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Indiana, along with other states, faces major changes in the economic landscape. People naturally seek to address the immediate problems, but there is also a need to look into the future, to be more proactive in shaping Indiana's future.

Policy Choices for Indiana's Future focuses on current and future economic conditions in Indiana within the broader context of the Midwest, and includes three commissions, each given the task of addressing a key area for the future of Indiana: *State and Local Tax Policy*, *Education and Workforce Development*, and *Energy and the Environment*. For the purposes of this project the Midwest region is defined as Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin.

The value of a college education is often measured by the economic costs or benefits to the individual pursuing the education. However, there are other private and public impacts derived from educating an individual, including improved health outcomes, higher levels of civic engagement, and lower incarceration rates. This report presents some of these benefits and highlights education's importance in the global economy.

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The Value of Education: A Comprehensive Look at the Benefits Associated with Higher Education

What is the value of higher education? Arriving at a satisfactory answer largely depends on properly weighing the benefits that flow from higher education. With recent headlines asking *Is College Worth It?* and reports describing the looming student loan crisis, the public dialogue on higher education must include the broad array of benefits that accompany educational attainment. Increasingly, discussions of higher education's value have focused on the private economic benefits of education to individuals, often to the exclusion of broader measures that include public economic and social benefits.

Perhaps more than ever before a postsecondary education is critical to the long-term competitiveness of American workers in an increasingly global labor market. However, overemphasizing the individualized benefits of education may have unintended effect of undermining public support for higher education even as it encourages greater individual aspiration. Without promoting the more indirect benefits education confers on society, it is likely that the valuation of higher education is incomplete.

As the United States emerges from a global recession that left nearly 15 million Americans out of work (U.S. Bureau of Labor Statistics, 2010), state budget shortfalls nearing \$125 billion, and ballooning federal deficits, fiscal austerity has increasingly dominated the attention of policymakers. Inflation-adjusted state tax revenues for 2010 are nearly 12 percent below pre-recession levels, forcing states to make difficult spending cuts to balance their budgets (McNichol, Johnson, & Oliff, 2011). Because education often accounts for over half of a state's appropriations, efforts to reduce spending frequently target education. Forty-three states, including Indiana, have reduced their higher education funding in response to revenue shortfalls. Indiana's higher education expenditures for fiscal year 2009-10 were \$58 million less than the previous year and the 2011-2013 as-submitted budget contains an additional \$38 million in recommended cuts (Indiana State Budget Agency, 2011). This brief is not intended as an analysis of state education expenditures, but as a serious discussion about how we value higher education must first acknowledge the fiscal climate within which this conversation must now occur.

Public Support for Education

Determining the appropriate extent of public support for higher education, while practically and theoretically important, is difficult to achieve with anything approaching precision. It requires balancing the positive externalities associated with higher education against the costs of publicly-financed education. The outcome of any attempt to define this support is influenced by the model one uses and the assumptions that must be made in the course of weighing the various costs and benefits. Such an exercise is beyond the scope of this brief, but other such efforts have reached drastically divergent estimates on the return on investment in higher education. This paper will explore the various and often overlooked associations between education and individual metrics.

Public support for higher education, as reflected by state appropriations, has steadily declined over the last few decades. Since 1990, state higher education appropriations have decreased by over 35 percent, from \$9.70 per \$1,000 of personal income to less than \$6.30 in 2010 (College Board Advocacy & Policy Center, 2010). Amidst this decline there have



been shifts in how and who pays for higher education. The transformation of the University of Michigan over the past few decades, although not necessarily representative of higher education generally, does highlight some of the institutional challenges created by declining levels of state support. The state of Michigan, among the top five states in higher education support in the 1960s, had fallen to among the bottom third of states by the 1980s. During this same period, the University of Michigan saw the share of its operating budget provided by state appropriations fall from over 70 percent to less than 10 percent by the 1990s. The shift from state support to reliance on alternative revenue sources has been so significant that President Emeritus James Duderstadt has characterized the financial restructuring as the transition from a “state-supported university” to a “privately-financed public university” (Duderstadt, 2000).

