

## **Pre-K Key to Cutting Pennsylvania Prison Costs and Boosting School Success**

Pennsylvania could realize over \$244 million in societal benefits by increasing access to high-quality pre-k programs

## 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.

*Supported by tax-deductible contributions from foundations, individuals, and corporations.*

### **Major funders:**

Alliance for Early Success, Annie E. Casey Foundation, Heising-Simons Foundation, Robert Wood Johnson Foundation, The Grable Foundation, The Kresge Foundation, W. Clement and Jessie V. Stone Foundation, William Penn Foundation, Vanguard Strong Start for Kids Program™

The views expressed here do not necessarily reflect the views of these foundations.

### **Authors:**

William Christeson, former Research Director  
Sandra Bishop-Josef, Ph.D., Research Director  
Sarah Baizer, Senior Research Associate  
Bruce Clash, Pennsylvania State Director  
Chris Beakey, Communications Director  
Kara Billings, Associate Director of Research

**May 2017**

©2017 Council for A Strong America. All Rights Reserved.



**The more than 5,000 law enforcement leaders around the nation who are members of Fight Crime: Invest in Kids—including 175 here in Pennsylvania—have a direct message for everyone who cares about the impact and cost of crime: Pay now or pay much more later.**

Pennsylvania's prisons are full of people serving time for serious and costly crimes. High school dropouts are more likely to end up in prison. But it doesn't have to be that way: Providing at-risk kids with high-quality early learning programs can reduce crime and the resulting costs, other expenditures, and long-term negative impacts on society.

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

“ Ensuring that our most at-risk children have the opportunity to attend high-quality pre-k will help set them on the right path to be successful adults.

Sheriff Robert E. Fyock  
Indiana County



## Each year Pennsylvania spends almost \$3.2 billion on corrections

### We already know where our current path is leading us:



Although crime rates have fallen over the past 20 years, including in Pennsylvania, there are still 1.2 million violent crimes and 8 million property crimes committed against people in our communities across America every year.<sup>1</sup> More than 40,300 violent crimes are committed annually in Pennsylvania, which is a rate of 315 per 100,000 people.

---

**Pennsylvania had 48,651 inmates in Department of Corrections jurisdiction as of April 30, 2017.<sup>2</sup>**



Nationally, nearly \$75 billion a year is spent to incarcerate adults in federal and state prisons or local jails.<sup>3</sup> **Pennsylvania spends almost \$3.2 billion a year on incarcerating adults,<sup>4</sup> and over \$42,500 per state prison inmate,<sup>5</sup>** which is more than three times what is spent on public school students annually (\$13,500),<sup>6</sup> and almost 13 times what is spent on preschool students (\$5,600).<sup>7</sup>

---

**7 out of 10 state prisoners nationwide do not have a high school diploma (about 39 percent in Pennsylvania<sup>8</sup>),** and finding stable

employment once they leave prison is very challenging.<sup>9</sup> In Pennsylvania, dropouts annually consume \$683 more than they contribute in taxes.<sup>10</sup> Moreover, Pennsylvania could “see a combination of crime-related savings and additional revenue of about \$288 million annually if the male high school graduation rate increased by just five percent.”<sup>11</sup>



---

While these facts are daunting, they do not even begin to reflect crime’s other economic costs, or the impact on crime victims in Pennsylvania. The path we are on is both fiscally draining and devastating in its impact on human lives.

earliest years. By providing access to high-quality early education for kids today, we can see less crime and incarceration in the future.

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. Recent studies of state pre-k programs have found significant increases in participants’ later academic performance—including high school graduation—and also important decreases in their need for special education and in being held back in school. Pre-k has impressive results when it is of high quality.

Reducing crime by improving the availability and 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. Policymakers in our state have an opportunity to expand access for thousands of Pennsylvania’s children.

