

# Changing Minds at the Heart of Education's Benefits

*Debra Anderson and Marianne Hill*

*In Mississippi, only 60% of students finish high school, a significantly lower percentage than the already low 71% for the nation as a whole. In addition, Mississippi 4<sup>th</sup> and 8<sup>th</sup> graders achieve at levels below the national average on nationally mandated math and reading exams (in each ethnic group). The percentage of the population with a college degree is also lower.<sup>1</sup> Low educational achievement adversely impacts the state in many ways, including its economic development.*

The essence of economic development is the creative and effective use of knowledge. Economic development involves new ways of doing even the most basic of tasks, from communicating to traveling. Education goes hand-in-hand with economic growth -- it provides people with the skills they need to analyze problems and make decisions on the job, in the home and in the community. The kind of education individuals receive impacts the decision-making processes of families, organizations, businesses, and the public sector.

The benefits of formal education for individuals and for communities are examined below. Most of the findings are from U.S. studies; results differ by country, due in part to the differing content of education and to the differing institutions within which individuals work and live. In all cases, however, the return to education is high and positive.

## **Overview: education has monetary and non-monetary benefits.**

Education is an investment with high monetary and non-monetary returns for both individuals and communities. For individuals, education is a means to a wealthier, healthier and fuller life. For states and communities, education is "a powerful instrument ... for improving well-being, and lays the basis for sustained economic growth. (It is) essential for building societies and dynamic, globally competitive economies" (United Nations



2000). Education helps each student realize his or her potential. It "stimulates the spirit of inquiry, the acquisition of knowledge and understanding, and the thoughtful formulation of worthy goals" (National Education Association 2002). Each level of education completed by an individual can enhance that person's abilities, which in turn will raise the overall capacity of society to provide a higher quality of life for its members. Some of the basic benefits of education are summarized below.

## **More education means better jobs and higher incomes for individuals.**

The wage that an individual can expect to earn increases with the years of education he or she completes. High school graduates earn more than dropouts, and college graduates earn substantially more than high school graduates. According to U.S. Census figures, a college graduate in 1998 earned on average about \$20,000 more annually than a high school graduate, while high school graduates earned about \$8,000 more than dropouts. Regions with a more highly-educated population also enjoy higher per capita incomes.

More education brings greater rewards. The average earnings of a full-time employee with a doctoral degree was \$89,400 in the late 1990s. This was about \$37,200 more than a typical college graduate and a larger gap than the \$21,000 premium college graduates earned over a high school graduates. Trends suggest that in the future, advanced degrees

will bring larger premiums over college degrees, while professionals (i.e. doctors, dentists, lawyers) will earn even more than persons with PhDs.

Today's young people may need an advanced degree in order to get ahead in the business world -- a bachelor's degree has become a mere ticket of admission to the working world for many corporations. Jobs requiring only a high school degree will become more scarce. These jobs will grow by just 9% by the year 2008, while those requiring a bachelor's degree will grow by 25%, according to one estimate (Alliance for Excellent Education, 2003e).



Unemployment is lower among those with more education as well. Today, only 40% of adults who dropped out of high school are employed, compared to 60% of adults who completed high school and 80% of those with a bachelor's degree (Alliance for Excellent Education 2003c).

Literacy brings broad economic benefits in addition, boosting productivity. If literacy levels in the U.S. were the same as those in Sweden, the gross domestic product here would increase by approximately \$463 billion (Alliance for Excellent Education 2003e).

Higher incomes also mean higher tax revenues. The National Dropout Prevention Center cites a study estimating that each year's class of dropouts costs the country over \$200 billion in lost earnings and unrealized tax revenue. The Center also cites a 2003 study showing that if minority students participated in college at the same rate as white students, the government would gain at least \$80 billion in new tax revenues.<sup>2</sup>

### **More education means better decisions related to health and health care.**



Health literacy has been defined as the "capacity to obtain, interpret, understand and use information to promote and maintain health."<sup>3</sup> Consumers must be able to read *and*

evaluate information for credibility and quality, analyze risks, costs and benefits. They must be able to interpret test results, calculate dosages, and locate health information. Consumers need functional literacy and interactive literacy to make appropriate decisions. The estimated price tag for Americans not understanding health issues is more than \$70 billion, according to a Brown University study.<sup>4</sup> Literacy links health and education, and illiteracy is a contributing factor to the wide disparities in health status.

