

# CHOOSING OUR FUTURE

## A Story of Opportunity in America

THE ETS CENTER FOR  
RESEARCH ON HUMAN CAPITAL AND EDUCATION

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The Opportunity in America initiative was established by ETS in 2013 to develop a comprehensive narrative describing the dynamics governing the distribution and intergenerational transmission of opportunity. As explained in this report, the goal was to describe these dynamics in a way that would advance our national conversation about the increasing polarization of opportunity and, more importantly, why we must take action.

This report is a companion piece to *The Dynamics of Opportunity in America: Evidence and Perspectives*, published by Springer @ <http://www.springer.com/us/book/9783319259895#aboutBook>

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## Preface

We open this story of opportunity in America where many would begin – with our children, and what opportunity looks like for them today. Some are born to privilege, with parents who have both the time and resources to invest in their development, living in neighborhoods with strong and cohesive social networks, attending good schools, and benefiting from substantial public investments that support them as they grow. Others are born to struggling families who face daily challenges to provide for them, living in communities with a lack of safe housing options and few job prospects for residents – communities with inadequate schools, many shattered by poverty and violence. These different starting points place children on distinctly different trajectories of growth, leading to the accelerated accumulation of advantage or disadvantage and, ultimately, to vastly different adult outcomes.

This polarization of life outcomes is not confined to any particular racial group or region of the country; it is truly national in scope. More than 16 million children, or some 22 percent of those under the age of 18, live in families who have incomes below the federal poverty level.<sup>1</sup> Thirteen percent of children are growing up in neighborhoods that their parents describe as being never, or only sometimes, safe.<sup>2</sup> More than one in five children were food insecure at some point during 2013 and nearly 1.3 million public school children were homeless at the start of the 2012-2013 school year.<sup>3</sup>

As disturbing as such national statistics are, we must also recognize that striking differences exist from county to county, and even neighborhood to neighborhood, across the country. This heterogeneity is further amplified by individual differences by race/ethnicity, immigration status, and so on. In combination, these relationships yield a complex mosaic that defies simple description and, certainly, simple solutions. As a result, too many of our children are being dealt a hand at birth that requires heroic efforts if they are to succeed. This is the very antithesis of the American Dream, threatening not only the lives of individual Americans but the very fabric of our society.<sup>4</sup> Despite the hopes that accompanied national efforts in the 1960s, including the Great Society programs, the War on Poverty, and the Civil Rights Act, and in spite of the progress that has been made, the current situation reminds us how much further we need to go to make the American Dream accessible for all.

For many, strategies to bridge these gaps both begin and end with the children – improving prenatal care, expanding high quality preschool starting at ages 2 or 3, and helping parents develop the skills needed to foster their children's social, emotional, and

cognitive development. Although improving early childhood development is an important investment both for the children who are targeted and for the social and economic health of the country, children's circumstances mirror those of their parents – tens of millions of adults whom we also cannot afford to ignore. Over 115 million adults in America are between the ages of 18 and 44. Far too many of them lack the education and skills they need to succeed in today's globally competitive, technology-driven labor market. They, too, need broader opportunities in order to improve their prospects for work, their ability to earn a decent wage, and to live in healthy communities with the kinds of strong social networks and institutions that will support them and, in turn, expand the opportunities they are able to pass along to their children. To ignore these adults not only condemns them to a highly uncertain future but also has potentially serious consequences for the children they are raising.

Interactions among global economic forces, government policies, and business practices have generated a self-sustaining set of dynamics that continues to drive disparities in opportunity. If these disparities were confined to this generation alone, it would be concerning enough. But there is evidence that the accumulation of advantage or disadvantage experienced by one generation is increasingly passed along to the next. As a result, life outcomes are increasingly dependent on circumstances of birth. We, and many others, believe that if, as a nation, we do nothing, then we will continue to drift apart, placing an enormous strain on the nation's social fabric and the character of its democracy.

Consequently, understanding these dynamics and transforming this understanding into policies and programs to improve equality of opportunity are critical, not only for the life outcomes of individual Americans and their children, but also for the country as a whole. This narrative builds on the extensive literature around inequality and opportunity with the goal of exploring and describing these powerful dynamics and conveying them in a way that advances the national conversation about why we must take action – and how best to do so.

**Irwin Kirsch and Henry Braun**  
**Initiative Co-Directors**

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We are grateful for the support and interest in this initiative from members of the ETS Board of Trustees, and from senior officers and staff from ETS who attended many of the *Opportunity in America* seminars. These events provided a forum for members of the advisory panel and invited authors to share their thoughts about a variety of issues important to understanding the complex issues related to opportunity. The seminars would not have been a success without the insightful interviews conducted by Vice President and Chief Learning Officer T. J. Elliott and the direction and support of ETS staff including Debra Gonzales, Nick Sferra, Ramon Guzman, and their teams.

Our warmest appreciation goes to Walt MacDonald, ETS President and CEO, and Ida Lawrence, Senior Vice President for Research and Development, for their strong interest in, and ongoing support of, our efforts to gather and share what we have learned in a way that advances the national conversation about why we must take action and how best to do so. We believe efforts to increase equality of opportunity are critical, not only for improving the lives of individual Americans and their children, but also for our country as a whole.

Irwin, Henry, Marylou, and Anita

## Overview

*It's not **what** you know, it's **who** you know.* We've all heard the phrase. It's true, of course, and always has been, that who you know is important. But in today's technology-driven, globalized world, what you know matters more than ever.

The set of skills that is most rewarded in terms of employment and wages has become increasingly deep and broad, extending beyond strong reading, mathematics, and writing skills to include analytical, technical, and problem-solving skills. Rapidly evolving technologies have also upped the ante – requiring workers to be increasingly nimble and able to learn on their own. In the fast-paced competitive global marketplace, those who can bring higher-level skills and the flexibility to adapt are in demand. Those without such skills are not faring well and will only fall further behind.<sup>5</sup>

The broad set of cognitive skills and knowledge that is necessary today, along with interpersonal skills such as collaboration and teamwork, and character traits such as motivation, persistence, reliability, and self-discipline, is often referred to as *human capital*. Human capital has always been important, but it is increasingly rewarded in terms of employment and wages. In America today, to succeed, or even get by, it *is* what you know.

Of course, who you know, broadly speaking, is important as well. The family into which you are born and raised, the social networks that connect you with fellow members of religious organizations, clubs, or teams who provide support and advice, the social norms and values that guide your behaviors – all of these factors, collectively termed *social capital*, impact life outcomes as well. For any individual, positive social capital serves to foster development and success.

Human and social capital have never constituted independent drivers of life outcomes. We are, however, seeing changes in the nature of their relationship. In previous generations, strong social networks and norms of civic engagement transcended socioeconomic classes. People tended to marry at similar rates regardless of their education levels; voting rates were similar in both affluent and disadvantaged communities; children in most neighborhoods participated in sports and clubs. But over the past generation or two, social capital has become more strongly related to human capital; that is, those with more human capital also tend to have the networks, norms, and behaviors that provide the most benefits in today's environment.<sup>6</sup>

The strengthening of this relationship has contributed to a polarization in the accumulation of human and social capital that translates into distinctly different life outcomes for individuals and, as the generational cycle plays out, leads to differential prospects for their children. The transmission of opportunity from one generation to the next is increasingly driven by a compounding of advantage or disadvantage, with one advantage leading to another for some children, while one disadvantage is followed by the next for others. Although the lottery of birth has always shaped an individual's life chances, it is increasingly determining opportunity in America today – and this reality stands in stark contrast to the American Dream.<sup>7</sup>

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*If opportunity is to be distributed equitably, two conditions must hold. A range of pathways must be open to everyone, and individuals must believe, based on their experiences and observations of the world, that they can make progress along those pathways if they invest in themselves.*

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What do we mean when we talk about opportunity in America? The idea of opportunity is embedded in our national DNA. Historically, America has been seen as the land of opportunity. The American Dream is predicated on opportunity. It is easy for politicians to talk about and popular for columnists to write about, because we all understand what opportunity means – or think we do. Often opportunity simply represents a vague ideal, expressed very generally as in this definition: Opportunity is a "situation or condition favorable for attainment of a goal."<sup>8</sup> Exactly what a favorable situation might be or how that goal is specified can result in very different discussions about what opportunity in America means.<sup>9</sup>

The ETS *Opportunity in America* initiative defines opportunity specifically as pathways to the development of human and social capital. There is clear evidence that gaps in human and social capital contribute to widening inequality in life outcomes. This inequality, in turn, contributes to disparities in opportunity for the next generation, setting up a cycle of accelerated advantage or disadvantage. If opportunity is to be more widely shared, it is important to understand the forces governing access to opportunity or, using our metaphor, access to the pathways for developing human and social capital.

Pathways may be more or less open depending on a number of interrelated factors. These include family structure and parenting practices, financial resources, and neighborhood and community characteristics, as well as the features and practices of

institutions such as schools, religious organizations, health care agencies, and the criminal justice system. Looking even more broadly, these factors operate within a larger context, with economic, policy, and political dynamics all influencing the distribution of opportunity.

Although the forces governing access to opportunity are certainly powerful, individuals are not helpless. Opportunity is not simply something presented *to* people, particularly as they grow into adulthood. Individuals make choices about which of the available paths to pursue, sometimes for the better and sometimes not. As a result, no set of interventions or policies can guarantee outcomes such as educational achievement or economic success. But if opportunity is to be distributed equitably, two conditions must hold. A range of pathways must be open to everyone, and individuals must believe, based on their experiences and observations of the world, that they can make progress along those pathways if they invest in themselves.

This narrative begins by looking in detail at the dimensions of human and social capital and their relationship to adult outcomes. Economic and social changes have taken us to a point where human and social capital are both more strongly related and increasingly consequential. The rewards to those with greater skills and stronger social capital are growing, while for those on the low end, rewards are declining. Such differential outcomes are critically important not just to the individuals who experience them, but to their children as well.

The transmission of opportunity across generations is addressed next, with particular emphasis on the development of human and social capital in the early years. We describe how a child's endowment and family environment at birth interact over time with forces large and small, resulting in a young adult who is more – or less – ready to take responsibility for his or her future. Initial differences in opportunity are often magnified over time, resulting in wide gaps in human and social capital and increasing inequality in life outcomes.

We conclude by looking to the future and proposing a framework for action. Given the challenges America faces, we argue that a broad perspective is required, one that supports long-term commitments to evidence-based interventions and policies that can be adapted for communities and populations with both different needs and different resources. In addition, efforts need to focus on building coalitions among multiple institutions, including families, schools, health care providers, and neighborhoods. Finally, to best leverage work that is underway in communities across the country, we must interweave already-successful approaches with new interventions that, taken



together, address the needs of individuals over the course of their lives, from infancy and early childhood through adulthood as they, in turn, become parents, workers, and community members.

## The Increasing Importance of Skills



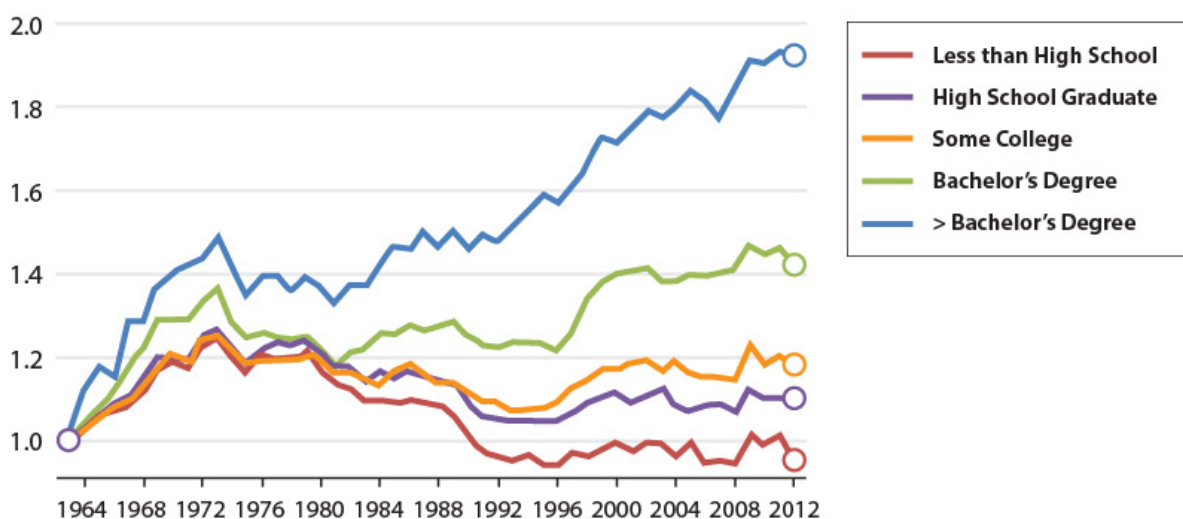
*As technological change races forward, demands for skills – some new and some old – are altered. If the workforce can rapidly make the adjustment, then economic growth is enhanced without greatly exacerbating inequality of economic outcomes. If, on the other hand, the skills that are currently demanded are produced slowly and if the workforce is less flexible in its skill set, then growth is slowed and inequality widens. Those who can make the adjustments as well as those who gain the new skills are rewarded. Others are left behind.*

*Claudia Goldin and Lawrence F. Katz, *The Race between Education and Technology*<sup>10</sup>*

Not so long ago, a high school diploma and a commitment to hard work were enough to secure a middle class life in towns and cities across America. Gary, Indiana, was one such place. A city created by the U.S. Steel Corporation, named for its then-chairman of the board, and dubbed the "Magic City" during its heyday, Gary emerged from the Great Depression to thrive in the decades during and following World War II.<sup>11</sup> High school graduates working in the steel mills benefited from negotiated job security, decent salaries that were linked to productivity, and guaranteed pensions. Fast forward to the 1970s and 1980s and Gary was beset by plant closings and layoffs. As other cities and other industries went through similar seismic shifts, high-school-level skills, or the human capital associated with a high school education, no longer provided a ticket to the middle class.<sup>12</sup>

The relationship between education levels (commonly used as a proxy for skills) and earnings has changed in important ways over the past 40 to 50 years.<sup>13</sup> As shown in Figure 1, there has been a clear – and growing – advantage to male workers with college and graduate degrees. These increasing wage differentials are not just due to the fact that those with higher levels of education are surging ahead but also because others are falling further behind. Men with a high school credential or less have seen their wages stagnate or fall since the mid-1970s. While the trends are slightly more positive for women with those same levels of education, like men, their gains in wages have not matched those of more highly educated individuals.

**Figure 1: Changes in Real Wage Levels of Full-Time U.S. Male Workers by Education, 1963 – 2012**



Source: David H. Autor, *Science* 2014; 344: 843-851.

Additional data show that by 2013, Americans with four-year college degrees earned 98 percent more per hour, on average, than those without a college degree, up from a 64 percent advantage in the early 1980s – despite evidence that wages for college graduates have been flattening since around 2000.<sup>14</sup> The relative economic returns to postgraduate and professional degrees are even more substantial. A comparison of median weekly earnings in 2014 shows that those with a master's, doctoral, or professional degree earned between 200 and 245 percent more than those with a high school diploma and 120 to 149 percent more than those with a bachelor's degree.<sup>15</sup>

This is not to imply that all routes to the middle class require college degrees, or even higher levels of education. But, unlike earlier eras, many alternative career paths involve the use of new technologies and, as a result, require more than a high school education, as well as specialized skills.<sup>16</sup>

Differential consequences linked to variations in credentials and skills characterize the current economic landscape, one that has been shaped by the complex interplay of globalization and technology, as well as policy choices at the federal, state, and local levels. Many features of this new landscape have been positive. We have seen, for example, extraordinary changes in how we communicate and access information as a result of global digital networks. We are able to collaborate across borders, purchase products in an international marketplace, and instantaneously access information posted by people and organizations from around the world. An increasing variety of material goods, with many available at lower prices than ever before, has led to

improved living standards in many parts of the world.<sup>17</sup>

However, over the past four or five decades, these forces have also led to fundamental changes in our economy – changes that have devastated large segments of the American workforce. A dramatic decline in the number of manufacturing and production jobs and a concomitant increase in service-sector work have changed both the type and numbers of jobs available, as well as the pay and benefits associated with those jobs.<sup>18</sup> As Frank Levy and Richard Murnane point out in *The New Division of Labor*, for decades, the economy expanded and contracted in predictable ways. Jobs were lost during the downturns and then, for the most part, replaced on the upturns. But, as they explain, this time is different. "That world is largely gone now. Many of the jobs lost in the post-2000 recession – clerical and factory jobs lost to automation, call center jobs lost to India, manufacturing jobs lost to China – will not be coming back."<sup>19</sup> There are no signs that the combined trends of job losses and stagnant or decreasing wages will change any time soon, if at all, and our ability to leverage emerging technologies and markets to create new jobs to replace those that have been lost remains an open question. Understanding the present reality, and the factors that underlie it, are critical to developing appropriate policies and solutions.

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*For decades, the economy expanded and contracted in predictable ways. This time is different. Many of the jobs lost in the post-2000 recession will not be coming back.*

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## **Skills in the Workplace**

The skills required of many workers a generation or two ago consisted primarily of those possessed by the typical high school graduate. But the demands of a technology-infused economy, the rapid pace of change, and global competition have interacted to alter the workplace and increase the demand for more broadly skilled employees. Analytical, technical, and problem-solving abilities, along with communication, collaboration, and teamwork skills, are increasingly valued. Employers also seek workers who can keep pace with rapidly changing technologies. As a result, they are looking for individuals who have skills that enable them to benefit from ongoing training programs and, perhaps most importantly, have the ability and initiative to learn on their own and continuously upgrade their skills.

The combined forces of rapid technological change and globalization have differentially



impacted workers with varied levels and types of skills. We will look at each, defining them as follows: Low-skill workers are those with a high school education or less; middle-skill workers have more than a high school education but less than a bachelor's degree (e.g., an associate degree or postsecondary certificate); and high-skill workers have a bachelor's degree or higher.

### » **Low-skill workers**

Individuals with lower skills, the kinds of workers who once earned a secure living in the steel mills of Gary as well as in other industries and cities across America, have been hit hard. As a result of increasingly sophisticated technologies, millions of low-skill jobs have simply disappeared. For example, many assembly-line workers have been replaced by industrial robots, and scanners are doing the work of cashiers. Other jobs have been exported to take advantage of the low-cost labor and increasingly skilled workforces in developing countries. Production jobs associated with apparel manufacturing and the assembly of electronic components, as well as service jobs at help desks, are but a few examples.

The loss of low-skill production and manufacturing jobs has been somewhat offset by an increase in low-skill service jobs such as food services, call centers, and retail sales. This has meant employment for millions of low-skill workers, but the trade-off has been far from even, as wages for service-sector jobs are well beneath what such workers had been able to earn in the past. For men without a high school diploma, median real earnings decreased by 20 percent between 1990 and 2013. Similarly skilled women have fared somewhat better, but their earnings have still dropped by 12 percent. Analyses by the Brookings Institution's Hamilton Project reveal that the move to lower-paying service occupations accounts for one-third of the drop in earnings for men over this time period and two-fifths of the drop for women.<sup>20</sup>

These low-skill jobs tend to share characteristics that do little to promote the economic and social stability of employees and their families. Lower wages mean that having two income earners has become an economic necessity for many families, and millions of individuals are working two or three jobs just to get by. These jobs tend to be part time and most often do not include benefits such as sick days or personal time, putting workers in the precarious position where missing a day due to illness or family responsibilities not only reduces their pay but also may put them at risk of losing their jobs. Many of these jobs also operate using just-in-time, or flexible, scheduling. Software makes it possible for managers to predict staffing needs in real time and adjust workers' shifts, sometimes just minutes before they are scheduled to begin. Although this saves

employers from paying workers who are not needed on a particular day or time, employees cannot plan on a set income week to week, and must juggle childcare and transportation plans at the last minute.<sup>21</sup>

### » Middle-skill workers

Middle-skill workers have been impacted by the changing workplace as much as, if not more than, low-skill workers. Technologies that excel at repetitive tasks involving the storage, processing, and retrieval of information continue to replace workers who perform routine work, including clerical workers, meter readers, telemarketers, and travel agents, to name a few. Although such routine jobs made up 58 percent of employment in 1981, they declined to 44 percent by 2011.<sup>22</sup>

However, the picture is not entirely bleak, as not all categories of middle-skill jobs are declining. Instead there is what economist Harry Holzer calls a "tale of two middles."<sup>23</sup> Employment opportunities still exist, and are projected to increase, for middle-skill jobs that involve non-routine tasks. Examples include technical jobs in the health care field such as respiratory and radiation therapists; jobs involving the installation, maintenance, and repair of mechanical systems such as heating and air conditioning systems; and heavy-vehicle maintenance work. Examples can be found on the farm as well, where technology such as the equipment used in automated milking stations must be monitored and repaired. These jobs differ from more traditional middle-skill jobs in that they involve the use of new technologies and, consequently, require additional education and technical training beyond high school. But for individuals who can successfully complete the required programs, good employment opportunities still exist.