We currently spend \$75 billion every year on corrections nationwide to incarcerate more than two million criminals. **Pennsylvania spends approximately \$3.2 billion a year on state and local corrections.**

A sophisticated meta-analysis of nearly 20 high-quality, pre-k programs for disadvantaged children demonstrated that high-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, reducing other costs such as special education and grade retention, and increasing participants’ future wages. Applying that estimate to the 8,400 additional low-income Pennsylvanian children who would be served by Governor Wolf’s proposed funding increase for the Pre-K Counts and Head Start State Supplemental Assistance programs in 2017-2018 could realize Pennsylvania approximately \$244 million in societal benefits over their lifetimes.

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

## **The Cost of Crime in Pennsylvania**

As law enforcement leaders, our number-one priority is protecting the safety of our communities. We do this by arresting, prosecuting and, when necessary, incarcerating people who commit crimes. But ultimately our best approach 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 Pennsylvania’s children toward more successful lives through high-quality early education that research has shown can lead to less child abuse and neglect, better performance in school, fewer high school

dropouts 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 millions of new neurological connections form every second.<sup>12</sup> **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:

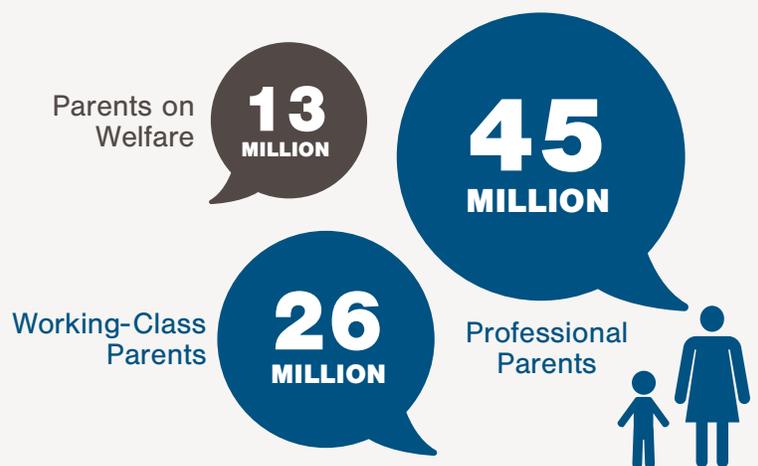
- professional parents: 45 million words
- working-class parents: 26 million
- parents receiving public assistance: 13 million<sup>13</sup>

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 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 engage 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 demonstrated that the quality of early childhood development strongly influences health, social and economic outcomes. He argues that we should invest sufficiently in younger children—including pre-k—and in providing “coaching” for their parents because those early investments will pay off later on by establishing them on a path to be successful adults.<sup>14</sup>

## Words Spoken by Parents to their Young Children



Source: Hart & Risley, 2004



## The Pathway 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:

### Fewer behavior problems:

Pennsylvania's Pre-K Counts Public Private Partnership program (the precursor to the current Pre-K Counts program) cut—from 22 percent to 4 percent—the portion of children at risk for problematic social and self-control behavior.<sup>15</sup> This program was also found to help children learn self-control and self-regulating behaviors, which leads to fewer of those children needing special education later on.

### 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.<sup>16</sup> State pre-k programs are also reporting similar important improvements in academic

skills among their children that matriculate from their programs.<sup>17</sup>

**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.<sup>18</sup> New Jersey's pre-k program found its children were held back 40 percent less often.<sup>19</sup>

**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.<sup>20</sup> New Jersey's pre-k 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.<sup>21</sup> These findings show that academic gains from high-quality pre-k continue to have a positive impact for students, and that investing in early education will lead to greater academic achievements later on. 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 pre-k program reported a 29 percent increase in high school graduation rates by age 20 among its participants;<sup>22</sup>
- Michigan's Great Start Readiness program reported a 35 percent increase in graduates,<sup>23</sup> and
- Michigan's Perry Pre-K Program saw a 44 percent increase in graduation rates.<sup>24</sup>

It's significant to note that in Pennsylvania, 15 percent of high school students still fail to graduate in four years.<sup>25</sup>

