13%	5%
Percentage (of men) ever arrested	26%	13%
Percentage (of women) having an unmarried birth prior to age 21	50%	9%

Figure 2. This study is based on children born between 1968 and 1975, for whom adult outcomes were collected between ages 30 and 37 as part of the Panel Study of Income Dynamics, a national, longitudinal survey which has followed a representative sample of U.S. families and their children since 1968. Source: Duncan, G. J., & Magnuson, K. (Winter 2011). *The long reach of early childhood poverty*. *Pathways*, 22 – 27.

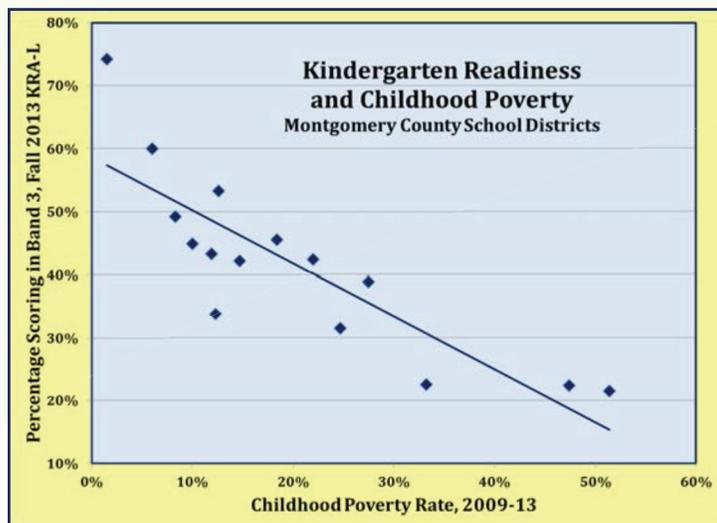


Figure 3. The correlation between the rate of childhood poverty in a school district and the percentage of that district’s kindergartners who are in the highest scoring category in the Kindergarten Readiness Assessment – Literacy (KRA-L) test is clearly visible. Each marker represents one school district. Only 15 of Montgomery County’s 16 districts are shown because the Band 3 percentage for one district was not released by the Ohio Department of Education. Sources: Ohio Department of Education; American Community Survey 2013 5-Year Estimates, Table B17001.

determined that “a substantial portion of the simple correlation between childhood income and most adult outcomes can be accounted for by the *disadvantageous conditions associated with birth into a low income household*” (emphasis added) as opposed to the low income itself.

We also know that we don’t have to wait until adulthood for the burdens associated with childhood poverty to be observed. Figure 3 demonstrates a very clear correlation between a kindergartner’s performance on a school readiness test and the level of childhood poverty within his or her school district.

Neurobiologists have also observed the effects of early poverty on the growth and structure of children’s brains and their levels of stress hormones.⁴ In fact, stress has come to be seen by many as a prime mediator of the effects of early life adversity such as poverty.⁵ The fact that this stress is shared by others in the child’s home environment has led to waves of poverty-reduction programs seeking to combine services for children with services for parents and caregivers, thinking this might be the elusive “door.” Such programs have come to be called “Two-Generation” programs and are summarized in Figure 4.⁶ A local example would be the TOTS Partnership (see page 40).

The intersection of early childhood learning and developmental biology in the effort to address poverty is generating excitement and a call to a “focused approach to innovation”⁷ by combining best *practices* and best *theories*:

Decades of research in developmental psychology, developmental psychopathology, neurobiology, and prevention science provide a rich knowledge base to catalyze such creativity. For example, the consistently replicated finding that parent characteristics typically explain a greater proportion of the variance in child outcomes than the measured impacts of program variables highlights the need for new intervention strategies that focus more explicitly on strengthening the capabilities of parents and other caregivers. The concept of a two-generation approach to children and families experiencing significant adversity is thus particularly ripe for creative rethinking that moves beyond a simple call for enhanced coordination among the “silos” that separate child-focused and adult-focused services. In short, the need for innovation is compelling and the potential generativity of an expanded definition of evidence that includes advances in the developmental sciences is enormous.⁸

The hope is that a “door” does exist ... and will be found.