While the Michigan experience has much to do with circumstances unique to Michigan, it demonstrates the struggle to ensure access, quality, and affordability in the face of daunting financial limitations. Ultimately, the Michigan story is a success story in which an institution was able to establish itself as a world-class research institution while financially restructuring itself in response to declining public support. However, it should also serve as a cautionary tale, as its successful transformation was achieved through a combination of tuition increases for in-state students, a greater reliance on non-resident enrollment and the largest fundraising campaign in the history of public higher education (Duderstadt, 2000). It would be difficult to argue that the financial restructuring of the University of Michigan had no impact on the access to and affordability of higher education for the students of Michigan.

A recent report released by the Chicago Council on Global Affairs, *A Master Plan for Higher Education in the Midwest*, found that public funding of higher education in the Midwest significantly lags that of the rest of the country. The Midwest would have to increase public appropriations for higher education by as much as 40 percent to match the level of the states with strong knowledge-based economies (Duderstadt, 2011). Among its recommendations, the report suggested a more strategic approach to higher education funding in which limited public financial aid dollars are targeted to those students for whom financial considerations are most likely to impact the pursuit of higher education. Despite the political unpopularity of tuition increases, and in the face of declining public financial support, a failure to provide appropriate levels of investment in public colleges and universities could have an adverse impact on both the quality of higher education and the ability of the Midwest to produce the degrees and human capital required to compete in a global, knowledge-based economy.

Paying for Higher Education

Over the last decade, tuition and fees at public four-year colleges and universities have risen on average by an inflation adjusted 5.6 percent per year (College Board Advocacy & Policy Center, 2010). For the 2010-11 school year, the average annual costs at a public

four-year institution, including room and board, stood at \$16,140, up 6.1 percent from the previous year. For students attending a private college or university, the average cost for a year of education more than doubles to \$36,993. While these figures are shocking to prospective students and their parents, the published “sticker price” is misleading as an indicator of the total costs of postsecondary education. When state and federal grant aid and tax incentives are factored into the price, a year of education drops by \$6,100 for students at public four-year institutions and by over \$16,000 for students attending private institutions. In fact, although published tuition and fees at public four-year universities rose by nearly 24 percent from 2005-06 to 2010-11, when grant aid and tax benefits are factored in, the average costs declined slightly over the period. Because aid packages are largely determined by financial need, on average, the entire cost of tuition and fees for low-income students at public four-year colleges and universities was covered by grants (College Board Advocacy & Policy Center, 2010). However, current bills in Congress could reduce federal student aid significantly. A bill recently passed by the U.S House of Representatives, H.R. 1, could reduce the Federal Pell Grant Program by \$5.7 billion dollars or 24 percent (Horney, Trisi, & Sherman, 2011). When combined with reductions in state appropriations and endowment losses, it is likely that the share of costs borne by students and families is likely to rise.

The cost of higher education has taken on even greater relevance in the last few years as recent college graduates, burdened with unprecedented levels of student loan debt, have encountered an improving, but still gloomy labor market with limited job prospects (Hobijn, Gardiner, & Wiles, 2011). Traditional expectations, in which a four-year degree entitled its holder to an immediate middle-class income and financial security, are beginning to adjust to the realities of a post-recessionary economy and a globally competitive labor force. Reflecting recent changes in how college is paid for, a 2010 study by Sallie Mae, the largest originator of federally guaranteed student loans, found that over 13 percent of students used private loans to partially cover the cost of their education, this was up from only 8 percent in 2008 (Sallie Mae, 2010).

Complicating matters further is the emergence of the for-profit education industry. In the 2008-09 academic year, enrollment at for-profit colleges and universities accounted for around 12 percent of total post-secondary enrollment. However, among the 13.8 percent of student loan borrowers that defaulted within three years of entering repayment, for-profit institutions accounted for 48 percent of total defaults, four times greater than their share of enrollments (Institute for College Access & Success, 2011).

Recently, reports state that student loan debt has surpassed credit card debt for the first time in U.S. history. With tuition increases and federal aid declines, many Americans wonder whether higher education is still within their reach. All of the focus around the cost of higher education for families and states detracts from the need to present a more balanced discussion about education in American. The more



we talk about the price of education, the less we discuss its value. The more we see education as an expenditure, the less we view it as an investment. By looking at the many benefits, both direct and indirect, that are associated with education, a more informed dialogue can take place about public support of higher education. Without such a comprehensive analysis of education's diverse benefits, the message that we send about the value of higher education will remain narrowly targeted to the consumers of education, to the exclusion of the broader beneficiaries.