In a study estimating health literacy, "among adults who had not completed high school, about 22% performed below Level 1 (the lowest level)...., while 26% were in Level 1 and 33% in Level 2. Almost half (48%) did not score above Level 1 and slightly more than 80% did not exceed level 2."<sup>5</sup> In contrast, only 14% of those who had completed high school and 4% of those who attended school beyond high school were found to be at or below Level 1.

### **More education means more planning for the future, including family planning.**

Families with fewer children are better able to invest in their children's health care, nutrition, education and other needs. On the other hand, unplanned children or a large number of children can impose a heavy burden, particularly on the poor, while smaller families have higher upward economic mobility.<sup>6</sup> Data show that 60% of all babies born in the U.S. are unintended, and that for the teen population, the percentage increases to 85%.<sup>7</sup> Unplanned children involve costs for both families and society.



Taxpayers in the U.S. spend over \$30 billion annually on costs associated with the care of children born to young, low-income mothers. Many of these children were unplanned. In 1992, these expenditures included \$14 billion for health care, \$14 billion in public assistance, and almost \$6 billion on food stamps. The cost of these

programs in Mississippi was over \$100 million in 1994 and 1995, although most of these funds came from federal dollars.<sup>7</sup>

Young women who choose to complete more years of education typically postpone child-bearing, so that more education is associated with declining birth rates. For women under 30 years of age, birth rates are highest among women with less education, and, overall, women with 0 to 8 years of education had the highest birth rates and the greatest number of children over their lifetimes, according to a 1997 study by the Center for Disease Control.<sup>8</sup> This study found that among unmarried mothers the birth rate drops with the number of years of education the mother has.

Levels of achievement also matter. Male and female students with low academic achievement are twice as likely to become parents by their senior year of high school as students with high academic achievement (Alliance for Excellent Education, 2003b).

Another benefit of more education is reduced infant mortality. “Five years of education for mothers reduces the rate of child mortality by ten deaths per thousand births”, reports a UN study.<sup>8</sup> The infant mortality rate in the U.S. reached a record low of 6.8 deaths per 1,000 live births in 2001, but remains higher than in many other industrialized countries.

### **More education means less interest in criminal activity.**

Education reduces crime, according to numerous studies, and investing in education would save millions of dollars in crime-related expenditures annually. According to Lochner and Moretti (2001), “A one percent increase in high school graduation rates would save approximately \$1.4 billion in costs associated with incarceration, or about \$2,100 for each male high school graduate.”<sup>10</sup> A Vanderbilt



University study estimated \$1.3 million as the potential benefits in saving a high-risk youth from becoming a typical career criminal.<sup>11</sup>

The Alliance for Excellent Education (2003a) has compiled the results of several studies showing that arrests and imprisonment are associated with a lack of education:

- Approximately 75% of state prison inmates did not complete high school.
- High school dropouts are 3.5 times more likely than high school graduates to be arrested in their lifetimes.
- About 47% of drug offenders in prison do not have a high school diploma or a GED.
- A male high school graduate with a D average is fourteen times more likely to become incarcerated than a graduate with an A average.
- A one-year increase in average education levels would reduce arrest rates by 11%.
- About 23% of the difference in incarceration rates between blacks and whites would be eliminated by raising the average education levels of blacks to the same level as that of whites.
- Nineteen percent of adult inmates are illiterate. Up to 60% are considered to be functionally illiterate. By comparison, our national adult illiteracy rate is 4%, with up to 23% functionally illiterate. (“Functionally illiterate” is a term used to describe persons who have the ability to read and write, but at such a rudimentary level that they are unable to perform tasks that require reading or writing simple instructions.)

A survey of police chiefs conducted by George Mason University found that three to ten times more chiefs gave high-quality, early education and care the highest rating for effectiveness as a crime prevention and

reduction tool in comparison to other strategies.

Education also impacts recidivism. Recidivism rates are high in the United States, ranging from 41% to 71%. According to the *National Institute for Justice Report to the U.S. Congress*, prison education is more effective at reducing recidivism than boot camps, shock incarceration, or vocational training.

