



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare



U.S. CHAMBER OF COMMERCE FOUNDATION
Center for Education and Workforce



**WORKFORCE OF TODAY,
WORKFORCE OF TOMORROW:**
The Business Case for High-Quality Childcare

Workforce of Today, Workforce of Tomorrow: The Business Case for High-Quality Childcare

Katharine B. Stevens

June 2017



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare

Contents

Executive Summary.....	1
Introduction	3
World-Class Education Is the Key to a World-Class Workforce.....	5
Gaps Emerge Early	6
The Lifelong Importance of Children’s First Years	7
Childcare: America’s Most Important Early Education Program.....	9
How Childcare Strengthens Today’s Workforce.....	11
How Childcare Strengthens Tomorrow’s Workforce.....	15
The Growing Importance of “Soft” Skills	16
The Economics of Human Potential.....	17
The Childcare Industry	20
Industry Overview.....	21
The Role of Childcare in State Economies	23
A Weak Market	26
High-Quality Childcare Matters	26
A Weak Childcare Market	29
How to Build a Strong Market	34
The Key Role of Business Leadership.....	36
Opportunities for Business Engagement	39
Acknowledgements.....	41



Executive Summary

American business depends on a strong workforce, now and in the future, to compete and succeed globally. But America is facing an unprecedented workforce crisis: a large and growing shortage of skilled workers. From Wall Street to Main Street, the world of work is changing—and our strategies for developing tomorrow’s workforce must change with it.

Business leaders have long understood the importance of a well-educated workforce to support a strong economy, keep America competitive globally, and ensure a vibrant democracy. And they have long played a leadership role in strengthening the education pipeline so crucial to our economic growth and prosperity. Yet our nation’s K–12 system is falling short in preparing new generations for the ever-changing demands of the 21st century workplace.

One root of this problem is that we’ve underestimated the importance of the earliest years of life. For most of history, the essential early foundation for all subsequent learning and development was laid largely in the home. But today, an unprecedented number of American mothers are in the workforce, and millions of young children are in paid childcare for a substantial portion of their early years. And while childcare is a necessary support for working parents, it also has a critical impact on children during the most consequential phase of human development.

Research shows that starting at birth, young children are continuously and rapidly learning—wherever they are and from whomever they’re with. Indeed, the commonly made distinction between “care” and “education” in early childhood is a false one. Childcare *is* early education, regardless of the building it occurs in or what we call it. The question is only whether it’s advancing or impeding children’s learning.

Extraordinary development occurs from birth to age 5, forming the bedrock for lifelong health, intellectual ability, emotional well-being, and social functioning. A broad set of socially and economically valuable skills start developing in children’s very first months, build over time, and are critical determinants of academic and economic success. Although a sturdy base of early skill and ability is not alone sufficient for children’s long-term success, without it, the effectiveness of later investments in education and training are substantially reduced.



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: *The Business Case for High-Quality Childcare*

By laying the crucial groundwork for tomorrow's workforce and promoting a strong workforce today, high-quality childcare provides a powerful two-generation approach to building the human capital that a prosperous and sustainable America requires. It supports parents: increasing completion of postsecondary education, raising labor force participation, increasing workforce productivity, and helping business attract and retain talent. And it ensures that children have the chance to develop well and begin kindergarten ready to thrive in school, work, and life.

For American business, advancing high-quality childcare is a winning proposition. It's a wise investment in America's future—strengthening business today while building the workforce we'll depend on tomorrow and for decades to come.



Introduction

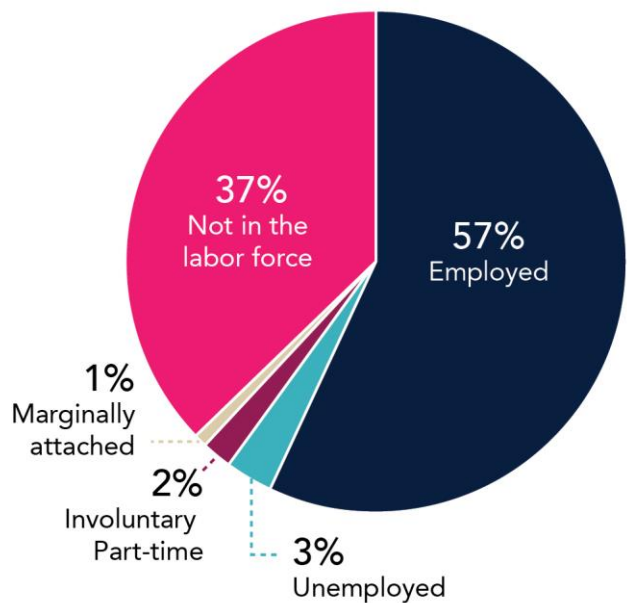
American business depends on a strong workforce, now and in the future, to compete and succeed globally. But America is facing an unprecedented workforce crisis: a large and growing shortage of skilled workers.

According to a 2016 survey by the Aberdeen Group, four out of five employers believe that today's labor pool lacks skills and abilities essential to business success.¹ More than two-thirds of U.S. employers who are hiring full-time employees currently have open positions for which they cannot find qualified candidates, and nearly 60% have job openings that stay vacant for 12 weeks or longer. "The gap between the number of jobs posted each month and the number of people hired is growing larger as employers struggle to find candidates to fill positions," said CareerBuilder CEO Matt Ferguson. "There's a significant supply and demand imbalance in the marketplace."²

The impact on employee recruitment and the business bottom line is increasing. Extended vacancies now cost companies an average of more than \$800,000 annually. In a 2014 Adecco Staffing survey, half of senior executives said that U.S. companies are missing out on growth opportunities due to a lack of skilled labor.³

At the same time, 6.9 million Americans are unemployed, millions more are working part time because they can't find full-time positions, and almost 95 million working-age adults are out of the labor force altogether (**see Figure 1**).⁴ Less than half of America's adult population has a Gallup-defined "good job," working at least 30 hours per week for an employer that provides a regular paycheck.⁵ Thomas J. Donohue, president and CEO of the U.S. Chamber of Commerce, summarized the problem: "America today is a nation of people without jobs and jobs without people."⁶

Figure 1. Employment Status of Civilian, Noninstitutionalized Adults



Source: Bureau of Labor Statistics, May 2017.⁷

Recent strategies to address the skills gap have targeted its immediate consequences. While this is critical for business success today, we also need strategies that will build the human capital of tomorrow—to revitalize our workforce for generations to come.

From the banks on Wall Street to the shops on Main Street, the world of work is changing—and our strategies for developing tomorrow’s strong, skilled workforce must change with it. High-quality childcare, which enables adults to work while laying a foundation for children’s success in school and beyond, is an under-recognized but promising strategy for addressing America’s growing workforce crisis. Done right, childcare provides a powerful two-generation approach to building the skilled workforce on which our country’s continued prosperity depends.



World-Class Education Is the Key to a World-Class Workforce

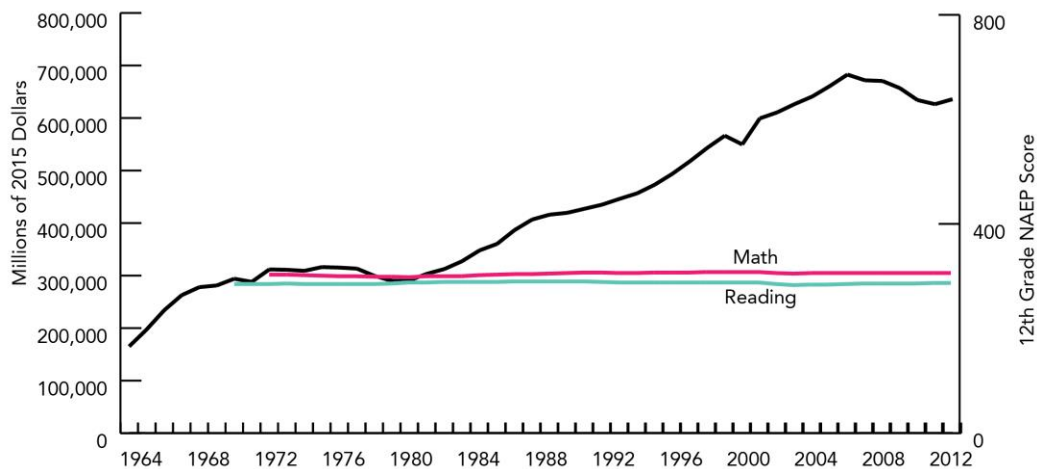
In an increasingly global and competitive economic environment, a country's success depends on how well it's educating its citizens. Yet mounting evidence suggests that American K–12 schooling is falling short in preparing new generations for the ever-changing demands of the workforce.

The U.S. spends more per student on education than almost any other country in the Organisation for Economic Co-operation and Development (OECD). But according to a 2015 OECD report, American students perform poorly compared with many of their international counterparts.⁸ U.S. 15-year-olds ranked 25th in reading and 35th in math out of 72 countries participating in the OECD's 2015 Program for International Student Assessment exam, with only 10% of U.S. students scoring at top proficiency levels in reading and just 6% at top levels in math.⁹

Domestically, the picture is similarly bleak: About two-thirds of fourth graders and eighth graders score below proficient in reading on the National Assessment of Education Progress, and 60% of fourth graders and 67% of eighth graders score below proficient in math. Among 12th graders, 63% are below proficient in reading and a full three-quarters fall below proficient in math—scores that have remained flat for almost half a century, despite sharply increased spending on the public schools (**see Figure 2**).¹⁰ Skills of adults, too, are weak: A study by the U.S. Department of Education and the National Institute of Literacy found that 14% of American adults are illiterate and more than a quarter read below a fifth-grade level.¹¹

Although graduation rates have risen slightly over the past few years, almost one in five young people still don't graduate from high school—quadrupling their chances of dropping out of the labor force.¹² Only half of students who graduate from high school go on to college. Almost half of those who go to college don't make it through.¹³ And the 53% who do graduate from college within six years are often unprepared for work: A recent Gallup study found that only 11% of business leaders are confident that college graduates are ready to succeed in the workplace.¹⁴

Figure 2. Total Public Spending on K-12 (in 2015 Dollars) and Achievement of 17-Year-Olds on the National Assessment of Education Progress (NAEP)



Source: National Center for Education Statistics

These statistics bode poorly—both for the future of new generations and for our country’s economy. The U.S. is now spending \$1.1 trillion annually for on-the-job workforce education and training to fill the gaps in workers’ skills and knowledge that persist even after decades of schooling.¹⁵ And the future workforce will need even more advanced skills: By 2020, 65% of all American jobs will require some form of postsecondary education or training, including 80% of jobs in the four fastest-growing industries (education, health care, professional services, and business services).¹⁶

In addition to continuing current efforts to improve our education system, we need new, longer-term approaches to build our nation’s human capital. One strategy with great untapped potential is to target children’s earliest years—laying the solid early foundation that all subsequent human capital investments are built on.

Gaps Emerge Early

While we’ve long counted on K–12 schools to prepare children for success in work and life, recent research shows that the schools’ primary challenge is to compensate for early disadvantage that handicaps many children even before they enter kindergarten.



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare

Developmental gaps between higher- and lower-income children have been observed among children as young as 9 months old.¹⁷ By 18 months, toddlers from low-income families can already be several months behind their more advantaged peers in language development.¹⁸ One widely cited study found that by age 3, children with college-educated parents had vocabularies as much as three times larger than those of children whose parents did not complete high school—a gap so big, researchers concluded, that even the best intervention programs could, at most, keep the less-advantaged children from falling still further behind.¹⁹

In other words, many children enter school unprepared to succeed, and schooling largely cannot close initial gaps.²⁰

Fewer than half of low-income 5-year-olds enter school ready to learn, and some are up to two years behind their peers.²¹ Achievement gaps between economically advantaged and disadvantaged children widen as they progress through school, resulting in poor academic performance, grade repetition, expensive remedial services, and high rates of school dropout.²² The long-run economic impact of this ongoing school failure is, as a recent McKinsey report put it, the “equivalent of a permanent recession.”²³

The Lifelong Importance of Children’s First Years

A rapidly growing body of research suggests that we’ve largely been missing where the root of this problem lies: in the critical, earliest years of life. Extraordinary development occurs from birth to age 5, forming the bedrock for lifelong health, intellectual ability, emotional well-being, and social functioning. In just the first 1,000 days after birth, a child grows from a helpless infant to a running, jumping, climbing preschooler. And children’s early cognitive, social, and emotional development is equally rapid, mirroring this dramatic physical growth.

A child’s brain isn’t born fully built; it’s constructed through the interactive influences of his or her genes and early experiences. The infant brain has about 100 billion cells at birth—roughly the same number as an adult brain—but with many fewer connections between cells. In the first months of life, the brain’s neural network expands exponentially, from around 2,500 connections per neuron at birth to about 15,000 connections between ages 2 and 3, with rapid growth continuing into the early elementary school years (**see Figure 3**). Those connections—called synapses—“wire” the structure of a young child’s brain in response to his or her environment and cumulative experiences.



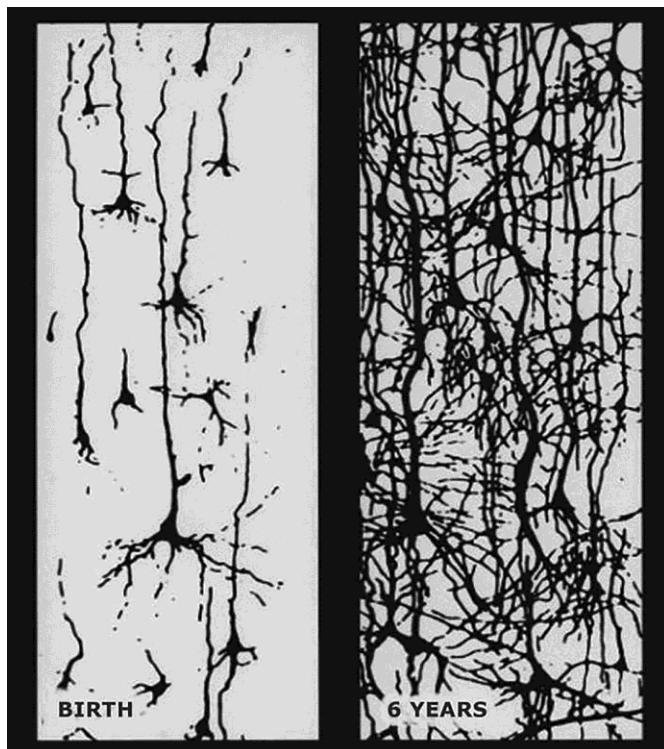
WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare

The developing brain is an integrated organ: Cognitive, social, and emotional capacities are interconnected and interdependent. Healthy development at any stage depends on healthy development in previous stages, as more complex neural connections and skills build on earlier ones. And while children's physical development is fostered by adequate nutrition and physical freedom, their cognitive, social, and emotional development is driven almost entirely by time- and attention-intensive adult nurture and care.

