

# Preschool Key to Cutting Pennsylvania Prison Costs and Boosting School Success

If Pennsylvania invests further in pre-kindergarten now, we can save over \$222 million



*Fight Crime:  
Invest in Kids  
Pennsylvania  
is a partner of*



# Acknowledgements

FIGHT CRIME: INVEST IN KIDS is a national, bipartisan, nonprofit, anti-crime organization. The organization has a membership of more than 5,000 police chiefs, sheriffs, district attorneys, other law enforcement leaders and violence survivors, 160 of whom are in Pennsylvania. The members take a hard-nosed look at what approaches work—and what don't—to prevent crime and violence. They then recommend effective strategies to state and national policymakers. It operates under the umbrella of the Council for a Strong America.

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## PRESCHOOL KEY TO CUTTING PENNSYLVANIA PRISON COSTS AND BOOSTING SCHOOL SUCCESS

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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 160 here in Pennsylvania—have a direct message for everyone who cares about the impact and cost of crime:

Pennsylvania jails are full of people serving time for serious and costly crimes. 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.

Law enforcement leaders base their views on both personal experiences and research. A study that followed children who participated in high-quality preschool and “parent-coaching” programs through Chicago’s Child-Parent Centers found that **children not served 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-kindergarten 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 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 offer preschool to thousands more Pennsylvania children whose parents seek it.**



We currently spend \$75 billion *every year* on corrections nationwide to incarcerate more than 2 million criminals.

**Pennsylvania spends more than \$2 billion a year.** That does not include the cost of county jails.

A sophisticated analysis of nearly 20 pre-kindergarten programs for disadvantaged children demonstrated that quality pre-k returned an average “profit” (economic benefits minus costs) to society of nearly \$30,000 for every child served by cutting crime and the cost of incarceration and reducing other costs such as special education and grade retention.

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

Fight Crime: Invest in Kids Pennsylvania supports current efforts to increase the access to and quality of early education and care throughout our state.

# PRESCHOOL KEY TO CUTTING PENNSYLVANIA PRISON COSTS AND BOOSTING SCHOOL SUCCESS

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## A Fork in the Road

As law enforcement leaders, our number-one priority is protecting the safety of our communities in Pennsylvania. 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.

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> **Pennsylvania has more than 40,000 violent crimes annually, a rate of 314 per 100,000 people (below the overall U. S. rate of 376 per 100,000);**<sup>2</sup>
- **Pennsylvania has about 50,000 adults incarcerated in state prisons;**<sup>3</sup>
- Nationally, we spend nearly \$75 billion a year to incarcerate adults in federal and state prisons or local jails.<sup>4</sup> **Pennsylvania spends more than \$2 billion a year;**<sup>5</sup> and
- **Seven out of ten state prisoners nationwide do not have a high school diploma** and finding stable employment once they leave prison is very challenging.<sup>6</sup>

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

## Making a Smarter Choice at a Pivotal Time in a Child's Life

Fortunately, we can steer thousands of children across Pennsylvania toward more successful lives through high-quality early education, which has proven it 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.<sup>7</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

“ While we're never going to eliminate the need for law enforcement and corrections, we have to take every step we can to reduce crime. Investing in high-quality early learning programs provides us with a solid opportunity to offer kids a better future while making our communities safer and saving taxpayer dollars.”

– Indiana County Sheriff Robert E. Fyock

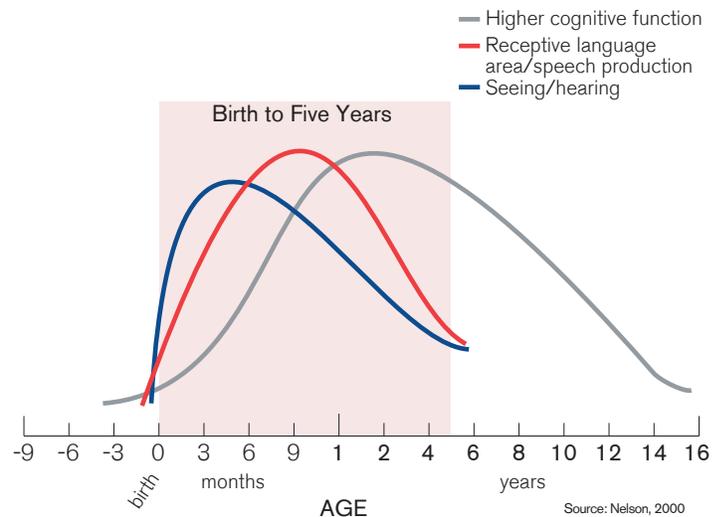
were large differences in the average number of words spoken to the children by professional parents, working class parents, and parents receiving welfare:

- professional parents: 45 million words
- working-class parents: 26 million words
- parents receiving welfare: 13 million words.<sup>8</sup>

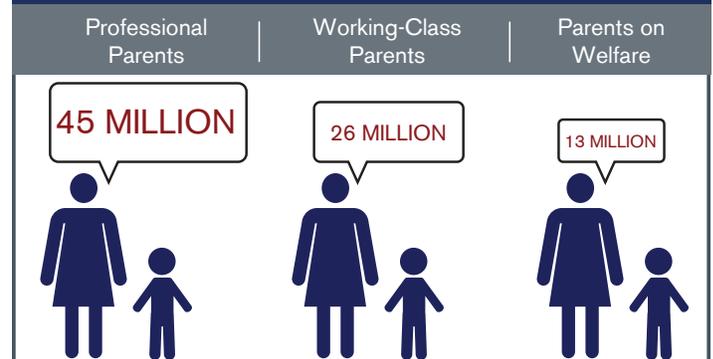
These differences affected the children's vocabulary development: by age 3, children with professional parents had average vocabularies of 1,116 words, compared with 749 words for working-class and 525 for children of parents receiving welfare. By the time children reach kindergarten, too many are not only far behind in vocabulary development, but on pre-literacy and pre-math skills (such as knowing the alphabet or being able to count to 10), as well. 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.<sup>9</sup>

### Synapse Formation in the Developing Brain



### Words Spoken By Parents to their Young Children



**“ Early learning programs are a ‘fork in the road’ opportunity to reduce the number of future criminals by placing more at-risk children on a secure path to school and life success. Either we pay on the front end by providing them a solid chance to succeed, or we pay a lot more later on for their failure.”**

– Cumberland County District Attorney David J. Freed

## A FORK IN THE ROAD

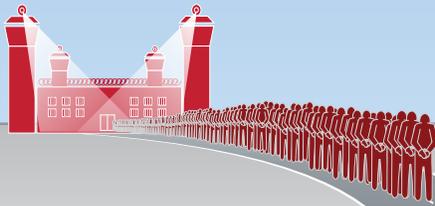
### CURRENT PATH WITH BAD RESULTS

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.

### BETTER PATH WITH PROVEN RESULTS

- 1) Voluntary home visiting helps new parents learn how to keep their children safe and encourage their development;
- 2) High-quality early care and education helps children thrive; and
- 3) High-quality preschool for 4-year-olds helps teachers and parents ensure their children can hit the ground running in kindergarten.

### MORE CRIME MORE PRISONERS



### MORE GRADUATES MORE PRODUCTIVE ADULTS



### 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-kindergarten will result in more successful outcomes:

#### 1 Less child abuse and neglect:

The Chicago Child-Parent Center (CPC) is a pre-kindergarten 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.<sup>10</sup>

#### 2 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.<sup>11</sup>

### 3 Better school outcomes:

- **Ready for school:** Boston's pre-kindergarten 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>12</sup> State pre-kindergarten programs are also reporting important improvements.<sup>13</sup>
- **Less special education:** Pennsylvania's pre-k program's success in helping children learn self-control indicates 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.<sup>14</sup>
- **Not held back in school:** Participants in Michigan's state pre-kindergarten, the Great Start Readiness Program, were held back in school 51 percent less often than non-participants.<sup>15</sup> New Jersey's preschool program found its children were held back 40 percent less often.<sup>16</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 five months ahead in reading at third grade and three to five months ahead in math by third grade when compared with children in counties that spent less per student.<sup>17</sup>

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.<sup>18</sup>

These findings show that academic benefits from high-quality pre-kindergarten need not "fade out" as children age. 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.