Economist Robert Lerman believes that a robust apprenticeship system is one pathway that could help workers develop the occupational and employability skills needed to obtain such jobs.<sup>24</sup> He argues that the singular focus of policy makers and funding programs on educational attainment and the development of academic skills ignores the critical role of occupational skills. Sociologist and demographer Andrew Cherlin concurs, noting that, "Decent-paying professions exist for the non-college-educated . . . . However, we need to better train young adults for the skills needed for jobs such as these. Many experts urge that we provide more work-based teaching in career-oriented high schools, in apprenticeships and in community college partnership with local firms."<sup>25</sup>

Unlike other advanced economies, the U.S. has a relatively underdeveloped apprenticeship system. However, private-sector workforce development efforts are underway across the country. Companies in the Houston area, for example, expect some

60,000 jobs in the construction and petrochemical industries to be generated over the next three years. A local staffing agency reports that it disqualifies 60 percent of job seekers, many for a lack of skills.<sup>26</sup> One plant manager believes that the skilled-worker shortage is partly because local high schools channel students toward four-year university degrees instead of technical careers.<sup>27</sup> Without denying the returns to four-year college degrees, Lerman and others argue that we need alternate paths to the middle class. Not everyone needs, or may want, to complete four years of college to get a good job and support a family. Variations among individuals and differences across regions of the country are too great to take a "one size fits all" approach to expanding opportunity. Instead, there must be a focus on identifying and supporting multiple pathways to developing the skills and knowledge needed for the jobs of today and tomorrow.

### » High-skill workers

Finally, high-skilled professionals are not immune to job insecurity, as some analysts predict that the range of jobs displaced by technology will continue to expand.<sup>28</sup> The combination of increased computing power and more sophisticated software will make it possible for a growing number of complex cognitive tasks to be automated, meaning that technology can take on an ever-broadening set of jobs including medical diagnostics, certain types of research, tutoring, accounting, and translating.

Whatever the skill level, an individual's ability to find and keep a good job is related to the skills he or she can bring to that job and continue to develop over time. On average, better skills result in better economic outcomes. However, the challenge of improving the prospects for America's workers is more complex than a single-minded focus on developing and expanding their skills, as important as that is. In fact, as economists such as Jared Bernstein warn, that focus could lead to segments of the population being "all dressed up with no place to go" if appropriate job opportunities don't exist for them. Policies to stimulate job creation as well as improve wages and benefits, while beyond the purview of this initiative, are equally essential to any strategy to meet this challenge.<sup>29</sup>

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*The challenge of improving the prospects for America's workers is even more complex than developing and expanding their skills, as important as that is. Policies to stimulate job creation as well as improve wages and benefits are equally essential to any strategy to meet this challenge.*

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## Skills in Everyday Life

Discussions in the media and popular press focus almost exclusively on the greater demand for skills in the workplace. Largely ignored is the simultaneous increase in the skills required for everyday life as a result of both new technologies and evolving business practices. For example, more and more everyday tasks require the ability to navigate, critically analyze, and problem solve in data-intensive, complex digital environments.

There is a growing expectation that everyone has access to a computer, smartphone, and the Internet and is capable of navigating the online world. Doctors increasingly provide results from medical tests to their patients via online portals. Employers share information about office closings or schedule changes via text or email. Information about obtaining a driver's license or photo ID is provided on (often complex) government websites. A growing number of employers now accept online applications only. Each of these tasks requires not only access to a computer and the Internet but information technology skills.<sup>30</sup>

Although it is true that access to technology has dramatically increased as the digital divide continues to shrink, many do not possess the skills required to operate in that domain. Those without the necessary skills find themselves unable to adequately cope with these demands and are at a comparative disadvantage with those who do. Evidence of this skills gap is found in results from the Programme for the International Assessment of Adult Competencies (PIAAC), a large-scale international assessment of adults between the ages of 16 and 65 developed under the auspices of the Organisation for Economic Co-operation and Development (OECD). PIAAC includes an assessment of how well respondents can access and use the technology-based information found in websites, email, and spreadsheets to solve presented tasks. Over 60 percent of adults in the U.S. scored in the lowest levels, demonstrating only limited skills needed to acquire, evaluate, organize, and utilize information found in digital environments.<sup>31</sup>

Another example where a lack of skills can be detrimental to individuals is in their management of employee benefits. For jobs that offer benefits as part of the employment package, there has been a significant shift in the responsibility for managing health care and retirement accounts. Whereas workers once were able to rely on defined benefit pension plans, the number of employers offering such plans has declined sharply. In 1979, 28 percent of all workers were enrolled in such plans. By 2012, that figure had dropped to 3 percent.<sup>32</sup> The increasing use of what are called defined contribution plans, such as a 401(k), allows employees to take their accounts with them



when they move to new jobs – a positive development given our increasingly mobile workforce. However, the concern is that such plans shift responsibility onto workers, making them responsible for deciding whether or not to participate, how much to save, and where to invest their contributions.

The percentage of those under the age of 65 with employer-sponsored health insurance also has been on the decline, from 69 percent of all workers in 2000 to 59 percent in 2010. Data show that coverage varies by education, with 80 percent of college graduates receiving employment-based coverage in 2010 in comparison to 62 percent of those with a high school diploma. From 2000 to 2010, the decline in medical coverage rates for high school graduates was more than twice that for college graduates.<sup>33</sup> The gap in coverage between full-time and part-time workers also grew substantially during this period. The share of full-time workers who were uninsured increased 3.2 percentage points, compared with a rise of 9.3 percentage points for part-time workers.<sup>34</sup> This leaves individuals, most often those with the lowest skills, to find appropriate coverage. The advent of the Affordable Care Act, while making health coverage accessible to many previously uninsured individuals, requires the use of state or federal exchanges to select health care plans, meaning that individuals are responsible for understanding plan features and weighing costs and benefits relative to their needs – another instance where cognitive skills have become more important.<sup>35</sup>

The connection between skills and health outcomes is not limited to insurance issues. Large disparities in health behaviors and outcomes by level of education also have been well documented.<sup>36</sup> The Centers for Disease Control and Prevention reports that, "Educational attainment and income provide psychosocial and material resources that protect against exposure to health risks in early and adult life. Persons with low levels of education and income generally experience increased rates of mortality, morbidity, and risk-taking behaviors and decreased access to and quality of health care."<sup>37</sup> For example, there is a strong association between rates of smoking and educational attainment. In 2013, smoking among adults ranged from 24 percent of those with no high school diploma, to 22 percent of high school graduates, 9 percent of those with a college degree, and just 6 percent of those with a graduate degree.<sup>38</sup> Although obesity rates in U.S. adults have increased across all levels of income and education, for women in particular, obesity rates are higher among those with lower levels of education: Among females over the age of 20, some 42 percent of those with no high school diploma in 2005-2008 data were obese compared with just over 23 percent of those with a college degree.<sup>39</sup>

Such behaviors and conditions impact overall life expectancy. In 2005, 25-year-old men who had not graduated from high school could be expected to live about 16 years less than those with graduate degrees. For women, that difference was close to 12 years.<sup>40</sup> Although the relationships between levels of education (as a proxy for skills) and health behaviors are clear and persistent, such behaviors are complex and interact with other factors such as income, access to health care and information, and the social environment.

If workers do not contribute to retirement accounts and invest wisely, or do not find a health plan and select the coverage that best matches their medical needs and those of their family members, the consequences can severely impact their health and financial security, as well as increase costs to public-health systems. This general shift of responsibility, sometimes referred to as the *privatization of risk*,<sup>41</sup> reflects, in part, current economic realities faced by employers. But the result is that employees must be able to understand and prepare for a variety of risks to their welfare, making it more important than ever that they have the skills, knowledge, and requisite support to do so wisely.

Unfortunately, at a time when skills are increasingly consequential – both in the workplace and in everyday life – evidence indicates that many Americans do not have what it takes to succeed in this environment.

## America's Skills Gap

The growing importance of educational attainment has not gone unnoticed. Accordingly, there has been a national focus on increasing attainment rates – making sure that more students graduate from high school, and more go on to college. In fact, there have been improvements on both fronts. The high school graduation rate reached 81 percent in the 2012-2013 school year.<sup>42</sup> And the percentage of students enrolling in college increased by 46 percent from 1990 to 2014.<sup>43</sup>

While such statistics can justly be celebrated, they do not tell the full story. Although college enrollment rates are up, the number of students who go on to graduate in six years has not shown a similarly dramatic increase. Between 2008 and 2013, the overall six-year college graduation rate at four-year degree-granting institutions increased from 57 to just 59 percent.<sup>44</sup> Similarly, a report from the William T. Grant Foundation shows that while the gap in college enrollment rates for Black and White students has narrowed since 2000, the gap in college completion rates has increased.<sup>45</sup>

One important factor in understanding such gaps is the confounding of educational attainment and skills. When looking at preparedness for higher education and work, most studies use educational attainment as a proxy for skills. For example, the data comparing employment rates and wages for high school graduates against those for college graduates shown in Figure 1 is a way of displaying the relationship between skills and income. This is a reasonable strategy given that educational attainment and credentials are indeed important, particularly for opening doors and expanding access to additional educational opportunities and jobs. But ultimately it is the skills individuals actually possess that determine if they will succeed in those environments and if doors to additional opportunities will be open.

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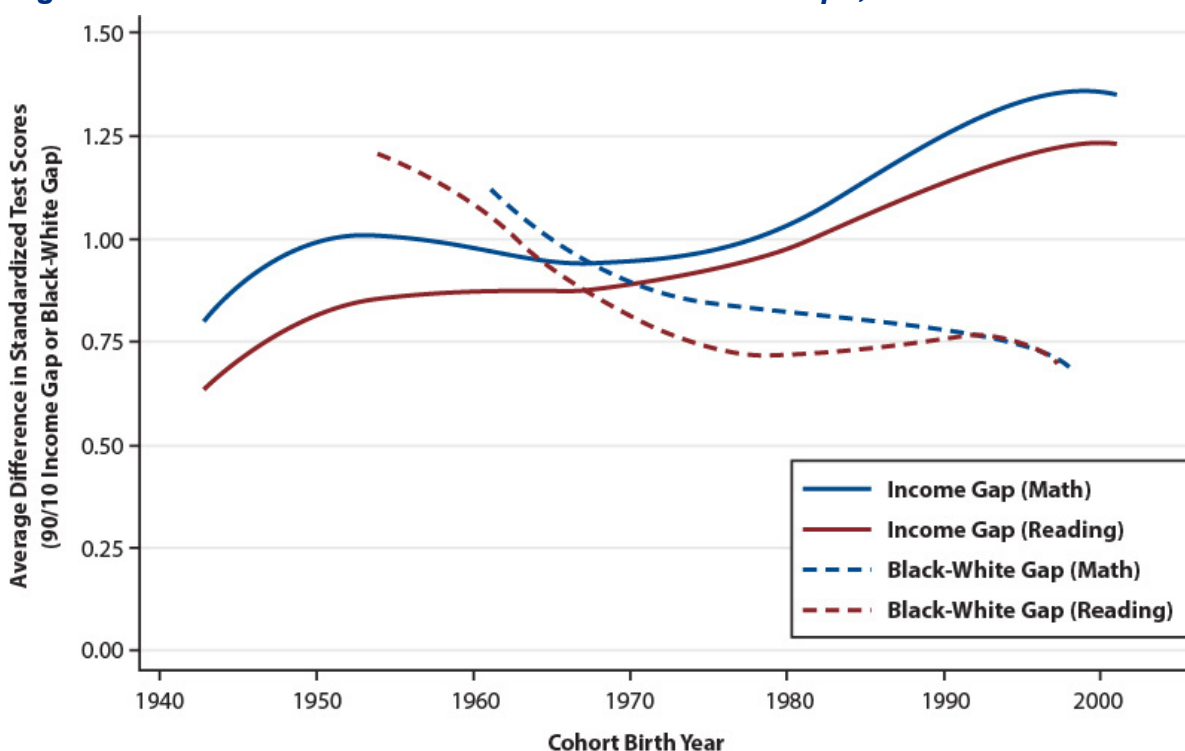
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We do have data from a number of large-scale national and international assessments that provide more direct evidence regarding the actual skill levels of our student and adult populations. One such assessment is the National Assessment of Educational Progress, or NAEP, which is a nationally representative and continuing assessment of students in grades 4, 8, and 12. NAEP results show that the reading and mathematics skills of our in-school 12th graders have remained essentially unchanged since 1970.<sup>46</sup> In 2013, NAEP reported that 74 percent of the nation's 12th graders, students headed to the workforce or higher education, were below proficient in mathematics, and 62 percent were below proficient in reading.<sup>47</sup>

When we look at various subpopulations of American students, we find persistent gaps in academic achievement across racial and socioeconomic groups.<sup>48</sup> Although achievement gaps among racial groups have not disappeared and should continue to be cause for concern, results from standardized assessments show that they have narrowed since the 1970s. In contrast, as shown in Figure 2, income-related achievement gaps have grown substantially. The gap between children from high- and low-income families is about 30 to 40 percent larger for children born in 2001 than it was for those born in the 1970s – and is now more than twice as large as the Black-White achievement gap.<sup>49</sup>

**Figure 2: Trends in Race and Income Achievement Gaps, 1943-2001 Cohorts**



Source: *Whither Opportunity?: Rising Inequality, Schools, and Children's Life Chances* by Duncan, Greg J.; Murnane, Richard J. Reproduced with permission of Russell Sage Foundation in the format Republic in other published product via Copyright Clearance Center.

*Although achievement gaps among racial groups have not disappeared and should continue to be cause for concern, they have narrowed since the 1970s. In contrast, income-related achievement gaps have grown substantially.*

As if these national data were not concerning enough, recent studies show that our 15-year-olds, students near the midpoint of their high school careers, are outperformed by many of their international peers. The OECD's Programme for International Student Assessment (PISA) administers an assessment of reading, mathematics, and science skills every three years in all 34 OECD member countries along with an additional group of participating countries. In 2012, U.S. students performed below the OECD average in mathematics, with 21 OECD member countries scoring higher. Not only is our "average" mediocre, but even our best performers, those who scored at the 90th percentile, are relatively weak when compared with their peers in OECD member countries, with those in 19 countries scoring higher in mathematics.<sup>50</sup>



Data about how well our high school graduates perform as they move forward in the educational system should raise concerns as well. Although readiness standards vary across states and institutions, well over half of students in community college take one or more remedial classes at some point during their enrollment.<sup>51</sup> This lack of readiness for college-level coursework is alarming, and data show these students are more likely to drop out than their more prepared peers. Fewer than 1 in 10 students who begin their community college careers with remedial classes graduate within three years.<sup>52</sup> Similar skill gaps are evident in four-year colleges and universities as well, where some 20 percent of students must take remedial classes in their freshman year.

Additional evidence, using PIAAC data, demonstrates that gaps in skills continue into adulthood. This assessment of literacy, numeracy, and problem-solving skills was first administered to some 160,000 adults in 24 countries in 2011-2012. At a time when more skills are needed, findings from this survey show that the skills of U.S. adults have, in fact, decreased when compared with results from previous adult surveys.

Analyses of the PIAAC results for millennials, young adults between the ages of 16 and 34, showed that U.S. millennials performed well below the OECD average on all domains.<sup>53</sup> They ranked last in numeracy (along with Italy and Spain) and in problem solving in technology-rich environments (along with the Slovak Republic, Ireland, and Poland). Some will argue that such international comparisons are not relevant to policy because America is exceptional; our diverse population along with the structure of our educational system makes us different from other countries. But looking at subgroups, defined by characteristics such as educational attainment or immigration status, does not change the picture. Furthermore, PIAAC demonstrates that large numbers of even our best performing and most educated millennials possess relatively weak skills. Even our highest-scoring millennials, those at the 90th percentile, scored lower than their top-scoring counterparts in 15 of the 22 participating countries. Such results strongly suggest that too many students are graduating from high school and even completing postsecondary education without developing the skills they need.<sup>54</sup>

Such evidence, as well as the life experiences of millions of Americans, attests to the fact that skills matter. But focusing solely on skills, even the broad range of human capital that is needed in today's society, is too narrow a lens. Social capital is an equally important component of the opportunity story. Social capital rises out of, and develops through, a variety of social relationships. It is these relationships that help determine how human capital is developed and used.

## The Role of Social Capital

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*If income inequality is the main economic problem, it could be solved tomorrow, through confiscation and redistribution. If the main problem is the unequal generation of social capital in institutions such as families, schools and communities, the solutions get more difficult. One task can be accomplished by a tax collector; the other is the work of a civilization.*

*Michael Gerson, columnist for the Washington Post and senior policy advisor in the George W. Bush administration*<sup>55</sup>

The family structure and social networks into which children are born and raised, the behavioral norms they develop, and the trust that connects members of their communities – factors often referred to as social capital, impact opportunity throughout an individual's lifetime. Parents may regularly take a young child to their local library and help with homework as the child grows, fostering academic achievement as well as community and school connections. One teenager may alert another to a local business that has after-school jobs available, presenting the possibility of a paycheck along with the opportunity to develop work-related skills, including learning the importance of showing up on time, appropriately dressed, and ready to work. The leader of a religious community may help young members through the process of applying to college and seeking financial aid so that they can be the first members of their families to pursue higher education. In each of these instances, social capital acts as a catalyst to foster development and provide much-needed support.

Social capital includes both informal connections to family, friends, and acquaintances and more formal connections through participation in religious communities, sports teams, volunteer groups, political organizations, professional organizations, and unions. These connections foster norms that guide values, personal decisions, and social interactions. The domain of social capital is defined by some social scientists as having a number of different dimensions.<sup>56</sup> Two of the most important are:

- *Bonding capital*, which consists of strong relationships within groups, connects individuals with similar backgrounds or characteristics, often family and close friends. Bonding capital builds social cohesion and a sense of solidarity. When members are sick, out of work, or having other difficulties, it

can provide various types of help, acting as an informal social safety net.

- *Bridging capital*, which consists of weaker relationships across groups, brings together individuals who may be of different races, ethnicities, educational backgrounds, classes, religions, or ages. Bridging capital fosters the exchange of information and ideas and can help build consensus, taking into account the diverse nature of its members.

Strong social capital can have positive impacts on both individuals and communities. Networks of parents and community members focusing on the well-being of children, as well as individuals focusing on the vitality of their neighborhoods and larger communities, can lead to improved school performance, lower crime rates, better public health, and reduced political corruption.<sup>57</sup> With strong social capital, community members are more likely to join together to clean up a neighborhood park, meet with political leaders to influence local policy, set up a childcare cooperative to support working families, or organize a food pantry to help neighbors in need.

A lack of social capital can hinder opportunity, even for those with strong human capital. For example, high-achieving students may not reach their full potential if they are not encouraged – or do not have access to – individuals and resources that can help them navigate the system to enroll in advanced coursework or apply to, and succeed at, competitive colleges.<sup>58</sup>

Although fostering positive social capital is one component of expanding opportunity, it is important to recognize that social capital can have negative impacts as well.<sup>59</sup> Social networks can be exclusionary, denying access to resources and assistance to those outside of the group. They can endanger rather than build up communities by enabling violence or crime. Like all social endeavors, social capital reflects the perspectives and intentions of the individuals involved.

People have always had networks; their actions have always been influenced by values and social norms. However, just as changes in the economic landscape have increased the importance of human capital, as well as the differences in accumulated capital between those who have had opportunities to develop it and those who have not, changes in the social landscape have affected the ability of individuals to develop positive social capital. Indeed, changes over time in families, neighborhoods, and participation in social, civic, and religious organizations have impacted social connections and often narrowed the range of people with whom individuals interact.

