

Pre-K Key to Cutting Arkansas Prison Costs and Boosting School Success

Arkansas can save \$725 million by improving the quality of its pre-K programs and cutting crime

Acknowledgements

Council for a Strong America is a national, bipartisan nonprofit that unites five organizations comprised of law enforcement leaders, retired admirals and generals, business executives, pastors, and prominent coaches and athletes who promote solutions that ensure our next generation of Americans will be citizen-ready.

Fight Crime: Invest in Kids

Thousands of police chiefs, sheriffs, prosecutors and violence survivors protecting public safety by promoting solutions that steer kids away from crime

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The over 5,000 law enforcement leaders around the nation who are members of Fight Crime: Invest in Kids—including the 67 here in Arkansas—have a direct message for everyone who cares about the impact and cost of crime: Pay now or pay much more later.

Arkansas' jails are full of people serving time for serious and costly crimes. High school dropouts are more likely to end up in jail. But it doesn't have to be that way: Providing at-risk kids with high-quality early learning programs can reduce crime, its costs, and impact in the future.

Law enforcement leaders know that one of the best ways to keep young people from dropping out of school and becoming criminals is to make sure they have a foundation for success in their earliest years. By standing up in support of high-quality early education for kids today we can see less crime and incarceration in years to come.

“ Let's invest now in quality early learning programs that set at-risk children on the path towards success in life, so we won't pay a higher price for high school dropout and crime later.”

**— Vincent Clamser
Chief of Police, Mountainburg**



Arkansas spends \$574 million on corrections each year

We already know where our current path is leading us:



Although crime rates have fallen over the past 20 years, including in Arkansas, there are still 1.2 million violent crimes and 8 million property crimes committed against people in our communities across America every year.¹ Arkansas has more than **15,000 violent crimes annually**, a rate of 521 per 100,000 people; significantly higher than the overall U. S. rate of 376 per 100,000).²

Arkansas had almost **18,000 adults incarcerated in state prisons**, as of year-end 2014, an increase of **3.7 percent that year**.³



Nationally, we spend nearly \$75 billion a year to incarcerate adults in federal and state prisons or local jails.⁴ **Arkansas spends more than \$574 million a year**.⁵

7-out-of-10 state prisoners nationwide do not have a high school diploma and finding stable employment once they leave prison is very challenging.⁶



Law enforcement leaders base these views on both personal experiences and research. A study that followed children who participated in a high-quality pre-K and “parent-coaching” program through Chicago’s Child-Parent Centers found that **children not served by the program were 70 percent more likely to be arrested for a violent crime by age 18 than those who participated**. In recent years, studies of state pre-K programs have found significant increases in participants’ later academic performance, and also important decreases in their need for special education and in being held back in school.

Reducing crime by improving the quality of pre-K is one of the key reasons why Governors and state legislators across the political spectrum have made bold commitments to high-quality early education and care. And now we are at a key fork in the road: Policymakers in our state have an opportunity to improve pre-K for thousands of Arkansas children. Preschool has impressive results when it’s of high quality.

We currently spend \$75 billion every year on corrections nationwide to incarcerate more than two million criminals. **Arkansas spends more than \$574 million a year**. That does not include the cost of county jails.

A sophisticated analysis of nearly 20 pre-K programs for disadvantaged children demonstrated that quality pre-K returned an average “profit” (economic benefits minus costs) to society of more than \$29,000 for every child served. The analysis measured the economic benefits of both cutting crime and the cost of incarceration, as well as reducing other costs such as special education and grade retention. Applying that estimate to the 25,000 low-income

Arkansas children who are currently served in public pre-K or Head Start could save Arkansas approximately \$725 million over their lifetimes.

The choice for Arkansas is simple: Pay for high-quality early education programs now, or pay far more later for the costs of crime.

The Cost of Crime in Arkansas

As law enforcement leaders, our number-one priority is protecting the safety of our communities in Arkansas. We do this by arresting, prosecuting and, when necessary, incarcerating people who commit crimes. But ultimately our best opportunity to improve public safety is to keep people from becoming involved in crime in the first place. To do so, we urge our elected leaders to invest in strategies and practices that have proven, positive and long-term impacts on crime reduction.