Starting at birth, ongoing, reciprocal, "serve-and-return" communication in the context of secure, loving relationships with adult caregivers literally builds the architecture of children's brains. As neuroscientists from Harvard University's Center on the Developing Child explain, those early interactions "determine whether a child's developing brain architecture provides a strong or weak foundation for all future learning, behavior, and health."²⁴

Figure 3. Development of Synapses in the Human Brain Between Birth and Age 6



Source: J. LeRoy Conel, *The Postnatal Development of the Human Cerebral Cortex* (Cambridge, MA: Harvard University Press, 1959).



The bottom line is that the hour-to-hour, day-to-day, early experiences of babies and young children have a profound, lasting impact on the rest of their lives. And when children’s early environments are unsupportive or even damaging, the repercussions persist for decades, compromising their development and limiting their capacity for success in school and in work.

Childcare: America’s Most Important Early Education Program

Early childhood has always been the most critical developmental period of the life cycle. And for most of history, that essential early foundation for all subsequent learning and development was laid largely in the home, through full-time maternal care.

Yet today, an unprecedented number of American mothers are in the workforce. Almost two-thirds of mothers with children under 6 are working outside the home, compared with fewer than one in 10 in 1940—a sevenfold increase.²⁵ Nearly three in 10 mothers now return to work within two months of their baby’s birth, and almost 40% with an infant under a year old are employed full time.²⁶

As the American workforce—and mothers’ work—has been transformed, so has early childhood. More than three out of five children under age 6 now have all residential parents in the workforce.²⁷ Almost 11 million American children under 5 are in nonparental care for an average of 33 hours a week.²⁸ And while childcare is a necessary support for working parents, it also has a critical impact on children during the most consequential phase of human development. The quality of that care thus matters a great deal.

We’ve long thought of school as where children learn, and, to date, pre-K for 4-year-olds has been the primary emphasis of new early education initiatives. But we now know that young children are continuously and rapidly learning—wherever they are and from whomever they’re with—starting at birth.

Indeed, the commonly made distinction between “care” and “education” in early childhood is a false one. The reality is that every environment—whether home, school, or childcare—is a learning environment for young children. What really matters for children’s development isn’t sending them to school a year or two sooner, but improving the quality of the environments where they spend the first, most critical years of their lives.

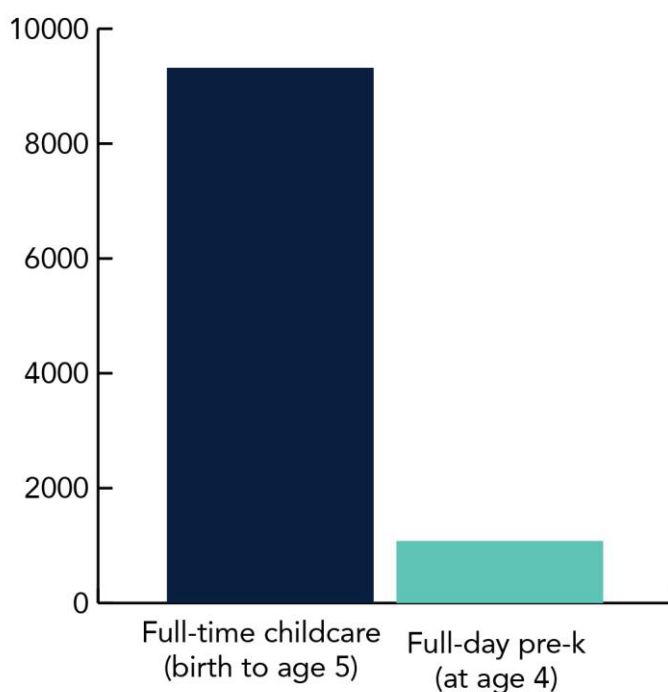


WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare

Millions of children are spending thousands of hours in paid childcare—often 10 times more hours than a year of full-day pre-K—before they enter kindergarten, meaning that childcare has a far greater impact on children’s development (**see Figure 4**). In other words, childcare *is* early education, regardless of the building it occurs in or what we call it. The question is only whether it’s advancing or impeding children’s learning.

Figure 4. Hours in Childcare Versus Pre-K by Age 5



Source: Author’s calculations²⁹

When our current public school system emerged, the early foundation for a child’s success in school, work, and life was largely established in the home. But most young children are now in nonparental care (whether paid childcare or unpaid care with family, friends or neighbors) for a substantial portion of those critical early years, and childcare’s role in supporting early learning has thus become much more important. In fact, childcare is unique among early childhood programs because, if done right, it can serve two crucial purposes simultaneously: ensuring the healthy development of young children while enabling their parents to contribute as productive members of the workforce.

By laying the crucial groundwork for tomorrow’s workforce and supporting a strong workforce today, high-quality childcare builds our nation’s human capital two generations at a time.



How Childcare Strengthens Today's Workforce

As childcare now plays an essential role in children's early learning and development, it also has a critical impact on the current workforce (many of whom are parents) and on businesses (which employ parents). Yet the nature and extent of this impact has received surprisingly little attention.

Almost 13 million Americans in their prime working years have children under age 6.³⁰ Many of these parents need reliable childcare to be able to upgrade their skills through education, enter the workforce, and remain employed. And recent evidence suggests that childcare's effect on workforce participation, productivity, and businesses' bottom line is more significant than we've recognized.

Increasing completion of postsecondary education

In today's job market, postsecondary education is an essential pathway to economic security, leading to increased employment and higher wages. More than a quarter of college students are raising children while trying to move up the education ladder, and half have children ages 5 or younger. Many of these parents are juggling school, homework, a job, and—on top of it—caring for their children.

The demands of parenthood can make it especially difficult for student parents to complete their degrees.³¹ Among all postsecondary students with children, only 27% attain a degree within six years.³² In one study, more than half of those who had dropped out cited "family commitments" as the reason.³³ And when dropouts were asked about factors that would "help someone whose circumstances are similar to yours...in getting a college degree," three-quarters of them cited childcare.³⁴

Raising labor force participation

For more than five decades, a growing labor force boosted steady U.S. economic expansion. But after peaking at 67.3% in 2000, American workforce participation has fallen to its lowest rate since the late 1970s, at 62.7% in May 2017. In other words, almost two out of five adults are currently neither employed nor trying to find employment.³⁵ And as the baby boomer generation approaches retirement, the labor participation rate is projected to decline still further, to 61% in 2027 and 59.2% in 2047—likely to slow economic growth for decades to come if the downward trend is not reversed.³⁶

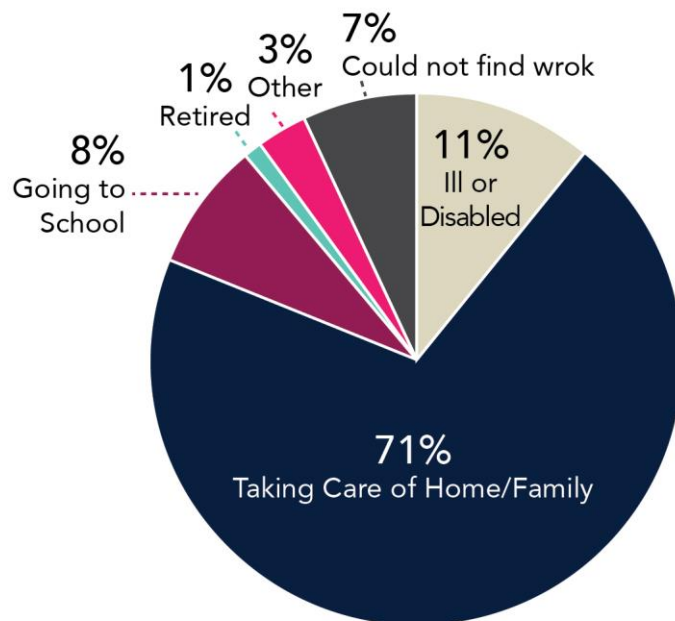


WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

In addition to diminishing economic productivity, nonwork is also a leading cause of American poverty. Of the over 46 million working-age poor adults in 2014, two-thirds did not work at all, while a quarter worked part-time or seasonally. This isn't due to unavailability of jobs, though: Only about 10% of nonworkers cite not being able to find work as the reason they're not employed.

Nonworking poor adults without children mostly say they're not working because of either illness or disability (35%) or because they are attending school (23%). Among nonworking poor with young children (11.4% of nonworking poor), a full 70% cite "taking care of home/family" as the reason they're not in the workforce (see Figure 5).³⁷

Figure 5. Nonworking Poor with Children Under Age 5: Reason for Not Working



Source: Angela Rachidi, "America's Work Problem," American Enterprise Institute, 2016.

In other words, adults are mostly poor because they're not working, and nonworking poor adults with children under 5 are largely not working because they're taking care of their children. Further, adult nonwork is the leading cause of child poverty: Almost three in five poor children live with parents who aren't employed.³⁸

To increase labor participation, one obvious strategy is thus to reduce barriers to employment for parents of young children. Chief among these obstacles is a lack of affordable,



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

high-quality childcare—a problem forcing many parents to choose between putting their children in inadequate, even damaging, care because it’s all they can afford; placing their children in higher-quality care that costs more than their whole paycheck; or dropping out of the labor force completely.

Access to good childcare enables parents—especially mothers—to enter and remain in the workforce, which supports broader economic growth. In particular, it’s financially essential for low-income families who need two incomes to stay afloat or who depend on one parent as the sole breadwinner.³⁹

Boosting workforce productivity

Little analysis has been done on childcare’s impact on workforce productivity and economic growth. But a few recent studies suggest that its impact is probably large.

One 2017 study that examined low labor force participation in Michigan identified access to high-quality childcare as the primary barrier to workforce participation for lower-income families, followed by poor access to reliable transportation and inadequate job skills.⁴⁰ Citing insufficient access to good childcare as “a huge obstacle” to the state’s workforce development, Michigan business leaders underscored the study’s findings in a recent op-ed:

Labor shortages are constraining our state’s economic growth....Affordable, quality childcare reduces a major barrier to getting people into the workforce... [and] is an essential tool in any meaningful economic development strategy.⁴¹

Supporting this assessment, a 2015 survey of working parents in Louisiana who had children under age 5 found that childcare issues greatly influenced workforce participation across the state.⁴² One in seven respondents with a preschooler said they turned down a promotion and nearly one in five reported leaving full-time employment for part-time work because of childcare issues. Almost half of both men and women reported missing work regularly due to problems with childcare. In addition, one in six had quit a job and one in 13 had been fired because of problems finding or paying for childcare.

Overall, the researchers estimated that the costs of inadequate childcare totaled \$2 billion in 2015: \$816 million to Louisiana employers due to employee absences and turnover, nearly \$84 million in state tax revenue due to lost workplace productivity, and \$1.1 billion to Louisiana’s economy from spillover effects of inadequate childcare. They concluded:



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare

[C]hild care issues clearly affect a wide cross section of Louisiana workers, resulting in major economic costs to employers and a large, negative economic impact on the state....

Child care arrangements that provide working parents with affordable, reliable child care will enable parents—mothers and fathers alike—to fully participate in the workforce...[and] would ultimately have a high rate of return through reduced costs to employers, increased earnings and tax revenue from parents, the economic impact of the child care industry itself, and improved outcomes for children.

A third study, published in 2016, found that working families across the country lose \$8.2 billion in wages annually due to inadequate childcare access.⁴³

Helping businesses attract and retain talent

Businesses report that it is increasingly difficult to find and keep skilled employees. In Deloitte's *Global Human Capital Trends 2015* report, employee engagement and retention was cited as the No. 1 human resources problem. A full 87% of business leaders surveyed believe the issue is "important," with 50% citing the problem as "very important." The MetLife & U.S. Chamber of Commerce Small Business Index Q2 2017 reports that small business owners are also struggling to find talented candidates to fill positions, with one in four describing the quality of candidates as poor.

Further, voluntary employee turnover costs are high. Research suggests that the cost to replace a lost employee are roughly 20% of an entry-level annual salary at a minimum, and often much larger when lost productivity is taken into account.⁴⁴

Although little is known about the role of childcare in employee recruitment and retention, common sense suggests that parents prefer working for employers that help them ensure the well-being of their children. One 2016 survey of 3,100 employees with young children who worked for organizations offering on-site childcare found that access to good childcare was indeed a significant factor in employee recruitment, retention, and productivity.⁴⁵

More than 80% of the survey's respondents who already had young children when they started at the company said that the availability of childcare was important in their decision to work there. More than 90% of all respondents said it made them more likely to continue working for their organization. Almost 90% said that access to childcare enhanced their productivity at



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

work, and 80% said it enabled them to volunteer for optional work assignments.

On the other hand, a 2016 survey of more than 1,000 working parents who were expecting their first child or who had a child under age 2 found that about half of new parents had changed jobs, many taking a pay reduction in exchange for greater flexibility. In a 2016 Care.com survey, 74% of working parents said their jobs have been affected by childcare problems: falling behind on work, missing work, and losing pay because of absences.⁴⁶ Over three-quarters of mothers and half of fathers in a 2015 *Washington Post* survey said they've passed up work opportunities, switched jobs, or quit to take care of their children.⁴⁷

"Ask any parent: It's not working for them," Helen Blank, director of child care and early learning at the National Women's Law Center, explained. "It's a stretch for all of them. Because we as a country haven't yet come to grips with how important affordable, quality child care is to our economy."⁴⁸

As young adults increasingly delay having children, the impact of childcare on the company bottom line will only rise. In 2016, the birth rate among women ages 30 to 34 surpassed that of younger women for the first time ever. If that trend continues, a growing number of employees will be in valuable midcareer roles when they have their first child and more expensive to replace if they quit as a result.

How Childcare Strengthens Tomorrow's Workforce

While enabling parents of young children to enter and remain in the workforce, childcare is simultaneously laying the human capital foundation—either well or poorly—for much of our nation's future workforce. Improving K–12 schools and postsecondary education is essential to strengthening the workforce pipeline in the short and medium term. Investing in children's earliest years is a long-term, upstream strategy for developing our nation's human capital.