In addition, there is growing evidence that social capital is becoming more strongly

related to human capital and that the ensuing divergence in outcomes that results from differences in both types of capital has increased.

## The Relationship between Human and Social Capital

In combination, human and social capital help to determine the kind of work you do, who your coworkers and friends are, where you live, and your choice of spouse or partner. There have, however, been significant changes in the nature of their relationship over the past several decades – changes that have contributed to the growing divergence in outcomes that we see today. Whereas, in the past, strong social networks and norms of civic engagement transcended socioeconomic status and levels of educational attainment, social capital is now more tightly tied to human capital. Individuals with strong human capital, and the higher economic status typically associated with greater skills, also tend to have the networks, norms, and values that provide a greater benefit in today's economy.<sup>60</sup>

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In contrast, those with weaker skills not only tend to be much worse off economically than they were two generations ago but also are disadvantaged by more limited social capital. This is due, in part, to the changing characteristics of their neighborhoods and communities, along with the stresses associated with working multiple jobs and not earning a livable wage. Such circumstances make it likely that they will rely on the kinds of social connections that are essential for getting by, but that they will not develop the broader networks and norms that will help them, or their children, get ahead.

## The Growing Divide

Evidence that the development of beneficial social capital has become more stratified by education and skills can be found in a variety of indices, including the extent to which people are engaged in civic activities, their trust in social institutions and in others, and, perhaps most important, their patterns of family formation.<sup>61</sup> Each is described in more detail below.

### » Civic engagement

Civic participation, including activities such as voting and volunteering, has declined

overall. Some 93 million eligible voters did not vote in the presidential election of 2012. Voter turnout was 57 percent, down from 62 percent in 2008 and 60 percent in 2004.<sup>62</sup> Like many other indices of social capital, voting patterns are not uniform throughout the country but vary widely across states and localities. In 2012, for example, the percentage of eligible voters who voted ranged from a high of 76 percent in the District of Columbia to a low of 48 percent in West Virginia.<sup>63</sup> Turnout for local elections is even lower and, based on data for 144 of the largest cities in the U.S., has been declining over the last several decades, with an average of about 21 percent of eligible voters participating in local elections.<sup>64</sup>

In addition, voting patterns have become increasingly stratified by age, education, and income. Citizens over the age of 35 vote at higher rates than do younger people. The highest voting rates are seen among the most educated. And those with higher household incomes are more likely to vote than those in poorer households.<sup>65</sup>

Volunteering, which both reflects and helps build social connections, is also increasingly associated with specific demographic characteristics. Those who are not in the labor force volunteer less than those who work full or part time. College graduates tend to volunteer at rates that are four times higher than those with less than a high school diploma. Robert Putnam and his colleagues report similar differences among Americans under the age of 18, with children of college-educated parents volunteering more, while rates have not changed for children whose parents have not gone beyond high school.<sup>66</sup> Those young people who do not volunteer are less likely to benefit from the social connections and experience that volunteering affords – not to mention the satisfaction that comes from helping their communities.

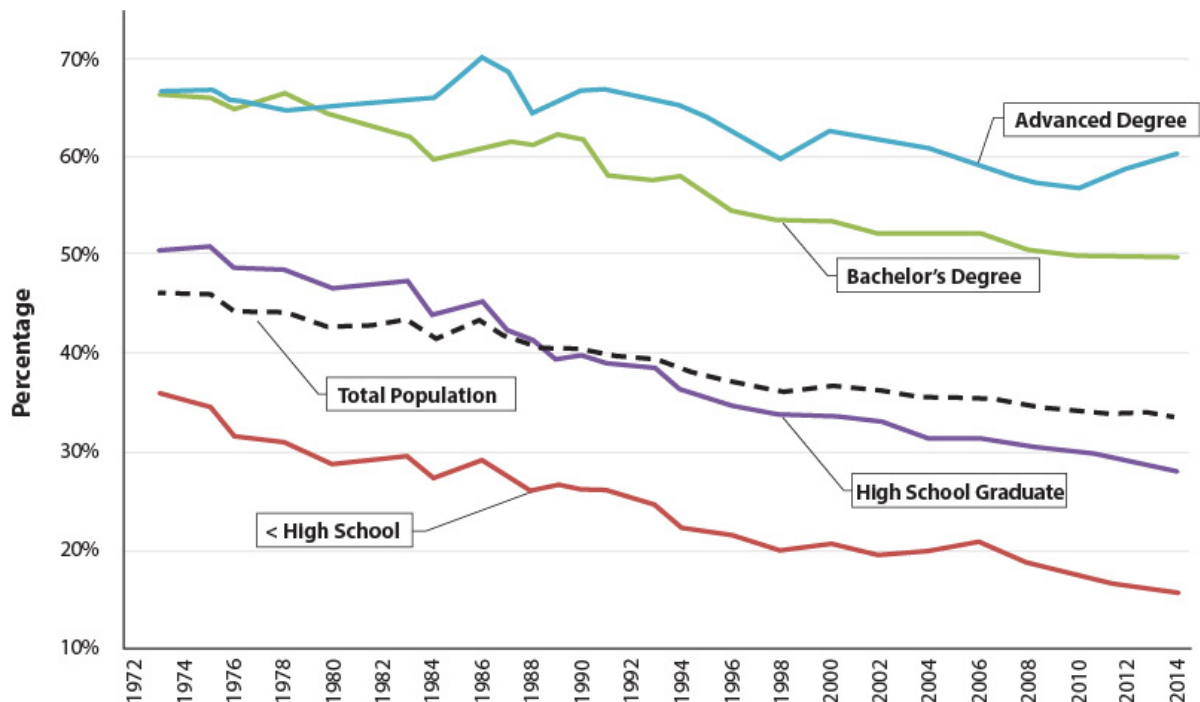
## » Trust

Declines in civic participation may reflect a more fundamental issue. Across age groups, educational levels, and economic status, Americans are losing trust – in political leaders, corporations, social institutions, and in each other. A 2014 study based on two nationally representative surveys that have been conducted since the 1970s reported that, "Trust in others and confidence in institutions, two key indicators of social capital, reached historic lows among Americans in 2012."<sup>67</sup> Across generations, Americans expressed a lack of confidence in large institutions including business, Congress, the presidency, the news media, religious organizations, and the medical establishment.

Generalized trust in others has also declined overall over the past 40 years. As we have seen with other indices of social capital, trust varies by levels of education. For example,

Figure 3 shows that those with a bachelor's degree are more likely to say that people can be trusted than those without high school diplomas. Those with advanced degrees are even more likely to express trust in others and are the only group for whom trust has been on the rise over the past several years.<sup>68</sup>

**Figure 3: Percentage of the U.S. Population Who Believes That "People Can Be Trusted" by Highest Level of Educational Attainment, 1972-2014**



Source: General Social Survey, 1972-2014. Data have been smoothed.

In his book, *Our Kids*, Robert Putnam also shows strong associations between trust and economic status, citing evidence that residents in affluent neighborhoods trust their neighbors more than residents in poor communities do. This lack of trust may be rooted in decades-long declines in community bonds. Putnam documents this decline, focusing specifically on differences by educational attainment. Better educated Americans tend to report having more close friends and broader social networks (i.e., more bridging capital). In contrast, less educated adults tend to have fewer and more homogeneous networks and more familial than non-kin ties. The connections for those with wider social networks can provide expertise and support, both for themselves and their children, that are simply not available to those operating within a narrower social context.

### » Families

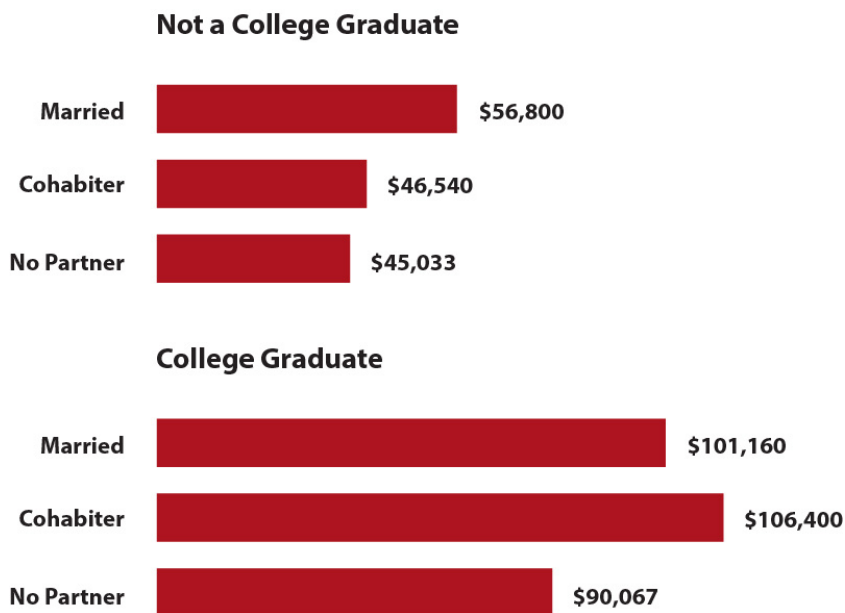
While family structure has become increasingly varied across social and economic lines



over the past two generations, differences by education and skills can be found here as well. Changes in marriage rates provide one indicator. Census data from 2012 show that marriage rates increased by 3 percent over those in 2011. However, almost all of that increase (87 percent) was the result of increasing marriage rates among those with a college degree or higher. Today, poorly educated adults are less likely to ever get married than in the past.<sup>69</sup>

Any discussion of family structure must also take into account couples who choose to live together without marrying, as cohabitation rates have increased steadily over the past few decades. Cohabitation rates for adults between the ages of 30 and 44 have more than doubled over the past 20 years.<sup>70</sup> However, adults without a college degree are almost twice as likely to cohabit as those who are college educated. This difference by educational attainment is important due to the associated economic consequences and, by extension, the impact on opportunity.

**Figure 4: Median Adjusted Household Income by Educational and Partnership Status, 2009**



Source: Paul Taylor & Richard Fry, "Living Together: The Economics of Cohabitation." Pew Research Center, 2012  
 Graph title: Median Adjusted Household Income by Education and Partnership Status, 2009. Based on 30- to 44-year-olds. "No partner" includes those living without an opposite-sex partner or spouse. Income adjusted for household size and scaled to a household size of three. Adapted from 2009 American Community Survey (ACS) Integrated Public Use Micro Sample.

As Figure 4 shows, there is little difference in household income for a college graduate who cohabits versus one who marries. However, an individual without a college degree who cohabits is typically worse off financially than one who is married.<sup>71</sup> The fact that

cohabiters without college degrees are more likely to have children than their college-educated counterparts contributes to this income difference. In general, cohabitating couples with children tend to be younger, less educated, and have less secure employment and lower incomes, all characteristics that can affect both their opportunities and those that they are able to provide for their children.<sup>72</sup>

In contrast, couples who begin their lives together with shared high educational attainment and skills are in the advantageous situation where, just like the "magic" of compound interest, they stand to benefit from compounding incomes, wealth, and social capital over their lifetimes and are likely to pass those benefits along to their children.

## Compounding Advantage

The human and social capital accumulated by individuals is hugely important, as it impacts the transmission of opportunity from one generation to the next. In part, that transmission is influenced by the tendency for people to marry or partner with those like themselves, a phenomenon referred to as assortative mating. In the past, partners tended to share similar cultural, religious, or ethnic backgrounds. Today, educational attainment and economic status are more likely to be the characteristics that partners have in common. Those who attend and complete college or postgraduate and professional programs become part of a social network that includes other highly educated individuals. And, because that network includes growing numbers of women, this has changed the likelihood of assortative mating. That, in turn, leads to compounding economic and social advantages for some families and greater opportunities for their children.

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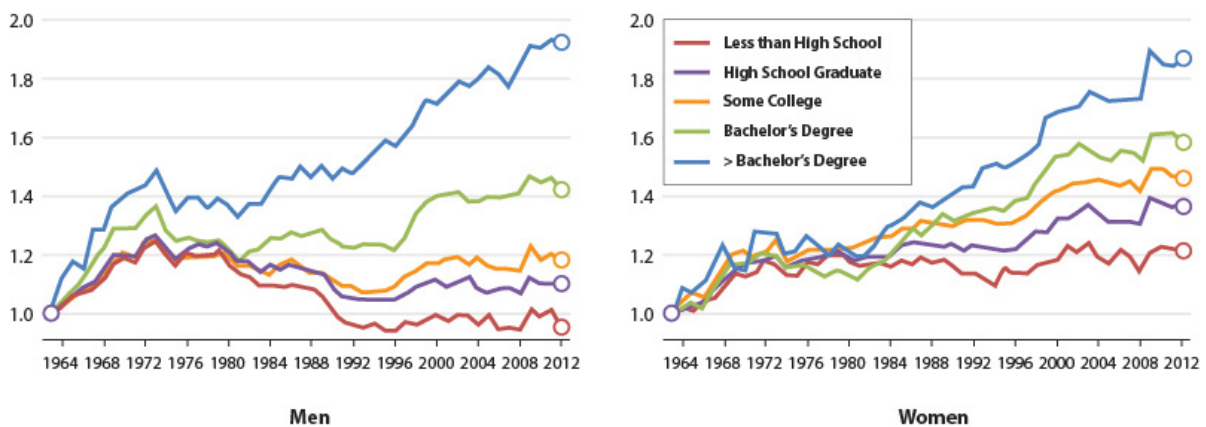
Women are increasingly better educated and more likely to be in the workforce. Today, women's graduation rates are more than five times greater than those in the early 1960s. In 1960, 6 percent of women ages 25 or older had completed four or more years of college. By 2014, that had increased to 32 percent.<sup>73</sup> The numbers of women earning postgraduate degrees has also dramatically increased. In the 2011-2012 academic year, 60 percent of the students receiving master's degrees were women.<sup>74</sup> The number of women receiving a professional degree in 2010 was almost 20 times the number in 1970.<sup>75</sup>

Similarly, women are working outside the home more than in the past. Although less than one-third of women were in the workforce immediately following World War II, by 2013 close to 60 percent of women were in the workforce, with a large share of them working full time and year round.<sup>76</sup> For some women, this change in labor market status reflects a realization of aspirations. For others, it has been an economic necessity.

One consequence of these trends is that highly educated men and women are much more likely to meet and ultimately marry or partner with each other than in the past. In 1960, only 3 percent of married couples were both college educated; by 2012 that figure rose to 22 percent.<sup>77</sup> This phenomenon, when combined with the earnings gap favoring workers with higher levels of education, results in an even greater stretching of the income distribution.

Figure 5 expands on the data presented in Figure 1, showing weekly earnings for both men and women by level of education over the past 50 years. This figure illustrates the substantial economic advantages available to a two-income couple where both partners have postgraduate degrees versus a couple with lower levels of educational attainment or, even more starkly, a single parent who has less than a college education.

**Figure 5: Changes in Real Wage Levels of Full-Time U.S. Workers by Sex and Education, 1963 – 2012**



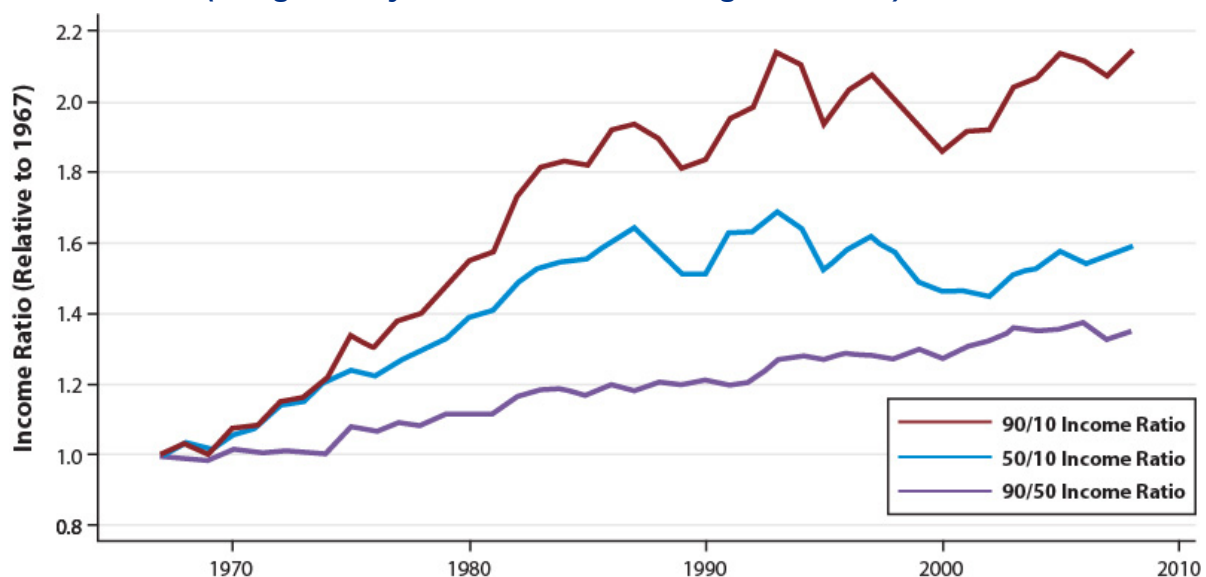
Source: David H. Autor, *Science* 2014; 344: 843-851

Analyses of U.S. Census data show that, in 1960, a family with two working postgraduate degree holders earned an income that was 176 percent above the national household average; by 2005, that increased to a 219 percent advantage. In contrast, couples with a high school education went from earning 103 percent of the national average in 1960 to 83 percent in 2005.<sup>78</sup> For those with children, the contrast in economic resources between two working parents with postgraduate degrees versus a single parent with a

high school diploma or less sets the stage for massive differences between these families in terms of human and social capital.

Changes in social capital that have impacted assortative mating are among the factors that have contributed to the growing disparities in income in this country. Figure 6 illustrates these differences by looking at trends in income inequality for children based on family incomes since 1967. The gap between children with family incomes at the top of the income distribution (those at the 90th percentile) and those at the bottom (the 10th percentile) grew steadily from 1970 to 2010, more than doubling in 25 years. From 1967 to about 1987, this was driven principally by the growing gap between those at the middle of the income distribution (those at the 50th percentile) and those at the bottom. The 50/10 income ratio grew by 64 percent over that time. After that period, the gaps were driven largely by increasing inequality between those at the 90th and 50th percentiles.<sup>79</sup> This growing divide over the last 25 years or so is driven by a number of factors, one of which is the rise in assortative mating.

**Figure 6: Trends in Family-Income Inequality among School-Age Children, 1967 to 2008 (Weighted by Number of School-Age Children)**



Source: *Whither Opportunity?: Rising Inequality, Schools, and Children's Life Chances* by Duncan, Greg J.; Murnane, Richard J. Reproduced with permission of Russell Sage Foundation in the format Republish in other published product via Copyright Clearance Center. Author's calculations, based on U.S. Bureau of Census. Note: Each line shows the trends in the ratio of household incomes at two percentiles of the income distribution trends. All are divided by their value in 1967 in order to put the trends on a common scale.

Another way to understand these disparities is to look at the relative share of household income held by those at different points in the income distribution. Table 1 divides the

population into five equal groups, or quintiles, and shows the share of household income held by each group. Note that within quintiles there have been changes in household income, with those in the bottom two quintiles seeing their share of total household income decrease by 20 and 22 percent, respectively. This table shows that the story is not just about the gap between the very rich and the very poor. For every group below the top 20 percent, the relative share of household income has declined since 1967.

**Table 1: Shares of Household Income by Quintiles, 1967 – 2013**

Quintile	Percentage of Household Income		Change
	1967	2013	
Top 5%	17.2	22.2	↑ 29%
5 (Top 20%)	43.6	51.0	↑ 17%
4	24.2	23.0	↓ 5%
3	17.3	14.4	↓ 17%
2	10.8	8.4	↓ 22%
1 (Bottom 20%)	4.0	3.2	↓ 20%

Source: Selected Measures of Household Income Dispersion: 1967 to 2013, Table A-2, U.S. Census, Income and Poverty in the United States, 2013. Income figures in 2013 dollars.

Persistent gaps in human and social capital both reflect, and contribute to, the polarization of life outcomes and outlooks. In particular, gaps are associated with differences, ranging from economic outcomes such as wages and benefits to health and longevity, as well as to social outcomes such as trust and civic engagement. Equally important is the impact these gaps can have on life outlooks, including whether people have hope for the future and a belief that, with hard work, the American Dream is still within reach.