### **Less crime:**

- Children *not* served by the Chicago CPC program were 70 percent more likely to be arrested for a violent crime by age 18.<sup>26</sup>
- A recent study of Oklahoma's universal Pre-K program found the program decreases the likelihood that black children are later charged with a crime at age 18 or 19 for both misdemeanors and felonies.<sup>27</sup>
- By age 27, children *not* served by the Perry Pre-K Program were five times more likely to be chronic offenders, with five or more arrests.<sup>28</sup>

### **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.<sup>29</sup>
- By age 40, the children served by the Perry Pre-K program were 46 percent less likely to have been sentenced to prison or jail.<sup>30</sup>



### **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) *The American Economic Review*

## Findings from Pennsylvania Prisoners Survey

Throughout April 2017, an optional background survey was administered by the Pennsylvania Department of Corrections to all incoming inmates who were beginning to serve their sentences. Of the 739 new inmates, 597 completed the survey, resulting in an 81 percent participation rate. The following are some of the survey results.

**Education:** Respondents who were suspended or expelled in K-12 had a ten percent higher high school dropout rate than their counterparts who did not experience these disciplinary measures. Moreover, almost half of all respondents (49 percent) were suspended or expelled, which is more than double the nation's average of 19 percent,<sup>31</sup> indicating these disciplinary actions may contribute to later criminal behavior. **Respondents who were suspended or expelled had more than double the rate than their non-disciplined counterparts of being arrested as a juvenile (66 versus 32 percent), and being arrested and found guilty (60 versus 27 percent).** Moreover, youth who were suspended or expelled were almost three times more likely to be placed in a residential juvenile justice program than their non-disciplined counterparts, at 46 percent versus 16 percent, respectively.

**Parent Involvement:** Parental involvement largely impacted respondents' earlier academic success and criminal behavior as a juvenile. **Prisoners who had a parent, caregiver, or other adult involved in their learning had a 14 percent higher high school graduation rate than their counterparts that did not have anyone involved.** Moreover, having a parent, caregiver, or other adult read to them, provide an area to do homework, help with their school work, or ensure that they attended school regularly improved respondents' academic and criminal outcomes. Prisoners that were read to had a ten percent point lower high school

dropout rate than their counterparts that weren't read to (41 versus 51 percent, respectively), and an eight percent point lower rate of being suspended or expelled (45 versus 53 percent, respectively). Parents attending events and volunteering at prisoners' schools had the largest positive impacts on prisoners academic performance and their avoidance of criminal behavior as a youth.

### Parental Abuse and Neglect:

Almost one sixth (16 percent) of prisoners reported being emotionally abused by a parent, caregiver, or other adult, while 13 percent said they were physically abused by a parent, caregiver, or other adult, which is 65 times the state's average rate of 0.2 percent.<sup>32</sup> Moreover, being either emotionally or physically abused increased prisoners' likelihood of engaging in negative academic and criminal behavior across all outcomes.

**Specifically, respondents who were physically abused as a child had almost double the high school dropout rate than their non-abused counterparts** (18 percent versus 9 percent, respectively), and an increase of 50 percent in both being found guilty when arrested (16 versus 11 percent), and being placed in a residential juvenile justice program (17 percent versus 12 percent). Moreover, respondents who were emotionally abused had an increase of almost 60 percent of suspension and expulsion rate than non-emotionally abused respondents (19 versus 12 percent), as well as almost double the high school dropout rate (21 versus 11 percent).

## Stronger parents

The most successful early childhood programs with long-term results—such as the Perry Pre-K, CPC and New Jersey’s state pre-k—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. Pennsylvania’s Pre-K Counts program promotes family engagement by developing strategies to support parents’ involvement in children’s early learning.<sup>33</sup>

## 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 poverty, 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. Pennsylvania needs to continue building on its investments in high-quality pre-k to ensure that more children have the opportunity for quality early education and care to help them become productive and law-abiding citizens.

## Quality is 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.

 Providing our at-risk kids with access to high-quality preschool can reduce the likelihood of them becoming criminals later on.