Too Many Children Are Falling Behind Before They Start School

Fortunately, we can steer thousands of children across Arkansas toward more successful lives through high-quality early education, which research has shown can lead to **less child abuse and neglect, better performance in school, fewer high school drop-outs and, ultimately, fewer crimes committed and a reduction in the number of prisoners.**

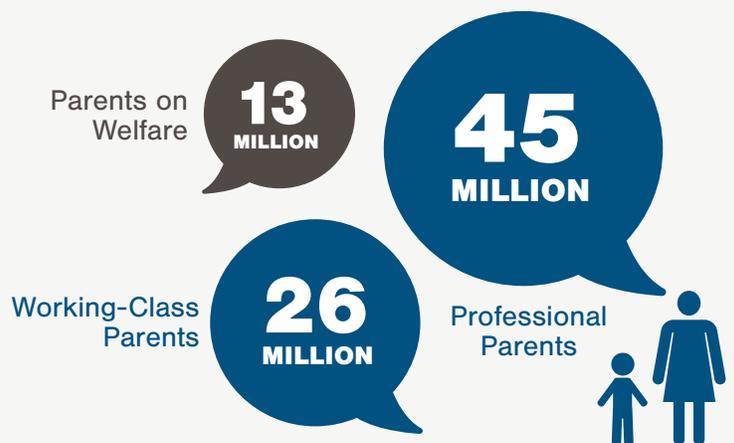
The research behind these outcomes shows that the early childhood period (birth to age 5) is a time of rapid brain development, and that hundreds of new brain connections form every second.⁷ Early experiences play a large role in determining how brain connections are formed and in the “wiring” that becomes the foundation on which all later learning is built.

For example, by age six months, babies start to understand the link between words and their meanings. This sets the stage for language development and later reading, which are key to later school success. Yet children from different backgrounds have very different early experiences. Researchers observed children in their own homes monthly for over two years, until the age of 3, and recorded how many words their parents spoke to them. There were large differences in the average number of words spoken to the children by professional parents, working class parents, and parents receiving welfare:

- **professional parents:** 45 million words
- **working-class parents:** 26 million
- **parents receiving welfare:** 13 million.⁸

These differences affected the children’s vocabulary development: by age 3, children with professional parents had average vocabularies of 1,116 words, compared with 749 words for working-class and 525 for

Words Spoken by Parents to their Young Children



Source: Hart & Risley, 2004

A Fork in the Road

The Path to Crime

The risk factors for crime can show up very early in life. Many parents and child care providers don't know the value of talking and reading to young children, and fostering creative play to develop cognitive, physical and behavioral skills. Too many young parents don't have good parenting mentors; some become overwhelmed and neglect or lash out at their children.

The Path to Success

When children attend high-quality pre-K, they reap the benefits of a good teacher and interactions with peers, which can lead to better academic and social outcomes when they enter kindergarten. Voluntary home visiting programs start even earlier, working with at-risk parents during pregnancy and infancy to foster their child's development and prevent child abuse and neglect.



- More Dropouts
- Worse school outcomes
- More behavior problems
- More abuse and neglect



- Fewer Dropouts
- Better school outcomes
- Fewer behavior problems
- Less abuse and neglect



**More Crime =
More Prisoners**



**More Graduates =
More Productive Adults**

children of parents receiving welfare. By the time children reach kindergarten, too many are not only far behind in vocabulary development, but also on pre-literacy and pre-math skills, such as knowing the alphabet or being able to count to 10.

Many also face challenges in learning to control impulses and behavior so they can get along with other students and teachers. High-quality early education and care can help these children get on track, both academically and behaviorally, so they will be ready for kindergarten, despite these early deficits. High-quality early childhood programs also work with parents, to support them in their role as their children's first teachers.