Characterizing the Benefits

The value of education is determined by the benefits that flow from its pursuit and development. This paper seeks to provide a more inclusive perspective of the broad benefits related to education. Though it is true that the benefits associated with higher education are generally public and private, economic and social, for the purposes of examination the analysis will utilize a framework in which identified benefits fall in one of four categories: public economic benefits, private economic benefits, public social benefits, and private social benefits.

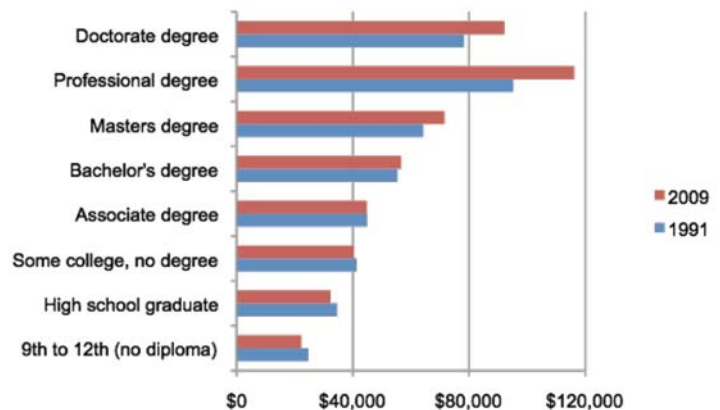
This analysis is limited to the more immediate benefits of education, but there is a compelling effect of education across generations. Increased educational attainment has a demonstrated ripple effect on subsequent generations for the offspring of educated individuals. In a summary of its findings, the Economic Mobility Project reported that the economic mobility of individuals is significantly influenced by the education and income of their parents. The children of college graduates were 37 percentage points more likely to earn a college degree (50 percent to 13 percent) than were the children of parents without post-secondary education (Economic Mobility Project, n.d.).

Private Economic Benefits

Discussions about the benefits of higher education inevitably include the increased wages and lifetime earnings associated with increased levels of education. The ubiquity of this message is well justified by the data; the economic benefits that result from greater levels of education are real and substantial. In the last quarter of 2010, the median weekly earnings for a full-time worker age 25 and over with less than a high school diploma were \$438. A similar worker with a high school diploma could expect to earn \$633. An even greater educational premium was achieved by those who hold a bachelor's degree and higher; median weekly earnings for this group were \$1,139 (U.S. Bureau of Labor Statistics, 2010). While wages have stagnated or declined for all workers over the past decade in the wake of the 2001 and 2008 recessions, the impact on the earnings of the least educated have been particularly dramatic. From 1991 to 2009 the median salary for workers with less than an associate's degree have fallen in real terms, while those with any postsecondary education have seen moderate gains over the past two decades (U.S. Census Bureau, 2009). Tables 1a and 1b illustrate the significant and increasing gap in the earnings based on educational attainment. Table 1a shows that the economic changes over the last 20 years have hit men without

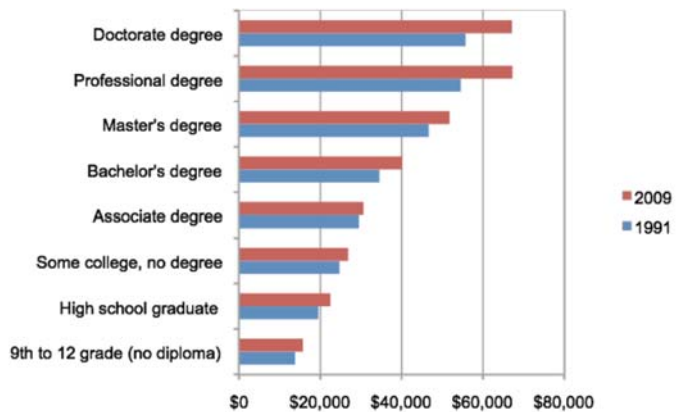
The framework used here – Private Economic Benefits, Public Economic Benefits, Private Social Benefits, Public Social Benefits – is modeled on the framework used in a 1998 report from the Institute for Higher Education. The goal of this report, Reaping the benefits: Defining the public and private value of going to college, was to provide an inclusive list and discussion of benefits relevant to public and private decision makers regarding investments in higher education.

Table 1a. Median earnings by educational attainment, male workers 25 and older (2009 dollars)



Source: U. S. Census Bureau, Current Population Survey, 2009.