David J. Freed  
Cumberland County District Attorney

To attain lasting results, programs must be high-quality. 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.<sup>34</sup> The heart of any program is the interaction between the teacher and the child. To be able to deliver an evidence-based curriculum that supports all aspects of children’s development: cognitive, physical, social and emotional. teachers must be well-trained and receive quality, ongoing professional development training.

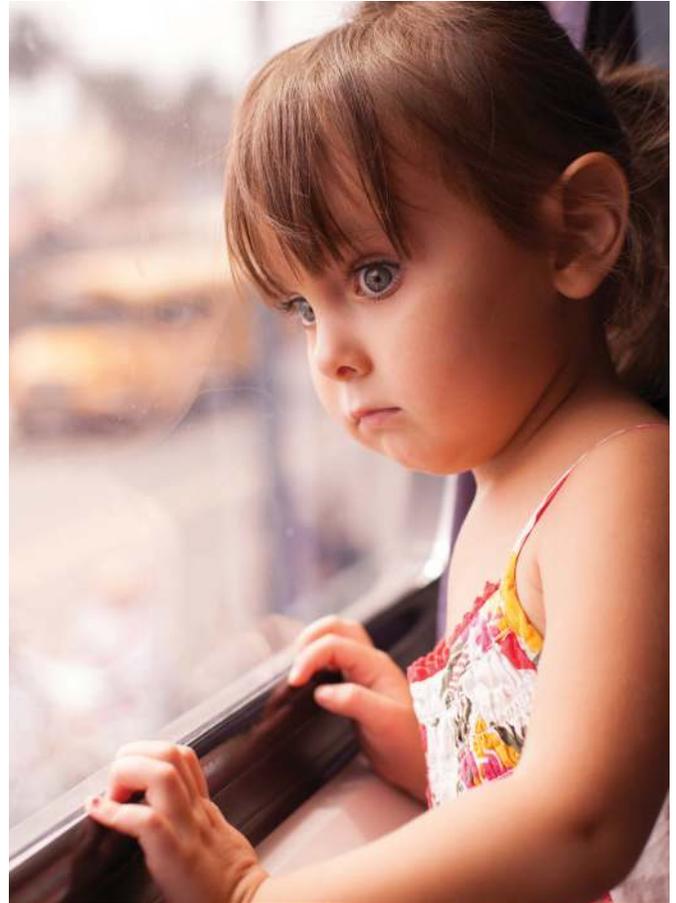
The National Institute for Early Education Research (NIEER) maintains a standards checklist for program features that support quality focusing on teacher credentials and training, class size, teacher-child ratios, learning standards, screening and other services, and program oversight.<sup>35</sup> Pennsylvania Pre-K Counts meets 7 of 10 NIEER key benchmarks for quality, while the Pennsylvania Head Start Supplemental Assistance Program meets 9 of 10.

### **States Know Early Learning Works**

Across the nation, pre-k has received support from both sides of the political aisle. In the 2016-2017 budget year, 30 states—17 with Republican leadership and 13 with Democratic leadership—increased funding for pre-k.<sup>37</sup>

### **Demonstrated Economic Benefits Applied to Pennsylvania**

A well-respected, independent cost-benefit analysis of nearly 20 different studies of high-quality pre-k programs showed that pre-k



### **Pennsylvania must expand access to pre-k**

There are approximately 176,800 at-risk children ages 3 and 4 who are eligible for Pennsylvania’s high-quality, publicly-funded pre-k programs. Of those, about 64,000 are served in Pre-K Counts programs, Head Start, public schools and Keystone STARS 3 and 4 providers using Child Care Works funding. Therefore, 112,900 at-risk children—or 64 percent of those eligible—do not have access to high-quality, publicly-funded pre-k.<sup>36</sup> They are missing out on the once-in-a-lifetime opportunity that will provide a solid foundation for future learning as well as the aforementioned benefits that high-quality pre-k is shown to provide.

can return, on average, a “profit” (economic benefits minus costs) to society of more than \$29,000 for every child served.<sup>38</sup> Applying these benefits to the 8,400 children who would be served by Pre-K Counts and the Head Start State Supplemental Program as Governor Wolf has proposed for the 2017-2018 state budget, Pennsylvania could realize a return of more than \$244 million over the lifetime of these children. 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. These benefits would accrue for each new cohort of children served by high-quality pre-k. Clearly, pre-k works and more than pays for itself.