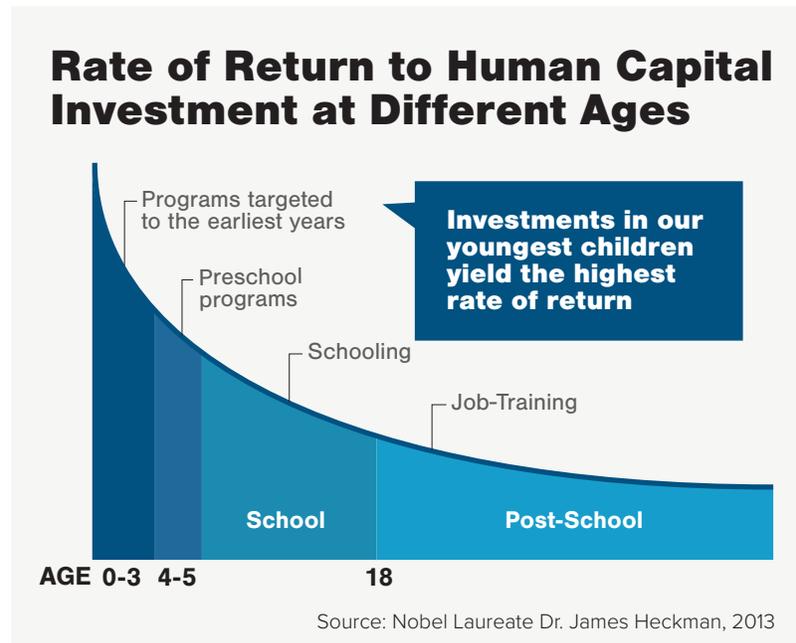
James Heckman, the Nobel Prize-winning economist from the University of Chicago, has conducted groundbreaking work with economists, statisticians and neuroscientists and has proven that the quality of early childhood development strongly influences health, social and economic outcomes. He argues that we should invest sufficiently in younger children and in providing "coaching" for their parents because those early investments will pay off.

High-Quality Early Care and Education: A Path to Less Crime

The path we set children upon in their earliest years can make a huge difference as they proceed through school and beyond. Research has shown that high-quality early education and care from birth through pre-K will result in more successful outcomes:

Less child abuse and neglect

The Chicago Child-Parent Centers (CPC) is a pre-K program that has served over 100,000



children and followed them up to age 28. This program also coaches parents to help them understand their children's health needs, create safer home environments and develop parenting skills. CPC cut child abuse and neglect in half for the children served, compared with similar children from families not being helped.¹⁰

Fewer behavior problems

Pennsylvania's Pre-K Counts Public Private Partnership program cut—from 22 percent to 4 percent—the portion of children at risk for problematic social and self-control behavior.¹¹

Better school outcomes

Ready for school: Boston's pre-K program improved mathematics, literacy and language skills among participating children equivalent to seven months of additional learning, compared with children who did not attend.¹² State pre-K programs are also reporting important improvements.¹³

A study of the Arkansas Better Chance (ABC) program found meaningful impacts on children's early language, pre-literacy and

pre-math skills. Compared to students not in the program, the at-risk four-year-olds participating in ABC were four months ahead in vocabulary, had a 37 percent increase in pre-math scores and answered 23 percent more questions correctly on a literacy test after one year.¹⁴

Less special education: Pennsylvania's pre-K program's success in helping children learn self-control suggests fewer of those children will need special education. New Jersey, which has followed its children through the 4th and 5th grades, found that the children served were 31 percent less likely to be placed in special education than a control group.¹⁵

Not held back in school: Participants in Michigan's state pre-K, the Great Start Readiness Program, were held back in school 51 percent less often than non-participants.¹⁶ New Jersey's preschool program found its children were held back 40 percent less often.¹⁷

Increases in reading and math scores that persist: North Carolina's Smart Start and More at Four initiatives to improve early education found that the children in counties that spent more per student were two months ahead in reading at fifth grade and 1.5 months ahead in math by fifth grade when compared with children in counties that spent less per student.¹⁸ New Jersey's preschool program, which served disadvantaged school districts statewide, reported that participating children were three-fourths of a year ahead in math and two-thirds of a year ahead in literacy in fourth and fifth grades.¹⁹ These findings show that academic gains from high-quality pre-K continue to have a positive impact for students. The New Jersey researchers report

that their findings are on par with the earlier results achieved by Chicago's CPC program, which later went on to achieve very strong graduation and crime reduction outcomes.

Fewer dropouts

- The Chicago CPC program reported a **29 percent increase in high school graduation rates** by age 20 among its participants.²⁰
- Michigan's pre-K program reported a **35 percent increase in graduates**.²¹
- The Perry Preschool Program saw a **44 percent increase in graduation rates** by age 40.²²

It's significant to note that in Arkansas, 15 percent of high school students fail to graduate on time.

Less crime

- By age 18, children not served by the Chicago CPC program were **70 percent more likely to be arrested** for a violent crime.²⁴

Increasing graduation rates decreases serious crime

Economists Enrico Moretti and Lance Lochner studied the relationship over time between changes in graduation rates and crime. They concluded that a 10 percentage-point increase in graduation rates—going from 50 percent to 60 percent, for example—reduces murder and assault rates by about 20 percent.