Two-Generation Programs

Programs that enroll parents in education or job training at the same time that they enroll their children in high-quality child care have potential to enhance children's development. The most promising programs combine three elements: they build strong connections between components for children and adults, rather than confining children's and parents' programs to separate silos; they ensure that children and their parents receive services of equal duration and intensity; and they incorporate recent advances in both education and workforce development.

Mechanisms Involved

Stress
Severe stress in young children's lives—whether from violence, harsh parenting, or the burden of poverty itself—can undermine their neurobiology in ways that disrupt their health, social competence, and ability to succeed in school and life. But there is hope for children who experience chronic stress in their homes and neighborhoods, because the effects of stress can be minimized or ameliorated by adults—including parents, foster parents, and teachers—who have been trained to give the children sensitive, warm, and consistent caregiving. High-quality preschool programs, as well as high-quality home-visiting programs, have been shown to help reduce the developmental harm that stress can cause.

Education
Parents' education strongly affects their children. Better-educated parents have children who are themselves better educated, healthier, wealthier, and better off in almost every way than children of parents with less education. Thus programs that increase parents' education levels can strengthen many aspects of their children's development.

Health
Parents' health and children's health are intimately linked because of the genes, physical environments, and behaviors they share. Because of this close connection between parents' and children's health, programs to improve parents' health can improve their children's health as well, with far-reaching effects—healthier children go further in school and earn more as adults.

Income
Parents living in poverty can't afford important resources that would support their children's development, with a host of negative consequences. Income supplements to poor parents can help, but the timing is important—developmental neurobiology strongly suggests that increased income would have the greatest effect during children's early years.

Employment
Despite its financial and other advantages, parents' (and especially mothers') work can also be bad for children, particularly when parents work long or nonstandard hours at stressful, low-paying jobs and place their children in poor-quality care. We can ameliorate the problem by expanding workplace flexibility; providing high-quality child care; and helping low-income parents train for, find, and keep a well-paying job with benefits.

Assets
Programs that help poor families build assets show promise for helping children succeed, especially savings programs that match disadvantaged parents' deposits. The most promising programs share several features: they are opened early in life; they are opened automatically, with no action required from the recipients; and they come with an initial deposit.

Figure 4. “Two-generation” programs serve parents and children simultaneously. Some mechanisms through which parents and the home environment can influence children's development are described. Source: *Helping Parents, Helping Children: Two-Generation Mechanisms*. *Future of Children*, 24, no. 1 (2014).

1 <http://tinyurl.com/ndh4wq3>, accessed on Jan. 31, 2015.

2 “Ending Child Poverty Now.” (Jan. 2015) Washington, DC: Children's Defense Fund

3 Cited in Duncan, G. J., & Magnuson, K. (Winter 2011). The long reach of early childhood poverty. *Pathways*, 22 – 27.

4 For example, Hanson JL, Hair N, Shen DG, Shi F, Gilmore JH, et al. (2013) Family Poverty Affects the Rate of Human Infant Brain Growth. *PLoS ONE* 8(12): e80954. doi:10.1371/journal.pone.0080954; and Curt A. Sandman et al., “Exposure to Prenatal Psychobiological Stress Exerts Programming Influences on the Mother and Her Fetus,” *Neuroendocrinology* 95 (2012): 7–21, doi: 10.1159/000327017.

5 Ross A. Thompson, “Stress and Child Development,” *Future of Children* 24, no. 1 (2014): 41–60.

6 *Helping Parents, Helping Children: Two-Generation Mechanisms*. *Future of Children* 24, no. 1 (2014).

7 See, for example, Radner, J., & Shonkoff, J. (2012). Mobilizing science to reduce intergenerational poverty. In N. O. Andrews, D. J. Erickson, I. J. Galloway, & E. S. Seidman (Eds.), *Investing in what works for America's communities: Essays on people, place & purpose* (pp. 338–350). San Francisco, CA: Federal Reserve Bank of San Francisco and the Low Income Investment Fund.

8 Shonkoff, J.P. and Fisher, P.A. (2013). Rethinking evidence-based practice and two-generation programs to create the future of early childhood policy. *Development and Psychopathology*, 25, 1635–1653.