## Conclusion

**As law enforcement leaders, our job is to arrest and put those who commit serious crimes behind bars in Pennsylvania. 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.**

Pennsylvania’s law enforcement officers urge policymakers to invest further in improving the access of our state’s pre-k program. If Pennsylvania continues to invest wisely in quality pre-k opportunities for its disadvantaged children, thousands of children can become successful, productive adults, instead of individuals with wasted potential. When we support what works for our disadvantaged children, we put them—and our state—on an improved and safer path. We must continue to invest in what works.

**We urge the General Assembly to adopt a final budget for the 2017-2018 fiscal year that includes an additional \$65 million for Pre-K Counts and \$10 million for the Head Start State Supplemental Assistance Program to provide high-quality, publicly-funded pre-k to an additional 8,400 at-risk children.**

For additional information contact Fight Crime: Invest in Kids  
Pennsylvania State Director, Bruce Clash, [bclash@fightcrime.org](mailto:bclash@fightcrime.org), (717) 303-5200.

## Endnotes

- 1 Federal Bureau of Investigation. (2015, September). Crime in the United States 2015. DoJ. Retrieved from: <https://ucr.fbi.gov/crime-in-the-u.s/2015/crime-in-the-u.s.-2015/tables/table-5>
- 2 Pennsylvania Department of Corrections. (2017). Inmate Statistics. Retrieved from: <http://www.cor.pa.gov/About%20Us/Statistics/Documents/current%20monthly%20population.pdf>
- 3 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>
- 4 Department of Education. (2016, July). State and Local Expenditures on Corrections and Education. Retrieved from: <https://www2.ed.gov/rschstat/eval/other/expenditures-corrections-education/brief.pdf>
- 5 The Vera Institute (January 2012). The Price of Prisons: Pennsylvania. Retrieved from: <http://archive.vera.org/files/price-of-prisons-pennsylvania-fact-sheet.pdf>
- 6 Start Class and National Center for Education Statistics. (January 2016). Pennsylvania Public Schools Expenditure per Pupil. Retrieved from: <http://public-schools.startclass.com/stories/13047/k-12-spending-per-student-state#45-Pennsylvania>
- 7 National Institute for Early Education Research. (2015). Retrieved from: [http://nieer.org/wp-content/uploads/2016/05/Pennsylvania\\_2015\\_rev1.pdf](http://nieer.org/wp-content/uploads/2016/05/Pennsylvania_2015_rev1.pdf)
- 8 Pennsylvania Department of Correction. (2015). Inmate Statistics. Retrieved from: <http://www.cor.pa.gov/About%20Us/Statistics/Documents/Year%20End%20-%20Calendar%20-%20Inmate%20Statistics.pdf>
- 9 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>
- 10 [http://www.papartnerships.org/reports/re-engaging/re-engaging\\_hs\\_dropouts.pdf](http://www.papartnerships.org/reports/re-engaging/re-engaging_hs_dropouts.pdf)
- 11 [http://www.papartnerships.org/reports/re-engaging/re-engaging\\_hs\\_dropouts.pdf](http://www.papartnerships.org/reports/re-engaging/re-engaging_hs_dropouts.pdf)
- 12 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/](http://developingchild.harvard.edu/resources/briefs/inbrief_series/inbrief_the_science_of_ecd/)
- 13 Hart, B., & Riskey, T. R. (2004). The early catastrophe. *Education Review*, 17 (1), 110-118. Retrieved from: <http://www.aft.org/pdfs/americaneducator/spring2003/TheEarlyCatastrophe.pdf>
- 14 Heckman, J. (2013). Heckman: The economics of human potential. Retrieved from <http://www.heckmanequation.org/>
- 15 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>
- 16 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
- 17 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 pre-k initiative. National Institute for Early Education Research.
- 18 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>
- 19 Barnett, W. S., Jung, K., Youn, M., & Frede, E. C. (2013, March 20). Abbott Pre-K 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 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
- 21 Barnett, W. S., Jung, K., Youn, M., & Frede, E. C. (2013, March 20). Abbott Pre-K 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>
- 22 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.