Source: Lochner & Moretti (2004)

- By age 27, children not served by the Perry Preschool Program were **five times more likely to be chronic offenders**, with five or more arrests.²⁵

Fewer prisoners

- By age 24, the people served by the Chicago CPC were **20 percent less likely to have served time in a jail or prison.**²⁶
- By age 40, the children served by the Perry Preschool program were **46 percent less likely to have been sentenced to prison or jail.**²⁷

It All Adds Up

No baby is destined, at birth, to become a criminal. The road to criminal behavior is paved with such challenges as childhood abuse and neglect, inadequate preparation for school, unaddressed behavior problems, poor academic performance and dropping out of high school. The path to success in life is driven by school readiness, the ability to get along with others, academic achievement and high school graduation. We need to take action, right now, to ensure children have the opportunity for quality early education and care so they can start on the right path for life.

Quality and Accountability Are Key

Results from New Jersey, North Carolina and Michigan should effectively end the debate on whether high-quality state pre-K efforts can be brought to scale and deliver strong and lasting results. Arkansas' early learning programs must be supported to continue serving the state's children, and if any state pre-K or Head Start sites aren't achieving meaningful and lasting results, such as improved math and literacy skills, the program administrators need to find out

what the successful programs are doing differently.

To attain lasting results, programs must be high quality. The National Institute for Early Education Research (NIEER) has a set of standards that outline 10 benchmarks for quality pre-K programs. Arkansas meets 9 of the 10 requirements, falling short of requiring a bachelor's degree.³⁰ Two of NIEER's

Stronger Parents

The most successful early childhood programs with long-term results—such as the Perry Preschool, CPC and New Jersey's state pre-K program—work with parents to teach them how to reinforce positive behaviors and encourage them to routinely read and speak to their children, so they are better prepared for success in the years to come.

Parents are their children's first and most important teachers. However, some parents do not have the knowledge or experience necessary to fully support their children's development. High-quality early childhood programs partner with parents to help them improve their children's academic and behavioral outcomes. In Arkansas, a few birth-to-3 efforts provide such invaluable help to moms and dads on a voluntary basis. These include such "home-visiting" services such as the Nurse-Family Partnership and Parents as Teachers, which target assistance to new parents in at-risk households.²⁸ Each Arkansas Better Chance program must have a "plan of action for parent involvement" and have "meaningful parent engagement activities."²⁹

Arkansas must improve the quality of its pre-K programs

Just over 25,000 Arkansas children attend high-quality, public pre-K through the Arkansas Better Chance (ABC) and Arkansas Better Chance for School Success (ABCSS), programs—representing 21 percent and 39 percent of three- and four-year olds in the state, respectively.³⁸ These numbers place Arkansas 3rd in the nation for access to pre-K for three-year-olds, and 12th in access for four-year-olds.³⁹

Arkansas can improve the quality of pre-K for these children by:

- 1** Increasing compensation for teachers with a bachelor's degree, to attract and retain well-trained teachers;
- 2** Offering teachers and aides enhanced training and professional development; and
- 3** Investing in other needed supports for children and families, such as transportation to the program.

While Arkansas has increased funding for the ABC program in recent years, per student spending has decreased since 2010.⁴⁰ Delivering high-quality pre-K requires an adequate investment in Arkansas' children.

requirements are that pre-K teachers hold a bachelor's degree and that they have specialized training in early childhood education. Despite lacking the requirement for a bachelor's degree, 80 percent of Arkansas' pre-K teachers meet or exceed this requirement, holding a bachelor's degree or higher.³²

The Bill and Melinda Gates Foundation describes 15 research-based “essential elements of high-quality pre-K” that move beyond program inputs to examine what actually happens in the classroom, particularly the quality of teacher-child interactions and teacher instruction.³³ The heart of any program is the interaction between the teacher and the child. To be able to deliver an evidence-based curriculum, teachers must be well-trained and receive quality, ongoing professional development training. Further, in order to attract and retain the best employees, early childhood teachers must be adequately compensated.

Further, pre-K must have an evidence-based curriculum that supports all aspects of children's development: cognitive, physical, social and emotional. For example, Boston's pre-K uses the evidence-based Building Blocks math curriculum. Preschoolers' math knowledge predicts later school success, predicting later reading achievement even better than do early reading skills.³⁴

Time spent in pre-K is an essential element of quality programs. Research shows that full-day and full-week pre-K programs have been shown to be more effective at improving children's academic outcomes than part-time programs.³⁵ Arkansas meets this benchmark, requiring programs to meet for at least five days per week and seven hours per day.³⁶

Finally, the essential quality elements also include a strong focus on data and accountability: High-quality pre-K programs collect data to see how they are performing, at every level district, program, teacher and student. This data is then used to improve program performance, to ensure that children are well-prepared for school.