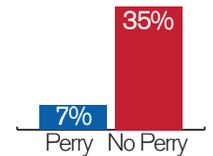
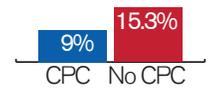
### 4 Fewer drop-outs:

- The Chicago CPC pre-k program reported a 29 percent increase in high school graduation rates by age 20 among its participants.<sup>19</sup>
- Michigan's Great Start Readiness program reported a 35 percent increase in graduates, and<sup>20</sup>
- The Perry Preschool Program saw a 44 percent increase in graduation rates by age 40.<sup>21</sup>

It's significant to note that in Pennsylvania, 15 percent of high school students still fail to graduate on time.<sup>22</sup>

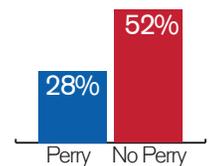
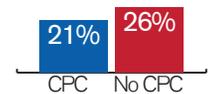
### 5 Less crime:

- Children *not* served by the Chicago CPC program were **70 percent more likely to be arrested for a violent crime by age 18.**<sup>23</sup>
- 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.**<sup>24</sup>



### 6 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>25</sup>
- By age 40, the children served by the Perry Preschool program were **46 percent less likely to have been sentenced to prison or jail.**<sup>26</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 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.

### 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*



## Stronger parents

The most successful early childhood programs with long-term results—such as the Perry Preschool, CPC and New Jersey’s state preschool—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 Pennsylvania, a few birth-to-3 efforts provide such invaluable help to moms and dads on a voluntary basis. These include such “home-visiting” services as the Nurse-Family Partnership and Parents as Teachers, which target assistance to new parents in at-risk households.

## Quality and Accountability Are Key

Results from New Jersey, North Carolina and Michigan should effectively end the debate on whether high-quality state pre-kindergarten efforts can be brought to scale and deliver strong and lasting results. Pennsylvania early learning programs must be helped to continue serving the state’s children, and if any state pre-kindergarten or Head Start sites aren’t achieving meaningful and lasting results, such as reductions in children’s behavior problems or 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) lists 10 minimal requirements 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>27</sup> NIEER also argues that high-quality pre-kindergarten programs should be full-day, based on results from a randomized trial that showed that children who participated in a full-day program (8 hours) improved more on vocabulary and math assessments than did children in a part-day (2.5 to 3 hours) program (11 to 12 points versus 6 to 7 points, respectively).<sup>28</sup>

The Pennsylvania Pre-K Counts program meets seven of the 10 indicators established by NIEER, while the Pennsylvania Head Start Supplemental Assistance program meets nine of the ten NIEER indicators.

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>29</sup> 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.<sup>30</sup>

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. These data are 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.”<sup>31</sup> 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.

As Pennsylvania looks to expand access, it also needs to be sure to continue to follow the successful approaches that will help ensure high quality. Pennsylvania must rigorously measure results, as well, so it can continually strive to attain even greater results going forward.<sup>32</sup> That is how our state will reap the full rewards possible from effective pre-kindergarten programs.