Such disparities are significant enough for the individuals living with them. But the fact that these gaps also characterize disparities in the circumstances of birth for the next generation makes them all the more important to understand. In the following section, we explore in more depth how differences in parental human and social capital are transmitted to children at birth and beyond, as well as how these differences shape children's opportunities.

# The Transmission of Opportunity: Gates and Gaps



*My concern is not about inequality at a point in time per se but about the effect of rising inequality on disequalizing the life chances of kids born into affluent versus non-affluent households. ... Already the gradient between household income and college attendance has steepened substantially between cohorts born in the early 1960s and those born in the early 1980s. Since education is the key predictor of lifetime earnings, this suggests that the link between circumstances at birth and lifetime incomes will be magnified in the current generation relative to earlier ones.*

*David Autor (MIT)* <sup>80</sup>

As noted earlier, we define opportunity as pathways to the development of human and social capital. These pathways are marked by gates, a metaphor for the factors that either offer access or present obstacles to this development. Like the gated communities dotting the American landscape, the status of these gates – whether they are open, slightly ajar, or fully closed – reflects a stratification of opportunity. Open gates signify advantage: unimpeded pathways and beneficial social networks and values that make it possible to accumulate necessary skills. Closed gates signify an impasse, where the path beyond is largely inaccessible, social networks are detrimental, and opportunity is blocked.

The factors that foster or limit the accumulation of human and social capital are complex and often interrelated. They include family structure and parenting, financial resources, and characteristics of neighborhoods and schools, as well as the health care and criminal justice systems.

In some cases, gates that close off one pathway at a particular point in time may be offset by open gates along a different pathway. If, for example, the parents of a high-achieving high school student do not have the experience or resources to help their child navigate the college application process, a guidance counselor or family friend might be able to provide that knowledge and support – making it more likely that the young person will continue his or her education. Changes in life situations over a period of time may also open up new pathways for an individual. One example is the Moving to



Opportunity project, a 1990s initiative in which public-housing residents in five large U.S. cities were given vouchers that allowed them to move from high-poverty to low-poverty neighborhoods. Follow-up studies have shown that children who moved before the age of 13 had higher college attendance rates, higher marriage rates, and increased income levels when compared to similar children who did not move or moved at an older age.<sup>81</sup>

More typically, however, multiple factors play the role of gates at different stages of development. For example, a child born to a family living in poverty is likely to grow up in an economically disadvantaged neighborhood, attend poorly performing schools, have limited access to healthy food or good medical care, and so on. Each of those factors amplifies the negative effects of the others and, in combination over time, lead to ever-greater gaps; that is, measurable differences among individuals in accumulated human and social capital.

A child who encounters an open gate at a particular developmental stage has a better chance to develop the skills and abilities appropriate to that stage. For example, a 5-year-old whose family and extended social network has taught him or her the self-regulatory behaviors expected at school will likely transition more smoothly into kindergarten and be ready to learn. Another 5-year-old who has not developed those behaviors is more likely to struggle. The result is a gap in the human and social capital already acquired by those two children that will continue to affect their chances of meeting subsequent developmental milestones. Such gaps are reflected in the national data cited earlier, showing that achievement gaps between children in high- and low-income families have increased.<sup>82</sup>

Gates and gaps interact in dynamic ways throughout childhood and into adulthood. Gaps that develop during one developmental period can limit subsequent opportunities. As a result, such gaps are particularly consequential for young children.<sup>83</sup> For example, children who do not develop critical pre-reading and mathematics skills are less likely to be successful as they begin school; failing to achieve basic skills in the early grades makes it less likely they will be able to handle the academic demands in later grades. The multiplicative effects of initial and ongoing differences in opportunity result in widening gaps and increasing inequality in adult outcomes.

Of course, not all children lucky enough to grow up in environments in which the gates are open go on to lead successful lives. And, conversely, there are children and young adults who are able to overcome closed gates and developmental gaps and, despite setbacks and obstacles, achieve great things. But for those tens of millions of children who face a succession of closed gates we must ask: Should America be a country where

so many children must be heroes in order to achieve a modicum of security and stability?

## The Earliest Gates

Although people accumulate human and social capital throughout their lifetimes, the early years are critically important. The human and social capital developed during early childhood lays the foundation for growth throughout a youngster's life and, ultimately, for adult outcomes. As James Heckman explains, "Early childhood development directly influences economic, health and social outcomes for individuals and society."<sup>84</sup> Ensuring that gates are more open than closed from the earliest ages onward helps to limit the number and extent of gaps that an individual needs to close as he or she grows into adulthood.

Not surprisingly, children's earliest developmental opportunities are very strongly dependent on their parents. Although almost all parents want their child to thrive and do everything they can toward that end, their life situations dictate the extent to which they have the skills and resources to achieve that goal – and, therefore, determine whether gates are open or closed for that child. Parents' skills and educational backgrounds, their employment status and economic resources, characteristics of their own family lives and the community in which they live, as well as the extent to which they are engaged in that community, all influence children's opportunities at key stages in their development – beginning with conception and continuing through adolescence and their transition to adult roles.

### » Before birth

The potential for children to thrive begins even before birth, impacted by the health of their mothers, the availability of prenatal care, and the family structure into which they will be born.<sup>85</sup> Thus one of the first set of gates that may be open or closed for children is whether they are born healthy, at a normal birth weight, and into a family that can meet their earliest needs. Children exposed to toxins, drugs, or alcohol in utero, carried by mothers in poor health or subject to environmental or other stresses, or born to mothers with challenges that lead to poorer nurturing and weaker attachment, will likely begin their lives with gaps in their ability to grow physically, emotionally, and socially compared with infants born into more favorable environments.<sup>86</sup>

The structure of the family into which a child is born also influences that child's opportunities from the start of life. As a result of a complex set of factors, there have been dramatic changes in the American family over the past two generations.<sup>87</sup> The number of children living with married parents has decreased by 25 percent since the

1960s.<sup>88</sup> Over that same period, the percentage of children born to unmarried mothers has increased dramatically, with rates being highest for Black and Hispanic women.<sup>89</sup> The percentage of children born to unmarried mothers was around 5 percent in 1960, reached a historic high of just over 40 percent in 2008, and has remained steady since then.<sup>90</sup> It is important to note that most of the increase in out-of-wedlock births over the past few decades is due to the increase in the share of births to cohabitating women.<sup>91</sup> However, although the presence of a partner can provide critical support to a mother preparing for the birth a child, the fragility of many cohabiting families can make that support tenuous.<sup>92</sup>

Of course, marital status in and of itself does not determine the circumstances into which an infant is born and the gates that are open or closed for that child. But because unmarried and cohabitating parents tend to have lower levels of education and more limited economic resources, they face a host of challenges. Importantly, before a child's birth, a poor and poorly educated mother may not have access to good medical care and nutritious food or have a supportive social network. As a result, she may have difficulty taking care of herself and supporting her child's development throughout her pregnancy.

### » **Infancy and early childhood**

Early childhood is another critical time in the lives of young children as it is the period for developing key cognitive and social skills, including language development and a sense of self-efficacy. Whether the gates to growth and learning are open or closed during this period depends on factors including parental attachment, child health, and nutrition. Children born into "higher risk" families, such as those with low-income, poorly educated parents, or single parents with work schedules that are not conducive to spending time with young children, often exhibit gaps in growth and development by the age of 9 months. There is empirical evidence that these gaps in cognitive, social, behavioral, and health outcomes grow even larger by age 2.<sup>93</sup>

One example of such a gap is related to language development. Studies have shown that variations in parent-child interactions are associated with substantial differences in the numbers of words a young child hears and learns, with children raised in homes where rich daily exchanges are the norm hearing millions more words than those from homes with limited verbal interactions.<sup>94</sup> This is significant, not only because children who enter school with a smaller vocabulary and more limited language development have deficits that impact their early learning experiences, but also because the resulting gaps often continue through high school and beyond. Thus, the strong human and social

capital of some parents – including their own vocabulary and knowledge base as well as their understanding of the value of language experiences for young children – provide both initial and long-lasting opportunities for their children that are much less common for children whose parents have different types of backgrounds.

Parental resources during these developmental years affect a range of early experiences, including childcare arrangements. Many toddlers spend some portion of their time with caregivers, including informal networks of family and friends, as well as in more formal settings such as nursery schools or preschools. Poorer children are much more likely to receive low-quality care than children from families with higher incomes. This difference is consequential as quality of care at an early age has been found to have persistent and long-term impacts on social behavior and academic achievement.<sup>95</sup>

The broad set of resources that makes a difference in the lives of young children also includes investments of parental time, engagement of parents and caregivers, and other supports for learning and development. Infants whose parents respond to their actions and vocalizations learn that they can influence their environment, helping to set the stage for developing self-esteem, self-reliance, and self-control – all important qualities for succeeding in school and beyond.<sup>96</sup> Parents who regularly read to their young children help foster the development of language skills. Parenting styles also affect children's behavioral patterns in school and, ultimately, the workplace. Those parents who understand or learn about the stages of growth by consulting child development books or seeking advice from knowledgeable family members and friends are able to support and challenge their children in developmentally appropriate ways.

When children reach the age of 4 or 5, school readiness presents another important milestone. Children who have had opportunities to develop some level of pre-reading and mathematics skills, along with school-appropriate behavioral norms, are most likely to begin school on the right foot. Children with gaps in these areas need to catch up if they are to go on to have successful early school experiences.

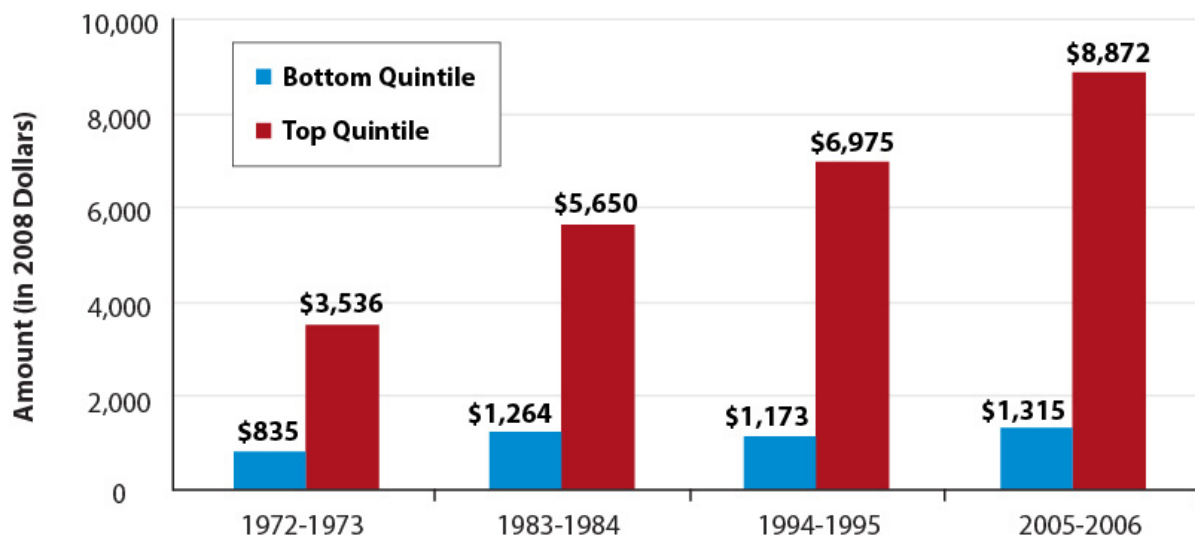
## The School-Age Years

Parental resources continue to impact their children's opportunities throughout the school-age years. The same familial factors present in early childhood can provide access or barriers to opportunity for older children. Health problems that begin and develop through early childhood are likely to continue. Poorer children are more likely to suffer from asthma and obesity and less likely to be immunized.<sup>97</sup> Resulting complications can interfere with regular school attendance and learning.

As children enter school, with its associated academic demands and social expectations, parental backgrounds make a difference. Parents' education is highly correlated with the quality of childhood education because, with greater resources at their disposal, more highly educated parents are better able to exercise some choice in the school setting to which their children are exposed.<sup>98</sup> Moreover, these parents can draw on their own educational experiences in their efforts to make sure their children succeed by supporting their learning at home and interacting with both teachers and school officials.

In parallel with the growing inequality in income and wealth in this country, there is a growing divergence in parental investments. Figure 7 shows that, from 1972 to 2006, the gap between what high- and low-income families spent on enrichment goods and activities for their children almost tripled. Likewise, since 1975, the amount of time parents spend with their children has grown twice as fast among college-educated parents as it has among less educated parents.<sup>99</sup> As Sean Reardon points out, "High-income families are increasingly focusing their resources — their money, time and knowledge of what it takes to be successful in school — on their children's cognitive development and educational success."<sup>100</sup>

**Figure 7: Enrichment Expenditures on Children by Parental Income, 1972-2006**



Source: *Whither Opportunity?: Rising Inequality, Schools, and Children's Life Chances* by Duncan, Greg J.; Murnane, Richard J. Reproduced with permission of Russell Sage Foundation in the format Republish in other published product via Copyright Clearance Center.

As children enter their school-age years, they increasingly experience environments and social networks beyond their immediate family. Their growth and development is influenced by their school and its environs – its culture, the experience and skills of their

teachers, the influence of peers, the safety and upkeep of the building itself, and the characteristics of the neighborhood in which it is located.

Our school funding systems, largely based on local property taxes, often severely limit what schools in poor areas are able to provide to help close some of the gaps for children who come to school ill-prepared to learn and achieve.<sup>101</sup> Variations in the instructional environment, curriculum, and school policies do little to equalize educational outcomes for children entering school with different sets of skills. For example, at the high school level, poor children and children of color are less likely to attend schools that offer the kinds of advanced level classes that are available to their more advantaged peers. Neighborhood environments, low salaries, and poor working conditions in high-poverty schools often mean that teachers in these schools are more likely to be poorly qualified and that more qualified teachers tend to leave after relatively short stints.<sup>102</sup> Thus, the children who most need experienced and effective teachers are least likely to have them.

Across all groups, children are increasingly attending schools in which the other students are just like them. Eighty percent of Latino students and 74 percent of Black students attend schools in which the majority of students are nonwhite. The average White student goes to a school that is 75 percent White. White and Asian students attend schools where at least 60 percent of their peers are not poor, while the average Black or Latino student attends a public school where nearly two-thirds of the students are poor.<sup>103</sup> In fact, schools are increasingly segregated not only by race but income. Such segregation matters because the characteristics of peer groups have been shown to influence children's skill development and academic trajectories.<sup>104</sup>

One responsibility of school officials is to maintain a safe learning environment for all students. Suspensions and, in rarer cases, expulsions are one set of tools used by administrators. Because these practices interrupt student learning, many have advocated that they be used more sparingly or that other disciplinary strategies be implemented. One source for concern is that these practices are applied unevenly to children based on race/ethnicity and gender, a concern supported by statistics such as the following from the U.S. Department of Education for the 2010-2011 school year.<sup>105</sup>

- Black students are suspended and expelled at a rate that is three times greater than White students.
- American Indian and Native Alaskan students are also disproportionately suspended and expelled.
- Although boys overall receive more than two-thirds of suspensions, Black girls are suspended at higher rates than girls of any other race or ethnicity and



most boys.

- American Indian and Native Alaskan girls are suspended at higher rates than White boys or girls.
- Although Black children constitute 18 percent of the children enrolled in preschool, they represent 48 percent of preschool children receiving more than one out-of-school suspension. Boys, in particular, are disproportionately suspended. They represent 54 percent of the preschool enrollment but 79 percent of the children suspended once and 82 percent of those suspended multiple times.

Such statistics are evidence of the uneven application of disciplinary policies only if the punished students are not more likely than others to engage in activities that would normally lead to such punishments. There is data that shows this is, indeed, the case. A study of schools in North Carolina found that Black students were disciplined more severely than White students for the same infractions. A recent report from the William T. Grant Foundation found that "reviews of racial disparities in school discipline have failed to find evidence that higher rates of school suspension and expulsion among (B)lack youth can be attributed to higher rates of disruptive behavior."<sup>106</sup>

Differences in the school experiences of students from low-income communities in comparison to those from middle- and upper-income communities, as well as from different racial/ethnic backgrounds and different genders, further exacerbate disparities in opportunity. As young people transition to adulthood, opportunities related to postsecondary education, apprenticeship programs, and job prospects are largely determined by the gates through which they were, or were not, able to pass and the extent to which they suffer from gaps in cognitive skills, confidence, aspirations, and ability to overcome setbacks.

## **The Role of Neighborhoods in the Transmission of Opportunity**

As important as they are in the development of children, schools cannot do it all. Public school students spend an average of about 1,000 hours a year in school – a little less in elementary school and a little more in high school.<sup>107</sup> This represents roughly 18 percent of a student's 5,500 waking hours over the course of a year.<sup>108</sup> Clearly, as most of a child's learning and development occurs outside the school context, family and neighborhood characteristics strongly affect the opportunities available to students.

Neighborhoods can either nurture or crush opportunity. Education, employment,

housing, and a host of other variables – including police protection, health care, and libraries to name a few – are largely determined in the United States by where one resides. Although race-based neighborhood segregation has been, on average, slowly declining, segregation by socioeconomic status has been on the rise. This trend holds not only across, but also within, each major racial group. As a result, affluent and impoverished Black or Latino families are less likely to be neighbors now than they were 40 years ago. Segregation by race and ethnicity does, however, remain extreme in many of the nation's largest urban communities. In places like Milwaukee, New York, Chicago, Detroit, and Cleveland, concentrated segregation and high poverty combine to create neighborhoods characterized by social disorder.<sup>109</sup>

In 1970, 65 percent of Americans lived in a middle-class neighborhood. That number has now dropped to 42 percent.<sup>110</sup> For those who live in poor neighborhoods, closed gates abound and opportunities are severely restricted. Neighborhoods without jobs, and without transportation to where the jobs are, limit prospects for residents. Unsafe living conditions add stress to their everyday lives. Poorly managed schools with less qualified teachers restrict what children learn. A lack of community resources such as parks, grocery stores, and medical clinics impact the health and well-being of residents. As Sheryll Cashin explains: "Place – where one lives – powerfully structures opportunity. . . . (F)or those of any color relegated to low-opportunity environs, geography is largely destiny."<sup>111</sup>

All of the factors discussed here – family structures and parenting practices, financial resources, neighborhood characteristics, and the features and practices of social institutions, along with the economic and political context in which they operate – can shape opportunity for children and, consequently, their life outcomes. Left unchecked, the compounding effects of these factors will only drive us further apart. To turn the tide and to begin to grow together will require a long-term, systematic approach focused on policies, practices, and interventions designed to both increase opportunity and make its distribution more equitable.

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## Looking to the Future: Developing a Framework for Action



*The ... vision is of a society where the gap between the haves and have-nots has been narrowed, where there is a sense of shared destiny, a common commitment to opportunity and fairness.... This vision is the only one that is consistent with our heritage and values. In it the well-being of our citizens – and even our economic growth, especially if properly measured – will be much higher than what we can achieve if our society remains deeply divided.*

*Joseph Stiglitz, "The Price of Inequality"<sup>112</sup>*

The landscape of opportunity in America today is not simply the result of forces beyond our control. Certainly, globalization and technological innovation will continue to accelerate and both will reshape workplaces and the labor markets attached to them. As a result, both as individuals and as a nation, we will need to continually adapt to rapidly changing economic and social contexts. But the stratified nature of opportunity, with access that varies based on economic status, geographic location, and race and ethnicity, has been strongly impacted by a range of choices made over time by policy makers at all levels of government, as well as by corporations and individuals. To take just one example, residential segregation by race and class – which leads to differential housing, neighborhood resources, and school quality – has been driven by weak enforcement of antidiscrimination policies as well as exclusionary zoning practices that allow affluent areas to prevent any incursion of affordable-housing units into their neighborhoods.<sup>113</sup>

The fact that access to opportunity has, in some part, been driven by such policies can be viewed as good news; if we have chosen our way into this predicament, we can choose to work our way out. At the same time, the combination of forces that are driving the disparities in opportunity and divergence in outcomes are very powerful and, to this point, only weakly opposed. To develop sufficiently strong countervailing forces represents a major challenge. It will require a coherent and sustained effort on the part of all – individuals, community organizations and associations, nongovernmental organizations, religious institutions, business, and government at all levels – with each playing the role for which it is most suited. Further, in order to be successful, this effort must focus on a set of clearly defined goals, follow a flexible, strategic plan for how to

achieve those goals, and generate a set of feasible indicators that can meaningfully track progress. In this larger context, the *Opportunity in America* project has a specific, but ambitious, goal.