NIEER Director Steve Barnett argues that “an accountability and continuous improvement system is a prerequisite for quality, as is adequate funding for those being held accountable.”³⁷ Administrators of our most

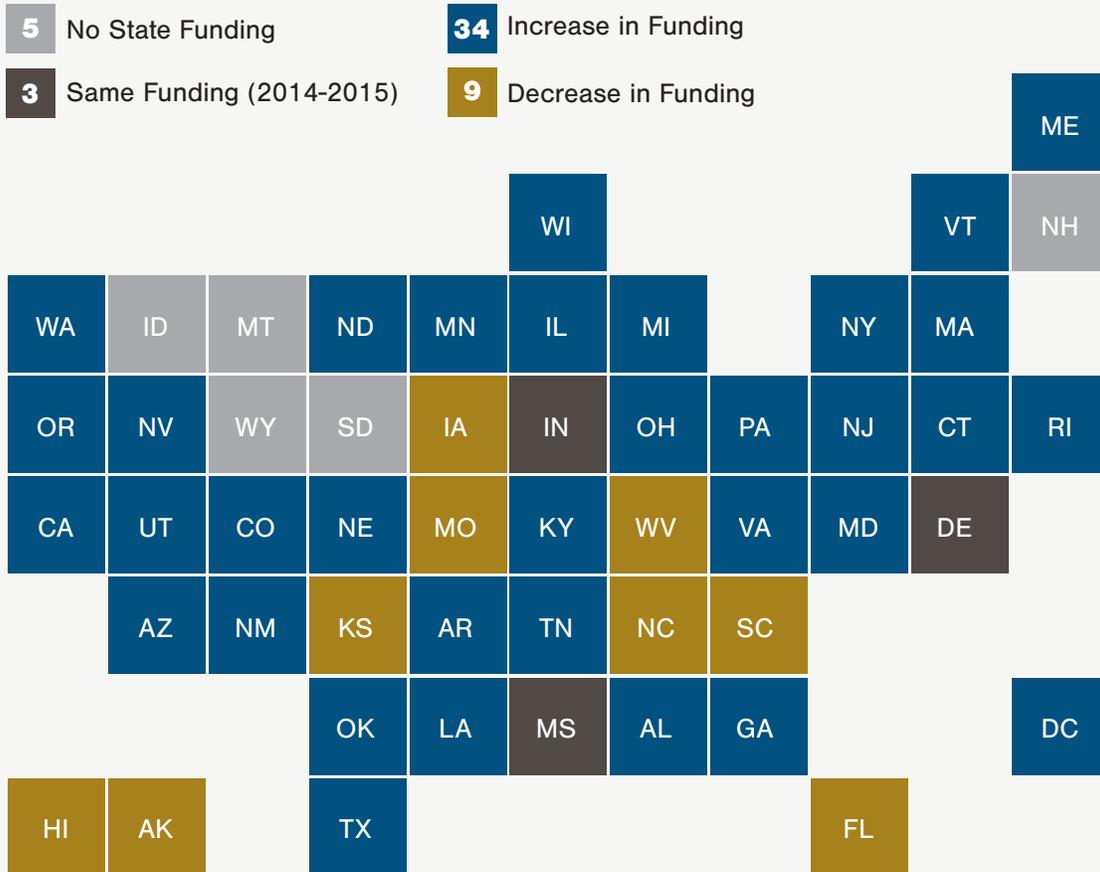
successful state pre-K programs take nothing for granted and are constantly working to learn from each other and make improvements.

Arkansas must rigorously measure results, as well, so it can continually strive to attain even greater outcomes going forward.⁴¹ That is how our state will reap the full rewards possible from effective pre-K programs.

States Know Early Learning Works

Across the nation, pre-K has received support from both sides of the political aisle.

State Preschool Funding (2015-2016)



Source: Education Commission of the States

In the 2015-2016 budget year, 32 states—22 with Republican leadership and 10 with Democratic leadership—increased funding for preschool.