## States Know Early Learning Works

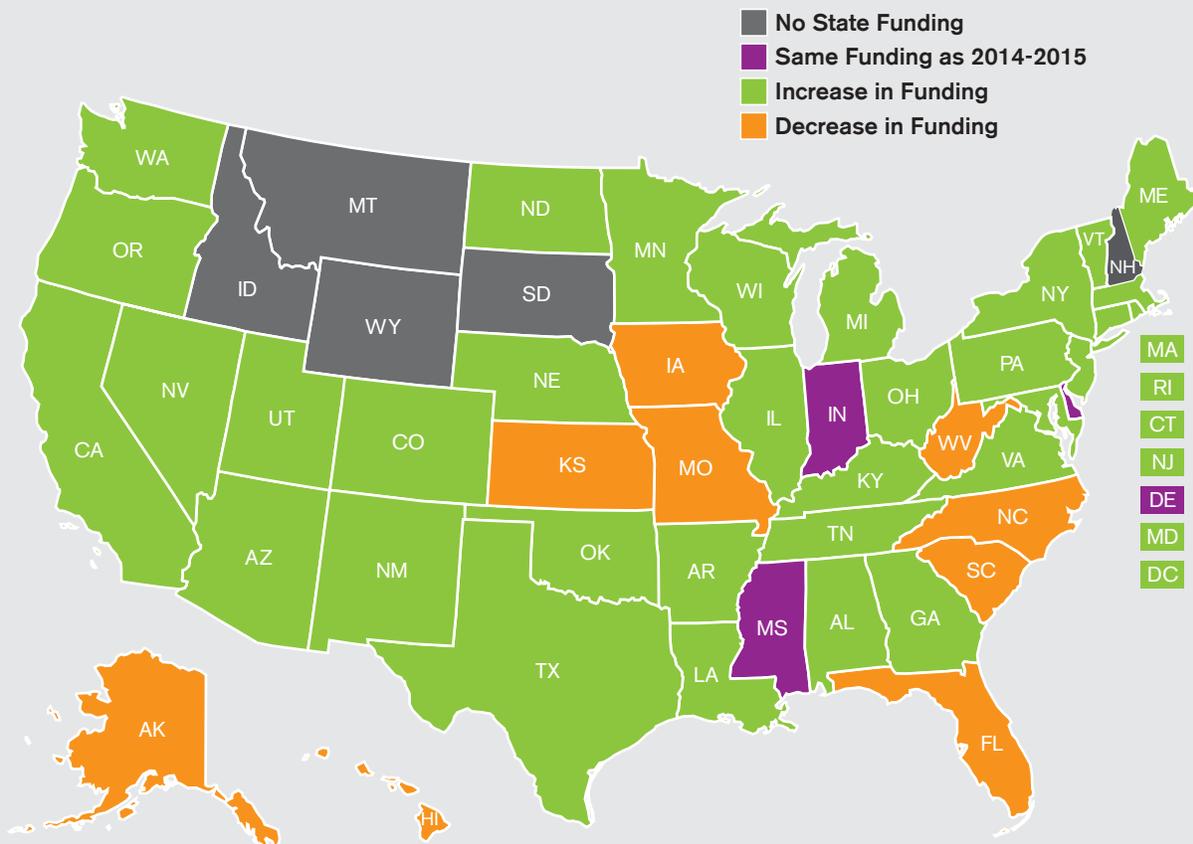
Across the nation, pre-kindergarten has received support from both sides of the political aisle. In the 2015-2016 budget year, 32 states—22 with Republican leadership and 10 with Democratic leadership—increased funding for preschool.<sup>33</sup>

## Demonstrated Crime Prevention and Economic Benefits

A well-respected, independent cost-benefit analysis of nearly 20 different studies of pre-kindergarten programs showed

that preschool can return, on average, a “profit” (economic benefits minus costs) to society of nearly \$30,000 for every child served.<sup>34</sup> Applying these benefits to the approximately 55,000 children currently served in high-quality pre-K in Pennsylvania, our state could reap a return of more than \$1.65 billion 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. Clearly, pre-k works and more than pays for itself.

### State Preschool Funding 2015-2016



Source: Education Commission of the States

## Pennsylvania must expand access to high-quality pre-K programs:

Pennsylvania must expand access to high-quality pre-K programs:

- Just over 55,000 Pennsylvania children attend high-quality, public pre-K – representing just 19 percent of the almost 297,000 3- and 4-year olds in the state.<sup>35</sup>
- Nearly 176,000 children were eligible (children in families with incomes below 300 percent of the federal poverty income guidelines) for state-funded pre-K in 2015 and were not served.<sup>36</sup>
- Including private providers that employ trained teachers and meet other quality indicators, only 32 percent of all 3- and 4-year olds have access to high-quality pre-K.<sup>37</sup>
- Sixty-nine percent of eligible children do not have access to high-quality pre-K in Pennsylvania.<sup>38</sup>

## A Different Path for Our State

We now have an opportunity to increase the number of children served in voluntary high-quality early education, as well as enhance quality. An additional \$90 million for pre-k in the 2016-2017 state budget would allow 6,200 children to receive high-quality pre-k for a full school year instead of a half year and provide access to pre-k for an additional 7,400 children.<sup>39</sup> Using the above cost-benefit analysis, **this proposal to serve an additional 7,400 children could save Pennsylvania approximately \$222 million over the lifetime of these participants in these high-quality pre-K programs.** These benefits would accrue for each new cohort of children served by high-quality pre-K.

**Pennsylvania law enforcement officers urge policymakers to invest further in our state's pre-K program.** An additional \$370 million investment in high-quality pre-k the next three fiscal years - including the \$30 million increased investment made in fiscal 2015-16 and an additional \$90 million increase in fiscal 2016-17—can help reach the approximately 46,000 Pennsylvania 3- and 4-year-olds at greatest risk of academic failure.<sup>40</sup>

As law enforcement leaders, our job is to 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.**

If Pennsylvania continues to invest wisely in early education and care 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. Pennsylvania deserves nothing less.