## The Goal

Evidence clearly shows that increasing disparities in opportunity and the resulting gaps in human and social capital have significant impacts on both adult outcomes and the transmission of opportunity from one generation to the next. The long-term goal of this project is to help catalyze a national conversation on the necessity of taking actions that would substantially reduce those differences in opportunity. We want to see many more children, irrespective of the circumstances in which they are born and grow, develop critical skills and enrich their social capital, enabling them to reach their full potential as workers, parents, community members, and citizens. Ideally, this would require us to address not only the disparities in opportunity for future generations of children, but also the widening gaps in educational, social, and economic outcomes of the current generation of students and adults.

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*Evidence clearly shows that increasing disparities in opportunity and the resulting gaps in human and social capital have significant impacts on both adult outcomes and the transmission of opportunity from one generation to the next.*

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## Strategic Planning

We most certainly do not have to start from scratch to work toward this goal. All across the country, people are taking action. Some efforts are national in scope, some are regional, and many are local. They involve various combinations of individual and group efforts as well as government departments and agencies at different levels.

A first and crucial step, then, is to learn about existing, independent efforts to counter disparities in opportunity. This involves studying these efforts in order to devise strategies that would broaden their reach and improve their effectiveness, identifying areas that are not being well addressed and, most importantly, determining how such efforts – both existing and new – can be woven together into more comprehensive approaches for clearing the pathways to opportunity. Given the challenges inherent in counteracting disparities in opportunity that have evolved over the last four decades, we propose a framework for action organized around five key principles.

**» Principle 1: Interventions must be implemented systematically across the life span**

All too often, interventions are applied at single transition points in an individual's life. Examples include preschool programs to foster cognitive development or career readiness curricula for high school seniors. These efforts may be quite effective according to certain indicators but, too often, their long-term impact is attenuated. The reason is simple: Human and social capital are not built at a single point in time but, rather, are accumulated over many years as the result of a range of experiences and interactions across multiple contexts.

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In terms of interventions focused on improving school achievement, key transition points that may be particularly challenging can be the target of specific attention. Such points include:

- kindergarten entry,
- the midpoint of elementary school (around fourth grade) when instruction shifts from developing reading skills to using reading skills to gain information,
- the transition to middle school and then high school, where youngsters interact with multiple teachers, their decisions about what classes to take have important consequences, and their peer groups take on increasing importance in their lives, and
- moving beyond high school, as young adults must make decisions about higher education, pursuing job possibilities, and becoming active members in their communities.

Meaningful access to opportunity, therefore, must involve a systematic effort that spans the developmental trajectory from birth to early adulthood – creating a positive cycle that supports the accumulation of human and social capital.

**» Principle 2: Interventions must be systemic, drawing on all relevant stakeholders and institutions**

In addition to, and because of, the need for a systematic effort to open successive gates

to opportunity, it is essential to adopt a systemic approach that encourages, facilitates, and takes advantage of all relevant resources, funders, and providers. Effective solution strategies and implementations cannot simply depend on the efforts of, and utilize resources within, a single organization or system. For example, it is not enough to focus efforts solely on schools, health care providers, or the criminal justice system. Doing so fails to recognize the complexity of the deeply intertwined pathways that lead to the accumulation of human and social capital. Instead, a constellation of stakeholders and institutions must assume responsibility for – and actively work together – to open pathways to opportunity. The enormity of the challenges our nation faces demands an "all hands on deck" philosophy and commitment.

» ***Principle 3: Efforts must be sustainable***

In order for a systematic and systemic approach to substantially reduce disparities in opportunity, it is essential to have a level of commitment sufficient to sustain the associated policies and interventions over a long period of time. The differential transmission of advantage and disadvantage evident in America today evolved over the past several decades. Accordingly, it will take a comprehensive, sustained effort over at least a generation or two to substantially reduce disparities in opportunity – an effort grounded in a broadly based, shared commitment to a more equal America.

Given the prevalence of partisan politics and the impact of changing priorities across political cycles, sustaining such a movement requires mobilization of a broad public constituency in order to assure long-term program viability, funding, and political commitment. As Jennifer O'Day and Marshall Smith explain, this requires both a "grass tops" and "grass roots" approach.<sup>114</sup> The former focuses on establishing a coalition among movement leaders with an aim to "build an infrastructure for identifying shared interests and maintaining a focus on addressing inequities across changes in . . . political environments." Equally important are grass-roots organizing efforts to establish a shared community vision, gather data, and collect information about problems from local groups that represent community interests and perspectives. Grass-roots coalitions help maintain a focus on key goals across changes in leadership or conditions.

» ***Principle 4: A strategy of continuous improvement must guide initiatives***

In a long-term effort, no single, fixed initiative can carry the burden of change. Rather, in view of the complexity of the challenge and a constantly shifting environment, a strategy of continuous improvement must be implemented. This approach, in which incremental modifications are made over time, involves establishing networks to support collaboration and providing a forum so that providers, system participants, researchers,



and funders can learn from each other, as well as from the mistakes and failures that most certainly will occur.<sup>115</sup> Those modifications should be informed both by evidence from a particular site and by evidence from other, similar sites.<sup>116</sup>

» ***Principle 5: Efforts must be adaptable to local contexts***

There most certainly is no "one size fits all" approach to closing the gaps in human and social capital that we see today. Adaptive flexibility will be an essential characteristic of any intervention effort. The specific problems to be tackled, the range of resources available, and the constraints in a particular context will vary across communities and regions. As Adam Gamoran urged, we need to move beyond "what works to what works for whom and under what circumstances."<sup>117</sup> The economic and workforce challenges presented by emerging technologies and globalization vary by industry and may require different approaches in one region or locality than in another. Social challenges also vary by location and across racial and ethnic groups. Effective initiatives must involve the negotiation and integration of the perspectives of stakeholders with different backgrounds, experiences, and expertise, with a focus on bringing them to the point of coherent, collective action.

## **Monitoring Progress**

A long-term action agenda employing a continuous improvement strategy requires the establishment of a set of milestones representing intermediate goals and the construction of a set of indicators that can be used to monitor progress toward those goals. As Richard Reeves explains, "Indicators are necessary to guide policy, drive data collection strategies, and measure progress."<sup>118</sup> Ideally, the indicators will incorporate both quantitative and qualitative evidence. The milestones and the indicators should be based on research and findings from practice regarding relevant aspects of opportunity, as well as the various dimensions of human and social capital. Some indicators will be tuned to the specifics of local and regional strategies, and others may be more national in scope. Indeed, it may be useful to construct one or more composite indicators modeled on the Consumer Price Index, which facilitates tracking changes in prices over time by defining a standardized market basket of consumer goods and services.

## Conclusion



*The era of procrastination, of half measures, of soothing and baffling expedients, of delays, is coming to its close. In its place we are entering a period of consequences. . . We cannot avoid this period; we are in it now.*

*Winston Churchill, House of Commons, November 12, 1936*<sup>119</sup>

In 2007, ETS published a report titled *America's Perfect Storm*. That report focused on the confluence of three powerful forces and their projected impact on our country over the next several decades. Those forces comprised significant gaps in the distribution of skills, economic restructuring driven by both technological innovation and globalization, and sweeping demographic changes. As the authors concluded, "If we maintain our present policies, it is very likely that we will continue to grow apart, with greater inequality in wages and wealth, and increasing social and political polarization."<sup>120</sup>

Some eight years later, we continue to see the effects of this storm all around us, and the clouds gathering on the horizon are ever more menacing. The economic restructuring referenced in that earlier report has accelerated and has affected millions more Americans – those who are working and those who are not. The gaps between those with the human and social capital to thrive and those without continue to widen and are associated with differences in a range of life outcomes, including marriage patterns, the characteristics of the neighborhoods in which they live, the availability of good schools and supportive social services in their communities, their trust in others, and prospects for their children. The transmission of opportunity – whether pathways are open or closed for the next generation – is most concerning of all. We do not see ourselves as a country where the circumstances of birth should be strongly predictive of an individual's opportunity to accumulate human and social capital. But evidence is growing that this is increasingly becoming the new American reality.

The cumulative effects of the profound economic and social changes over the past few decades have shaken American optimism and faith in the American Dream. In the midst of what can be termed the *Age of Anxiety*, many feel powerless, resigned, and troubled, worried about not only their futures but those of their children and grandchildren. During such times, it is natural to want to fall back on what worked in the past, back to the times of promise for many (although not all) after World War II. But that past is a poor

roadmap for the future, as has been true at other points in our history. Abraham Lincoln characterized the challenges faced by the country over 150 years ago, saying, "The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise with the occasion. As our case is new, so we must think anew and act anew."<sup>121</sup>

Given the rapid pace and scope of technological change, the impact of increased globalization, and the social and economic challenges that confront our nation today, we too need to think anew and look forward. As Erik Brynjolfsson and Andrew McAfee note in *The Second Machine Age*, the real questions we must address go beyond economic growth: "Will we choose to have information widely disseminated or tightly controlled? Will our prosperity be broadly shared? What will be the nature and magnitude of rewards we give to our innovators? Will we build vibrant relationships and communities? Will everyone have the opportunities to discover, create and enjoy the best of life?"<sup>122</sup> Although we are fortunate to live in a country where we have the freedom of choice, we are not free from choice. And the choices we face are profound. America's future will depend not only on the choices we make, but also the urgency and persistence with which we work together to take the actions consistent with those choices.

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# Appendix

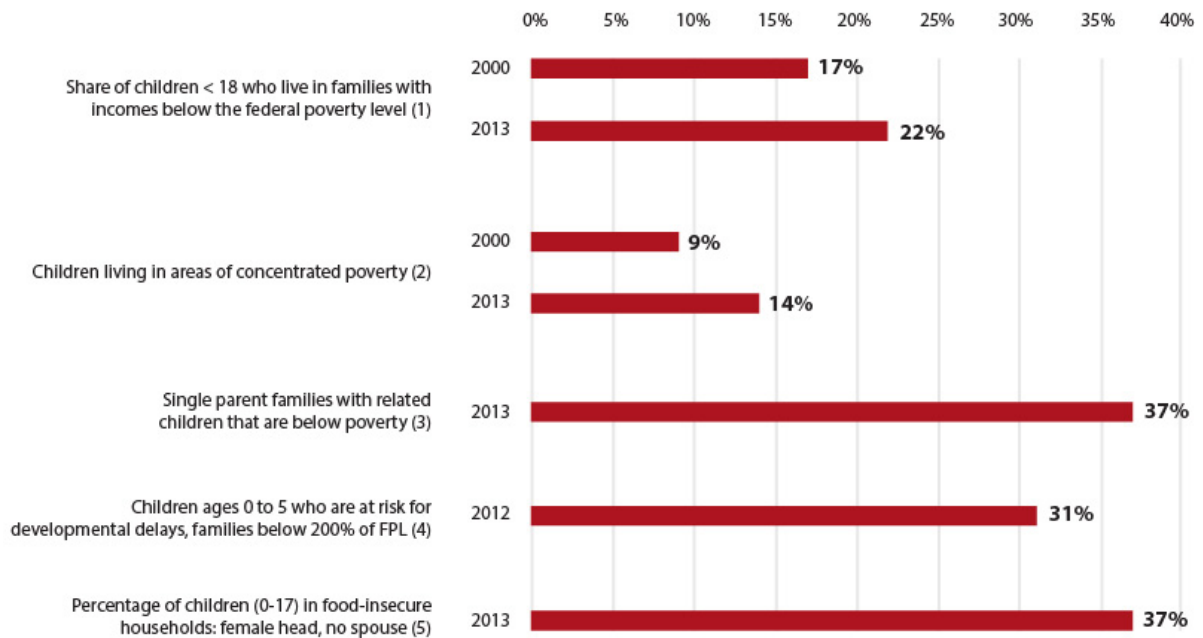
The figures in this appendix present additional data that support and extend key points made in the narrative. For each figure, a section number and relevant portion of the text is provided to connect the presented data with the narrative.

## Figure A-1

### Preface

Different starting points place children on distinctly different trajectories of growth, leading to the accelerated accumulation of advantage or disadvantage and, ultimately, to vastly different adult outcomes. This polarization of life outcomes is not confined to any particular racial group or region of the country; it is truly national in scope.

### *America's Children*



Note that statistics are based on the federal poverty definition and do not include supplemental measures such as the Earned Income Tax Credit.

(1) Kids Count Data Center. The federal poverty definition consists of a series of thresholds based on family size and composition. Poverty status is not determined for people in military barracks, institutional quarters, or for unrelated individuals under age 15 (such as foster children). The data are based on income received in the 12 months prior to the survey. Data Source: Population Reference Bureau, analysis of data from the U.S. Census Bureau, Census 2000 Supplementary Survey, 2001 Supplementary Survey, 2002 through 2013. These data were derived from American FactFinder table B17001 ([factfinder2.census.gov/](http://factfinder2.census.gov/)), American Community Survey. Note: 2013 federal poverty measure: four-person family/household, \$23,550; three-person family/household, \$19,530; two-person family/household, \$15,510.

(2) Kids Count Data Center. Definitions: Children living in census tracts with poverty rates of 30 percent or more. Data Source: Population Reference Bureau analysis of data from the U.S. Census Bureau, 2000 Decennial Census Summary File 1 and Summary File 3 and the 2009–2013 American Community Survey 5-year data.

(3) Kids Count Data Center. Definitions: Families with related children under age 18 that have incomes below the federal poverty level. Data Source: Population Reference Bureau, analysis of data from the U.S. Census Bureau, Census 2000 Supplementary Survey, 2001 Supplementary Survey, 2002 through 2013. These were derived from American FactFinder table B17010 ([factfinder2.census.gov/](http://factfinder2.census.gov/)), American Community Survey.

(4) Kids Count Data Center. Definitions: Children ages 0 to 5 whose parents report they are at risk for developmental delay, by income level. Parents of children ages 4 months and older were asked about specific concerns about their child. If parents answered that they had "a lot" or "a little" concern regarding any developmental areas that are considered predictive of delay at a given age, then the child was classified as being at risk for delay. Predictive concerns items are based on a commonly used screener Parent's Evaluation of Developmental Status (PEDS). Data Source: Child Trends analysis of data from the U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau, National Survey of Children's Health.

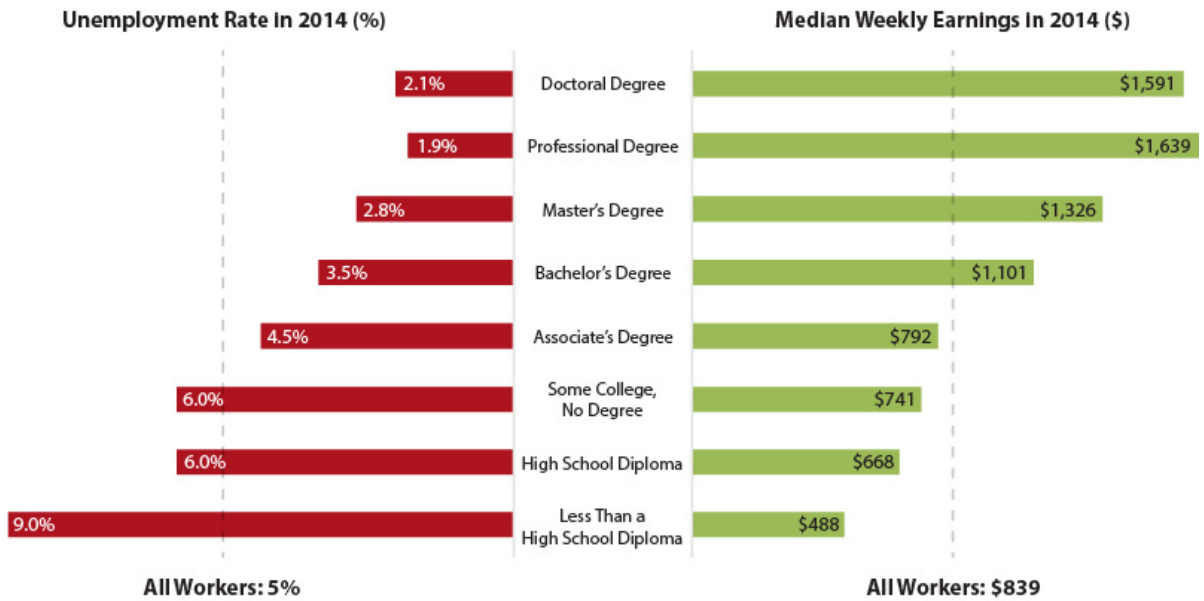
(5) Source: Child Trends DataBank. Includes births to mothers in the 5 years before the interview. Note: Either adults or children or both were food insecure. At times they were unable to acquire adequate food for active, healthy living for all household members because they had insufficient money and other resources for food.

## Figure A-2

### Section 2: The Increasing Importance of Skills

There is a clear – and growing – advantage to those with college and graduate degrees.

#### *Earnings and Unemployment Rates by Educational Attainment*



Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers. Source: Current Population Survey, U.S. Bureau of Labor Statistics, U.S. Department of Labor.

## Figure A-3

### Section 2.1: Skills in the Workplace

The demands of a technologically infused economy, the rapid pace of change, and global competition have interacted to alter the workplace and increase the demand for more broadly skilled employees. Analytical, technical, and problem-solving abilities, along with communication, collaboration, and teamwork skills are increasingly valued. Employers also seek workers who can keep pace with rapidly changing technologies.

David Autor, Frank Levy, and Richard Murnane (2003) developed a methodology to measure and analyze changes in the skills demands of jobs. They describe several broad categories of tasks:

Routine tasks include limited and well-defined cognitive and manual activities that can be accomplished by following explicit rules. (Because of these characteristics, such tasks are being increasingly performed by machines or outsourced to low-wage workers in other countries.)

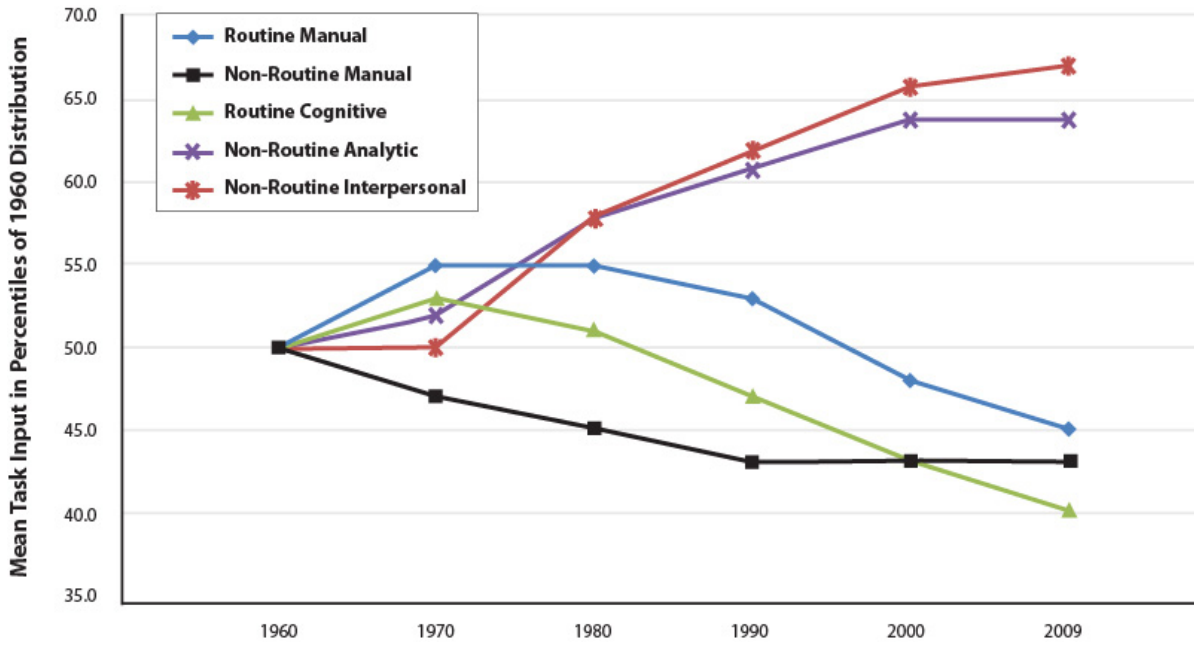
- *Routine manual tasks* include repetitive production and monitoring jobs performed on an assembly line.
- *Routine cognitive tasks* include tasks such as bookkeeping and data entry.