Demonstrated Economic Benefits

A well-respected, independent cost-benefit analysis of nearly 20 different studies of pre-K programs showed that preschool can return, on average, a “profit” (economic benefits minus costs) to society of more than \$29,000 for every child served.⁴³ Applying these benefits to the approximately 25,000 children currently served by pre-K in Arkansas, our state will reap a return of more than \$725 million over the lifetime of these children, if we ensure that the pre-K is high quality. These economic benefits accrue due largely to reductions in the cost of future crime and increases in participants’ future wages, as well as decreases in other costs to society, such as children being held back in school or receiving special education. Other estimates of benefits are much higher. Clearly, pre-K works and more than pays for itself.

“ We’re never going to eliminate the need for law enforcement and corrections, but we can prevent a large amount of crime by investing in high-quality early learning programs that prepare our children for success.”



Montie Sims
Chief of Police, Dardanelle

Conclusion

Arkansas law enforcement officers urge policymakers to invest further in improving the quality our state’s pre-K program.

As law enforcement leaders, our job is to put those who commit serious crimes behind bars in Arkansas. But we all agree that a better and less expensive way to stop crime going forward is to prevent as many young children as possible from growing up to become involved in crime in the first place.

If Arkansas continues to invest wisely in quality pre-K opportunities for its disadvantaged children, thousands of children can become successful, productive adults, instead of individuals of wasted potential who too often cost taxpayers dearly. When we support what works for our disadvantaged children, we put them—and our state—on a different, safer path. We must continue to invest in what works. Arkansas deserves nothing less.