Like all human development, the education process is cumulative: Each stage builds on the prior one. Success in postsecondary education and training depends on a strong high school education. Success in high school, in turn, depends on a strong education in elementary school. And, success in elementary school depends on the strength of the groundwork laid in early life.

Early childhood is thus the bedrock of human capital: a solid early foundation, constructed in the first years of life, is critical to everything that follows. Although a sturdy base of early skill and ability is not alone sufficient for children's long-term success, without it, the effectiveness



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

of later investments in education and training are substantially reduced. Shifting focus to shoring up the foundations of human capital is thus an efficient strategy for building the talent pipeline American business needs to succeed.

The Growing Importance of “Soft” Skills

Achievement test scores and education attainment have long been the standard measures of human capital. But a broader set of noncognitive, social-emotional and character skills—those needed to work well with others, communicate effectively, problem-solve, and follow through on commitments—is increasingly important to workplace success.

More than three out of five employers stress these “soft skills” in evaluation of job candidates, according to CareerBuilder’s 2017 annual job forecast.⁴⁹ In a 2016 survey by the National Association of Colleges and Employers, almost eight of 10 employers judged the “ability to work in a team” to be a critical skill for new hires, followed by problem-solving skills, communication skills, and a strong work ethic as top hiring priorities.⁵⁰ A 2016 World Economic Forum study found that by 2020, more than a third of most occupations’ core skill sets will include skills not considered crucial to jobs today, with social skills predicted to be in particularly high demand.⁵¹

At the same time, many businesses are reporting a shortage of workers with the soft skills needed. Of nearly 900 U.S. executives responding to a 2015 Wall Street Journal survey, more than 90% said soft skills were equally or more important than technical skills, and almost as many said they’re having a difficult time finding people with the right attributes.⁵² In a 2013 Adecco Staffing survey, nine in 10 senior executives said they believe there is a serious gap in workforce skills, with more than four in 10 citing soft skills as the most critical gap.⁵³ Survey after survey over the past several years echo these findings, indicating that soft skills are becoming a key differentiator of talent across industries.⁵⁴

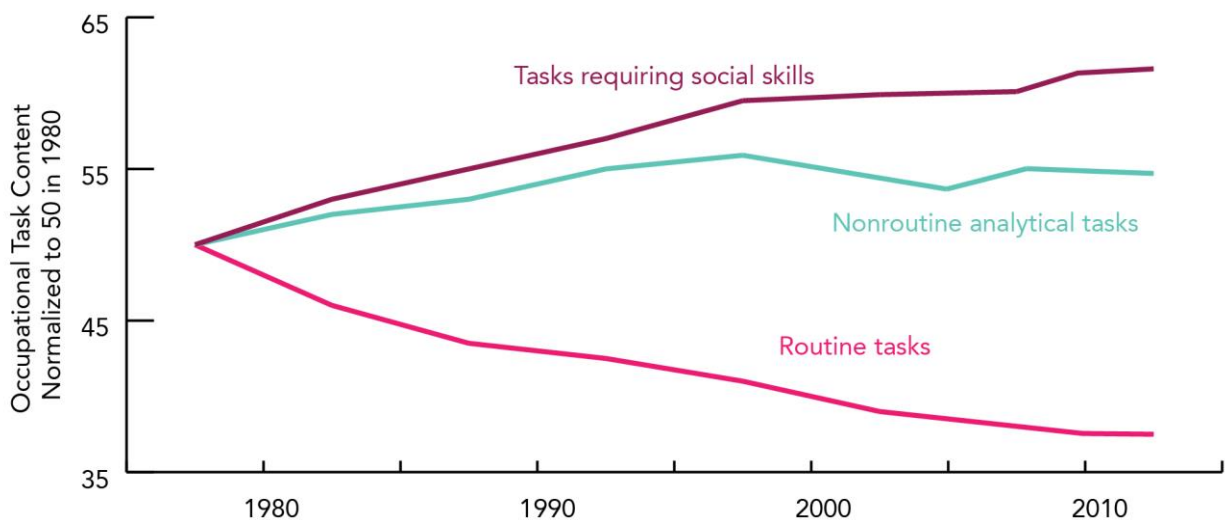
Recent research shows that this growing demand for soft skills is largely driven by rapidly accelerating technology and automation. As routine tasks are increasingly automated, demand for the skills needed to do nonroutine work is on the rise.

Through an analysis of occupational tasks from 1980 to 2010, Harvard economist David Deming demonstrated that routine job tasks declined sharply while tasks requiring difficult-to-automate social skills increased.⁵⁵ The result, according to MIT economist David Autor, is a “hollowing out” of traditional middle-skill jobs, like clerical and factory work, and a concurrent increase in demand for nonroutine labor.⁵⁶ Economists Nir Jaimovich and Henry Siu have



further shown that this shift from routine to nonroutine jobs is not sector specific; rather, it has occurred across industries.⁵⁷

Figure 6: The Growing Importance of Social Skills in the Labor Market



Source: David Deming, *The Growing Importance of Social Skills in the Labor Market*.

This ongoing decline in routine employment and a rapidly shifting economic environment demand new approaches to building human capital that emphasize development of increasingly valuable, nonroutine skills. To be effective, those approaches must recognize that human capital development is a multigenerational process—and, based on what we know about brain development, starts at birth, not the schoolhouse door.

The Economics of Human Potential

A growing body of research on what Nobel prize–winning economist James Heckman has called “the economics of human potential” has demonstrated that skill acquisition is a cumulative process that begins in infancy. A broad set of socially and economically valuable skills start developing in children’s very first months, build over time, and are critical determinants of academic and economic success. Early skills form the foundation for acquiring additional skills at later stages in the life cycle: Skill attainment at one stage of life enables higher levels of skill attainment at later stages of life. Early investments in human capital therefore increase productivity of later investments and provide the highest return.⁵⁸

Early skill development

The range of critical skills and abilities shaped in early childhood are conventionally divided into “cognitive” and “noncognitive” categories. Cognitive skills generally refer to academic ability in areas like literacy and mathematics, measured by achievement tests. Noncognitive skills—often



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare

referred to as social-emotional or character skills—include all other skills and abilities like getting along well with others, listening and communicating well, showing empathy, being motivated, possessing self-confidence, having initiative, paying attention and focusing, persevering on challenging tasks, solving problems, managing emotions and impulses, following rules, and so forth.

This broad range of skills emerges very early—already evident in infants and toddlers—and young children acquire new skills very quickly. Both cognitive and noncognitive ability are highly malleable in children’s first years but become less so as children grow older. Cognitive skills are largely fixed even by the time children enter kindergarten, while noncognitive skills remain relatively malleable for a longer period.⁵⁹

While cognitive ability has long been a primary emphasis in schooling, researchers have recently begun to recognize that noncognitive skills foster the development of cognitive skills and are at least as crucial to children’s success.⁶⁰ Acquiring new cognitive skills depends not just on current cognitive skills but also on effort invested. Effort, in turn, depends on motivation, along with the ability to pay attention, manage emotions, and persist in difficult tasks. Mastering skills promotes confidence, which, in turn, increases motivation. Increased motivation drives acquisition of more skills, thus creating a mutually reinforcing cycle of increasing cognitive skill.

A recent study in the Baltimore public schools that examined the relationship between children’s social-emotional skills in kindergarten and their academic outcomes five years later demonstrates the interdependence of noncognitive skill and cognitive achievement.⁶¹ The study found that more than half of entering kindergarteners lacked the social-emotional skills necessary to learn in a classroom setting, initiating a downward spiral of early school failure. By fourth grade, the children who had entered kindergarten with inadequate social-emotional skills were up to 80% more likely to have been retained in grade, up to 80% more likely to have received special education services, and up to seven times more likely to have been suspended or expelled at least once.

Similarly, another recent study found that early social-emotional skills were highly predictive of academic, economic, and social outcomes into early adulthood.⁶² Researchers rated kindergartners’ social-emotional skills on a five-point scale and then tracked them until they

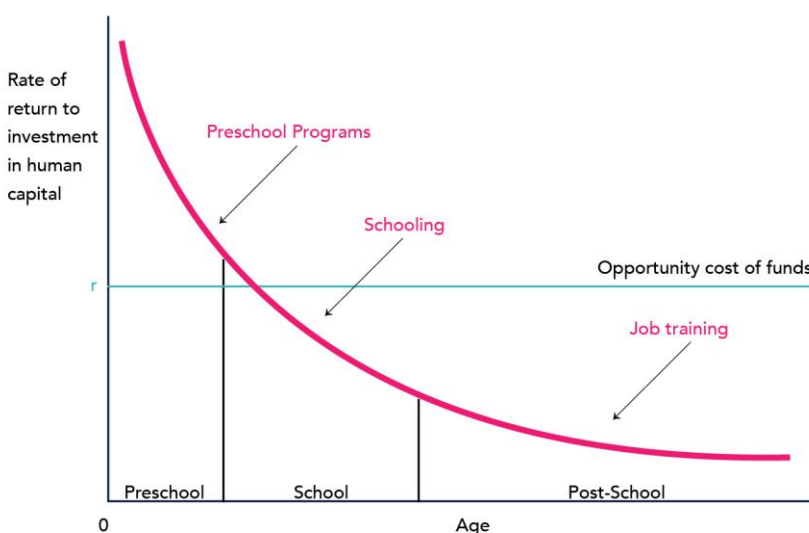
turned 25. For every one-point increase in the rating of a child’s social-emotional skills in kindergarten, he or she was twice as likely to earn a college degree, 54% more likely to earn a high school diploma, and 46% more likely to hold a full-time job at age 25. For every one-point decrease, on the other hand, a child was 67% more likely to have been arrested and 82% more likely to be in or on a waiting list for public housing—two decades after kindergarten.

Returns on early investment

These studies illustrate a core insight from the economics of human potential: The productivity of any investment in human capital depends on previous investments. Thus, the productivity of kindergarten is determined by the skills produced by investments made in early childhood. The productivity of first grade, in turn, is determined by the skills produced by investments in early childhood and kindergarten. The productivity of high school is determined by the cumulative skills produced by investments in early childhood, elementary and middle school, and so on.

Investment in the earliest years of human development establishes a set of skills and abilities that raises the productivity of all subsequent human capital investments. Thus, as James Heckman concludes in “The Productivity Argument for Investing in Young Children,” “[r]eturns are highest for investments made at younger ages” while “remedial investments are often prohibitively costly,” as shown in **Figure 7**.⁶³

Figure 7: Rates of Return to Human Capital Investment



Source: Carneiro and Heckman, 2003.⁶⁴



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

Economists Arthur Rolnick and Rob Grunewald at the Federal Reserve Bank of Minneapolis, too, found that investments in early childhood result in more effective public schools; improved public health; less crime; and more educated, skilled workers. Further, due to public benefits from reduced societal costs and increased tax revenue, early human capital investments yielded a public return of up to 16% per year, far exceeding that of most public projects undertaken for economic development.⁶⁵ They explain:

Careful academic research demonstrates that tax dollars spent on early childhood development provide extraordinary returns compared with investments in the public, and even private, sector...

...Some of these benefits are private gains for the children involved in the form of higher wages later in life. But the broader economy also benefits because individuals who participate in high-quality early childhood development programs have greater skills than they otherwise would, and they're able to contribute productively to their local economies.

Early human capital investments improve the return of later investments by raising the quality of the inputs into those investments, greatly multiplying both their efficiency and effectiveness. Thus, providing schools with better-quality students at the outset boosts their productivity throughout. And in turn, the quality of the workforce that the schools ultimately produce is raised.

Increased investment toward the end of the talent pipeline cannot compensate for underinvestment at its entry point. As Heckman concludes: "The best evidence supports the policy prescription: Invest in the very young."⁶⁶

The Childcare Industry

Childcare contributes to economic growth by strengthening the current workforce and laying the foundation for the workforce of tomorrow. At the same time, the U.S. childcare industry itself employs a sizable number of workers and has played a growing role in state and regional economies.⁶⁷ Because the industry is heavily dominated by small, home-based providers, it also offers a valuable opportunity to promote entrepreneurship and small business ownership, especially in low-income communities.



Industry Overview

Definitive analysis of the childcare industry is difficult because childcare is an exceptionally decentralized, fragmented, and diffuse sector overall. Unlike most education and social service systems, it is overseen entirely at the state and local levels, with virtually no federal involvement. Standards, regulations, and reporting requirements vary widely across states, data are unevenly collected, and data systems are rarely coordinated, either within states or between states and the federal government. As a result, little reliable data are available on even basic questions regarding the use and provision of childcare.

Broadly speaking, the overall childcare sector serves about 12 million children under age 6 who have not yet entered school.⁶⁸ Paid childcare services are generally classified by their location (whether home- or center-based care) and further categorized by a range of characteristics including regulatory status (e.g., licensed or license-exempt), public versus private, tax status, size, and so forth. Beyond these broad-brush outlines, however, the sector is difficult to capture.

In the absence of common data, analyses of the childcare sector diverge considerably based on which categories, definitions, and data-collection methods are used. Commonly cited estimates on the number and characteristics of childcare providers and the children in their care, published by at least eight national governmental and nonprofit entities, are notably inconsistent: Counts of center-based providers range from about 75,000 to 120,000, for example, while those for home-based providers range from 136,000 to more than 900,000.⁶⁹

A rough picture of the sector's economic contribution, however, can be gleaned from the U.S. Economic Census, which collects financial and employment information on establishments that report income from paid childcare services in federal tax returns. While not comprehensive, this approach captures at least a substantial proportion of the measurable economic activity produced by market-based childcare services.

Two types of childcare establishments are included in Census reporting: owner-operated providers with no employees and providers with paid employees.⁷⁰ The first type—which the Census calls “nonemployer” providers—are for-profit businesses run out of the owner’s home, commonly known as family- or home-based care. The second type, called “employer” providers, are mostly run out of nonresidential facilities, usually known as center-based care. Employer providers include both tax-paying for-profits and nonprofits exempt from federal taxes.



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare

In 2012, the U.S. Census counted 768,521 childcare establishments, collectively generating \$41.5 billion in revenues and employing 1.57 million owners and staff. Nine of 10 providers—about 693,000—were nonemployer, one-person operations. Although dominating the market in number of providers, nonemployer establishments generated only one-quarter of total revenue and earnings.