Non-routine tasks require problem solving and complex communication activities.

- *Non-routine analytic tasks* typically require high levels of education and analytic capability and are complemented by technology; examples include tasks associated with engineering and science.
- *Non-routine interpersonal tasks* include professional work associated with managerial responsibilities.
- *Non-routine manual tasks* are straightforward for humans but, because they demand situational adaptability, visual and language recognition, and in-person interaction, are not easily replaced by technology. Examples include preparing a meal or cleaning a hotel room.



**Trends in Routine and Non-Routine Tasks in Occupations, United States, 1960 to 2009**



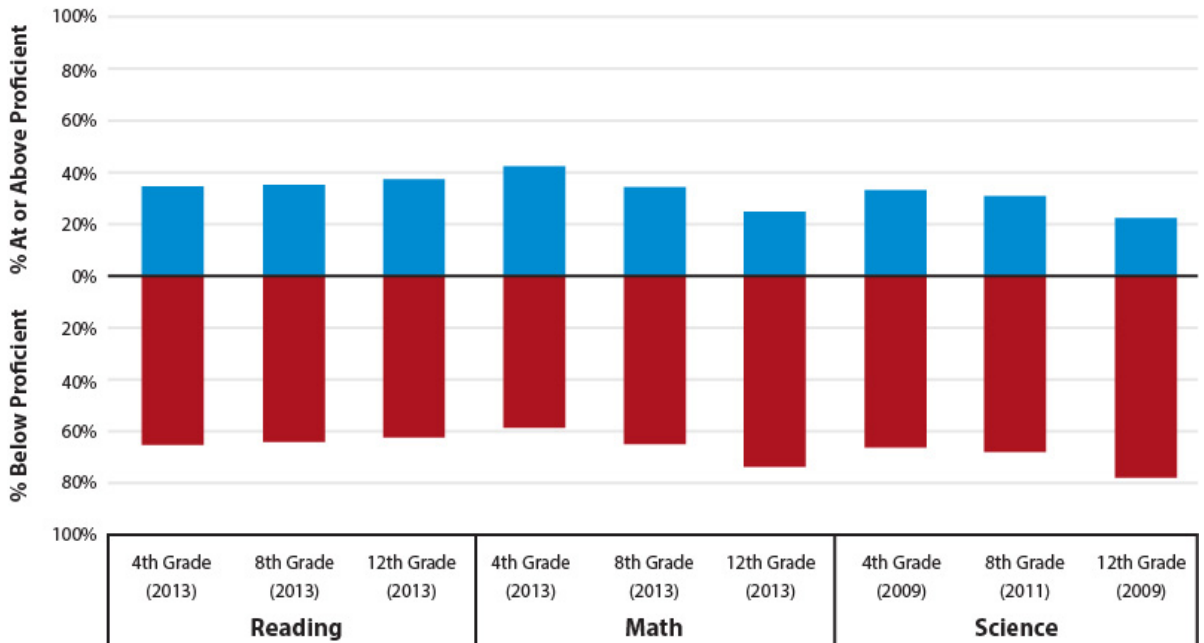
Source: David H. Autor and Brendan Price, 2013, "The Changing Task Composition of the US Labor Market: An Update of Autor, Levy, and Murnane (2003)," MIT Mimeograph, June 2013, <http://economics.mit.edu/files/9758>.

## Figure A-4a

### Section 2.3: America's Skills Gap

Data from a number of large-scale national and international assessments provide direct evidence regarding the actual skill levels of our student and adult populations.

#### *NAEP Reading, Math, and Science at 4th, 8th, and 12th Grades*

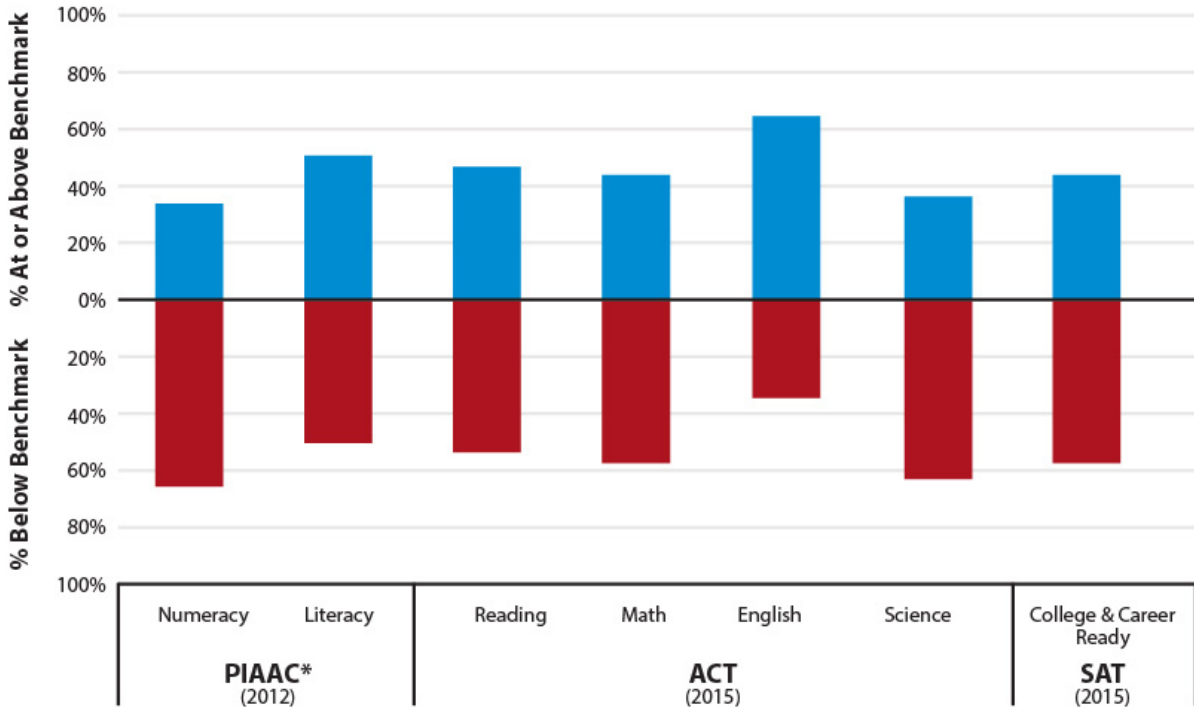


Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, Reading, Mathematics, and Science. See: <http://nces.ed.gov/nationsreportcard/naepdata/dataset.aspx>.

## Figure A-4b

### Section 2.3: America's Skills Gap

#### Percent Meeting Benchmarks - PIAAC, ACT, SAT



\* Percentage above benchmark = Level 3 and above. Percentage below benchmark = Below Level 3. Population 16 to 34 years old.

Source: SAT data from "Annual Results Reveal Largest and Most Diverse Group of Students Take PSAT/NMSQT®, SAT®, and AP®; Need to Improve Readiness Remains," College Board, see <https://www.collegeboard.org/releases/2015/annual-results-reveal-largest-most-diverse-group-students-take-psat-sat-ap>; ACT data from: "The Conditions of College & Career Readiness 2015," ACT, see: <https://www.act.org/research/policymakers/cccr15/index.html>; PIAAC data from: Madeline Goodman, Anita Sands, and Richard A. Coley, *America's Skills Challenge: Millennials and the Future* (Princeton, NJ: Educational Testing Service, 2015), using data from the Organisation for Economic Co-operation and Development (OECD), Programme for the International Assessment of Adult Competencies (PIAAC), 2012.

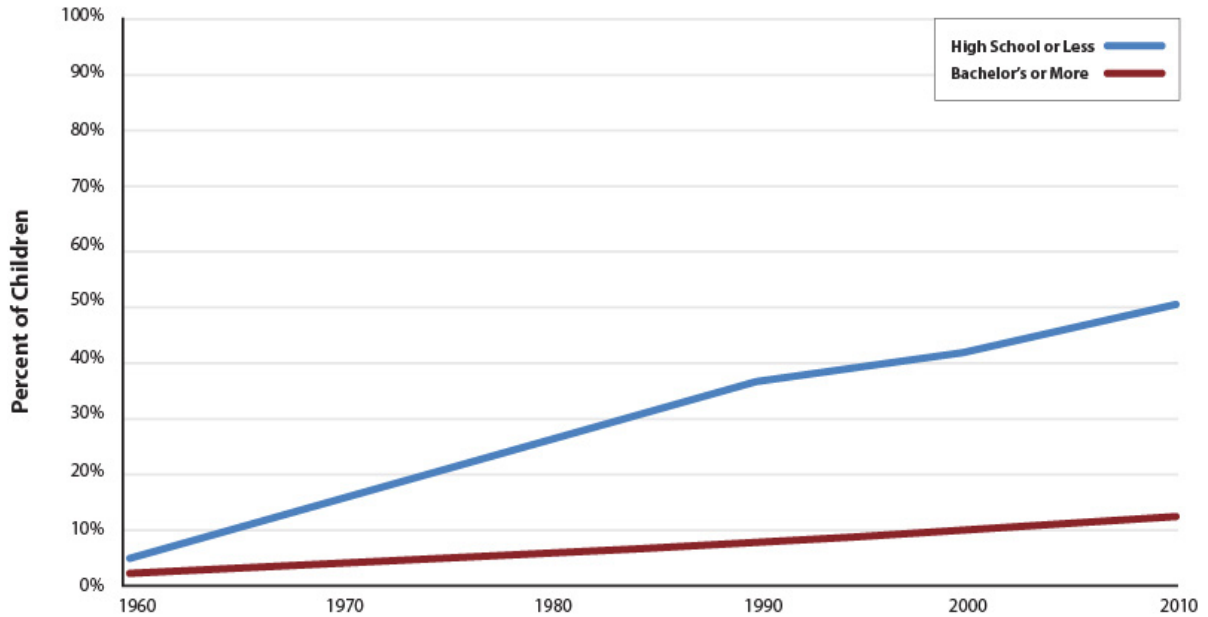
## Figure A-5

### Section 3.2: The Growing Divide

While family structure has become increasingly varied across social and economic lines over the past two generations, differences by education and skills can be found here as well.

#### *Increasing Gap in Single-Parent Families by Parents' Education*

*Percent of Children Living in a Single-Parent Family, United States*



Details: Percent of children in single-parent families by parents' highest level of education.

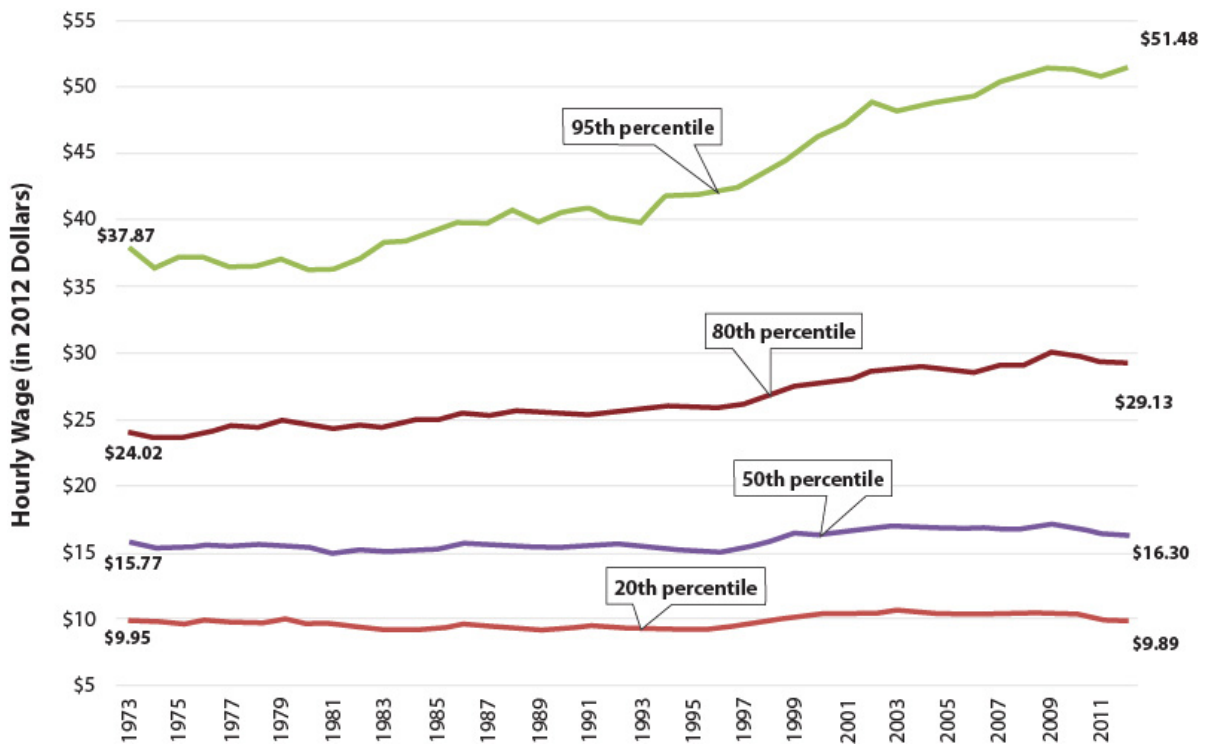
Source: Carsey School of Public Policy, University of New Hampshire. See: <https://carsey.unh.edu/policy/gaps-in-youth-opportunity-by-state/about>. Accessed July 10, 2015. Adapted from IPUMS-USA, University of Minnesota, [www.ipums.org](http://www.ipums.org). Data: 1960-2000 U.S. Decennial Census; 2008-2012 ACS Five-Year Estimates (2010).

## Figure A-6a

### Section 3.3: Compounding Advantage

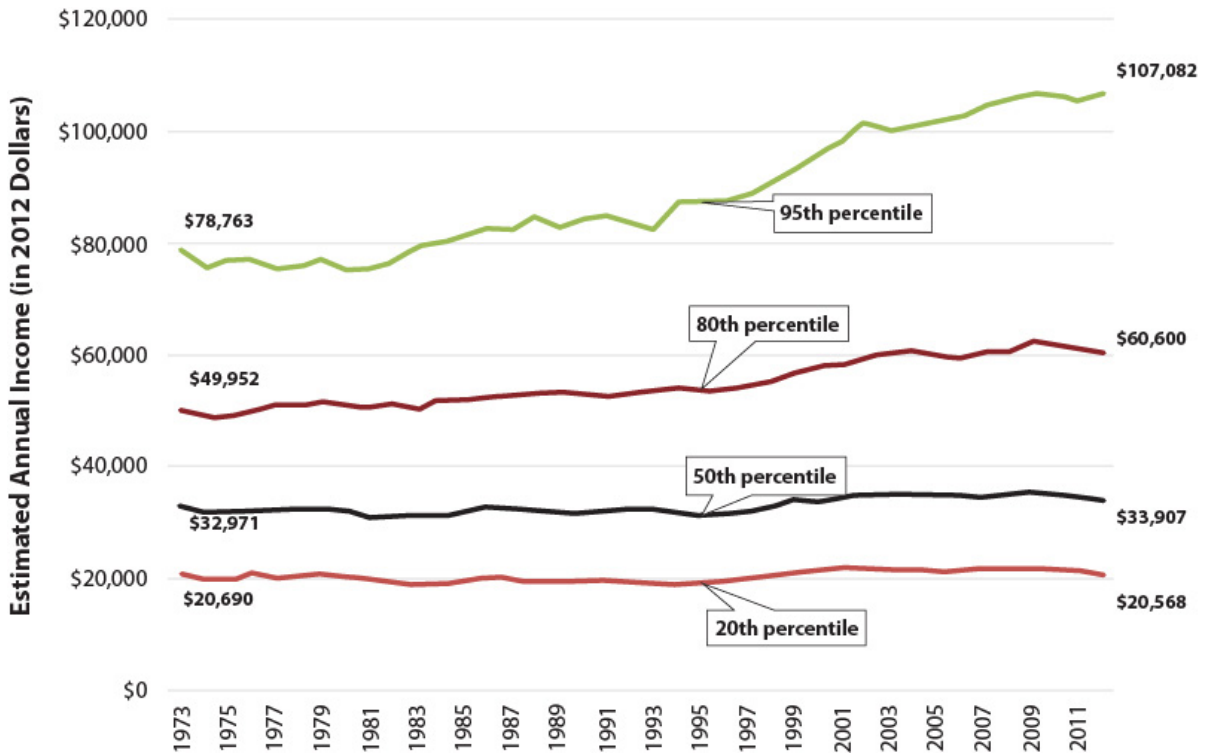
Persistent gaps in human and social capital both reflect, and contribute to, the polarization of life outcomes and outlooks. Gaps are associated with a range of differences, including economic outcomes such as wages and benefits.

#### *Real Hourly Wages by Select Percentiles, 1973 - 2012, All Workers (2012 dollars)*



Source: Economic Policy Institute's *The State of Working America*, 12th Edition. Data from Current Population Survey Outgoing Rotation Group microdata. Note: The xth-percentile wage is the wage at which x% of the wage earners earn less and (100-x)% earn more.

**Figure A-6b**



Source: Base data from Economic Policy Institute's *The State of Working America*, 12th Edition. Real hourly wages by select percentiles, 1973-2012 (2012 dollars). Annual wage estimates are authors' calculations. Data from Current Population Survey Outgoing Rotation Group microdata.

## Table A-1

### Section 4: The Transmission of Opportunity: Gates and Gaps

More typically, however, multiple factors play the role of gates at different stages of development. Each of those factors amplifies the effects of the others and, in combination over time, lead to ever-greater gaps.

#### *Percent of 24- to 28-Year-Olds with a Bachelor's Degree or Higher in 2008 by Skills\* and Family Income\*\**

Family Income	(A) Bottom Quintile	(B) Second Quintile	(C) Middle Quintile	(D) Fourth Quintile	(E) Top Quintile	(F) ALL
Poor	1.2	6.5	7.3	22.3	51.1	7.1
1-2x Poor	1.5	9.0	10.8	21.7	50.3	14.1
2-3x Poor	2.2	8.9	20.0	37.0	48.2	22.7
3-4x Poor	4.5	9.5	26.8	42.0	64.5	34.7
4x Poor	6.3	21.1	38.1	51.9	72.5	48.1
All	2.7	11.2	23.8	38.6	63.8	27.1

\*Skills are reported by quintiles based on scores on the Armed Services Vocational Aptitude Battery (ASVAB)

\*\*Family income is reported based on income status in 1997

Source: Andrew Sum, October 2013, presentation to *Opportunity in America* panel.