Endnotes

- 1** Federal Bureau of Investigation. (2015, September). Crime in the United States 2015. Washington, DC: US Department of Justice. Retrieved from <https://www.fbi.gov/news/stories/2015/september/latest-crime-stats-released/latest-crime-stats-released>
- 2** Federal Bureau of Investigation. (2015). Uniformed Crime Report. 2015 Crime in the United States: Table 5. Retrieved from: <https://ucr.fbi.gov/crime-in-the-u.s/2015/crime-in-the-u.s.-2015/tables/table-5>
- 3** JFA Associates, LLC. (2015). Arkansas Department of Correction, Sentencing Commission, & Department of Community Correction: Ten-Year Adult Secure Population Projection 2015-2025. Retrieved from: <http://adc.arkansas.gov/images/uploads/AR-prison-projections-report-2015-6-16-15.pdf>
- 4** Kyckelhahn, T. (2015, February 26). Justice expenditure and employment extracts, 2015- preliminary. NCJ 248628. Table 4. U. S. Department of Justice, Bureau of Justice Statistics. Retrieved from: <http://www.bjs.gov/index.cfm?ty=pbdetail&iid=5239>
- 5** Arkansas Department of Finance and Administration. (2016). State of Arkansas Appropriation Summary, Revised Fiscal Year 2016. Retrieved from: <http://www.dfa.arkansas.gov/offices/budget/Documents/authorizedAppropriation.pdf>
- 6** Harlow, C. W. (2003, January). Education and correctional populations. NCJ 195670. Washington, DC: U. S. Department of Justice, Bureau of Justice Statistics. Retrieved from: <http://www.bjs.gov/content/pub/pdf/ecp.pdf>
- 7** Center on the Developing Child, Harvard University (n. d.). InBrief: The science of early childhood development. Retrieved from: http://developingchild.harvard.edu/resources/briefs/inbrief_series/inbrief_the_science_of_ecd/
- 8** Hart, B., & Risley, T. R. (2004). The early catastrophe. *Education Review*, 17 (1), 110-118. Retrieved from: <http://www.aft.org/pdfs/americaneducator/spring2003/TheEarlyCatastrophe.pdf>
- 9** Heckman, J. (2013). Heckman: The economics of human potential. Retrieved from <http://www.heckmanequation.org/>
- 10** Reynolds, A. J., Temple, J. A., Ou, S., Robertson, D. L., Mersky, J. P., Topitzes, J. W. & Niles, M. D. (2007). Effects of a school-based, early childhood intervention on adult health and well-being: A 19-year follow-up of low-income families. *Archives of Pediatrics & Adolescent Medicine*, 161(8), 730-739.
- 11** Bagnato, S., Salaway, J., & Suen, H. (2009). Pre-K Counts in Pennsylvania for Youngsters' Early School Success: Authentic Outcomes for an Innovative Prevention and Promotion Initiative. Retrieved from: <http://www.heinz.org/UserFiles/Library/SPECS%20for%20PKC%202009%20Final%20Research%20Report%20113009.pdf>
- 12** Weiland, C., & Yoshikawa, H. (2013). Impacts of a prekindergarten program on children's mathematics, language, literacy, executive function and emotional skills. *Child Development*. DOI: 10.1111/cdev.12099
- 13** The results are 23% more questions answered correctly on a literacy test for Arkansas and West Virginia, and 24% more for New Mexico. Hustedt, J.T., Barnett, W.S., Jung, K., & Thomas, J. (January 2007). The effects of the Arkansas Better Chance Program on young children's school readiness. National Institute for Early Education Research; Lamy, C., Barnett, W.S., & Jung, K. (December 2005). The effects of West Virginia's Early Education Program on young children's school readiness. National Institute for Early Education Research; Hustedt, J.T., Barnett, W.S., Jung, K., & Goetze, L. (November 2009). The New Mexico PreK Evaluation: Results from the initial four years of a new state preschool initiative. National Institute for Early Education Research.
- 14** Hustedt, J.T., Barnett, W.S., Jung, K., & Thomas, J. (January 2007). The effects of the Arkansas Better Chance Program on young children's school readiness. National Institute for Early Education Research.
- 15** Barnett, W. S., Jung, K., Youn, M., & Frede, E. C. (2013, March 20). Abbott Preschool Program longitudinal effects study: Fifth grade follow-up. New Brunswick, NJ: National Institute for Early Education Research, Rutgers-The State University of New Jersey. Retrieved from: <http://nieer.org/sites/nieer/files/APPLES%205th%20Grade.pdf>
- 16** Michigan Great Start Readiness Program evaluation 2012: High school graduation and grade retention findings. Retrieved from <http://bridgemi.com/wp-content/uploads/2012/06/GSRP-evaluation-may-21-12.pdf>
- 17** Barnett, W. S., Jung, K., Youn, M., & Frede, E. C. (2013, March 20). Abbott Preschool Program longitudinal effects study: Fifth grade follow-up. New Brunswick, NJ: National Institute for Early Education Research, Rutgers-The State University of New Jersey. Retrieved from: <http://nieer.org/sites/nieer/files/APPLES%205th%20Grade.pdf>
- 18** Dodge, K. A., Bai, Y., Ladd, H. F. and Muschkin, C. G. (2016), Impact of North Carolina's Early Childhood Programs and Policies on Educational Outcomes in Elementary School. *Child Dev.* doi:10.1111/cdev.12645
- 19** Barnett, W. S., Jung, K., Youn, M., & Frede, E. C. (2013, March 20). Abbott Preschool Program longitudinal effects study: Fifth grade follow-up. New Brunswick, NJ: National Institute for Early Education Research, Rutgers-The State University of New Jersey. Retrieved from: <http://nieer.org/sites/nieer/files/APPLES%205th%20Grade.pdf>
- 20** Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2001, May 9). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest A 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association*, 285, 2339-2346.
- 21** Michigan Great Start Readiness Program evaluation 2012: High school graduation and grade retention findings. Retrieved from <http://bridgemi.com/wp-content/uploads/2012/06/GSRP-evaluation-may-21-12.pdf>