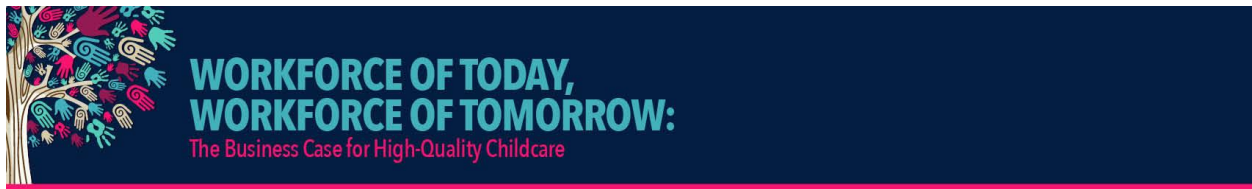
Employer providers, of which there were roughly 75,000 in 2012, made up just 10% of industry providers but generated about three-quarters of the industry's total revenue and earnings. They employed over half of childcare staff, with individual worker earnings averaging a little under \$18,000 (see **Figure 8**).

While larger than self-employed home-based providers, most employer establishments are small. The average center-based program employs fewer than 12 workers and enrolls 76 children. About one-half of programs enroll fewer than 50 children, and a quarter enroll fewer than 25.⁷¹

Figure 8. A Market Overview of the Childcare Industry (Based on U.S. Census Data)

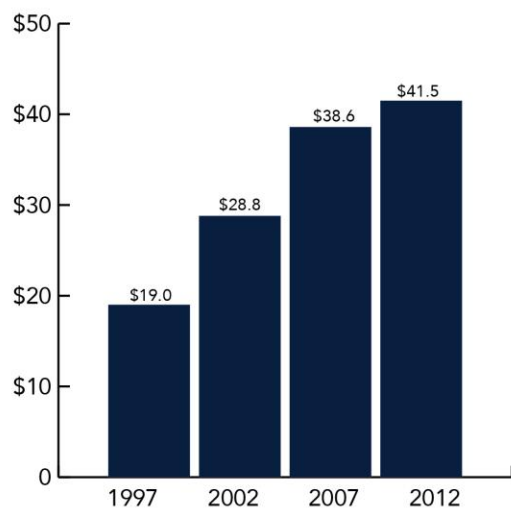
	Nonemployer Providers (home-based)	Employer Providers (largely center-based)	Total
Number of providers	693,325	75,196	768,521
Revenues	\$9.5 billion	\$32 billion	\$41.5 billion
Employees/ Proprietors	693,325	873,251	1.57 million
Earnings	\$5.6 billion	\$15.6 billion	\$21.2 billion

Source: U.S. Economic Census, 2012.



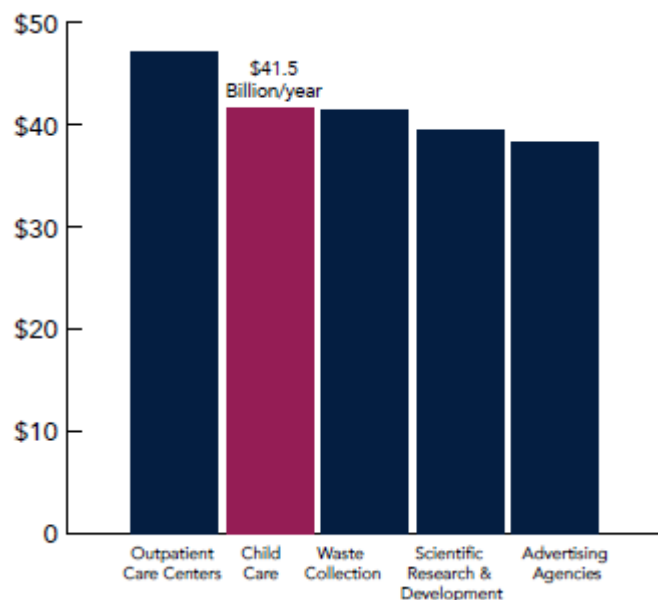
Over the past 20 years, the childcare industry has grown rapidly: The number of establishments and total employment each grew by 40% from 1997 to 2012, while total revenues more than doubled. With revenues of \$41.5 billion in 2012, the childcare industry was comparable in size to outpatient medical care facilities, waste collection, scientific research and development services, and advertising agencies (see **Figures 9 and 10**).⁷²

Figure 9. Childcare Industry Revenue: 1997 - 2012



Source: Committee for Economic Development, “Child Care in State Economies,” 2015

Figure 10. Annual Revenues of Childcare Versus Comparable Service Industries (\$billions in 2012)



Source: Committee for Economic Development, “Child Care in State Economies,” 2015



The Role of Childcare in State Economies

As the childcare industry has grown, it has come to play a more significant role in regional and state economic productivity and growth. In addition to boosting labor participation, workforce productivity, and household earnings of parents who need childcare in order to work, the industry also contributes to the local economy by employing workers, purchasing goods and services, and stimulating activity in other parts of the economy.

Nationally, the childcare industry's 2012 expenditures totaled \$21.2 billion in compensation and an estimated \$15.6 billion in purchases of goods and services.⁷³ The regional impact of that spending is amplified because the production, delivery, and consumption of childcare are entirely local. Like all industries, the childcare industry is interdependent with the broader economy, both through direct effects of industry employment and purchases, and through "indirect" and "induced" effects on output, employment, and earnings in other industries. Indirect effects are the ripple effects triggered in the regional economy by an industry's direct purchases of goods and services.⁷⁴ Induced effects describe regional economic activity triggered by new household spending due to earnings from both direct and indirect employment.⁷⁵

State variation

The childcare industry's impact on the state economy differs widely among states, depending on several factors. The primary driver of economic impact is total industry revenue, which is generally greatest in the most populous states, ranging from \$5.3 billion in California to \$66 million in Wyoming. Among states with comparable population sizes, total revenue is driven by the share of children in paid care, average revenue per child, and ratio of self-employed, home-based providers to center-based providers, all of which vary considerably.

The proportion of children in paid care ranges from less than one in six children in Texas to well over a third of children in North Dakota. Similarly, annual revenues per child range from about \$1,600 in Utah to more than \$5,000 in New York. In six states, home-based providers generate at least 40% of total revenue, while in nine states they generate 16% or less.⁷⁶ Similarly, in 11 states, more than half of the state's childcare workforce are home-based providers; in six others, under a third are home based.⁷⁷

Calculating total economic impact

An industry's total economic impact is often calculated using "multipliers": economic formulas that estimate the combined indirect and induced effects on output, employment, and earnings,



which are then added to direct economic effects.⁷⁸

A multiplier analysis of the childcare industry's impact on the national economy for 2012 estimated total industry revenues of \$83.1 billion (\$41.5 billion in direct revenue plus \$41.6 billion in indirect and induced output in other industries). In addition, it estimated total household earnings of \$39.5 billion (\$21.2 billion in direct earnings and \$18.3 billion in indirect and induced earnings) and total employment of almost 2.2 million (1.57 million owners and employees in childcare and 624,500 jobs in other industry sectors).⁷⁹

Numerous states and localities, too, have analyzed the childcare industry's short-term economic impact using state-specific multipliers provided by the U.S. Department of Commerce. Several recent analyses suggest that the childcare industry's contribution—both current and potential—to regional growth is substantial.⁸⁰

For example, a 2013 study in Missouri calculated that for every dollar spent on childcare, an additional \$1.87 in spending was generated within the state, providing a stronger economic boost for local businesses than that provided by transportation, construction, retail, or manufacturing. Based on those findings, the study concluded that “early care and education offers one of the smartest ways to create additional buying power for consumers and help local companies stay in business.”⁸¹

Similarly, a 2016 analysis in Georgia found that the state's 6,200-provider childcare industry generated an annual total of \$4.7 billion in state economic activity from 2013 to 2014, on a par with that produced by the state's printing, pharmaceutical preparations, and health and personal care retail industries.⁸² In addition, the childcare industry directly provided 67,507 jobs, generated an additional 17,454 spillover jobs, and resulted in \$536 million in new tax revenue. The study also found that statewide household earnings increased by an estimated \$24 billion due to increased employment made possible by the use of childcare.

Finally, a 2011 study by the University of Connecticut's Center for Economic Analysis analyzed the regional economic impact of home-based providers specifically, evaluating the outcomes of a New Haven project that provides technical support to the city's home-based childcare businesses. The researchers found that every dollar spent on the project generated \$15 to \$20 in increased gross regional product, totaling \$15.2 million from 2006 to 2009 on top of \$18.4 million in additional tax revenue for New Haven alone.



Economic benefits to individual proprietors—mostly poor and low-income African-American women—were also substantial.⁸³ Almost half of participating providers increased their earnings by at least \$10,000 in their second year after completing the program. By their third year, almost 90% of providers had boosted earnings by at least \$5,000; about a third had moved to a larger apartment or house to accommodate business expansion; and 45% had a waiting list for their programs. These striking findings underscore the potential of home-based childcare to promote entrepreneurship and self-sufficiency in low-income communities, while simultaneously boosting the regional economy and increasing the number of high-quality providers in areas that often have a shortage of center-based care.

A Weak Market

As almost two-thirds of American mothers with children under age 5 are now in the workforce and 12 million young children are in regular nonparental, paid care, childcare has come to play an unprecedented, critical role in our country's economic growth and productivity.⁸⁴

Today's workers need childcare. Tomorrow's workers are in childcare. Childcare providers generate jobs and local economic activity. Yet the childcare market is functioning poorly: Too many families don't have access to the high-quality care they need.

The American public widely recognizes the importance of this issue. Almost three-quarters of respondents in a 2016 bipartisan national poll said that the period from birth to age 5 is the most important for developing a child's capacity to learn. And 82% of Republicans, 86% of Independents, and 98% of Democrats said that "making early education and child care more affordable for working parents to give children a strong start" is important for our country.⁸⁵

High-Quality Childcare Matters

We've long known that the quality of K-12 schools matters for children's development. What has become clear is that the quality of childcare does too. High-quality care advances children's early development, helping them build a range of critical skills necessary for their success in school and beyond. On the other hand, low-quality early environments, lacking adequate cognitive and noncognitive stimulation, lead to deficits that children often never overcome.⁸⁶



What is quality?

“High-quality” childcare provides a safe, supportive environment that promotes young children’s healthy cognitive, social-emotional, and language development, leading to positive outcomes like increased school readiness. It is interaction driven rather than content driven: occurring through consistent, back-and-forth engagement with warm, responsive, and trusted caregivers. The key driver of positive outcomes for children is this kind of “serve-and-return” interaction with loving adults who support and encourage their efforts to connect to and learn about the universe around them.⁸⁷

Young children experience their world primarily as “an environment of relationships”; stable, nurturing relationships are the “active ingredient” of children’s healthy development and thus of high-quality care.⁸⁸ In short, good childcare does what good parents do: It provides the sense of security and the responsive, stimulating, one-on-one interactions that young children require in order to thrive.

Childcare quality is assessed along two dimensions: structural and process. Structural quality refers to inputs that compose the care setting, such as the physical environment, classroom materials, and caregivers’ credentials and training hours. Process quality, on the other hand, describes children’s ongoing experiences within that setting. While structural quality is easier to measure, research has shown that process quality—the nature of children’s relationships and interactions with the people around them—is what drives children’s development.⁸⁹

Structural characteristics are relevant to quality only as they directly affect the nature of interactions that are crucial to positive child outcomes. The number of children cared for by a single adult (called “ratios”) and the number of children together in one space (called “group size”), for example, are structural elements that have a relatively direct impact on process quality: Even the most talented caregiver can’t do an adequate job in a setting that doesn’t permit the intensive, one-on-one interaction that young children require to develop normally. Other structural elements, like square footage or staff credentials, can be correlated with or contribute to quality but have a less direct impact on children’s experiences.⁹⁰

The role of the childcare workforce

Because children’s learning and development is highly dependent on relationships and interactions with adults, the key driver of childcare quality is the quality of the caregiver. High-quality early childhood caregivers are those who develop warm, positive, and nurturing



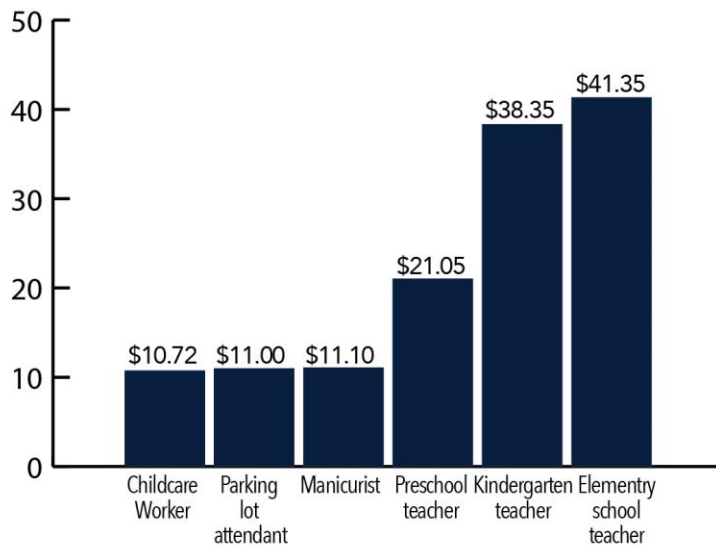
relationships with young children; engage them in ongoing, language-rich conversations; and encourage their exploration of the world.

Estimates on the size of the paid childcare workforce vary, but the most comprehensive surveys suggest that it comprises roughly 1.6 million workers: 590,000 working in center-based care and a little over 1 million in home-based care. Among home-based caregivers, 118,000 are “listed,” meaning officially registered with state authorities (whether licensed or license-exempt, as defined under state regulations). Another 919,000 providers are “unlisted,” providing paid care but not tracked or monitored by the state.⁹¹

Low pay combined with low entry standards, little professional training, and lack of performance accountability has yielded a childcare workforce that falls short of what’s needed for high-quality care. Most caregivers have only a high school degree or less, and state training requirements are minimal, focused primarily on first aid and CPR, and not mandatory in all states. While particular credentials have not been shown to improve caregiver quality, evidence suggests that many caregivers lack sufficient knowledge and training to work effectively with young children, and may also underestimate the crucial importance of their role.

Pay in the childcare field is lower than in 97% of all U.S. occupations. The average wage for full-time, professional childcare workers in the United States was \$10.72 per hour in 2015—a little less than wages for parking lot attendants and manicurists, and a fraction of those for teachers of older children (**see Figure 11**).⁹² Such low pay impedes recruitment and retention of a high-quality workforce, causing high turnover among current workers and discouraging talented young people from pursuing a career working with young children.⁹³

Figure 11. 2015 Median Per Hour Wages



Source: Marcy Whitebrook, "Early Childhood Workforce Index," 2016.

A Weak Childcare Market

In contrast to K-12, childcare is a market-based, rather than government-run, sector. Although this could be an asset, the childcare market is currently very weak.

