

Dropping Out and Losing Out: *The Costs of Dropping Out in Kentucky*

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Introduction:

Concern for the future of Kentucky's youth has always focused around education. It will come as a surprise to no one that dropping out of school is costly both personally to the dropout and to the state's economic growth. Educators and parents understand that losing a student in high school thwarts their potential development of their minds and character as a young adult.

While everyone agrees these young adults lose opportunities made available by the educational process, solid economic data demonstrates they also lose potential income, while costing the state and local governments' revenue that is much needed in the bottom-line budgets that we currently face as a state and nation. For the first time, this paper strives to demonstrate that high school dropouts are not only hindering themselves, but they are laying a burden on the state and local economy by missing out on the benefits of a high school diploma in a very real and concrete fashion.

The Kentucky Center for School Safety (KCSS) researched the potential financial losses for the high school dropout, to fully understand the impact of dropping out personally to the individual student, for the state of Kentucky and as an example, for Fayette County government. This report builds on the importance of a high school diploma beyond the direct impact it has on the individual who receives it. KCSS researched various costs factors, including loss in personal earnings income, loss in state revenue, loss in local revenue and increase in welfare burden to get a full and clear picture to present.

A variety of data and resources were used to attempt to quantify and personalize information from many sources into a single, usable format. Calculations are based on "positive earnings" as opposed to total income for persons age 18-64, as income may reflect such items as child support, alimony and inheritances which may not be affected by educational attainment. The determination to use "mean" (average value) calculations as opposed to "median" (halfway point) or "modal" (most common value) was made as a result of the general agreement among researchers that the mean gives a more accurate and clearer picture in this instance. However, all manipulations of these numbers can provide only estimated figures and are not meant to portray absolutes.

It is important to remember that the trends reflected in this report are meant to indicate a possibility rather than absolutes. We do not intend to portray the idea that not having a high school diploma automatically means personal and financial failure. There are exceptions to every rule but that doesn't make the rules any less viable.

Education, whether obtained through personal experience in a larger context or in a public school classroom, is important for success. To date, the educational system is the most readily accessible and easily recognized means to a literate, successful citizenship end. There are other viable means, but the generally accepted trend is to gain a high school diploma as a jumping-off point for a lifestyle of contribution to society.

Cost Factor: Loss in Personal Earnings

According to the 2000 US Census data, the annual mean earnings for a Kentucky high school graduate is \$30,005, while a high school dropout shows mean earnings of \$18,729 each year. The loss in personal earning for a high school dropout over an average 45 years of working life is calculated below:

$$(45) \times (\$30,005 - \$18,729) = \$507,420$$

Personal earning potential for high school dropouts can be translated into individual earnings potential per credit attained by dividing the personal earning loss by the number of credits needed to complete a high school diploma. The Kentucky Department of Education specifies that in order to graduate from a Kentucky accredited high school, a student must complete 22 credits or courses. The formula below calculates the loss of lifetime income per incomplete credit for each dropout:

$$\$507,420 / 22 \text{ credits} = \$23,064.55 \text{ lifetime earning loss per incomplete credit}$$

Calculating value for each hour spent in high school further drives home the point that education pays on a very personal level. Each school year is 175 days or, based on a 6 hour day, approximately 1050 hours per school year and 4200 hours in four years. This can be translated into a lifetime earning profit for each additional hour spent in high school for those contemplating dropping out of high school. By dividing the lifetime earning loss by the number of hours spent in school we can calculate each hour's value:

$$\$507,420 / 4200 \text{ hours} = \$120.81 \text{ lifetime earning loss per hour spent out of school}$$

Research demonstrates that the more educated the parent and the more economically stable the home, the more learning opportunities are provided to children, creating an upward learning curve that continues to improve educational and employment opportunities. While students complain of feeling trapped in school, unable to live their lives due to the amount of time spent in the classroom, the fact is that if a child never misses a day of school from first through twelfth grade, he or she would have spent only 9% of an average lifespan in the classroom. Ninety-one percent is spent at home or in the community. Most importantly, students who graduate from high school can expect to earn \$507,420 more over their average working years than those who graduate from high school, and each credit they complete is worth \$23,065, making each hour they spend in school commensurate with earning \$121 for that hour. Few jobs available to teenagers without a high school diploma offer that kind of earning incentive!