- 22** Schweinhart, L.J., Montie, J., Xiang, Z., Barnett, W.S., Belfield, C.R., & Nores, M. (2005). Lifetime effects: The High/Scope Perry Preschool study through age 40. Ypsilanti, MI: High/Scope Press
- 23** National Center for Education Statistics, Institute of Education Science, U.S. Department of Education, (2016). Table 1. Public high school 4-year adjusted cohort graduation rate (ACGR), by race/ethnicity and selected demographics for the United States, the 50 states, and the District of Columbia: School year 2014-2015. Retrieved from: https://nces.ed.gov/ccd/tables/ACGR_RE_and_characteristics_2014-15.asp
- 24** Reynolds, A. J., Temple, J., Robertson, D. L., & Mann, E. A. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest. *Journal of the American Medical Association*, 285, 2339-2380.
- 25** Schweinhart, L. J., Barnes, H. V., & Weikart, D. P. (1993). Significant benefits: The High/Scope Perry Preschool study through age 27. Ypsilanti, MI: High/Scope Press.
- 26** Reynolds, A. (2007). Paths of influence from preschool intervention to adult well-being: Age 24 findings from the Chicago Longitudinal Study. Society for Research in Child Development, March 31, 2007, Boston, MA.
- 27** Schweinhart, L.J., Montie, J., Xiang, Z., Barnett, W.S., Belfield, C.R., & Nores, M. (2005). Lifetime effects: The High/Scope Perry Preschool study through age 40. Ypsilanti, MI: High/Scope Press.
- 28** Arkansas Home Visiting Network. (2015). Stronger Families. Brighter Futures. Arkansas Department of Health. Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS). Retrieved from <http://www.arhomevisiting.org/programs>
- 29** Arkansas Department of Education (2007) Rules governing the Arkansas Better Chance program. Retrieved from: http://humanservices.arkansas.gov/dccece/abc_docs/ABCrules.pdf
- 30** National Institute for Early Education Research. (2016). The State of Preschool 2015. Retrieved from http://nieer.org/wp-content/uploads/2016/05/Arkansas_2015_rev1.pdf
- 31** National Institute for Early Education Research. (2016). The State of Preschool 2015. Retrieved from http://nieer.org/wp-content/uploads/2016/05/Arkansas_2015_rev1.pdf
- 32** Barnett, W.S., Weisenfeld, G.G., Brown, K., Quires, J. and Horowitz, M. (2016). Implementing 15 Essential Elements for High Quality: A State and Local Policy Scan. National Institute for Early Education Research. Retrieved from http://nieer.org/wp-content/uploads/2016/08/1520Essential20Elements20Scan_0.pdf
- 33** Minervino, J. (2014, September). Lessons from research and the classroom: Implementing high-quality pre-K that makes a difference for young children. Seattle, WA: Bill & Melinda Gates Foundation. Retrieved from: https://docs.gatesfoundation.org/documents/Lessons%20from%20Research%20and%20the%20Classroom_September%202014.pdf
- 34** Clements, D. H. & Sarama, J. (2011, August 19). Early childhood mathematics intervention. *Science*, 333 (6045).
- 35** Robin, K. B., Frede, E. C., & Barnett, W. S. (2006). Is more better? The effects of full-day vs. half-day preschool on early school achievement. New Brunswick, NJ: National Institute for Early Education Research. Retrieved from <http://nieer.org/resources/research/IsMoreBetter.pdf>
- 36** Barnett, W.S., Weisenfeld, G.G., Brown, K., Quires, J. and Horowitz, M. (2016). Implementing 15 Essential Elements for High Quality: A State and Local Policy Scan. National Institute for Early Education Research. Retrieved from http://nieer.org/wp-content/uploads/2016/08/1520Essential20Elements20Scan_0.pdf
- 37** Steve Barnett made this comment in response to a recent study that showed that the academic benefits seen at the end of the preschool year in Tennessee later faded out. However, children who participated in the preschool program were half as likely to be held back in kindergarten. Barnett, W. S. (2013, August 2). An early look at early education in Tennessee. Retrieved from: <http://preschoolmatters.org/2013/08/02/an-early-look-at-early-education-in-tennessee/> Efforts are underway in Tennessee to improve the quality of the program, which has been found lacking. The entire sample of children is being followed through seventh grade and ongoing benefits will be examined.
- 38** National Institute for Early Education Research. (2016). The State of Preschool 2015. Retrieved from http://nieer.org/wp-content/uploads/2016/05/Arkansas_2015_rev1.pdf
- 39** National Institute for Early Education Research. (2015). The State of Preschool Yearbook: 2015. Table 1: State Rankings and Quality Checklist Sums. Retrieved from http://nieer.org/wp-content/uploads/2016/05/Yearbook_2015_rev1.pdf
- 40** National Institute for Early Education Research. (2016). The State of Preschool 2015. Retrieved from http://nieer.org/wp-content/uploads/2016/05/Arkansas_2015_rev1.pdf
- 41** Barnett, W. S., Carolan, M. E., Fitzgerald, J., & Squires, J. H. (2013). The state of preschool 2013 state preschool yearbook. New Brunswick, NJ: Rutgers Graduate School of Education, National Institute for Early Education Research.
- 42** Education Commission of the States (2016, January). State Pre-K Funding for 2015-16 Fiscal Year: National trends in state preschool funding. Retrieved from: http://www.ecs.org/ec-content/uploads/01252016_Prek-K_Funding_report-4.pdf
- 43** Washington State Institute for Public Policy (2014, August). Benefit-cost summary State and district early education programs. Olympia, WA: Author. Retrieved from: <http://www.wsipp.wa.gov/BenefitCost/Program/270>

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