A study conducted in 1997 for the United States Department of Education entitled, "The Three State Recidivism Study," focused on over 3600 individuals released more than three years earlier in Maryland, Minnesota and Ohio. Using education participation as the major variable, the study shows that "simply attending school behind bars reduced the likelihood of re-incarceration by 29%. This translated into savings. Every dollar spent on education returned more than two dollars to the citizens in reduced prison costs."<sup>12</sup>



For juveniles involved in quality reading instruction programs while in prison, recidivism was reduced by 20% or more (Alliance for Excellent Education 2003a).

In 2001, states spent \$29.5 billion for adult prisons. Day-to-day operating expenses totaled \$28.4 billion and capital outlays for land, new buildings and renovations was estimated at \$1.0 billion. Annual operating costs per state inmate was \$22,650 or \$62.05 per day.<sup>13</sup> Over two million individuals in the United States are incarcerated, either in prisons (1.5 million) or in jails (0.6 million). In Mississippi, the composite average annual cost per inmate was \$14,105 or \$45.91 per day. Other costs associated with incarceration include police, courts prosecutors, jail, juvenile detention, community supervision and rehabilitation.

### **More education and higher incomes mean increased home ownership.**



Heads of households with less education historically move into home

ownership much more slowly than those with more education, and the less educated also lag behind in home ownership over the course of their lifetime. In addition, there is a growing gap in the levels of home ownership between the most and least educated households.<sup>14</sup> Succeeding generations of the least educated are falling further behind in home ownership, especially when compared to succeeding generations of high school graduates.

Home ownership has been shown to lead to 13 to 23% higher quality home environment, which resulted in children or home-owners achieving math scores up to nine percent higher, reading scores up to seven percent higher, and reductions in children's behavior problems up to three percent.<sup>15</sup>

For blacks, the value of education for home ownership is more significant than it is for whites. Blacks without a high school diploma showed much lower levels of home ownership than whites without a high school diploma. Furthermore, college graduation -- and even some college -- had a more profound impact on home ownership attainment for blacks. Black college graduates have much higher levels of home ownership attainment (20 % higher) than black high school graduates. By comparison, a college degree for whites only raises home ownership rates 5 percentage points above whites with a high school diploma. Home ownership differs by family structure and race, but in all categories, education is a factor.

### **More education means increased citizen participation and higher voting rates.**

While the social characteristics of individuals and their own political attitudes are key determinants of political participation, formal education and income are critical determinants. Education increases the ability to seek information regarding where to vote,



how to vote, campaign issues and who the candidates are.<sup>16</sup> It expands the capacity to deal with the abstract, intangible subjects that are a part of politics. Citizens who are more educated likely to vote than those who are less educated. High school graduates are more likely than dropouts to be registered to vote, follow campaigns via television and printed material, attend public meetings, and volunteer in campaigns.

Increased levels of education and literacy provide exposure to people, environments and practices that create interest in politics, thereby encouraging voting.<sup>17</sup> Higher levels of education also advance opportunities for social net-working that promotes citizen participation through providing access to political leaders, organizations, and information.

### **Conclusion**

Education has the power to influence the pace of economic progress and alter behavior. It has the power to influence life choices, shaping attitudes and impacting behavior. From employment opportunities to income levels; from health status to family size, education impacts all areas of a person's life. It also impacts organizations and social institutions, from businesses to political bodies. Improving the quality of education and the levels of education that individuals achieve may pose difficult challenges, but such efforts bring proven benefits of great significance to both individuals and society.

---

### **Notes**

<sup>1,2</sup> National Dropout Prevention Center, "Quick Facts". Found at the following site: [www.dropoutprevention.org/stats/stats.htm](http://www.dropoutprevention.org/stats/stats.htm).

<sup>3</sup>Sandra Kerka, "Health Literacy Beyond Basic Skills." ERIC Digest (ED478948), 2003.

<sup>4</sup>Christina Zarcadoolas, "Environmental and Health Literacy Initiative (overview)" Center for Environmental Studies, Brown University, 2004.