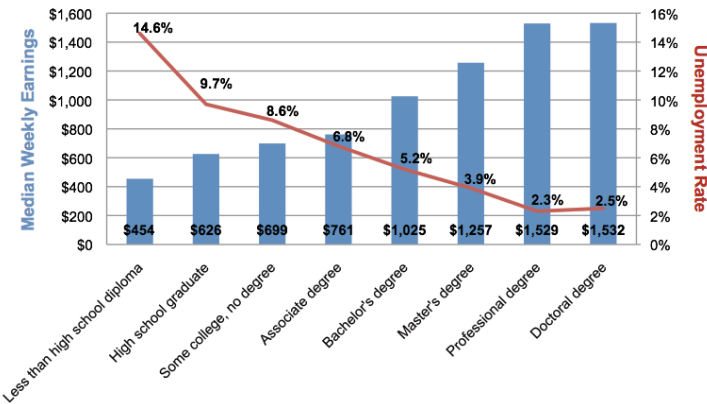
Table 1b. Median earnings by educational attainment, female workers 25 and older (2009 dollars)



Source: U. S. Census Bureau, Current Population Survey, 2009.



Table 2. Median weekly earnings and unemployment by educational attainment, 2009

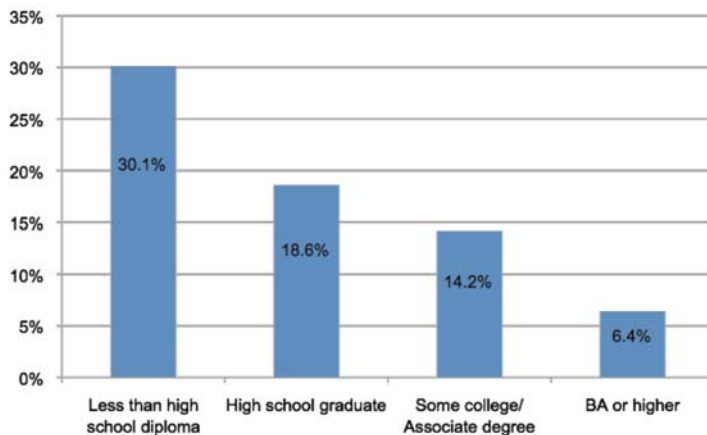


Source: U. S. Census Bureau, Current Population Survey, 2009.

postsecondary education particularly hard. As technological improvement and global competition accelerate, those without postsecondary education and training risk falling even further behind.

In addition to higher wages, those with greater educational attainment also fare far better in the job market as measured by both rates of employment and labor force participation. In the last quarter of 2010, the unemployment rate for those with less than a high school diploma was 15.4 percent, compared to a rate of only 4.9 percent for those with a bachelor's degree or higher (U.S. Bureau of Labor Statistics, 2009). Perhaps even more striking, the employment-to-population ratio – a measure of the working-age population (ages 15-64) that is employed – for the same period was only 39.4 percent for those without a high school diploma. For those with a bachelor's degree or higher, the employment-to-population ratio was 72.8 percent (U.S. Bureau of Labor Statistics, 2009). Table 2 provides a visual demonstration of the dramatic relationship between wages, unemployment, and greater levels of education.

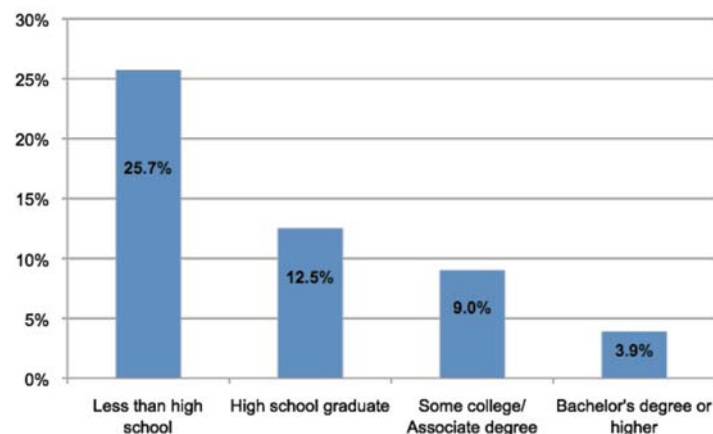
Table 3. Percent of the population without health insurance by educational attainment, 2009



Source: U. S. Census Bureau, Current Population Survey, 2009.