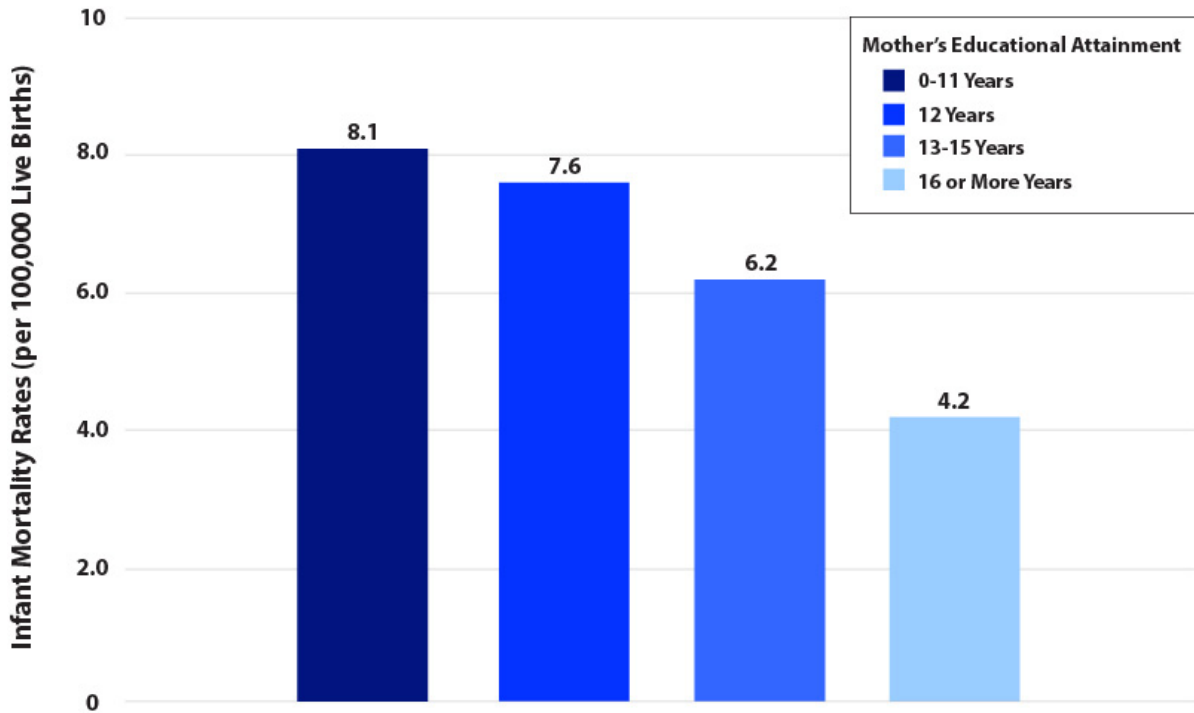


## Figure A-7

### Section 4.1: The Earliest Gates

The potential for children to thrive begins even before birth, impacted by the health of their mothers, the availability of prenatal care, and the family structure into which they will be born.

#### *Infant Mortality Rates By Mother's Education*

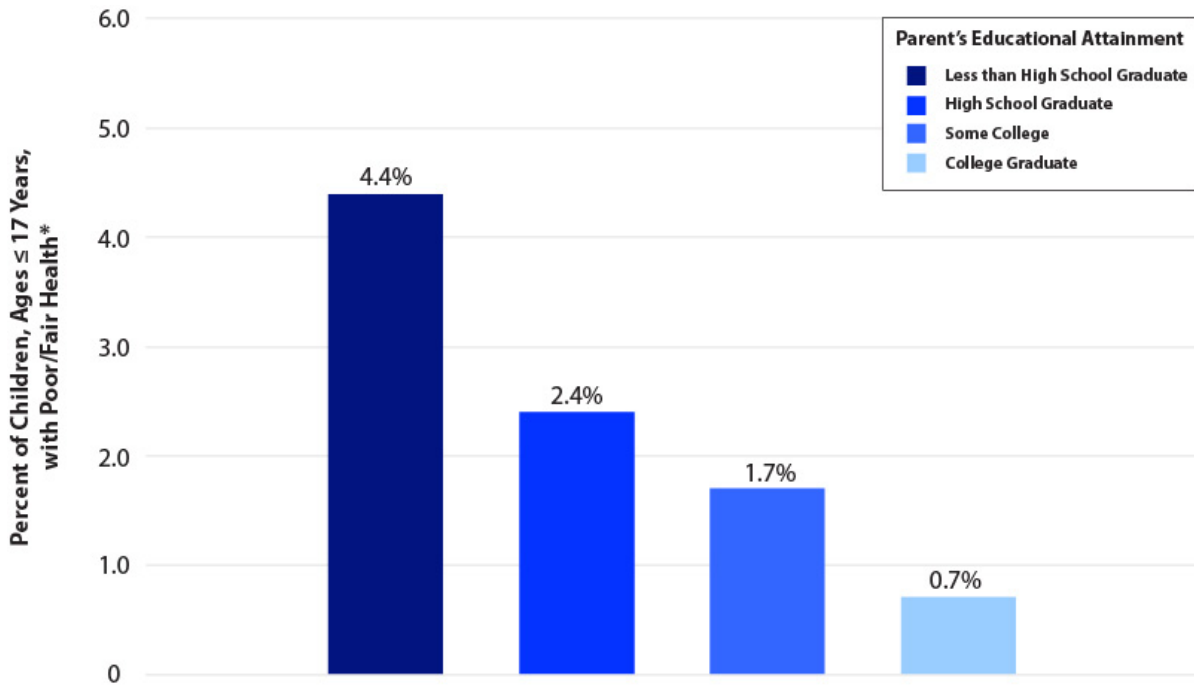


Source: Commission to Build a Healthier America, *Education Matters for Health*, Issue Brief 6 (Princeton, NJ: Robert Wood Johnson Foundation, 2009), <http://www.commissiononhealth.org/PDF/c270deb3-ba42-4fbd-baeb-2cd65956f00e/Issue%20Brief%206%20Sept%2009%20-%20Education%20and%20Health.pdf>. Adapted from Matthews T.J., MacDorman, M.F. Infant Mortality Statistics from the 2004 Period Linked Birth/Infant Death Dataset. National Vital Statistics Reports, Vol. 55, No 15. Hyattsville, MD: National Center for Health Statistics, 2007.

## Figure A-8

### Section 4.1: The Earliest Gates

#### *Parents' Education Is Linked to Children's Health<sup>†</sup>*



<sup>†</sup> Based on parental assessment and measured as poor, fair, good, very good, or excellent

\* Age-adjusted

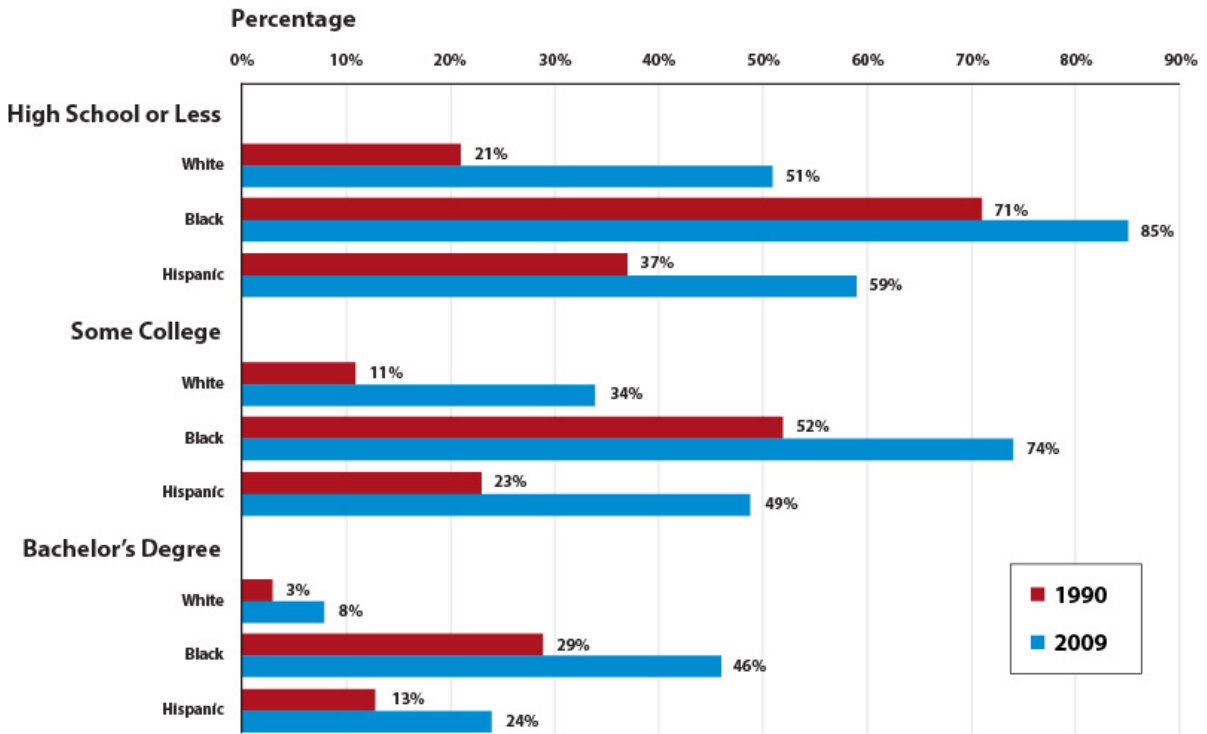
Source: Commission to Build A Healthier America, *Education Matters for Health*, Issue Brief 6 (Princeton, NJ: Robert Wood Johnson Foundation, 2009), <http://www.commissiononhealth.org/PDF/c270deb3-ba42-4fbd-baeb-2cd65956f00e/Issue%20Brief%206%20Sept%2009%20-%20Education%20and%20Health.pdf>. Adapted from National Health Interview Survey, 2001-2005.

## Figure A-9

### Section 4.1: The Earliest Gates

The percentage of children born to unmarried mothers has increased dramatically.

*Percent Non-Marital Births (to Women Ages 20 to 29 Years), by Race/Ethnicity and Level of Education, 1990 and 2009*

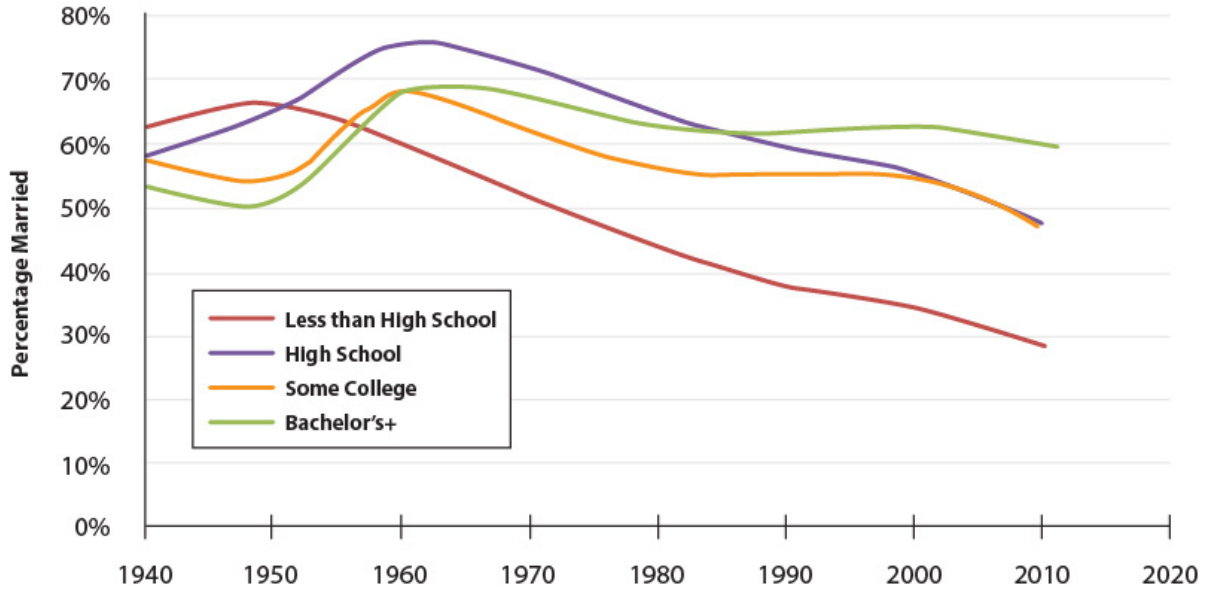


Source: Child Trends, "Non-Marital Births: Educational Differences, Table 5. Percent Non-Marital Births (to Women Ages 20 to 29), by Race/Ethnicity and Level of Education." See <http://www.childtrends.org/non-marital-births-educational-differences/>.

## Figure A-10

### Section 4.1: The Earliest Gates

#### Percentage of Women Married Among Educational Attainment Groups, 1940-2011



Source: Julissa Cruz, *Marriage: More than a Century of Change*, Family Profiles-13-13 (Bowling Green, Ohio: National Center for Family and Marriage Research), retrieved from <https://www.bgsu.edu/content/dam/BGSU/college-of-arts-and-sciences/NCFMR/documents/FP/FP-13-13.pdf>. Adapted from U.S. Census Bureau, Decennial Census, 1940-2000 (IPUMS); U.S. Census Bureau.

## Figure A-11

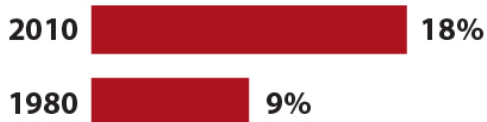
### Section 4.3: The Role of Neighborhoods in the Transmission of Opportunity Segregation by socioeconomic status has been on the rise.

#### *Increasing Residential Segregation by Income, 1980 and 2010*

##### **More Lower-Income Households Live in Majority Low-Income Tracts...**



##### **...and More Upper-Income Households Live in Majority Upper-Income Census Tracts**



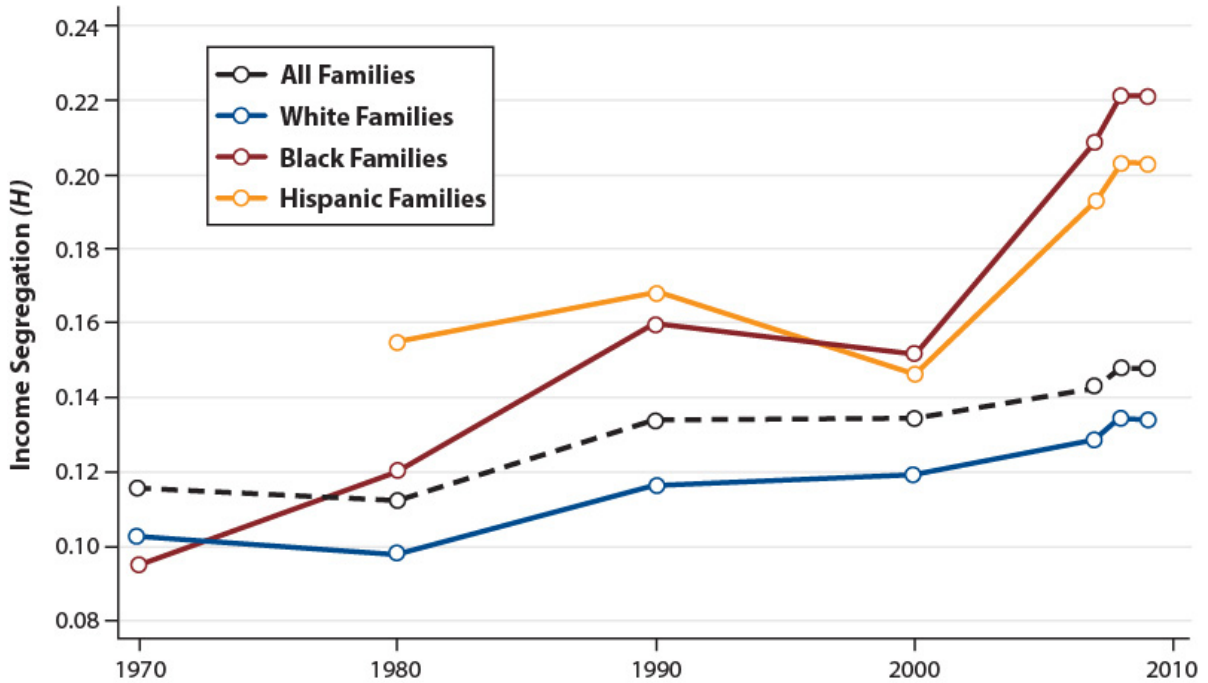
Note: Based on census tracts in the nation's 942 metropolitan and micropolitan statistical areas. The upper bars report the share of lower-income households that reside in a census tract in which at least half of the households were lower income. The lower bars show the share of upper-income households that reside in majority upper-income census tracts.

Source: Paul Taylor and Richard Fry, "The Rise of Residential Segregation by Income Social & Demographic Trends." Pew Research Center, 2012. Graph title: Share of Lower-Income and Upper-Income Households Who Live Mainly among Themselves, 1980-2010.

## Figure A-12

### Section 4.3: The Role of Neighborhoods in the Transmission of Opportunity

#### *Trends in Segregation by Income, by Race Metropolitan Areas with Population > 500,000*



Note: Averages include all metropolitan areas with at least 500,000 residents in 2007 and at least 10,000 families of a given race in each year 1970-2009 (or each year 1980-2009 for Hispanics). This includes 116 metropolitan areas for the trends in total and White income segregation, 65 metropolitan areas for the trends in income segregation among Black families, and 37 metropolitan areas for the trends in income segregation among Hispanic families. The averages presented here are unweighted. The trends are very similar if metropolitan areas are weighted by the population of the group of interest.

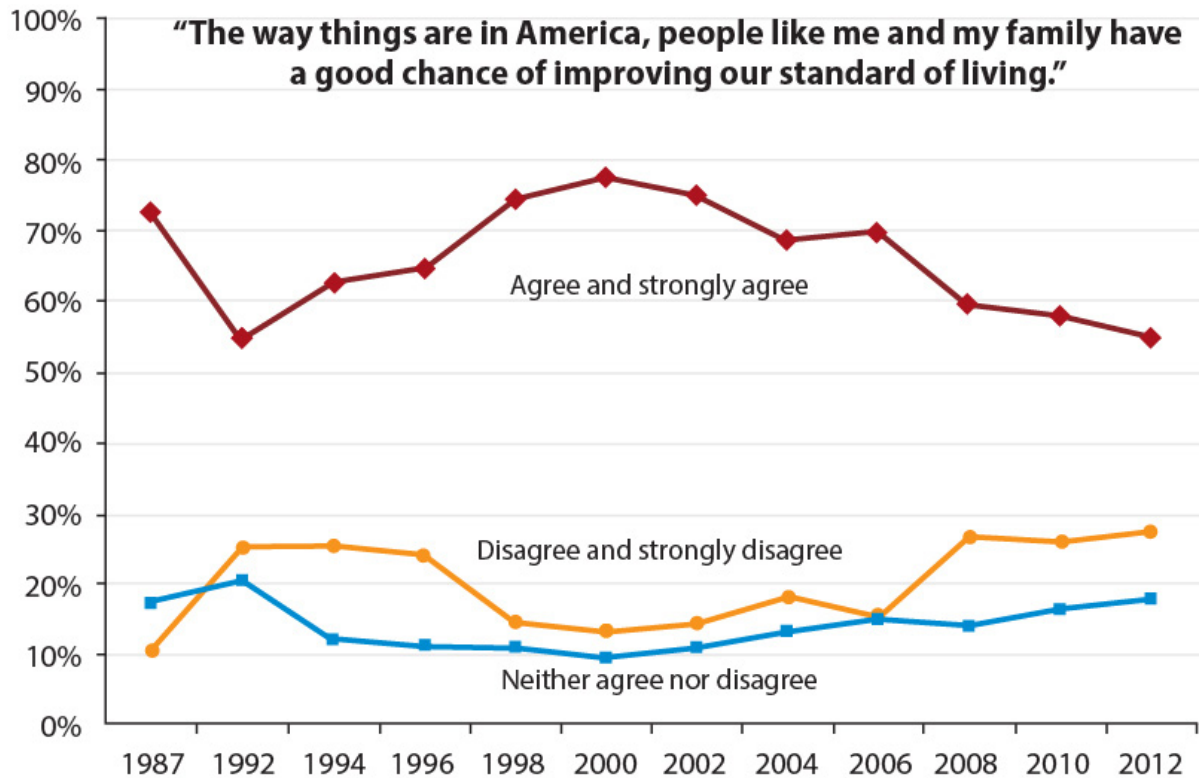
Source: Kendra Bischoff and Sean F. Reardon, *Residential Segregation by Income, 1970-2009* (New York: Russell Sage Foundation, 2013). Original title: *Trends in Family Income Segregation, by Race, Metropolitan Areas With Population > 500,000*.

## Figure A-13

### Section 6: Conclusion

The cumulative effects of the profound economic and social changes over the past few decades have shaken American optimism and faith in the American Dream. In the midst of what can be termed the *Age of Anxiety*, many feel powerless, resigned and troubled, worried about not only their futures but those of their children and grandchildren.

### Changes in Perceptions of Economic Opportunity, 1987-2012



Source: Leslie McCall, "Political and Policy Responses to Problems of Inequality and Opportunity: Past, Present, and Future." In *The Dynamics of Opportunity in America: Evidence and Perspective*, eds., Irwin Kirsch and Henry Braun (New York: Springer, 2016). Author's analysis of the General Social Survey.