**23** 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>

**24** Schweinhart, L.J., Montie, J., Xiang, Z., Barnett, W.S., Belfield, C.R., & Nores, M. (2005). Lifetime effects: The High/Scope Perry Pre-K study through age 40. Ypsilanti, MI: High/Scope Press

**25** 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](https://nces.ed.gov/ccd/tables/ACGR_RE_and_characteristics_2014-15.asp)

**26** 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.

**27** Smith, A. (September 2015). The Long-Run Effects of Universal Pre-K on Criminal Activity. U.S. Military Academy, West Point.

**28** Schweinhart, L. J., Barnes, H. V., & Weikart, D. P. (1993). Significant benefits: The High/Scope Perry Pre-K study through age 27. Ypsilanti, MI: High/Scope Press.

**29** Reynolds, A. (2007). Paths of influence from pre-k intervention to adult well-being: Age 24 findings from the Chicago Longitudinal Study. Society for Research in Child Development, March 31, 2007, Boston, MA.

**30** Schweinhart, L.J., Montie, J., Xiang, Z., Barnett, W.S., Belfield, C.R., & Nores, M. (2005). Lifetime effects: The High/Scope Perry Pre-K study through age 40. Ypsilanti, MI: High/Scope Press.

**31** National Center for Education Statistics. (May 2016). Suspension and Expulsion by Student, Family, and Academic Characteristics. Retrieved from: [https://nces.ed.gov/programs/crimeindicators/ind\\_S01.asp](https://nces.ed.gov/programs/crimeindicators/ind_S01.asp)

**32** Pennsylvania Department of Human Services. (2016). Annual Child Protective 2016 Services Report. Retrieved from: [http://www.dhs.pa.gov/cs/groups/webcontent/documents/report/c\\_260865.pdf](http://www.dhs.pa.gov/cs/groups/webcontent/documents/report/c_260865.pdf)

**33** Pennsylvania Department of Education. (September 2016). Pennsylvania Pre-K Counts/Head Start Report on Program Operations. Retrieved from: <https://www.pakeys.org/uploadedContent/Docs/Early%20Learning%20Programs/Pre-K%20Counts/Pre%20K%20Counts%20Report%202015-16.pdf>

**34** 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](https://docs.gatesfoundation.org/documents/Lessons%20from%20Research%20and%20the%20Classroom_September%202014.pdf)

**35** Barnett, W. S., Freidman-Krauss, A.H., Gomez, R.E, Horowitz, M., Weisenfeld, G.G., Brown, K.C. & Squires, J.H. (2016). The state of preschool 2015 state preschool yearbook. New Brunswick, NJ: Rutgers Graduate School of Education, National Institute for Early Education Research. Retrieved from: [http://nieer.org/wp-content/uploads/2016/05/Yearbook\\_2015\\_rev1.pdf](http://nieer.org/wp-content/uploads/2016/05/Yearbook_2015_rev1.pdf)

**36** Pennsylvania Partnerships for Children (2017). A Path Forward: Publicly Funded, High-Quality Pre-K in Pennsylvania. Retrieved from: [http://www.papartnerships.org/publication\\_files/ppc-path-forward-report.pdf](http://www.papartnerships.org/publication_files/ppc-path-forward-report.pdf)

**37** Education Commission of the States (2017, January). State Pre-K Funding for 2016-17 Fiscal Year: Trends and opportunities. Retrieved from: <http://www.ecs.org/state-pre-k-funding-2016-17-fiscal-year-trends-and-opportunities/>

**38** 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>



**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.

**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.

105 N. Front Street / Suite 305 / Harrisburg, PA 17101 / 717-233-1520

Fight Crime:  
Invest in Kids  
is a partner in