Cost Factor: Loss in State Revenue

Using the above data from the 2000 US Census, the earnings for both the high school graduate and the high school dropout are multiplied by the Kentucky Tax Rate Schedule, a graduated scale where the first \$3,000 of income is taxed at 2%, the sequential \$1,000 is taxed at a rate of 3%, the next \$1,000 is taxed at 4%, then next \$3,000 is taxed at 5% and the remaining earnings is taxed at a rate of 6%. Then, the taxed earnings calculations per the schedule are added to produce a sum indicating the annual gross tax. For example, applying the Kentucky the Kentucky Tax Rate Schedule to a Kentucky high school graduate and Kentucky high school dropout would provide the following figures:

High school graduate:

.02 x \$3,000	= \$60
.03 x \$1,000	= \$30
.04 x \$1,000	= \$40
.05 x \$3,000	= \$150
<u>.06 x (\$30,005 - \$8,000)</u>	<u>= \$1320.3</u>
Annual Gross Tax for KY	= \$1600.3

High school dropout:

.02 x \$3,000	= \$60
.03 x \$1,000	= \$30
.04 x \$1,000	= \$40
.05 x \$3,000	= \$150
<u>.06 x (\$ 18729 - \$8,000)</u>	<u>= \$643.74</u>
Annual Gross Tax for KY	= \$923.74

As these are amounts calculated per individual dropout, another formula determines the total potential revenue loss for the state. The difference between the gross annual tax for the high school graduate and

high school dropout is then calculated and multiplied by the number of high school dropouts (8919 students) during the 2000-2001 school year alone (as an example), according to 2002 Kids Count data.

$$(8919) \times (\$1600.30 - 923.74) = 6,034,238.64$$

Kentucky could gain approximately \$6 million in state revenue per year from only one year's dropout population, but in each fiscal year more than just one graduating class is engaged in the work force.

$$(45) \times (\$6,034,238.64) = \$271,540,739$$

So each year the state treasury's gain compounds, potentially adding \$271.5 million to its coffers.

Cost Factor: Loss in Revenue at Local Governments - for Lexington Fayette Urban County Government

Revenue lost trickles down from the state coffers to local coffers as well. As an example, Lexington-Fayette County Government (LFUCG) has been used to demonstrate how local governments may calculate their own revenue losses.

Kids Count Data for the 2000-2001 school year alone reported that the Fayette County Public Schools dropout population numbered 576 students. According to the KY State Data Center at the University of Louisville, the mean earnings for a Lexington-Fayette County high school dropout is \$18,171.83, while the mean earnings for a Lexington-Fayette County high school graduate is \$33,508.64.

To determine the loss of gross annual tax using the earnings data from the 2000 US Census, the taxable income for both the high school graduate (\$33,508.64) and the high school dropout (\$18,171.83) is multiplied by the LFUCG Tax Withholdings Schedule of 2.25% of total gross earnings. These calculations for finding the potential gain in local revenue are similar to the calculations from the gain in state revenue, except LFUCG utilizes a single tax rate and no graduated schedule.

$$0.0225 \times (\$33,508.64 - \$18,171.83) = \$345.07$$

The difference between the gross annual tax for the high school graduate and high school dropout is then calculated and multiplied by the number of high school dropouts (576 students) during the 2000-2001 school year alone, as stated by the 2002 Kids Count data.

$$(576) \times (\$345.07) = \$198,760.32$$

The Lexington-Fayette Urban County Government would gain \$198,760 dollars in local revenue each year from only one year's dropout population. But, as indicated in the state calculations, that year's graduating class will continue to work for 45 years. The local treasury gain over a working lifetime compounds, leading to \$9 million dollars in additional revenue per year.

$$45 \times \$198,760 = \$8,944,200.00$$

So, in Lexington-Fayette County alone, just calculating a single year's impact of multiple classes of dropouts on the revenue stream, LFUCG stands to gain nearly \$9 million dollars annually.

Cost Factor: Increase in Welfare Burden

When students do not complete their high school degree, statistics are clear that lack of a high school diploma results in lower personal income, state revenue and local government revenue. The decrease in personal income also places an additional burden on the government, which can be categorized as a welfare burden because these individuals are more likely to draw welfare benefits than high school graduates. The 1999 Current Population Survey states 55% of those 25 years old who failed to complete high school or receive a GED report no earnings, compared to 25% of those with at least a high school degree or GED. The U.S. Bureau of Census in 1998 categorized the poverty rate within those without a high school diploma or GED at 23.4%. The rate drops dramatically for high school graduates to 10.1%, and even lower, 6.5% for those with some college, and only 3% for college graduates.