<sup>5</sup>See Policy Information Report, "Literacy and

Health in America," Center for Global Assessment, Policy Information Center, April 2004. This report explains that researchers at the Educational Testing Service, using health data from the National Adult Literacy Survey (NALS) and the International Adult literacy Survey (IALS), created a Health Activities Literacy Scale (HALS) for the U.S. Department of Education. The HALS is a 0 to 500 scale that reflects a progression of health-related literacy skills from low (Level 1) to high (Level 5). The average health literacy score on the HALS of adults who had not completed high school or earned a GED at the time of the survey was 220; far lower than a score of 271 for individuals who graduated from high school or earned a GED. The average score for those who continued their education beyond high school was 306.

<sup>6</sup>See UNFPA, *State of the World Population*, 2004, "Population and Poverty". [www.unfpa.org](http://www.unfpa.org).

<sup>7</sup>Mississippi State Department of Health, *Selected Facts About Teenage Pregnancy Mississippi*, 1994 and 1995.

<sup>8</sup>J. Matthews and Stephanie J. Ventura, "Birth and Fertility Rates by Educational Attainment: United States, 1994". Division of vital Statistics, *Monthly Vital Statistics Report*, April 24, 1997. At [www.cdc.gov](http://www.cdc.gov).

<sup>9</sup>See, UNESCO, *Education for Sustainable Development*, "Overall Impact of Education on Population Dynamics," 2001. [www.UNESCO.org](http://www.UNESCO.org).

<sup>10</sup>Lochner and Moretti, 2001. At [www.icpr.org/wpfiles/lochner\\_moretti.pdf](http://www.icpr.org/wpfiles/lochner_moretti.pdf)

<sup>11</sup>Mark A. Cohen, "Costs of Crime" in *Encyclopedia of Crime and Punishment*, David Levinson, (Thousand Oaks, CA: Sage), 2002. Also, more information is available here: [www.coloradoboysranch.org/cbv/perforrmt\\_hmtl](http://www.coloradoboysranch.org/cbv/perforrmt_hmtl)

<sup>12</sup>Daniel Karpowitz and Max Kenner, Bard Prison Initiative, "Education as Crime Prevention: The Case for Reinstating Pell Grant Eligibility for the Incarcerated." 2002.

<sup>13</sup>James J. Stephan, Bureau of Justice Statistics,

*State Prison Expenditures 2001.* U.S. Department of Justice.

<sup>14</sup>George S. Manmick and Zhu Xiao Di, Joint Center for Housing Studies, Harvard University “Cohort *Insights into the Influence of Education, Race and Family Structure on Home Ownership Trends by age: 1985-1995*,” 2000. Recent studies suggest that the positive effect of college on home ownership might be weakening. Rising costs of today’s college education might be reducing the ability of young college graduates to afford a down payment on a home or quality for a mortgage, however.

<sup>15</sup>Donald Haurin, Toby Parcel, R. Jean Haurin, Joint Center for Housing Studies of Harvard University, “The Impact of Home Ownership on Child Outcomes,” 2001.

<sup>16</sup>Katherine Tate and Kim Defronzo, “*Unequal Participation in American Politics and Its Implications for Children and Family Policies.*” 2000,p.4.

<sup>17</sup>William J. Carbonaro, “*Education and Voting: The Importance of Literacy, Literacy Practices, and Social Networks.*” 1999, p. 2.

## Sources

Alliance for Excellent Education, Fact Sheets. 2003a “Impact of Education on: Crime”. 2003b “On Health”. 2003c “On Personal Income and Employment”, 2003d “On Poverty”, 2003e “On the Economy”. See [www.all4ed.org/publications](http://www.all4ed.org/publications).

Lochner, L. and E. Moretti, “The Effect of Education on Crime”, Joint Center for Poverty Research, December 2001. Available at the following website: [www.jcpr.org/wpfiles/lochner\\_moretti.pdf](http://www.jcpr.org/wpfiles/lochner_moretti.pdf)

<sup>12</sup>National Dropout Prevention Center, “Quick Facts”. At [www.dropoutprevention.org/stats/stats.htm](http://www.dropoutprevention.org/stats/stats.htm).

National Education Association, *Code of Ethics 2002*, [www.nea.org](http://www.nea.org).

United Nations, *Millennium Development Goals*, 2000.

U.S. Bureau of the Census

Wolfinger and Rosentone, *Who Votes?*, 1980.