“As a society, one of the most important things we can do to help an at-risk child is give them the tools for success at the earliest ages. High-quality pre-k is a tool that we know works and we know it is cost effective. Young children who benefit from pre-k are less likely to drop out of school and less likely to end up on the wrong side of the law.”

– State College Police Chief  
Thomas R. King

## 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 Pennsylvania crime rates 1960-2014. Retrieved from: <http://www.disastercenter.com/crime/pacprime.htm>; United States crime rates 1960-2014. Retrieved from: <http://www.disastercenter.com/crime/uscrime.htm>
- 3 Pennsylvania Department of Corrections (2016, April 30). Monthly Population Report as of April 30, 2016. Retrieved on May 12, 2016 from: <http://www.cor.pa.gov/Administration/Statistics/Documents/current%20monthly%20population.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 2015-2016 Pennsylvania Executive Budget. Retrieved from: [http://www.budget.pa.gov/PublicationsAndReports/CommonwealthBudget/Documents/2015-16%20Proposed%20Budget/2015-16\\_Budget\\_Document.pdf](http://www.budget.pa.gov/PublicationsAndReports/CommonwealthBudget/Documents/2015-16%20Proposed%20Budget/2015-16_Budget_Document.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/](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 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>
- 15 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>
- 16 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>
- 17 Ladd, H. F., Muschkin, C. G., & Dodge, K. (2012, February). From birth to school: Early childhood initiatives and third grade outcomes in North Carolina. Retrieved from: <http://research.sanford.duke.edu/papers/SAN12-01.pdf>
- 18 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>
- 19 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.
- 20 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>
- 21 Schweinhart, L.J., Montie, J., Xiang, Z., Barnett, W.S., Belfield, C.R., & Norens, M. (2005). *Lifetime effects: The High/Scope Perry Preschool study through age 40*. Ypsilanti, MI: High/Scope Press
- 22 National Center for Education Statistics, Institute of Education Science, U.S. Department of Education, (2015). 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 2013-2014. Retrieved from: [https://nces.ed.gov/ipeds/data/ipeds\\_tables/ACGR\\_RE\\_and\\_characteristics\\_2013-14.asp](https://nces.ed.gov/ipeds/data/ipeds_tables/ACGR_RE_and_characteristics_2013-14.asp)
- 23 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.
- 24 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.
- 25 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.
- 26 Schweinhart, L.J., Montie, J., Xiang, Z., Barnett, W.S., Belfield, C.R., & Norens, M. (2005). *Lifetime effects: The High/Scope Perry Preschool study through age 40*. Ypsilanti, MI: High/Scope Press.
- 27 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
- 28 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>
- 29 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)
- 30 Clements, D. H. & Sarama, J. (2011, August 19). Early childhood mathematics intervention. *Science*, 333 (6045).
- 31 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.
- 32 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.
- 33 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](http://www.ecs.org/ec-content/uploads/01252016_Prek-K_Funding_report-4.pdf)
- 34 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>
- 35 Per personal communication with Kelly M. Hoffman, KIDS COUNT Director, Pennsylvania Partnerships for Children, on May 19, 2016.
- 36 Pre-K for PA. (n.d.). Importance of High-Quality Pre-K in Pennsylvania, Making sure children are ready to succeed. Retrieved from: <http://www.prekforpa.org/county-facts-PDFs/Cumberland-Pre-K-for-PA.pdf>
- 37 Per personal communication with Kelly M. Hoffman, KIDS COUNT Director, Pennsylvania Partnerships for Children, on May 19, 2016.
- 38 Pre-K for PA. (n.d.). Importance of High-Quality Pre-K in Pennsylvania, Making sure children are ready to succeed. Retrieved from: <http://www.prekforpa.org/county-facts-PDFs/Cumberland-Pre-K-for-PA.pdf>
- 39 Pre-K for PA. (2016). Importance of High-Quality Pre-K in Pennsylvania; Making sure children are ready to succeed. Retrieved from: <http://www.prekforpa.org/wp-content/uploads/2016/02/2016-Pennsylvania-Pre-K-for-PA-ask-2.pdf>
- 40 Pre-K for PA. (2016). The Case for Pre-K in PA: Smart Investments in Kids, Communities and the Commonwealth. Retrieved from: [http://www.prekforpa.org/wp-content/uploads/2016/01/Case\\_for\\_Pre-k\\_inPA.pdf](http://www.prekforpa.org/wp-content/uploads/2016/01/Case_for_Pre-k_inPA.pdf)



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