In addition to the wage and employment benefits, those with higher levels of education often receive indirect economic benefits that contribute to their financial and personal well-being. Those with higher levels of education are far more likely to hold jobs that include health and retirement benefits. Table 3 clearly depicts the association of health insurance coverage to one's educational attainment. The percent of adults without health insurance is three and five times higher for those with only a high school diploma and for those with less than a high school diploma, respectively, when compared to those with a bachelor's degree or higher.

Table 4. Percent of the population living below the poverty level by educational attainment, 2009



Source: U.S. Census Bureau, 2009 American Community Survey 1-Year Estimates.

Education clearly impacts the employment options and upward mobility of individuals. In 2009, one-quarter (25.7 percent) of those with less than a high school diploma lived below the poverty level (U.S. Census Bureau, 2009). By merely completing high school, the percentage of those who lived below the poverty line is halved to 12.5 percent (U.S. Census Bureau, 2009). For those with a bachelor's degree or higher, the percentage living below the poverty level falls to 3.9 percent (U.S. Census Bureau, 2009). Though poverty obviously involves many complex factors and varies by age, race, gender, and disability, the data do show that a lack of formal education greatly decreases an individual's chances of avoiding a life of poverty (Table 4).

Public Economic Benefits

Just as educational attainment is associated with greater financial security for individuals, having an educated population confers economic benefits on the neighborhoods, cities, and states in which they reside. In addition to increases in tax revenue and economic activity, a more educated population has a far lower reliance on government services than do their less-educated peers. A 2009 report by the Center for Labor Market Studies estimated the lifetime fiscal contributions of individuals by educational attainment based on federal, state, and local tax payments as well as cash and in-kind government transfers and incarceration costs (Khatiwada, McLaughlin, & Sum, 2009). The study



concluded that the average high school dropout will have a lifetime net fiscal contribution to society of approximately -\$5,200 compared to \$287,000 by the average high school graduate (Khatiwada et al., 2009). For those who earn a bachelor's degree or a master's degree and higher, the authors estimate that net lifetime fiscal contribution rises to \$793,079 and \$1,094,945, respectively.

Though the report primarily addresses the enormous costs on society imposed by high school dropouts, their findings illustrate the fundamental value that education provides by alleviating many of the socially deleterious consequences that are associated with a lack of formal education. The report found that during 2006-07 nearly 10 percent of male high school dropouts ages 16-24 were incarcerated. This figure is even more striking when it is contrasted with the incarceration rate for young men who held a bachelor's degree or higher; the rate falls to only 0.2 percent, or only 1 in 500. Though the reduction in the incarceration rate by education was less drastic among black males than it was for males overall, the significantly higher incarceration rates for black males ages 16-24 provides a powerful illustration of the effect of higher education on incarceration rates. The incarceration rate for young black men who have failed to complete high school, at nearly 23 percent, was more than three times higher than it was for whites, Hispanics, or Asians. For young black males who have earned a bachelor's degree, the incarceration rate plummets from 22.9 percent to just 0.6 percent (Khatiwada et al., 2009).

The link between educational attainment and incarceration rates highlights the indirect costs associated with the failure to achieve a basic education. The Indiana Department of Correction (IDOC) reports an average cost of \$19,812 per year to keep an inmate incarcerated in the state of Indiana in 2010-11 (Nally, Lockwood, & Ho, n.d.). Just as one's educational attainment is correlated with incarceration and employment rates, it also powerfully predicts an inmate's likelihood to reoffend upon release. An internal study conducted by the IDOC in collaboration with Ball State University identified employment and education as the two strongest predictors of recidivism (Nally, et al., n.d.). The recidivism rate for an individual with less than a high school diploma and who is unemployed was 44.7 percent, compared to only 17.3 percent for an individual with a college degree who is employed.

Although the link between educational attainment and incarceration applies equally to men and women, because men are incarcerated at a rate ten times that of women, the impact of this relationship affects women to a lesser extent (Warren, 2008). However, under-education does present a unique set of challenges to women. The study conducted by the Center for Labor Market Studies, using data from the U.S Census Bureau, found that the percentage of women ages 16-24 who were single mothers varied dramatically by the education of the mother. For women with a bachelor's degree, only 2.6 percent were single mothers. For women with less than a high school diploma or who were high school graduates, the numbers ballooned to 22.6 percent and 17.5 percent, respectively (Khatiwada, et al., 2009). For many of these women, the combination of teen pregnancy and a

lack of formal education results in a lifetime sentence to poverty and dependency.