The working families who need childcare say they want their children to be in high-quality care. In a 2016 survey by the Robert Wood Johnson Foundation, 84% of parents said that the quality of care in early childhood has a major impact on kindergarten readiness and 86% said it has a major impact on a child's long-term wellbeing. Over half believe that childcare quality has a major impact on children's future job success.⁹⁴

But most families have little or no access to high-quality childcare, for three reasons: It's unaffordable, it's unavailable, and they lack information on the quality and characteristics of existing options.

High-quality care is unaffordable

Because young children's development depends on intensive one-on-one interaction with adults, high-quality care for children under age 5 is labor-intensive and thus expensive to provide. Child Care Aware of America recently reported that the median national cost for a year



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

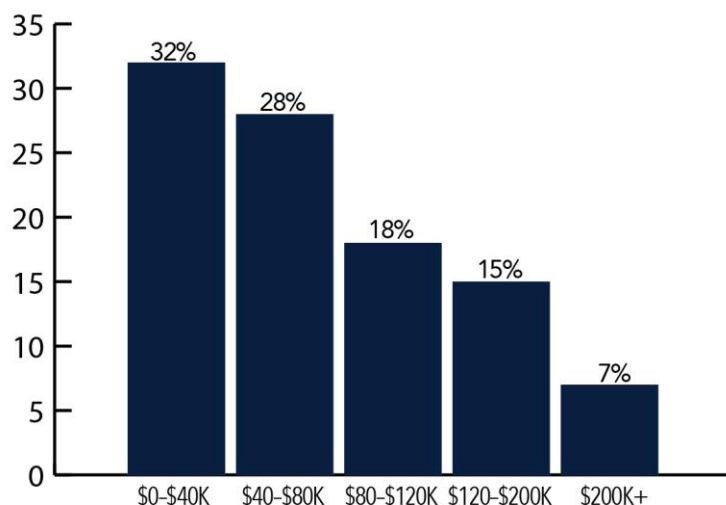
The Business Case for High-Quality Childcare

of full-time care in 2016 ranged nationally from \$7,300 to \$10,000 for an infant and \$6,700 to \$8,200 for a 4-year-old.⁹⁵ Respondents to a recent Care.com survey spent an average of \$9,589 in 2015 on full-time center care for a child under 5.⁹⁶

While the quality of their child's care matters greatly to parents, families can't buy high-quality childcare with money they don't have. Forty-five percent of young children live in families earning below 200% of the federal poverty level—roughly \$41,000 for a family of three and \$49,000 for a family of four—and one-third live in families with annual income under \$40,000 (see Figure 12).⁹⁷ The median income of a single parent in Ohio, for example, is about \$21,500 per year. For millions of families, the cost of childcare is thus a quarter or more of an entire year's earnings.

"You use up basically your full paycheck on childcare, and then you're not there. As much as they're learning and stuff, you're not there to see all that, and it kills you."
—Parent⁹⁸

Figure 12: Children Under 6 By Family Income



Source: U.S. Census Bureau, 2016

"I couldn't afford to work and I couldn't afford not to work."
—Parent⁹⁹



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: *The Business Case for High-Quality Childcare*

Many of these families are already struggling to pay for basic household expenses. According to a recent Federal Reserve study, almost half of Americans don't have enough money to cover a \$400 emergency.¹⁰⁰ A recent Pew study found that the average household in the lower third income bracket ended up \$2,300 in the red at the end of 2014.¹⁰¹ In other words, a large segment of the American population can no more afford childcare than private school.

The federal Child Care Development Fund (CCDF) is the main funding source for subsidized childcare, aimed to help low-income families stay in the workforce and remain financially self-sufficient. CCDF distributes a little over \$8 billion annually in combined federal and state funds, mainly through childcare vouchers provided to parents.¹⁰²

But a recent Government Accountability Office report showed that only 1 in 10 children eligible under federal guidelines for a CCDF subsidy received one. Only 61% of all federally-eligible children qualify in their home state under state-defined eligibility rules. And many states have insufficient funding for even that reduced pool of eligible children, so most families end up on long waiting lists or are turned away.¹⁰³

High-quality care is unavailable

Evidence also suggests that much of the current supply of childcare—both center- and home-based care—falls short of promoting children's learning and development, sometimes even jeopardizing children's physical safety.¹⁰⁴ Lack of access to high-quality care is tough on parents as well as children: As one parent explained, "At the end of the day, I can lose my house, my job, my car; you can replace those. You can't replace your kids."¹⁰⁵

In a 2016 Robert Wood Johnson Foundation survey, almost half of parents who described their household finances as "not so strong" or "poor" said that high-quality childcare was difficult to find. Four of five said that options were very limited, and close to half did not think their children were currently in excellent care.¹⁰⁶ Similarly, a 2015 Pew Foundation survey found that 62% of parents had a hard time finding childcare that was high-quality and affordable.¹⁰⁷ A 2017 investigation of childcare availability in Wisconsin confirms these parents' reports, finding that providers with high ratings from the state's quality assessment system were concentrated in wealthier areas, with few high-quality providers in low-income communities.¹⁰⁸

The provision of childcare is overseen by the states, and what types of childcare settings are regulated, how they're regulated, and how rigorously regulations are enforced varies greatly by



state and sometimes even by locality. Roughly a quarter of children are in care with little-regulated license-exempt providers or with providers who are exempt from all regulation.¹⁰⁹

While state regulation sets basic health and safety standards for childcare providers, it does not address the developmental quality of care. And evidence suggests that current state systems have not established even a minimal floor of health and safety conditions, much less promote positive learning environments for young children.

Anecdotal reports of rule violations are not infrequent, periodically resulting in children's injuries and deaths.¹¹⁰ An audit of nine states carried out between 2013 and 2016 by the Office of Inspector General in the U.S. Department of Health and Human Services found that 96% of licensed childcare providers had numerous hazardous violations of state licensing standards, including fire code violations, unsanitary conditions, unsafe playgrounds, incomplete employee records, incomplete children's records, and toxic chemicals accessible to children.¹¹¹

Neither market mechanisms nor government oversight are currently in place to increase the quality of care. Existing regulation sets a low bar, and what little monitoring exists is poor. The result is that there's little oversight of—or even information on—the environments where many children are spending a substantial proportion of their earliest years.

Information is weak

A third problem families confront is weak information on the quality of available care. Parents both lack information enabling them to distinguish between high- and low-quality care and lack the capacity to monitor the care their children are in. Providers thus have little incentive to improve quality, creating a “market for lemons,” as economist Naci Mocan put it in a recent analysis of the U.S. childcare market.¹¹²

Little government-provided information on childcare providers exists and the scant information available is complex and opaque. A recent investigation into state childcare regulations—carried out by the education website Noodle to help parents choose childcare where children “will be lovingly cared for, attended to, stimulated, [and safe]”—reported the problem parents face:



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare

...Regulations vary significantly by state...[and are] difficult to uncover and even more difficult to navigate...

...[Information] is typically difficult to find, spread across multiple sources (many of which are hundreds of pages long) and often written in legalese. These sources are not meant for public consumption—meaning that parents have to make the most important decision of their lives given very little context.¹¹³

Many providers are exempt from inspection by state law, and information from required inspections is often not publicly available. As of 2014, 19 states posted no information from licensing inspection reports, 24 did not post licensing complaints, 32 did not post enforcement actions, and 11 did not require that deaths in childcare be reported to the licensing agency.¹¹⁴ (The 2014 reauthorization of the CCDF made some improvements in transparency, requiring that states receiving CCDF funds must electronically post the number of deaths, serious injuries, and substantiated instances of child abuse that occur in childcare settings each year.)

Beyond minimal levels of health and safety regulated by the state, the quality of providers' learning environments has long been indicated by accreditation by the National Association for the Education of Young Children (NAEYC). A growing number of providers are seeking accreditation: KinderCare, the nation's largest private childcare provider, for example, has recently earned accreditation for almost all of its roughly 1,500 centers. Yet of the 326,000 providers that were paid with CCDF subsidies in 2014, just 7,126 had earned NAEYC accreditation.

To address inadequate information on childcare quality, many states have implemented some version of a Quality Rating and Improvement System (QRIS), which rates providers, usually on a four- or five-star scale, and reports ratings publicly. In 2016, 39 states had a QRIS in place, up from just 4 states in 2000. Although QRISs are an important effort to improve childcare quality, their rigor and effectiveness varies. In many states, QRIS participation is not mandatory for providers and participation rates are low. Further, many QRISs emphasize structural and input elements of quality, while focusing less on the process-quality indicators most highly predictive of positive child outcomes.¹¹⁵

Childcare rating systems drive meaningful improvement in quality only when providers participate and when systems measure what matters to children's learning and development.



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare

How to Build a Strong Market

The U.S. childcare sector is highly decentralized, with wide state and local variation in monitoring and enforcement of even minimal health and safety standards. Mechanisms to drive improved quality and access are currently weak or non-existent. Yet increasing access to high-quality care is crucial to American families, to the productivity of the current workforce, and, ultimately, to children's capacity to be productive workers and good citizens in the future.

The United States needs a strong, market-driven system that provides access to high-quality care. As with any education market, the key to building a well-functioning childcare market, driven by parent choice, is to shore up demand: providing parents with access to high-quality providers, good options to choose from, and sufficient information to choose well. Stronger demand for quality, in turn, will drive an increased supply of high-quality care.

A strong market also needs the incentives and flexibility to encourage innovation. We need better mechanisms, whether public or private, to replicate successful childcare programs and to experiment with promising new research-based approaches.

Minnesota's Early Learning Scholarship Program

Minnesota's Early Learning Scholarship program provides a good model of a market-based, choice-driven approach. The program provides scholarships to poor and low-income families to pay for early care and education at a broad range of state-approved providers.

With support from the business and philanthropic sectors, the state of Minnesota operates Parent Aware, a system that rates the quality of early education providers on a scale of one to four stars. Parent Aware helps parents choose the best place for their child by providing accessible, user-friendly information on providers' characteristics and quality.

Providers must participate in Parent Aware to qualify for the state's approved-provider network and be eligible to receive scholarship dollars. Over time, providers are required to meet a three- or four-star level to participate and are thus incentivized to raise quality to remain in the network and better attract parents.¹¹⁶

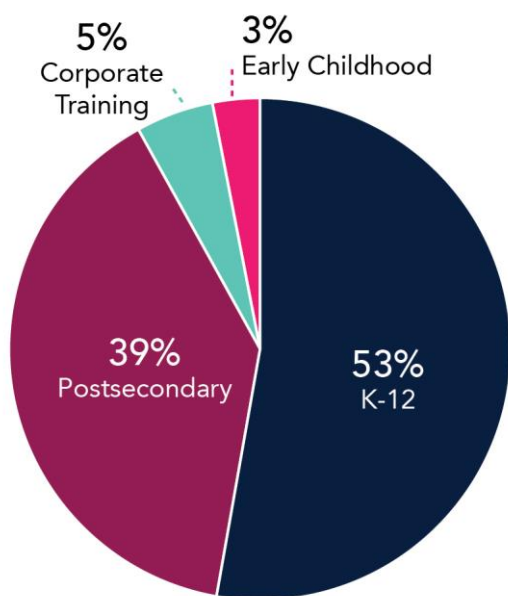


WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare

Early childhood lays the foundation for all future development, playing an essential role in building our nation's human capital for generations to come. While about 28% of federal expenditures on children's care and education from birth to age 18 is currently spent on children under age 5, less than 2% of state care and education expenditures are spent on early childhood.¹¹⁷ Overall, a very small percentage of total U.S. public and private education spending is directed to children's critical first years (see Figure 13).¹¹⁸

Figure 13: Distribution of Total US Education Spending – 2016



Source: "Education and Training," September 2016, BMO Capital Markets Corp.

Yet the crucial groundwork for lifelong achievement is formed in those overlooked earliest years. As James Heckman has written, home environments that lack adequate cognitive and noncognitive stimulation for young children "are powerful predictors of adult failure." And enriched early childhood environments produce more successful adults.¹¹⁹

While low-quality childcare adds to gaps left by children's home environments, high-quality childcare can help fill them by providing supportive, stimulating environments that supplement the resources children have at home. A strong childcare market will increase access to the high-quality care parents seek, which, in turn, benefits children, the schools they go to, working families, and American business.



The Key Role of Business Leadership

America's business leaders have long understood the importance of a well-educated workforce to support a strong economy, keep America competitive globally, and ensure a vibrant democracy. And the business community has long played a leadership role in strengthening the education pipeline so crucial to our nation's economic growth and prosperity.

Since "A Nation At Risk" warned of "a rising tide of mediocrity" more than 30 years ago, American business has become deeply engaged in improving the nation's schools and colleges.¹²⁰ Business leaders have been prominent supporters of ongoing efforts to close the achievement gap and improve the quality of American education. In 2015, 29% of major corporate giving was directed to K-12 and higher education, with additional contributions through employee volunteering and in-kind donations.¹²¹ Yet progress is slow and generations of students are being left behind.

A root cause of low K-12 performance is that we've neglected the critical first link in the human development chain. Children's earliest experiences shape their cognitive, social, and emotional abilities and determine their aptitude to learn. Instead of trying to close achievement gaps after children have entered school, it's far more efficient to prevent those gaps from emerging in the first place.

Business can make a pivotal difference in the lives of our nation's young children by advancing high-quality, developmentally and educationally sound childcare, which ensures that children have the chance to develop well and begin kindergarten ready to thrive in school, work, and life.

High-quality childcare makes a two-generation contribution to a prosperous and sustainable America. It strengthens our workforce—increasing completion of postsecondary education, raising labor force participation, boosting workforce productivity, and helping business attract and retain talent. It strengthens local economies—enabling parents to work while simultaneously providing jobs and an often-scarce opportunity for entrepreneurship and small-business ownership in the childcare industry itself.

And finally, high-quality childcare is a wise investment in America's future: Our nation's prosperity tomorrow rests on the young children who are in childcare today.