## ***Opportunity in America, Advisory Panel***

The *Opportunity in America* project was overseen by an advisory panel whose members contributed expertise in a wide variety of areas including education, economics, labor, and demography. Members of the panel are as follows:

### **Project Director**

**Irwin Kirsch** is Tyler Chair in Large Scale Assessment and Director of the Center for Global Assessment at Educational Testing Service (ETS).

### **Project Co-Director**

**Henry Braun** is Boisi Professor of Education and Public Policy in the Lynch School of Education and Director of the Center for the Study of Testing, Evaluation and Education Policy at Boston College.

### **Panel Members**

**Bo Cutter** is a Senior Fellow and Director of the Next American Economy Project at the Roosevelt Institute.

**Ron Ferguson** has taught at Harvard's Kennedy School of Government for over 30 years. He is creator of the Tripod Project for School Improvement, faculty co-chair and director of the Achievement Gap Initiative at Harvard University, and was formerly the faculty co-director of the Pathways to Prosperity Project at the Harvard Graduate School of Education.

**Chrystia Freeland** is the Canadian Minister of International Trade and Member of Parliament for University-Rosedale in Toronto, author of *Plutocrats: The Rise of the New Global Super-rich and the Fall of Everyone Else*, and a journalist.

**Mark Gerzon** is President of Mediators Foundation, which works to increase citizen engagement and civility in politics. He is the author of several books, including the forthcoming *The Reunited States of America: How We Can Bridge the Partisan Divide*.

**Peter Gould** is Executive Vice President of District 1199C, National Union of Hospital and Health Care Employees, National Union of Hospital and Health Care Employees (NUHHCE), AFSCME, AFL-CIO and Vice President of NUHHE.

**Wade Henderson** is President and CEO of The Leadership Conference on Civil and Human Rights and the Leadership Conference Education Fund. He is also a member of the ETS Board of Trustees.

**Frederick M. Hess** is Director of Education Policy Studies at the American Enterprise Institute.

**Kurt M. Landgraf** is former President and Chief Executive Officer of Educational Testing Service.

**Reynaldo F. Macías** is professor of Chicana/o Studies, Education and Applied Linguistics, and a former department chair of Chicana/o studies and acting Dean of Social Sciences at UCLA.

**Douglas S. Massey** is the Henry G. Bryant Professor of Sociology and Public Affairs at Princeton University's Woodrow Wilson School of Public and International Affairs.

**Isabel V. Sawhill** is a Senior Fellow in Economic Studies at the Brookings Institution.

**David G. Sciarra** is Executive Director of the Education Law Center in Newark, New Jersey.

**Timothy M. (Tim) Smeeding** is the Arts and Sciences Distinguished Professor of Public Affairs and Economics at the University of Wisconsin-Madison. He was previously director of the Institute for Research on Poverty at Wisconsin-Madison.

**Marshall S. Smith** is a Senior Scholar at the Carnegie Foundation for the Advancement of Teaching, a former Dean and Professor at Stanford, and a former Under Secretary and Acting Deputy Secretary at the U.S. Department of Education in the Clinton administration. He is a fellow of the American Academy of Arts and Sciences and the National Academy of Education.

## ***The Dynamics of Opportunity in America: Evidence and Perspectives***

As part of the *Opportunity in America* project, Irwin Kirsch and Henry Braun have edited an open-source volume titled *The Dynamics of Opportunity in America: Evidence and Perspectives*, providing an essential foundation for informed discussion and strategic analysis on the dynamics governing the distribution and transmission of opportunity. See the Springer website at <http://www.springer.com/us/book/9783319259895> to find out more.

*Panel members Chrystia Freeland, Douglas S. Massey, David G. Sciarra, Timothy M. (Tim) Smeeding, and Marshall S. Smith also served as contributing authors for this volume. The other contributing authors are as follows:*

**Bruce Baker** is Professor at the Graduate School of Education at Rutgers University and maintains blogs on school finance and educational policy.

**Jared Bernstein** is a Senior Fellow at the Center on Budget and Policy Priorities. He previously served as Chief Economist and Economic Adviser to Vice President Joe Biden.

**Danielle Farrie** is Research Director of the Education Law Center in Newark, New Jersey.

**Harry J. Holzer** is Professor at the McCourt School of Public Policy at Georgetown University and is an Institute Fellow at the American Institutes for Research. He previously served as Chief Economist at the U.S. Department of Labor.

**Carl Kaestle** is University Professor of Education, History, and Public Policy emeritus at Brown University.

**Ishwar Khatiwada** is a labor economist at the Center for Labor Markets and Policy at Drexel University.

**Robert I. Lerman** is an Institute Fellow at the Urban Institute, emeritus professor of economics at American University, and a research fellow at IZA in Bonn, Germany. He is also founder of The American Institute for Innovative Apprenticeship.

**Leslie McCall** is a professor in the Department of Sociology and Faculty Fellow at the Institute for Policy Research at Northwestern University.

**Jennifer O'Day** is an Institute Fellow of the American Institutes for Research and is founder and chair of the California Collaborative on District Reform.

**Richard V. Reeves** is a Senior Fellow in Economic Studies, Co-Director of the Center on Children and Families, and Editor-in-Chief of the Social Mobility Memos blog at the Brookings Institution.

**Andrew M. Sum** is Professor Emeritus of Economics at Northeastern University in Boston. He was previously director of the Center for Labor Market Studies.

**Jonathan Tannen** is a doctoral candidate in the Urban and Population clusters of the Woodrow Wilson School and the Office of Population Research at Princeton University.

## Endnotes

<sup>1</sup> *Child Poverty*, National Center for Children in Poverty, accessed September 10, 2015, <http://www.nccp.org/topics/childpoverty.html>.

<sup>2</sup> *Neighborhood Safety: Indicators on Children and Youth*, Child Trends Data Bank, May 2013, <http://www.childtrends.org/?indicators=neighborhood-safety>.

<sup>3</sup> *Food Insecurity*, Child Trends Data Bank, December 2014, <http://www.childtrends.org/?indicators=food-insecurity>; *Homeless Children and Youth: Indicators on Children and Youth*, Child Trends Data Bank, March 2015, <http://www.childtrends.org/?indicators=homeless-children-and-youth>.

<sup>4</sup> See Kate Pickett and Richard Wilkinson, *The Spirit Level* (New York: Bloomsbury Press, 2009), where the authors use internationally comparable data to highlight the effects that inequality has on health and social problems across societies.

<sup>5</sup> Frank Levy and Richard J. Murnane, *The New Division of Labor: How Computers are Creating the Next Job Market* (Princeton, NJ: Princeton University Press, 2004).

<sup>6</sup> Robert Putnam, *Our Kids: The American Dream in Crisis* (New York: Simon & Schuster, 2015); Charles Murray, *Coming Apart: The State of White America, 1960-2010* (New York: Crown Forum, 2013).

<sup>7</sup> The phrase "American Dream" was first coined by the historian James Truslow Adams, who said, in part, that it was "that dream of a land in which life should be better and richer and fuller for everyone, with opportunity for each according to ability or achievement." James Truslow Adams papers, 1918-1949, Columbia University Libraries, [http://www.columbia.edu/cu/lweb/archival/collections/ldpd\\_4078384/](http://www.columbia.edu/cu/lweb/archival/collections/ldpd_4078384/).

<sup>8</sup> *Dictionary.com*, s.v. "opportunity," accessed September 10, 2015, <http://dictionary.reference.com/browse/opportunity?s=t>.

<sup>9</sup> See Leslie McCall, "Political and Policy Responses to Problems of Inequality and Opportunity: Past, Present, and Future," in *The Dynamics of Opportunity in America: Evidence and Perspectives*, eds. Irwin Kirsch and Henry Braun (New York: Springer, 2016) for a discussion of the related issues of opportunity and inequality.

<sup>10</sup> Claudia Goldin and Lawrence F. Katz, *The Race between Education and Technology* (Cambridge, MA: Harvard University Press, 2008), 352.

<sup>11</sup> *Electronic Encyclopedia of Chicago*, s.v. "Gary, IN," (Chicago: Chicago Historical Society, 2005), <http://www.encyclopedia.chicagohistory.org/pages/503.html>.

<sup>12</sup> Throughout this narrative, the terms "human capital" and "skills" will be used interchangeably. While the term "skills" is often associated solely with cognitive abilities, it is used in its broadest sense here. So "skills" and "human capital" are defined as the knowledge, competencies, and attributes needed for work and personal life. These include reading, writing, and mathematics skills; general and specific knowledge; analytical, problem solving, and technical skills; the ability to learn independently and continuously upgrade skills; interpersonal skills such as collaboration, communication, and teamwork; and character traits such as motivation, persistence, conscientiousness, reliability, self-discipline, and curiosity, often referred to as noncognitive skills.

<sup>13</sup> David H. Autor, "Skills, Education, and the Rise of Earnings Inequality among the 'Other 99 Percent,'" *Science* 344, no. 6186 (2014): 843-51. Data from Current Population Survey. As we explain in the subsection entitled "America's Skills Gap," although datasets commonly use educational attainment as a proxy for skills, it is important to distinguish between them. The two are clearly related, but data show that some students with educational credentials do not have the skills we might expect from their level of schooling.

<sup>14</sup> David Leonhardt, "Is College Worth It? Clearly, New Data Say," The Upshot, *New York Times*, May 27, 2014, <http://www.nytimes.com/2014/05/27/upshot/is-college-worth-it-clearly-new-data-say.html?abt=0002&abg=1>.

<sup>15</sup> Authors' calculations based on Bureau of Labor Statistics data on earnings and unemployment rates by educational attainment, last modified April 2, 2015, [http://www.bls.gov/emp/ep\\_table\\_001.htm](http://www.bls.gov/emp/ep_table_001.htm).

<sup>16</sup> Harry Holzer, "Job Market Polarization and U.S. Worker Skills: A Tale of Two Middles," Economic Studies at Brookings, Brookings Institution, April 2015, [http://www.brookings.edu/~media/research/files/papers/2015/04/workforce-policy-briefs-holzer/polarization\\_jobs\\_policy\\_holzer.pdf](http://www.brookings.edu/~media/research/files/papers/2015/04/workforce-policy-briefs-holzer/polarization_jobs_policy_holzer.pdf).

<sup>17</sup> While this narrative focuses on opportunity in the United States, another positive outcome is that there has also been a dramatic reduction in global poverty as documented by The World Bank ([http://www.worldbank.org/progress/reducing\\_poverty.html](http://www.worldbank.org/progress/reducing_poverty.html)) and the United Nations (<http://www.un.org/millenniumgoals/poverty.shtml>).

<sup>18</sup> Derek Thompson, "A World without Work," *Atlantic*, July/August, 2015, <http://www.theatlantic.com/magazine/archive/2015/07/world-without-work/395294/>. Since 2000, the number of manufacturing jobs has fallen by almost 5 million, or about 30 percent; *The Low-Wage Recovery: Industry Employment and Wages Four Years into the Recovery*, National Employment Law Project Data Brief, April 2014, <http://www.nelp.org/content/uploads/2015/03/Low-Wage-Recovery-Industry-Employment-Wages-2014-Report.pdf>.

<sup>19</sup> Levy and Murnane, *New Division of Labor*, 157.

<sup>20</sup> Up Front, "Profiles of Change: Employment, Earnings, and Occupations from 1990-2013," blog entry by Melissa S. Kearney, Brad Hershbein, and Elisa Jácome, Brookings Institution, April 21, 2015, <http://www.brookings.edu/blogs/up-front/posts/2015/04/21-employment-earnings-occupations-profiles-from-1990-to-2013-kearney-hershbein>.

<sup>21</sup> In These Times, "How Flexible Scheduling Is Making American Workers' Lives Miserable," blog entry by Robert Reich, April 24, 2015, [http://inthesetimes.com/working/entry/17877/flexible\\_scheduling\\_workers](http://inthesetimes.com/working/entry/17877/flexible_scheduling_workers). Note that some companies, such as Starbucks, have made efforts to establish more regular scheduling for employees. See Jodi Kantor, "Starbucks to Revise Policies to End Irregular Schedules for Its 130,000 Baristas," *New York Times*, August 14, 2014, <http://www.nytimes.com/2014/08/15/us/starbucks-to-revise-work-scheduling-policies.html>.

<sup>22</sup> Anton Cheremukhin, "Middle-Skill Jobs Lost in U.S. Labor Market Polarization," Economic Letter, Federal Reserve Bank of Dallas, May 2014, <https://www.dallasfed.org/assets/documents/research/ecllett/2014/el1405.pdf>.

<sup>23</sup> Holzer, "Job Market Polarization."

<sup>24</sup> Robert Lerman, "Restoring Opportunity by Expanding Apprenticeship," in *The Dynamics of Opportunity in America: Evidence and Perspectives*, eds. Irwin Kirsch and Henry Braun (New York: Springer, 2016).

<sup>25</sup> Andrew Cherlin, "The Missing Working Class," *Washington Post*, February 13, 2015, [https://www.washingtonpost.com/opinions/the-missing-working-class/2015/02/13/d20d6352-b385-11e4-886b-c22184f27c35\\_story.html](https://www.washingtonpost.com/opinions/the-missing-working-class/2015/02/13/d20d6352-b385-11e4-886b-c22184f27c35_story.html).

<sup>26</sup> Ana Campoy, "Match Game: Companies Push Training to Close Skills Gap," *Wall Street Journal*, April 23, 2015, <http://www.wsj.com/articles/match-game-companies-push-training-to-close-skills-gap-1429814821>.

<sup>27</sup> Ibid.

<sup>28</sup> Erik Brynjolfsson and Andrew McAfee, *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies* (New York: W. W. Norton & Company, 2014).

<sup>29</sup> Jared Bernstein, "Wages in the United States: Trends, Explanations, and Solutions," in *The Dynamics of Opportunity in America: Evidence and Perspectives*, eds. Irwin Kirsch and Henry Braun (New York: Springer, 2016); On the Economy; "The Reconnection Agenda: Reuniting Growth and Prosperity," blog entry by Bernstein, April 2015, <http://jaredbernsteinblog.com/wp-content/uploads/2015/04/The-Reconnection->



[Agenda\\_Jared-Bernstein.pdf](#). See Ishwar Khatiwada and Andrew M. Sum, "The Widening Socioeconomic Divergence in the U.S. Labor Market," in *Dynamics of Opportunity*, for a detailed discussion of the uneven distribution of labor market outcomes across workers based on differences in household income and educational attainment.

<sup>30</sup> Gerry Smith, "Without Internet, Urban Poor Fear Being Left Behind in Digital Age," *Huffington Post*, March 1, 2012, [http://www.huffingtonpost.com/2012/03/01/internet-access-digital-age\\_n\\_1285423.html](http://www.huffingtonpost.com/2012/03/01/internet-access-digital-age_n_1285423.html).

<sup>31</sup> In fact, the figure of 60 percent is an underestimate of the proportion of adults at the lowest levels as no data was collected for just over 10 percent of adults who either did not demonstrate the minimal computer skills required to complete the assessment (including the ability to use a mouse to move, point and click, and type on a keyboard) or refused to participate in the computer-based portion of the survey.

<sup>32</sup> "Pensions Decline as 401(k) Plans Multiply," *Bankrate*, July 24, 2014, <http://www.bankrate.com/finance/retirement/pensions-decline-as-401-k-plans-multiply-1.aspx>. Statistics cited are from the Employee Benefit Research Institute.

<sup>33</sup> Elise Gould, *A Decade of Declines in Employer-Sponsored Health Insurance Coverage*, Briefing Paper 337 (Washington, DC: Economic Policy Institute, February 28, 2012), <http://www.epi.org/publication/bp337-employer-sponsored-health-insurance/>.

<sup>34</sup> *Ibid.*

<sup>35</sup> Ellen Peters, Louise Meilleur, and Mary Kate Tomkins, eds. "Appendix A: Numeracy and the Affordable Care Act: Opportunities and Challenges," *Health Literacy and Numeracy: Workshop Summary* (Washington, DC: National Academies Press, 2014), [http://www.ncbi.nlm.nih.gov/books/NBK224823/#sec\\_000035](http://www.ncbi.nlm.nih.gov/books/NBK224823/#sec_000035). In addition, appropriate support must be available for those individuals who have not been able to develop requisite skills. Such support can be provided through social networks in the community or, in some cases, through technological solutions. One example of the latter is tax preparation software that greatly reduced the cognitive skills required to file taxes.

<sup>36</sup> Paula A. Braveman, Catherine Cubbin, Susan Egerter, David R. Williams, and Elsie Pamuk, "Socioeconomic Disparities in Health in the United States: What the Patterns Tell Us," *American Journal of Public Health* 100, no. S1 (April 2010), S186-S196, [doi:10.2105/AJPH.2009.166082](https://doi.org/10.2105/AJPH.2009.166082).

<sup>37</sup> Pamela A. Meyer, Paula W. Yoon, and Rachel B. Kaufman, *CDC Health Disparities and Inequalities Report – United States, 2013*, Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report, Supplement 62, no. 3, November 22, 2013, <http://www.cdc.gov/mmwr/pdf/other/su6203.pdf>.

<sup>38</sup> *Current Cigarette Smoking among Adults in the United States*, Centers for Disease Control and Prevention, accessed January 2015, [http://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/adult\\_data/cig\\_smoking/](http://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/).

<sup>39</sup> *Obesity and Socioeconomic Status in Adults: United States, 2005-2008*, Centers for Disease Control, NCHS Data Brief 50, December 2010, <http://www.cdc.gov/nchs/data/databriefs/db50.pdf>.

<sup>40</sup> Brian L. Rostron, John L. Boies, and Elizabeth Arias, "Education Reporting and Classification on Death Certificates in the United States," *Vital and Health Statistics*, Series 2, no. 151 (2010): 1-16.

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<sup>45</sup> Adam Gamoran, *The Future of Educational Inequality in the United States: What Went Wrong, and How Can We Fix It?*, 2014 Annual Report, William T. Grant Foundation, <http://blog.wtgrantfoundation.org/post/121712995542/read-our-2014-annual-report>.

<sup>46</sup> Marc Tucker, "Are We Just Fooling Ourselves? Is American Education a Colossal Failure?" Opinion, *Education Week*, April 16, 2015, [http://blogs.edweek.org/edweek/top\\_performers/2015/04/are\\_we\\_just\\_fooling\\_ourselves\\_is\\_american\\_education\\_a\\_colossal\\_failure.html](http://blogs.edweek.org/edweek/top_performers/2015/04/are_we_just_fooling_ourselves_is_american_education_a_colossal_failure.html). Because NAEP is a low-stakes assessment, there are long-standing questions about the level of engagement and effort of the 12th graders who participate in the assessment

and, consequently, about the validity of the reported results. A randomized control study of the impact of monetary incentives on performance found that NAEP may both underestimate the reading abilities of students enrolled in 12th grade and yield biased estimates of certain achievement gaps. See Henry Braun, Irwin Kirsch, and Kentaro Yamamoto, "An Experimental Study of the Effects of Monetary Incentives on Performance on the 12th-Grade NAEP Reading Assessment," *Teachers College Record* 13, no. 111 (2011), 2309-44.

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<sup>49</sup> Sean F. Reardon, "The Widening Academic-Achievement Gap between the Rich and the Poor: New Evidence and Possible Explanations," in *Whither Opportunity?: Rising Inequality, Schools, and Children's Life Chances*, eds. Greg Duncan and Richard M. Murnane (New York: Russell Sage Foundation, 2011).

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# CHOOSING OUR FUTURE

## A Story of Opportunity in America

### About the Report

Over the past 40 years, interactions among powerful global economic forces, government policies and business practices have generated a self-sustaining set of dynamics that have altered the workplace, the demands of everyday life, and our civic and social lives. These changes are stretching the distribution of opportunity, leading to increasing economic, social and political polarization. If the disparities we see were confined to this generation alone, it would be concerning enough. But there is evidence that the accumulation of advantage or disadvantage experienced by one generation is increasingly passed along to the next. As a result, life outcomes are increasingly dependent on circumstances of birth — a reality that stands in stark contrast to the American Dream.

In this paper, the authors analyze the complex and self-sustaining dynamics governing the distribution and intergenerational transmission of opportunity with the goal of advancing our national conversation about the increasing polarization of opportunity and, more importantly, why we must take action.

Access to opportunity shaped our nation's past and defines its future. Opportunity has always been intangible, but for too many Americans, it's becoming invisible. If access to meaningful opportunity is increasingly limited to the few, affluent and well connected, our nation's future is at risk.

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