

Research Says

Teaching Self-Regulation Has Long-Term Benefits

Well-designed and implemented early childhood interventions, especially those that develop self-regulation, may well be among the best investments we can make.

In 1962, Charles Beatty was a frustrated man. He knew firsthand that education offered a ticket out of poverty. He had parlayed his own success in track into a college scholarship, a successful academic career, and appointment as the first black principal in Michigan (Schweinhart & McGee, 2011). Yet as principal of Perry Elementary, a segregated school in Ypsilanti, Michigan, he witnessed persistent failure among his all-black student body. A school reform committee had considered ways to boost student performance, including improving teaching and referring students to outside agencies, but they couldn't overlook one glaring reality: Perry's impoverished kindergartners entered school already behind their more affluent peers.

Beginning Behind the Starting Line

On average, children in poverty tend to start school well behind their higher-income peers. Just 40 percent of students in poverty enter kindergarten knowing all 26 letters of the alphabet, compared with 85 percent of children of high socioeconomic status (SES); fewer than half are able to count to 20, compared with more than two-thirds of high-SES children (Neuman, 2003). Sadly, children in poverty enter school having been read to for only 25 hours, on average, compared with 1,000 hours for high-SES children, and having heard one-third as many words (13 million) as higher-income children (45 million) (Neuman, 2003).

Role of Self-Regulation

The chaos and uncertainty of poverty also appear to affect children's ability to regulate their own behavior. As Jensen (2009) notes,

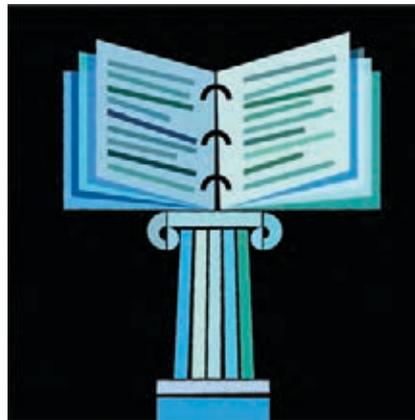
“children raised in poverty rarely choose to behave differently, but they are faced daily with overwhelming challenges that affluent children never have to confront, and their brains have adapted to suboptimal conditions in ways that undermine good school performance” (p. 14). As a result, they're more likely to act out, to lack social graces and empathy, to be impatient and impulsive, and to display inappropriate emotional responses (Jensen, 2009).

In other words, children raised in poverty are more likely to demonstrate poor self-regulation (Schunk, 2005). The benefits of self-regulation were memorably demonstrated in Walter Mischel's famous “marshmallow experiment,” conducted at Stanford in the early 1970s, in which preschoolers were promised a second marshmallow if they could wait 15 minutes to eat the one they had already been given.

Follow-up studies demonstrated that preschoolers who waited were better able to cope with frustrating situations in adolescence and had higher SAT scores than those who yielded to temptation more readily (Shoda, Mischel, & Peake, 1990). Additional research reinforces the need for both cognitive and social-emotional self-regulation skills in school—socially, students need to know how to conduct themselves in the classroom and play well with others; cognitively, they need “to use and further develop cognitive processes necessary for academic learning and problem solving” (Bodrova & Leong, 2006, p. 205).

Overcoming the Fadeout Effect

Charles Beatty appeared to understand the importance of supporting children and families before the children enter school. Along with



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Dave Weikart, the school district's director of specialty services, he fought hard to develop and institute a two-year program at Perry, dubbed HighScope, which would provide the neighborhood's 3- and 4-year-olds with 12 hours of instruction each week, with a ratio of one teacher for every six students. Teachers would also work with mothers to develop children's language and cognitive abilities by, for example, moving from asking factual questions ("What color is that car?") to more probing questions ("How did you do that?") (Rothstein, 2004, p. 124).

Despite its seeming promise, the initial results of the Perry experiment were disappointing. The IQs of the children in the program initially shot up when compared with children in the control group, but those differences appeared to fade within a few years (Schweinhart, 2004). Such fadeout effects have been common for early childhood programs. The first large-scale examination of Head Start, the federally funded early childhood program created in the late 1960s, concluded in 1985 that over time the cognitive and socioemotional gains (as reflected in the test scores of students who had attended Head Start programs) were no higher than those of children who had not attended the programs. This study prompted calls for cancellation of Head Start funding (Olsen, 2001).

For children in the Perry experiment, however, something unexpected occurred at age 14. The students' academic scores rebounded, and more of them went on to graduate from high school than did students in the control group (65 percent versus 45 percent) (Schweinhart, 2004). By tracking all 58 students enrolled in the Perry/HighScope program and a group of 63 students who did not participate in the program, researchers were also able to establish that as adults, HighScope children were 14 percent more likely to be employed; were 20 percent more likely to earn more than \$20,000 per year (60 percent versus 40 percent); and were also half as likely to be arrested, have children out of wedlock, or receive welfare or

government support. Perhaps most striking, the researchers determined that 40 years later, the \$15,166 initial per-pupil investment had returned \$244,812 per individual student (or \$16.14 for every dollar invested) in increased individual income and reduced outlays for such publicly funded programs as special education, welfare, and incarceration (Schweinhart, 2004).

Similarly, there appear to be latent effects for the Head Start program, including increased high school graduation rates, college attendance rates, and earnings (for white participants) (Garces, Thomas, & Currie, 2000). African American Head Start participants were less likely to be charged with or convicted of a crime, and compared with siblings who did not attend Head Start, seemed to be more likely to graduate high school (Garces et al., 2000).

Researchers later concluded that one reason the latent benefits of HighScope emerged years later may be that, unlike other approaches to early childhood learning, HighScope "put children in charge of parts of their day," encouraging them to "select and plan their own activities" and in so doing, learn to self-regulate and control their own behavior (HighScope, 2010, p. 9).

These data and other long-term studies suggest that well-designed early childhood programs can have positive effects—not necessarily by boosting academic learning (which appears to be a relatively short-lived benefit), but rather by helping children develop self-regulation skills. Strengthening such skills may also contribute to other positive results, such as fewer students being placed in special education programs (11 percent in treatment groups versus 40 percent in control groups) or retained in grade (22 percent versus 43 percent) (Gorey, 2001).

Much Can Be Done

Charles Beatty, who passed away in 1998, never saw these 40-year results. Yet his courage and vision should inspire leaders today, many of whom are no doubt facing difficult budget decisions. Although it might be easy to

view early childhood programs as supplemental and to strike them from budgets, the HighScope study shows that well-designed and implemented early childhood interventions, especially those that develop self-regulation, may well be among the best investments we can make. **EL**

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