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare

* * * * *

As awareness of early childhood's crucial role grows, business leaders across the country are stepping up. Here are a few examples of leadership across the country:

- In Colorado, business leaders came together to launch Executives Partnering to Invest in Children in 2010, building a broad group of business supporters who serve as champions of smart public and private investments in young children at the state and local levels.
- In Minnesota, a coalition of business leaders developed, funded, and launched a pilot initiative, operated from 2006 to 2011, to test and refine an innovative, market-based program providing vouchers and information to low-income families that enable them to access high-quality childcare. Based on its initial demonstrated success, the program, called Early Learning Scholarships, has since been expanded and is now funded by the state.
- Launched in 2008, a business coalition in Mississippi has raised over \$6 million for Mississippi Building Blocks (MBB), an evidence-based program that improves children's school readiness by helping childcare centers improve the quality of their practices and programs. MBB's multipronged strategy provides on-site teacher coaching, classroom material donations, advocates who work with families to promote engagement in their child's education, and business advisers who assist providers in improving leadership and management of their programs.
- In North Carolina, the Charlotte-Mecklenburg Opportunity Task Force of business and community leaders has highlighted early care and education as one of the key determinants of opportunity. Their final report, "Leading on Opportunity," issued in March 2017, outlines an investment strategy for increasing access to high-quality early care and education for all children from birth to age 5 in Mecklenburg County.
- In early 2017, Vermont business leaders formed the Vermont Early Childhood Business Council, a coalition of employers and business leaders committed to advancing high-quality, affordable childcare as crucial to the state's current and future economic health and prosperity.



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: *The Business Case for High-Quality Childcare*

The business leaders driving these efforts recognize that good childcare is crucial to their success: today's workers need it, tomorrow's workers are in it, and childcare providers are members of the local business community.

Childcare also offers a unique opportunity for business to lead transformative public-sector innovation. In contrast to the complex layers of policy and government regulation encompassing the public schools, barriers to improvement in the childcare arena are very low. It's crucial, little-trodden territory that's ripe for strong leadership.

On the following page are a few ideas for getting started.

Opportunities for Business Engagement

Ten things you can do to advance access to high-quality childcare

1. **Join Forces**

Join or build an early childhood business coalition to educate and engage peers and the public. Business leaders make powerful public messengers for support of public investment in effective early care and learning programs.

2. **Set the Policy Agenda**

Leverage your influence to serve as a public policy advocate for young children. Include childcare in your local business organization's legislative agenda. Sign onto or create a policy statement in support of high-quality childcare.

3. **Make the Business Case**

Promote early learning policies as part of the economic development agenda. Help business colleagues and policymakers understand the economic benefits that high-quality childcare brings to states and local communities.

4. **Speak Out for Children**

Share your knowledge through speaking engagements, op-eds, and blogs that highlight the impact of high-quality childcare on children, families, local businesses, and regional economic development. Launch a media campaign with local partners to focus public attention on the critical role childcare plays in improved school achievement and a stronger regional economy.

5. **Contribute Through Philanthropy**

Invest your philanthropic dollars in organizations and providers that support early care and learning programs for low-income children. Direct corporate social responsibility funds to programs and initiatives that support high-quality childcare, like scholarship programs that help ensure low-income children have access to high-quality programs. Donate materials like books and art supplies to under-resourced local childcare providers.



6. Lead by Example

Adopt policies that support your employees who have young children. Implement a childcare benefits program and consider establishing an on-site childcare center. Employees who know that their children are in safe, reliable, and high-quality environments are more engaged, productive workers.

7. Share Your Business Expertise

Use your organization's skills to support the business side of childcare. By providing technical assistance and professional development to childcare business owners, you can increase provider stability and raise the quality of care. Explore setting up a shared-services program that assists a network of childcare providers by pooling and streamlining back-office functions like purchasing, payroll, and billing.

8. Initiate Local Innovation

Create a team of local business, community, and childcare leaders to explore local challenges and opportunities, identify new partnerships, and develop innovative, community-wide strategies for improving access to and delivery of high-quality childcare. Collaborate with local organizations to launch pilot, "proof of concept" models. Investigate options for public-private partnerships and innovative financing mechanisms like pay-for-success and social impact bonds to scale up evidence-based programs with a demonstrated record of success.

9. Lay the Groundwork for Systemic Change

Work with state or local partners to begin developing a fact base on the existing childcare policy landscape. Evaluate current data systems and the relevance and rigor of your state's quality rating system to identify strengths and gaps. Building better information on what's currently in place lays the crucial groundwork for developing longer-term strategies to achieve impact, scale, and sustainability of high-quality childcare.

10. Make a Site Visit

Take a couple of hours for a visit to a local childcare provider. There's nothing like seeing something in action for getting a new perspective on what's working, what can be improved, and how. Children love visitors, and childcare providers will welcome the interest in and appreciation for their work.



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW:

The Business Case for High-Quality Childcare

Acknowledgements

The U.S. Chamber of Commerce Foundation acknowledges the following people for their contributions to this report.

Author



Katharine B. Stevens

Katharine Stevens leads the American Enterprise Institute's (AEI) early-childhood program, focusing on the research, policy, and politics of early childhood care and education.

The U.S. Chamber of Commerce Foundation Team

Cheryl A. Oldham, Senior Vice President

Caitlin Codella, Senior Director

Lucy Davidson, Manager

Report Production

Kristin Greene

Mary Xu

Others

Kelsey Hamilton, AEI

Jenn Hatfield, AEI



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

Endnotes

¹ Aberdeen Group, “The State of the US Workforce: How to Overcome the Skills Gap,” December 30, 2015, <http://aberdeen.com/research/11635/11635-RR-state-us-workforce.aspx/content.aspx>.

² PRNewswire, “The Skills Gap is Costing Companies Nearly \$1 Million Annually, According to New Career Builder Survey,” April 13, 2017, <http://press.careerbuilder.com/2017-04-13-The-Skills-Gap-is-Costing-Companies-Nearly-1-Million-Annually-According-to-New-CareerBuilder-Survey>.

³ Adecco Staffing, “Mind the Skills Gap,” 2014, <http://pages.adeccousa.com/rs/adeccousa/images/2014-mind-the-skills-gap.pdf>.

⁴ Bureau of Labor Statistics, “The Employment Situation—May 2017,” June 2, 2017, <https://www.bls.gov/news.release/empstat.nr0.htm>.

⁵ Gallup, “Gallup Daily: Gallup Good Jobs,” <http://www.gallup.com/poll/125639/gallup-good-jobs.aspx>.

⁶ Dillion Green, “U.S. Chamber of Commerce & Boy Scouts of America Partner to Help Bring Career Possibilities to Life,” *Exploring.org*, August 25, 2016, <http://www.exploring.org/blog/u-s-chamber-commerce-boy-scouts-america-partner-help-bring-career-possibilities-life/>.

⁷ Bureau of Labor Statistics, *The Employment Situation—May 2017*, June 2, 2017, <https://www.bls.gov/news.release/empstat.nr0.htm>.

⁸ Organisation for Economic Co-operation and Development, “Education at a Glance 2014: United States,” Organisation for Economic Co-operation and Development, 2014, <https://www.oecd.org/unitedstates/United%20States-EAG2014-Country-Note.pdf>.

⁹ Abby Jackson and Andy Kiersz, “The Latest Ranking of Top Countries in Math, Reading, and Science Is Out – And the US Didn’t Crack the Top 10,” *Business Insider*, December 6, 2016, <http://www.businessinsider.com/pisa-worldwide-ranking-of-math-science-reading-skills-2016-12>; David Kastberg et al., “Performance of U.S. 15-Year-Old Students in Science, Reading, and Mathematics Literacy in an International Context: First Look at PISA 2015,” National Center for Education Statistics, December 2016, <https://nces.ed.gov/pubs2017/2017048.pdf>.

¹⁰ National Assessment of Educational Progress, “The Nation’s Report Card,” 1964 – 2012, <https://www.nationsreportcard.gov/>.

¹¹ National Center for Education Statistics, “National Assessment of Adult Literacy (NAAL): Demographics Overall,” https://nces.ed.gov/naal/kf_demographics.asp.

¹² Lumina Foundation, “A Stronger Nation: Postsecondary Learning Builds the Talent That Helps Us Rise,” 2016, <http://strongernation.luminafoundation.org/report/2016/>; Derek Thompson, “The Missing Men,” *The Atlantic*, June 27, 2016, <https://www.theatlantic.com/business/archive/2016/06/the-missing-men/488858/>.

¹³ Doug Shapiro, Afet Dunder, Phoebe Khasiala Wakhungu, Xin Yuan, Angel Nathan, and Youngsik Hwang, “Completing College: A National View of Student Attainment Rates – Fall 2009 Cohort” (Signature Report No. 10), National Student Clearinghouse Research Center, November 2015, <https://nscresearchcenter.org/wp-content/uploads/SignatureReport10.pdf>.

¹⁴ Anthony P. Carnevale, Nicole Smith, and Jeff Strohl, “Help Wanted: Projecting Jobs and Education Requirements Through 2018,” Georgetown University Center on Education and the Workforce, June 2010, <https://cew.georgetown.edu/cew-reports/help-wanted/>.

¹⁵ Anthony P. Carnevale, Jeff Strohl, and Artem Gulish, “College Is Just the Beginning: Employers’ Role in the \$1.1 Trillion Postsecondary Education and Training System,” Georgetown University Center on Education and the Workforce, 2015, <https://cew.georgetown.edu/wp-content/uploads/2015/02/Trillion-Dollar-Training-System-.pdf>.



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

¹⁶ Anthony P. Carnevale, Nicole Smith, and Jeff Strohl, "Recovery: Job Growth and Education Requirements Through 2020," Georgetown University Center on Education and the Workforce, June 2013, https://cew.georgetown.edu/wp-content/uploads/2014/11/Recovery2020.FR_Web_.pdf.

¹⁷ Tamara Halle et al., "Disparities in Early Learning and Development: Lessons from the Early Childhood Longitudinal Study – Birth Cohort (ECLS-B)," *Child Trends*, June 2009, www.childtrends.org/wp-content/uploads/2013/05/2009-52DisparitiesLEExecSumm.pdf.

¹⁸ Anne Fernald, Virginia A. Marchman, and Adriana Weisleder, "SES Differences in Language Processing Skill and Vocabulary Are Evident at 18 Months," *Developmental Science* 16 (2013): 234–48.

¹⁹ By age 3, children of professional parents heard 45 million words, those of working-class parents heard 26 million words, and those of parents receiving welfare heard 13 million words. The differences in numbers of words heard were reflected in children's vocabularies at age 3: Children with professional parents had average vocabularies of 1,116 words, compared with 749 words for working-class and 525 for children of parents receiving welfare; Vocabulary at age 3 predicts reading skills in third grade, which, in turn, are an especially strong predictor of long-term school and life outcomes. A 2009 study found that about 16% of children who were not reading proficiently by the end of third grade failed to complete high school—a dropout rate four times higher than that of proficient readers. Among children who were not reading proficiently at the end of third grade and were poor for at least one year, 26% failed to graduate from high school. In contrast, 89% of poor children who were reading on grade level by third grade graduated by age 19. Donald J. Hernandez, "Double Jeopardy: How Third Grade Reading Skills and Poverty Influence High School Graduation," Annie E. Casey Foundation, April 2011, <http://www.aecf.org/m/resourcedoc/AECF-DoubleJeopardy-2012-Full.pdf>.

²⁰ David M. Quinn, "Kindergarten Black–White Test Score Gaps: Re-Examining the Roles of Socioeconomic Status and School Quality with New Data," *Sociology of Education* 88 (2015): 120–39, <http://www.asanet.org/sites/default/files/savvy/journals/soe/Apr15SOEFeature.pdf>; Lisa G. Klein and Jane Knitzer, "Promoting Effective Early Learning: What Every Policymaker and Educator Should Know," National Center for Children in Poverty, January 2007, http://www.nccp.org/publications/pub_695.html.

²¹ Julia B. Isaacs, "Starting School at a Disadvantage: The School Readiness of Poor Children," The Brookings Institution, March 2012, https://www.brookings.edu/wp-content/uploads/2016/06/0319_school_disadvantage_isaacs.pdf; Bjorn Carey, "Language gap between rich and poor children begins in infancy, Stanford psychologists find," The Stanford Report, September 25, 2013, <http://news.stanford.edu/news/2013/september/toddler-language-gap-091213.html>.

²² John K. McNamara, Mary Scissons, and Naomi Gutknecht, "A Longitudinal Study of Kindergarten Children at Risk for Reading Disabilities," *Journal of Learning Disabilities* 44 (2011): 421–30; Sean F. Reardon, "The Widening Academic Achievement Gap between the Rich and the Poor," *Community Investments* 24 (2012), http://www.frbsf.org/community-development/files/CI_Summer2012_Reardon.pdf.

²³ McKinsey & Company, "The Economic Impact of the Achievement Gap in America's Schools," April 2009, http://mckinseysociety.com/downloads/reports/Education/achievement_gap_report.pdf.

²⁴ Harvard University Center on the Developing Child, "A Science-Based Framework for Early Childhood Policy," August 2007, <http://developingchild.harvard.edu/resources/a-science-based-framework-for-early-childhood-policy/>.

²⁵ U.S. Bureau of Labor Statistics (BLS), "Women in the Labor Force: A Databook" (BLS Report No. 1052), 2014, <https://www.bls.gov/opub/reports/womens-databook/archive/women-in-the-labor-force-a-databook-2014.pdf>.

²⁶ Ajay Chaudry and Jane Waldfogel, "A 10-Year Strategy of Increased Coordination & Comprehensive Investments in Early Child Development," *Behavioral Science & Policy* 2 (2016): 47–55, <https://behavioralpolicy.org/articles/a-10-year-strategy-of-increased-coordination-comprehensive-investments-in-early-child-development/>; U.S. Bureau of Labor Statistics (BLS), "Women in the Labor Force: A Databook" (BLS Report No. 1052), 2014, <https://www.bls.gov/opub/reports/womens-databook/archive/women-in-the-labor-force-a-databook-2014.pdf>; U.S. Bureau of Labor Statistics (BLS), "Employment Characteristics of Families—2016: Table 6. Employment status of mothers with own children under 3 years old by single year of age of youngest child and marital status, 2015–2016 annual averages," Bureau of Labor Statistics, April 20, 2017, <https://www.bls.gov/news.release/famee.t06.htm>.