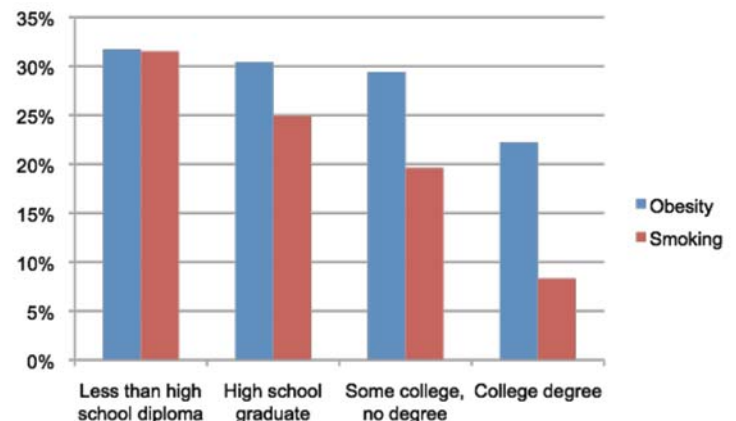
Private Social Benefits

In addition to the financial benefits that individuals achieve through educational achievement, many of the indicators of health and well-being are strongly correlated with an individual's educational attainment. Education simultaneously performs a dual social function fostering the development of specialized skills that increase productivity while also transferring knowledge and culture from one generation to another. Education confers on individuals not just the specialized knowledge that is the subject of their studies, but also the intangible skills that result from the educational process itself. Skills such as the ability to communicate effectively, to problem solve, and to process complex information better equip individuals to navigate modern life and the choices it presents to them as individuals, consumers, citizens, and parents.

Looking at health outcomes for individuals by educational attainment demonstrates the significant improvements that are associated with higher levels of education. Obesity and smoking are among the most serious health threats facing the United States. It is estimated that the direct economic impact of obesity and smoking already tops \$250 billion dollars annually and contributes to the premature death of hundreds of thousands of Americans each year (Humphries, 2009). Recent research has suggested that tobacco use alone contributes to over 400,000 deaths annually with associated costs estimated at \$194.3 billion. In 2007, Indiana registered the fourth highest percent of adults who smoke at 24.1 percent. In 2009, the Center for Disease Control estimated that over one-quarter of Americans (26.7 percent) were clinically obese. In 2006 alone, nearly 16 percent of Indiana's Medicaid expenditures were obesity related, nearly three times the rate for the United States overall (McCabe, et al., 2009).

The data reflect that education is correlated with reduced incidences of both. Table 5 displays the reductions in smoking and obesity prevalence associated with increases in education attainment.

Table 5. Obesity and smoking rates by educational attainment, 2009



Source: Center for Disease Control, Behavioral Risk Factor Surveillance System, 2009.



For chronic smokers – those who reported smoking daily – 25.3 percent have less than a high school diploma, compared to only 5.1 percent for those with a bachelor’s degree. In Indiana, the percentage of chronic smokers by education is even more severe. In 2009, one-third (32.9 percent) of Hoosiers with less than a high school diploma were chronic smokers compared to a rate of only 5.1 percent for their peers with at least a bachelor’s degree.

Education also is positively correlated with activities with demonstrated beneficial health effects. As Table 6 shows, the percentage of individuals who consume five or more servings of fruits and vegetables daily and those who exercise three or more days per week both consistently increase along with one’s educational attainment.

In light of the correlation between education level and positive and negative health activities, it is not surprising that an individual’s overall health status is influenced by one’s educational attainment. As Table 7 confirms, those with higher levels of formal education are far more likely to report their health status as “excellent” and far less likely to report their health status as “poor.” The gains in life expectancy over the past several decades have been disproportionately experienced by those with higher educational attainment. A 2008 study by Harvard Medical School found that while life expectancies rose from 1990 to 2000 for the most-educated Americans by an additional 1.6 years, it remained virtually unchanged for the least-educated (Meara, Richards, & Cutler, 2008). The study estimated that a 25 year old in 2000 with at least 12 years of formal education could expect to live to age 82; for those with less than 12 years of formal education their life expectancy drops to 75. Though the researchers conclude that smoking alone could account for up to 30 percent of the mortality gap, the study indicates that education improves not only the quality of life for individuals, but also increases life expectancy.