The 2000 report from the National Center for Education Statistics also indicated that students who fail to graduate from high school are also significantly more likely to become single parents, have children at a young age, relying on welfare for financial support. In the Blue Book to Congress report of October 1996, statistics indicated that nearly half of Welfare mothers have less than a high school education. At the time of initial receipt of welfare, 47% are high school dropouts with no GED, while 53% are high school graduates or GED. In addition, over 63% of long-term stays on welfare are high school dropouts with no GED. According to the U.S. Bureau of Labor Statistics, the 2004 unemployment rate for adults over 25 without a high school diploma was 8.52%. That figure dropped to 4.99% for high school graduates only and to 2.73% for those with a bachelor's degree or higher.

Counties with low literacy levels have the lowest levels of per capita income, and demonstrate a strong relationship between literacy levels and unemployment rates. The Council on Postsecondary Education identified 20 mostly eastern Kentucky counties where more than half of the working-age population is at the lowest two levels of literacy. Individuals at these levels either cannot read or possess very limited to moderate reading skills. Employment eludes those not performing at a functional literacy level.

In Kentucky, an unemployed person may be eligible to receive benefits from the Kentucky Transitional Assistance Program, Food Stamps and Medicaid. The maximum payment limit for one person under the KTAP program is \$186 monthly as of June 2005 or \$2,232 annually. In 2002, the US Department of Health and Human Services reported that the FY 2005 average food stamps benefits in Kentucky were \$4,716 annually for a family of three. State Medicaid spending for 2000 averaged \$5,615.96 per person as reported by the Centers for Medicare and Medicaid Services. Therefore, the cost of welfare burden for an eligible, unemployed individual would be \$8,782.96 to Kentucky alone, not factoring in the possible federal burden that may exist. Approximately 2,617 of the students who dropped out of school in 2000 would be eligible and possibly enrolled in welfare benefits (KTAP, Food Stamps and Medicaid). Assuming that unemployed dropouts are receiving some form of public assistance at \$8,782.96 annually, the cost to Kentucky would be:

$$8919 \text{ (Kentucky 2000 dropout population)} \times .0852 \text{ (Unemployment ratio for HS dropouts)} \times \\ \$12,563.96 \text{ (Kentucky welfare costs per person)} = \$9,547,338.13 \text{ (Cost to Kentucky for one year)}$$

A cost of nearly \$10 million per year for one year's dropout population is significant because this type of state financial loss can be avoided. If the number of high school dropouts was even slightly reduced or eradicated, then the annual welfare burden to Kentucky would be decreased or eliminated proportionately.

Cost Factor: Increase in Incarceration Supports

It should come as no surprise, then, that when citizens cannot find ways to legally support themselves and their families, they turn to illegal means to do just that. Research has indicated for decades that prison populations are burgeoning with low-income and undereducated individuals. Larger prisons mean larger prison budgets, which cost the state more and more money both through lost revenue and upkeep.

There is a strong relationship between failure in school and the odds that young males will end up behind bars, according to a 2003 Justice Policy Institute report. Laura Jones, spokeswoman for the Justice Policy Institute, said the report shows the value of education, and the need for states to bolster funding for schools in order to save spending on building prisons. Despite dropping crime rates, there is rapid expansion in spending on prisons since 1997, growing 3.7% between 2001 and 2002—three times the previous year's growth. Nationally throughout the 1980s, state spending for corrections increased 95%, while spending on higher education decreased 6%. Statistics show this trend continued into the 1990s. However, unprecedented state cuts to K-12 and higher education occurred during this same period.

However, rather than looking at individual costs per high school class for incarceration potential, which would be cumbersome and not highly robust, it suffices to look at the percentages of inmate populations which do not, upon incarceration, have high school diplomas. The Kentucky Department of Corrections identified 39.7% of incarcerated inmates in Kentucky without a high school diploma or GED as of January 2004. The National Dropout Prevention Center indicates that 82% of prisoners in the US are high school dropouts.

The fact that learning disabled people are disproportionately represented in the prison population underscores the need for accommodating learning disabilities and developing methods tailored for the learning disabled in prison learning situations. A 1992 National Center for Education Statistics study indicates that 11% of prisoners reported having learning disabilities, compared with only 3% of the general population. These inmates scored at the very low end of the three literacy scales and their demonstrated proficiencies indicate that they are able to perform only the most basic literacy tasks. Research also demonstrates that when remediation and education is provided during incarceration, the recidivism rate falls dramatically.

Kentucky pays \$47.11 per inmate per day for incarceration on personal services and requirements, according to the Kentucky Department of Corrections, which totals \$17,195 per year. Add to this the \$54,000 average cost of building a new prison cell, administrative costs, medical and other services often contracted out, and the ledger quickly dwarfs the costs of early intervention and educational efforts. The average cost per year to educate a student in Kentucky during the 2004-2005 academic year, according to the Department of Education, was \$7,022. In contrast, according to the Justice Department, every \$100 million spent on new prison construction commits taxpayers to \$1.6 billion over the next three decades in administrative and maintenance costs.