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

- ²⁷ U.S. Department of Health and Human Services and U.S. Department of Education, “High-Quality Early Learning Settings Depend on a High-Quality Workforce: Low Compensation Undermines Quality,” June 2016, <https://www2.ed.gov/about/inits/ed/earlylearning/files/ece-low-compensation-undermines-quality-report-2016.pdf>; Rasheed Malik and Jamal Hagler, “Black Families Work More, Earn Less, and Face Difficult Childcare Choices,” Center for American Progress, August 5, 2015, <https://www.americanprogress.org/issues/early-childhood/news/2016/08/05/142296/black-families-work-more-earn-less-and-face-difficult-child-care-choices/>.
- ²⁸ Child Care Aware of America, “Parents and the High Cost of Childcare,” 2015, <http://www.usa.childcareaware.org/advocacy-public-policy/resources/reports-and-research/costofcare/>; Lynda Laughlin, “Who’s Minding the Kids? Childcare Arrangements: Spring 2011,” U.S. Department of Commerce, Economics and Statistics Administration, April 2013, <https://www.census.gov/prod/2013pubs/p70-135.pdf>.
- ²⁹ Total hours of childcare are calculated at 40 hours per week from birth through age 4. Total hours for pre-K is calculated based on a full year of a typical, full-day program: 6 hours per day for 180 regular school days.
- ³⁰ Bureau of Labor Statistics, “Employment Characteristics of Families – 2016,” Bureau of Labor Statistics, U.S. Department of Labor, April 20, 2017, <https://www.bls.gov/news.release/pdf/famee.pdf>.
- ³¹ Bethany Nelson, Meghan Froehner, and Barbara Gault, “College Students With Children Are Common and Face Many Challenges in Completing Higher Education,” Institute for Women’s Policy Research, March 2013, <https://iwpr.org/wp-content/uploads/wpallimport/files/iwpr-export/publications/C404-College%20Students%20with%20Children%20are%20Common%20and%20Face%20Challenges.pdf>; Kevin Miller, Barbara Gault, and Abby Thorman, “Improving Child Care Access to Promote Postsecondary Success Among Low-Income Parents,” Student Parent Success Initiative, Institute for Women’s Policy Research, March 22, 2011, <https://iwpr.org/wp-content/uploads/wpallimport/files/iwpr-export/publications/C378.pdf>; Konrad Mugglestone, “Finding Time: Millennial Parents, Poverty, and Rising Costs,” *Young Invincibles*, May 2015, <http://younginvincibles.org/wp-content/uploads/2015/04/Finding-Time-Millennial-Parents-Poverty-and-Rising-Costs.pdf>; Cynthia Hess et al., “Securing a Better Future: A Portrait of Female Students in Mississippi’s Community Colleges,” Institute for Women’s Policy Research and the Women’s Foundation of Mississippi, June 12, 2014, <http://www.iwpr.org/publications/pubs/securing-a-better-future-a-portrait-of-female-students-in-mississippi2019s-community-colleges>; Jean Johnson et al., “With Their Whole Lives Ahead of Them: Myths and Realities About Why So Many Students Fail to Finish College,” *Public Agenda*, 2009, <http://www.publicagenda.org/files/theirwholelivesaheadofthem.pdf>.
- ³² Elizabeth Noll, Lindsey Reichlin, and Barbara Gault, “College Students with Children: National and Regional Profiles,” Institute for Women’s Policy Research, January 2017, <https://iwpr.org/wp-content/uploads/2017/02/C451-5.pdf>.
- ³³ Johnson et al., “With Their Whole Lives Ahead of Them.” Students with children also amass greater debt than their childless peers: see Mugglestone, “Finding Time: Millennial Parents, Poverty, and Rising Costs.”
- ³⁴ In one focus group for dropouts, “several young women gasped in disbelief” when the moderator listed childcare as one of many potential solutions to the college dropout problem, immediately agreeing that it would help a great deal. “‘Would a college ever do that?’ most of them asked.” Johnson et al., “With Their Whole Lives Ahead of Them.”
- ³⁵ Akin Oyedele, “Jobs miss big, unemployment rate falls to 16-year low,” *Business Insider*, June 2, 2017, <http://www.businessinsider.com/us-jobs-report-may-2017-6>; Trading Economics, “United States Labor Force Participation Rate, 1950–2017,” <http://www.tradingeconomics.com/united-states/labor-force-participation-rate>.
- ³⁶ Congressional Budget Office, “Long-Term Projections of Labor Force Participation,” January 2017, <https://www.cbo.gov/publication/52365>.
- ³⁷ Angela Rachidi, “America’s Work Problem: How Addressing the Reasons People Don’t Work Can Reduce Poverty,” American Enterprise Institute, July 14, 2016, <http://www.aei.org/publication/americas-work-problem-how-addressing-the-reasons-people-dont-work-can-reduce-poverty/>.
- ³⁸ Rachidi, “America’s Work Problem.”



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

³⁹ Among married-couple families with children under age 6, 46% which had just one spouse working had household income under 200% of the federal poverty line (FPL) compared with 15% in families with both spouses working. When both spouses worked full time, just 6% had household income under 200% of FPL. Among single-parent families with children under age 6, 91% of those with a nonworking parent had income under 200% of FPL compared with 66% with a parent working full time. See U.S. Census, “Current Population Survey, 2016 Annual Social and Economic Supplement, POV16: Families With Related Children Under 6 by Householder’s Work Experience and Family Structure,” 2016, <https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-pov/pov-16.html>.

⁴⁰ Talent 2025, “Increasing Participation, Enhancing Economics: A Workforce Development Working Group Report,” February 2017, http://www.talent2025.org/uploads/files/Talent2025_2017-Workforce-Development-Report_print.pdf.

⁴¹ Doug Luciani, Rob Fowler, and Kevin Stotts, “Child Care Isn’t Just a Parental Issue, It’s a Concern for Employers, Too,” *Bridge Magazine*, April 18, 2017, <http://www.bridgemi.com/guest-commentary/child-care-isnt-just-parental-issue-its-concern-employers-too>.

⁴² Belinda Davis et al., “Losing Ground: How Child Care Impacts Louisiana’s Workforce Productivity and the State Economy,” Louisiana Policy Institute for Children, May 2017, http://media.wix.com/ugd/20d35d_476f91b779d74b74937ccdd9965d74e3.pdf.

⁴³ Sarah Jane Glynn and Danielle Corley, “The Cost of Work-Family Policy Inaction: Quantifying the Costs Families Currently Face as a Result of Lacking U.S. Work-Family Policies,” Center for American Progress, September 22, 2016, <https://www.americanprogress.org/issues/women/reports/2016/09/22/143877/the-cost-of-inaction/>.

⁴⁴ Heather Boushey and Sarah Jane Glynn, “There Are Significant Business Costs to Replacing Employees,” Center for American Progress, November 16, 2012, <https://www.americanprogress.org/issues/economy/reports/2012/11/16/44464/there-are-significant-business-costs-to-replacing-employees/>; Kimberly Gilsdorf and Fay Hanleybrown, “Investing in Entry-Level Talent: Retention Strategies that Work,” Foundation Strategy Group, 2017, <http://fsg.org/publications/investing-entry-level-talent>; Robin Erickson, “Calculating the True Cost of Voluntary Turnover,” Bersin by Deloitte Research Bulletin, 2017, <http://www.visier.com/lp/calculating-the-true-cost-of-voluntary-turnover/>.

⁴⁵ Horizons Workforce Consulting, “The Lasting Impact of Employer-Sponsored Child Care Centers,” Bright Horizons Family Solutions, 2016, <http://solutionsatwork.brighthorizons.com/~media/4b2ffe0bc88e403d98fc05997acdc491>.

⁴⁶ Care.com, “2016 Cost of Care Survey,” 2016, <https://www.care.com/c/stories/2423/how-much-does-child-care-cost/>.

⁴⁷ Danielle Paquette and Peyton M. Craighill, “The surprising number of parents scaling back at work to care for kids,” *The Washington Post*, August 6, 2015, https://www.washingtonpost.com/business/economy/the-surprising-number-of-moms-and-dads-scaling-back-at-work-to-care-for-their-kids/2015/08/06/c7134c50-3ab7-11e5-b3ac-8a79bc44e5e2_story.html?utm_term=.d5b880f1c184.

⁴⁸ Paquette and Craighill, “The surprising number of parents scaling back at work to care for kids.”

⁴⁹ Forty percent of U.S. employers say they plan to add full-time, permanent staff in 2017. See Matt Ferguson, “2017 Shows Strongest Hiring Outlook in a Decade,” CareerBuilder, January 6, 2017, <http://resources.careerbuilder.com/hiring-strategy/annual-job-forecast>.

⁵⁰ National Association of Colleges and Employers, “The Attributes Employers Seek on a Candidate’s Resume,” December 7, 2016, <http://www.nacweb.org/talent-acquisition/candidate-selection/the-attributes-employers-seek-on-a-candidates-resume/>.

⁵¹ World Economic Forum, “The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution,” 2016, http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf.



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

⁵² Kate Davidson, “Employers Find ‘Soft Skills’ Like Critical Thinking in Short Supply,” *The Wall Street Journal*, August 30, 2016, <https://www.wsj.com/articles/employers-find-soft-skills-like-critical-thinking-in-short-supply-1472549400>.

⁵³ Adecco Staffing, “Mind the Skills Gap,” 2014, <http://pages.adeccousa.com/rs/adeccousa/images/2014-mind-the-skills-gap.pdf>.

⁵⁴ “Are They Really Ready To Work? Employers’ Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century U.S. Workforce,” 2006, The Conference Board; “AMA 2010 Critical Skills Survey,” 2010, American Management Association, <http://www.p21.org/storage/documents/Critical%20Skills%20Survey%20Executive%20Summary.pdf>; “The New Talent Landscape: Recruiting Difficulty and Skills Shortages,” June 2016, Society for Human Resource Management, <https://www.shrm.org/hr-today/trends-and-forecasting/research-and-surveys/Documents/SHRM%20New%20Talent%20Landscape%20Recruiting%20Difficulty%20Skills.pdf>; “Business Decision-Makers View of The Importance of Early Childhood in Promoting Social-Emotional Skills in the Adult Workforce,” February 2017, Zogby Analytics.

⁵⁵ David J. Deming, “The Growing Importance of Social Skills in the Labor Market” (National Bureau of Economic Research Working Paper No. 21473), August 2015, <http://www.nber.org/papers/w21473.pdf>.

⁵⁶ David H. Autor, “Why Are There Still So Many Jobs? The History and Future of Workplace Automation,” *Journal of Economic Perspectives* 29 (2015): 27, <https://economics.mit.edu/files/11563>

⁵⁷ Nir Jaimovich and Henry Siu, “The Trend is the Cycle: Job Polarization and Jobless Recoveries,” National Bureau of Economic Research, August 2012, <http://www.nber.org/papers/w18334>.

⁵⁸ Flavio Cunha, James J. Heckman, Lance Lochner, and Dimitriy V. Masterov, “Interpreting the Evidence on Life Cycle Skill Formation,” *Handbook of the Economics of Education* 1 (2006): 697–812, http://jenni.uchicago.edu/papers/Cunha_Heckman_etal_2006_HEE_v1_ch12.pdf.

⁵⁹ Flavio Cunha, James Heckman and Susanne Schennach, “Estimating the Technology of Cognitive and Noncognitive Skill Formation,” Institute for the Study of Labor (IZA), January 2010, <http://ftp.iza.org/dp4702.pdf>.

⁶⁰ James J. Heckman and Tim Kautz, “Hard evidence on soft skills,” *Labour Economics*, August 1, 2012, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3612993/>.

⁶¹ Amie Bettencourt, Deborah Gross, and Grace Ho, “The Costly Consequences of Not Being Socially and Behaviorally Ready by Kindergarten: Associations with Grade Retention, Receipt of Academic Support Services, and Suspensions/Expulsions,” Baltimore Education Research Consortium, March 2016, <http://baltimore-berc.org/wp-content/uploads/2016/03/SocialBehavioralReadinessMarch2016.pdf>.

⁶² Damon E. Jones, Mark Greenberg, and Max Crowley, “Early Social-Emotional Functioning and Public Health: The Relationship between Kindergarten Social Competence and Future Wellness,” *American Journal of Public Health* 105 (2015): 2283–90, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4605168/>.

⁶³ James J. Heckman and Dimitriy V. Masterov, 2007, “The Productivity Argument for Investing in Young Children,” Review of Agricultural Economics, American Agricultural Economics Association, Vol. 29(3) 446-493, 09.

⁶⁴ Pedro Carneiro and James J. Heckman, “Human Capital Policy,” in *Inequality in America: What Role for Human Capital Policies?* ed. James J. Heckman, Alan B. Krueger, and Benjamin M. Friedman, MIT Press, 2003, http://jenni.uchicago.edu/Berestycki/HCP_ch2_proofs_2005-04-26.pdf.

⁶⁵ Arthur J. Rolnick and Rob Grunewald, “Early Intervention on a Large Scale,” January 2007, Federal Reserve Bank of Minneapolis, <https://www.minneapolisfed.org/publications/special-studies/early-childhood-development/early-intervention-on-a-large-scale>.



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

⁶⁶ James J. Heckman, “Invest in the Very Young,” Ounce of Prevention Fund and the University of Chicago Harris School of Public Policy Studies, 2002.

⁶⁷ RegionTrack Inc., “Childcare in State Economies,” Committee for Economic Development, 2015, <https://www.ced.org/pdf/Report%20-%20Child%20Care%20in%20State%20Economies.pdf>.

⁶⁸ Katie Hamm and Carmel Martin, “A New Vision for Child Care in the United States: A Proposed New Tax Credit to Expand High-Quality Health Care,” Center for American Progress, September 2015, <https://cdn.americanprogress.org/wp-content/uploads/2015/08/31111043/Hamm-Childcare-report.pdf>.

⁶⁹ Sources include Administration for Children and Families, Health and Human Services: Child Care and Development Fund Subsidy Use; Administration for Children and Families, Health and Human Services: National Survey of Early Care and Education; Bureau of Labor Statistics; Child Care Aware of America; National Association for Regulatory Administration; National Center for Education Statistics; National Household Education Surveys: Early Childhood Program Participation, 2012; Office of Planning, Research, and Evaluation; U.S. Census Bureau, Survey of Income and Program Participation, 2011; U.S. Economic Census.

⁷⁰ U.S. Census Bureau, 2012 Economic Census of the United States, 2012, accessed through American FactFinder, <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

⁷¹ National Survey of Early Care and Education Project Team, “Fact Sheet: Characteristics of Center-based Early Care and Education Programs,” U.S. Department of Health and Human Services, 2014, https://www.acf.hhs.gov/sites/default/files/opre/characteristics_of_cb_fact_sheet_final_111014.pdf; The 60 largest for-profit providers together operate about 6,500 centers with spaces for approximately 1 million children, constituting a tiny fraction of the more than 75,000 employer providers and serving only about 5% of the 12 million preschool children in nonparental care.

⁷² This average includes all children from 0 to 14 in care across the country—ranging from full-time infant care to after-school care for a 14-year-old—obscuring big variation in cost per child. In addition, regional variation in childcare costs is large.

⁷³ The largest categories of childcare provider purchases are real estate (\$5.5 billion) and manufactured goods (\$3.7 billion), including food, transportation equipment, paper products, plastic products, toys and games, cleaning products, and items needed for real estate and grounds maintenance. Other major purchases include finance and insurance (\$1.1 billion, primarily for real estate rental); professional, scientific, and technical services (\$1.1 billion, mostly legal, accounting, and marketing services); utilities (\$439 million); transportation and warehousing (\$336 million, primarily for vehicle transportation); accommodation and food services (\$512 million, primarily for food preparation); and information (\$473 million, for telecommunications, data processing, and publications). All data from 2012. See RegionTrack Inc., “Childcare in State Economies.”

⁷⁵ RegionTrack Inc., “Childcare in State Economies.”

⁷⁶ Home-based providers generate at least 40% of total revenue in North Dakota, Iowa, Minnesota, South Dakota, Kansas, and Nebraska; Home-based providers generate 16% or less of total revenue in Massachusetts, New Mexico, Rhode Island, Connecticut, Florida, New Hampshire, North Carolina, Pennsylvania, and New Jersey.

⁷⁷ Over half of the state’s childcare workforce are self-employed home providers in California, Michigan, Illinois, Kansas, Iowa, Minnesota, Utah, Nevada, New York, South Dakota, and North Dakota; Under a third of the state’s childcare workforce are self-employed in Delaware, New Hampshire, Massachusetts, New Jersey, Pennsylvania, and Hawaii.

⁷⁸ For a detailed discussion of Regional Input-Output Modeling System multiplier methodology, see Bureau of Economic Analysis, “RIMS II: An Essential Tool for Regional Developers and Planners,” U.S. Department of Commerce, 2013, https://www.bea.gov/regional/pdf/rims/RIMSII_User_Guide.pdf; Mildred Warner, “Childcare Multipliers: Stimulus for the States”; For a discussion of the use of multipliers in the childcare industry specifically, see RegionTrack Inc., “Childcare in State Economies”; For a list of state-level Regional Input-Output Modeling System multipliers estimated by the Bureau of Economic Analysis for the childcare industry, see RegionTrack Inc., “Childcare in State Economies,” 2015, pp.: 41 and 43.

⁷⁹ RegionTrack Inc., “Childcare in State Economies.”



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

⁸⁰ For studies of the childcare industry's economic impact in most states, see Early Learning Policy Group LLC, "The Economic Impact of Child Care within States," 2014, <http://www.earlylearningpolicygroup.com/childcare-economic-impact.html>.

⁸¹ Stephanie Schaefer, Susan L. Gates and Mike Kiernan, "Strengthening Missouri Businesses through Investments in Early Care and Education: How Investments in Early Learning Increase Sales from Local Businesses, Create Jobs and Grow the Economy," America's Edge, 2013, <http://dss.mo.gov/cbec/pdf/americas-edge-report-2013.pdf>.

⁸² Georgia Department of Early Care and Learning, "Economic Impact of the Early Care and Education Industry in Georgia," June 2016, <http://www.dec.al.gov/documents/attachments/EconImpactReport.pdf>. Georgia's childcare industry is described as the "6,200 licensed or regulated for-profit and not-for-profit early care and education centers, family childcare homes, group childcare homes, prekindergarten programs, military family childcare homes, Head Start sites, and military early care and education centers," reflecting the industry's typical complexity.

⁸³ Shannon Hill, "The Economic Impact of the All Our Kin Family Child Care Tool Kit Licensing Program," 2011, Connecticut Center for Economic Analysis at the University of Connecticut. Program graduates studied were 98% female, 65% Latino, 30% African American, and 5% white.

⁸⁴ Meredith Johnson Harbach, "Childcare Market Failure," *Utah Law Review* (2015): 659.

⁸⁵ "2016 National Poll: A Divided Electorate is United on Early Childhood Education." First Five Years Fund. 2016, <http://ffyf.org/2016-poll/>.

⁸⁶ James J. Heckman, "Investing in disadvantaged young children is an economically efficient policy," Presentation prepared for the Forum on Building the Economic Case for Investments in Preschool, Committee for Economic Development, 2006.

⁸⁷ See "Serve & Return Interaction Shapes Brain Circuitry," Harvard Center on the Developing Child, <http://developingchild.harvard.edu/resources/serve-return-interaction-shapes-brain-circuitry/>.

⁸⁸ National Scientific Council on the Developing Child (2004), *Young Children Develop in an Environment of Relationships: Working Paper No. 1*, www.developingchild.harvard.edu.

⁸⁹ U.S. Department of Health and Human Services, National Institutes of Health, "The NICHD Study of Early Child Care and Youth Development," National Institute of Child Health and Human Development, 2006, https://www.nichd.nih.gov/publications/pubs/documents/seccyd_06.pdf; National Scientific Council on the Developing Child, "Young Children Develop in an Environment of Relationships," Center on the Developing Child, Harvard University, October 2009, <http://developingchild.harvard.edu/wp-content/uploads/2004/04/Young-Children-Develop-in-an-Environment-of-Relationships.pdf>.

⁹⁰ John Love, Alicia Meckstroth, and Susan Sprachman, "Measuring the Quality of Program Environments in Head Start and Other Early Childhood Programs: A Review and Recommendations for Future Research," National Center for Education Statistics, October 1997, <https://nces.ed.gov/pubs97/9736.pdf>.

⁹¹ National Survey of Early Care and Education Project Team, "Number and Characteristics of Early Care and Education (ECE) Teachers and Caregivers: Initial Findings from the National Survey of Early Care and Education (NSECE)," Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, October 2013, https://www.acf.hhs.gov/sites/default/files/opre/nsece_wf_brief_102913_0.pdf.

⁹² Marcy Whitebook, Caitlin McLean, and Lea JE Austin, "Early Childhood Workforce Index, 2016," Center for the Study of Child Care Employment, University of California at Berkeley, 2016.

⁹³ Jennifer Ludden, "Poverty Wages for U.S. Child Care Workers May Be Behind Turnover," *National Public Radio*, November 7, 2016, <http://www.npr.org/sections/health-shots/2016/11/07/500407637/poverty-wages-for-u-s-child-care-workers-may-be-behind-high-turnover>.



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

⁹⁴ Harvard T.H. Chan School of Public Health, "Child Care and Health in America," National Public Radio/Robert Wood Johnson Foundation/Harvard School of Public Health, 2016, <http://www.rwjf.org/en/library/research/2016/10/child-care-and-health-in-america.html>.

⁹⁵ "Parents and the High Cost of Child Care: 2016 Report," Child Care Aware of America, 2016, http://www.usa.childcareaware.org/wp-content/uploads/2017/01/CCA_High_Cost_Report_01-17-17_final.pdf.

⁹⁶ Brigid Schulte and Alieza Durana, "The New America Care Report," New America/Care.com, September 28, 2016, <https://www.newamerica.org/better-life-lab/policy-papers/new-america-care-report/>.

⁹⁷ U.S. Census Bureau, "HINC-03. People in Households- Households, by Total Money Income, Age, Race and Hispanic Origin of Householder," Bureau of Labor Statistics/U.S. Census Bureau, 2016, <https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-hinc/hinc-03.html>; Katharine B. Stevens, "Child Care is Critical," *U.S. News and World Report*, January 12, 2017, <https://www.usnews.com/opinion/knowledge-bank/articles/2017-01-12/if-donald-trump-cares-about-the-american-dream-he-will-focus-on-child-care>; "Children ages 0 to 8 below 200 percent poverty: 2015." KIDS COUNT Data Center, 2015, <http://datacenter.kidscount.org/>.

⁹⁸ Dionne Dobbins, Jessica Tercha, Michelle McCready, and Anita Liu, "Child Care Deserts: Developing Solutions to Child Care Supply and Demand," Child Care Aware of America, 2016, <http://usa.childcareaware.org/wp-content/uploads/2016/09/Child-Care-Deserts-report-FINAL2.pdf>.

⁹⁹ Brigid Schulte and Alieza Durana, "The New America Care Report," New America/Care.com, September 28, 2016, <https://www.newamerica.org/better-life-lab/policy-papers/new-america-care-report/>.

¹⁰⁰ Board of Governors of the Federal Reserve System, "Report on the Economic Well-Being of U.S. Households in 2015," The Federal Reserve System, May 2016, <https://www.federalreserve.gov/2015-report-economic-well-being-us-households-201605.pdf>.

¹⁰¹ "Household Expenditures and Income," Pew Charitable Trusts, March 30, 2016, <http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2016/03/household-expenditures-and-income>.

¹⁰² CCDF Fiscal Year 2015 State Spending From All Appropriation Years, January 20, 2017, <https://www.acf.hhs.gov/occ/resource/ccdf-fy-2015-state-spending-from-all-appropriation-years>.

¹⁰³ U.S. Government Accountability Office (GAO). "Child Care: Access to Subsidies and Strategies to Manage Demand Vary Across States," December 15, 2016, <https://www.gao.gov/products/GAO-17-60>.

¹⁰⁴ J. Lee Kreder, Daniel Ferguson, and Sharmila Lawrence, "Infant and Toddler Child Care Quality. Research-to-Policy Connections No. 2," *Child Care & Early Education Research Connections* (2005); Lynda Laughlin, "Who's minding the kids? Child care arrangements: Spring 2011," U.S. Census Bureau (2013), <http://www.census.gov/prod/2013pubs/p70-135.pdf>; Erik Ruzek, Margaret Burchinal, George Farkas, and Greg J. Duncan, "The quality of toddler child care and cognitive skills at 24 months: Propensity score analysis results from the ECLS-B," *Early Childhood Research Quarterly* 29, no. 1 (2014): 12-21; Jonathan Cohn, "The Hell of American Day Care," *New Republic*, April 15, 2013, <https://newrepublic.com/article/112892/hell-american-day-care>.

¹⁰⁵ Maureen Pao, "U.S. Parents Are Sweating And Hustling To Pay For Child Care," *National Public Radio*, October 22, 2016, <http://www.npr.org/2016/10/22/498590650/u-s-parents-are-sweating-and-hustling-to-pay-for-child-care>.

¹⁰⁶ Harvard T.H. Chan School of Public Health, "Child Care and Health in America," National Public Radio/Robert Wood Johnson Foundation/Harvard School of Public Health, 2016, <http://www.rwjf.org/en/library/research/2016/10/child-care-and-health-in-america.html>.

¹⁰⁷ Pew Research Center, "Parenting in America: Child care and education: quality, availability and parental involvement," Pew Research Center, Social & Demographic Trends, December 17, 2015, <http://www.pewsocialtrends.org/2015/12/17/4-child-care-and-education-quality-availability-and-parental-involvement/>.



WORKFORCE OF TODAY, WORKFORCE OF TOMORROW: The Business Case for High-Quality Childcare

¹⁰⁸ Rob Grunewald and Michael Jahr, "Rating YoungStar: How Wisconsin's child care quality rating and improvement system measures up," Wisconsin Policy Research Institute, June 2017.

¹⁰⁹ Half of all states exempt providers from regulation if they have a "small number" of children in care; the definition of "small" varies by state from 1 to 12. See the National Association for Regulatory Administration's 2014 Child Care Licensing Study at <http://www.naralicensing.org/child-care-licensing-study>.

¹¹⁰ In Virginia, for example, a much-stiffened penalty for violating licensing enrollment limits was recently prompted by the state's investigation into two separate incidents of fires in home-based childcare in the fall of 2014, causing the deaths of two infants and a toddler: Mark Bowes, "Children in unlicensed day cares are 5 times more likely to die," *Richmond Times-Dispatch*, December 20, 2014, http://www.richmond.com/news/local/central-virginia/children-in-unlicensed-day-cares-are-times-more-likely-to/article_e9d6588e-ff51-5b2f-a6a1-4a539c69dcce.html.

¹¹¹ Office of the Inspector General, "Child Care Providers: Compliance with State Health and Safety Requirements," Office of the Inspector General, US. Department of Health & Human Services, 2012 – 2016, <https://oig.hhs.gov/oas/child-care/>.

¹¹² Naci Mocan, "Can consumers detect lemons? An empirical analysis of information asymmetry in the market for child care," *Journal of Population Economics* 20, no. 4 (2007): 743-780.

¹¹³ Suzanne Podhurst, "How Preschool and Child Care Work: A State-by-State Guide," Noodle.com, September 2, 2015, <https://www.noodle.com/articles/how-preschool-and-child-care-work-state-guide>.

¹¹⁴ National Center on Childcare Quality Improvement (NCCCQI)/National Association for Regulatory Administration (NARA), "Research Brief #1: Trends in Child Care Center Licensing Regulations and Policies for 2014," NCCCQI/NARA, November 2015, http://www.naralicensing.org/assets/docs/ChildCareLicensingStudies/2014CCStudy/center_licensing_trends_brief_2014.pdf. Data is reported for 53 American states and territories.

¹¹⁵ Gail Zellman and Lynn Karoly, "Moving to Outcomes: Approaches to incorporating child assessments into state early childhood quality rating and improvement systems," RAND Corporation. 2012, http://www.rand.org/content/dam/rand/pubs/occasional_papers/2012/RAND_OP364.pdf.

¹¹⁶ For more information, see Parent Aware for School Readiness, "MELF Archive," <http://www.pasrmn.org/MELF/index>; Parent Aware, "Home," <http://parentaware.org/>; and ParentAwareRatings, "The MELF Story," YouTube video, posted February 15, 2012, <https://www.youtube.com/watch?v=19MviDASO9Q>.

¹¹⁷ Julia B. Isaacs and Sara Edelstein, "Unequal Playing Field? State Differences in Spending on Children in 2013," The Urban Institute, April 2017, http://www.urban.org/research/publication/unequal-playing-field/view/full_report. Author's calculations.

¹¹⁸ Jeffrey B. Silber, "Education and Training," BMO Capital Markets, September 2016, <https://bmo.bluematrix.com/docs/pdf/c914a87e-5eef-4644-8f61-b9e5361bab54.pdf>.

¹¹⁹ Heckman, James. "Investing in disadvantaged young children is an economically efficient policy." In *Presentation prepared for the Forum on Building the Economic Case for Investments in Preschool, Committee for Economic Development*. 2006.

¹²⁰ *A Nation at Risk: The Imperative for Educational Reform*, National Commission on Excellence in Education, 1983.

¹²¹ Giving in Numbers: 2016 Edition, CECF, 2016, http://cecp.co/wp-content/uploads/2016/11/GIN2016_Finalweb-1.pdf?redirect=no.