Research on early intervention and education is clear in advocating for more monies directed towards education, at risk intervention and wrap-around services focusing on early intervention and prevention strategies. It is proven to work for a large percentage of those at risk for incarceration, but the trend remains to put our money into responding after the fact rather than adopting a proactive stance.

Conclusion:

When Kentuckians came up with the slogan "Education Pays" for the state's education system, they were more accurate than they may have realized. Obviously, students who fail to graduate from high school face a bleak future, and their communities have a vested interest in keeping them in school. Crunching the numbers for Kentucky proves just that...the further you go in completing your education, the more likely you are to be able to support yourself and to contribute to your community's improvement.

Just as students' reasons for dropping out vary widely, the solutions that keep them in school are just as differentiated. The National Dropout Prevention Center, through research, extensive sponsored workshops and conferences, and collaboration between practitioners meeting the needs of youth in at-risk situations, has identified 15 Effective Strategies with the highest level of positive impact on the high school graduation rate, demonstrating across-the-board effectiveness in urban, suburban and rural areas. These strategies frequently overlap and intertwine throughout the educational process. While many are

implemented as stand-alone programs or policies, the most successful school districts develop a synergistic plan encompassing most or all of these strategies for both at risk and traditional students.

THE BASIC CORE STRATEGIES

- Mentoring/Tutoring
- Service Learning
- Alternative Schools

EARLY INTERVENTIONS

- Out-of-School Enhancement
- Early Childhood Education
- Family Involvement
- Reading and Writing Programs

MAKING THE MOST OF INSTRUCTION

- Professional Development
- Openness to Diverse Learning Styles and Multiple Intelligences
- Instructional Technologies
- Individualized Instruction

MAKING THE MOST OF THE WIDER COMMUNITY

- Systemic Renewal
- Community Collaboration
- Career Education and Workforce Readiness
- Conflict Resolution and Conflict Resolution

High school graduation rates are an important measure of the performance of our public schools. Combined with test scores that verify educational outcomes, graduation rates demonstrate schools are able to provide students with the skills necessary to become contributing members of their communities. Given the strength of the relationship between high school graduation and students' life prospects, putting money, effort and supports towards making sure students graduate from high school becomes an important goal for all of us.

However, agreement that lower dropout rates are beneficial to society and to the individuals themselves, counting the dropout rate in the U.S. is a complicated and highly controversial process. For example, The U.S. Bureau of Education Statistics (BECS) rate for high school completion was 86% for 2001. The prestigious and highly conservative Manhattan Institute set their rate for the same year at 71%. In Kentucky, the National Center for Education Statistics set the high school completion rate at 86.2%; the Manhattan Institute at 71%; and the Business Roundtable at 70% for 1998. The reasons for this are myriad, all pointing to the need for further work to develop a nationally standardized method that focuses on accuracy and student preparation.

There is a long road ahead if we are to strengthen Kentucky's workforce. In 2000, one in four Kentuckians (Or 25.9%) did not have a high school diploma, compared to 19.6% nationally, says the Kentucky State Data Center. Kentucky ranked 8th nationally in the percent of population ages 16-19 not enrolled in school (10.9%) and not working during 2000, and 15th nationally in the percent of population aged 18-24 not high school graduates (25.1%) in the same year.

But there is good news here too. Kentucky seems to be improving at keeping kids in school compared to national progress. The 2002 Kids Count data for in 1989 set high school 12% of teens who are high school dropouts. That number declined to 11% in 1999 while nationally the percent remained at 10% of teens dropping out of high school. The percent of Kentuckians 25 and older with a high school diploma or GED increased from 64.6% in 1989 to 74.1% in 1999.

Business and industry are moving more toward technological sophistication which will increasingly require a more sophisticated and highly educated workforce. Simultaneously, the decline of labor unions and a decline in the minimum wage in constant dollars are contributing to a relative drop in the wages of less educated workers. If Kentucky hopes to grow economically, our population will have to keep pace with the changing face of the workforce, becoming better educated citizens with advanced knowledge and skills.

In 1997, the Postsecondary Education Improvement Act stated "The general welfare and material well-being of citizens of the Commonwealth depend in large measure upon the development of a well-educated and highly trained workforce." The Kentucky Center for School Safety, in concert with the Kentucky Department of Education, Law Enforcement, Mental Health and state government agencies agree, and are working to develop resources, provide guidance and improve communication and collaboration to make Kentucky schools successful in graduating an educated and skilled workforce for the Commonwealth.

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