Public Social Benefits

More education is associated with much higher levels of civic engagement. Data on voter participation in the 2008 presidential

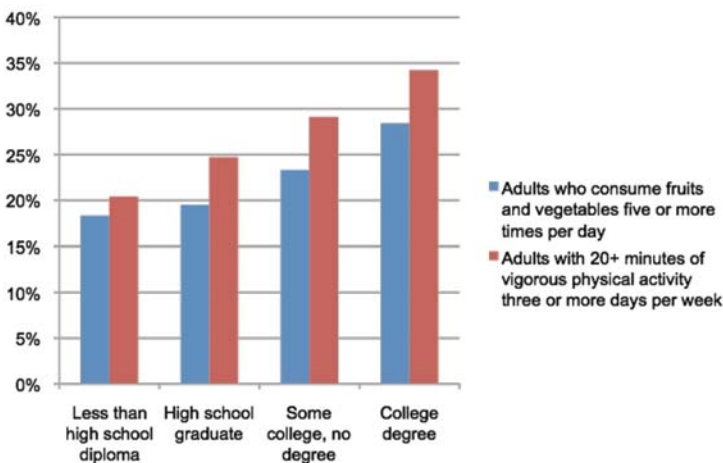
election (Table 8) show that compared to those with only a high school diploma, individuals with a bachelor’s degree voted at rates that were 22 percentage points higher, 77 percent compared to 54.9 percent (U.S. Census Bureau, 2008). The results from voter turnout during the 2006 elections demonstrate a similar trend in voter registration and turnout based on education. In 2006, over 61 percent of those with a bachelor’s degree voted in the 2006 mid-term election; this is compared to only 25.2 percent for those with less than a high school diploma (U.S. Census Bureau, 2008).

Studies have demonstrated that education significantly affects both the amount and frequency of charitable giving (Center on Philanthropy at Indiana University, 2007). Tables 9 and 10 display that those with higher levels of education donate at much higher rates and much greater sums than those with less education. Income affects the amount and frequency of charitable giving, but does not alone explain the significantly higher levels of charity by those with more advanced education.

The data imply that education promotes social awareness and results in greater consideration of the general welfare of others. This implication would seem to be confirmed by comparing rates of volunteerism between varying levels of education attainment. As might be expected, those with a bachelor’s degree or higher were far more likely to volunteer than those with lower levels of educational attainment. In 2010, over 40 percent of people with a bachelor’s degree or higher engaged in unpaid volunteer work, nearly five times higher than the volunteer rate for those with less than a high school education. Table 11 reflects the steep relationship between volunteerism and education.

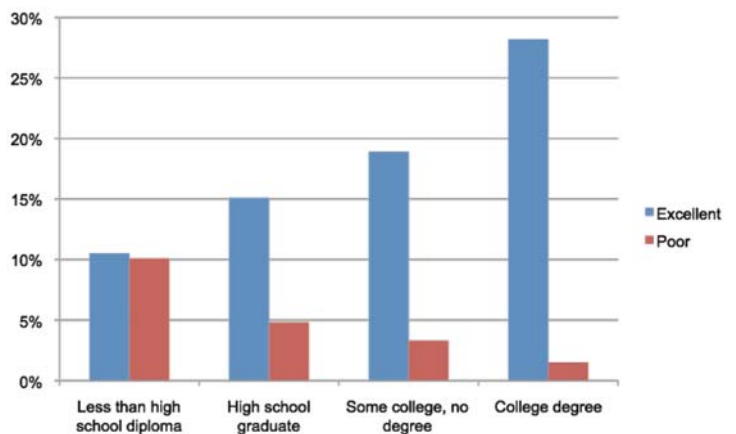
When the various elements of social networks are considered, it seems a concentration of well-educated citizens helps create an environment where dynamic communities can flourish. From schools to churches, museums to nonprofits, communities benefit from the presence and engagement of educated citizens. By establishing new, and utilizing existing social systems, an educated citizenry enhances the quality of communal life and facilitates public dialogue and the robust exchange of ideas.

Table 6. Diet and exercise by educational attainment, 2009



Source: Center for Disease Control, Behavioral Risk Factor Surveillance System, 2009.

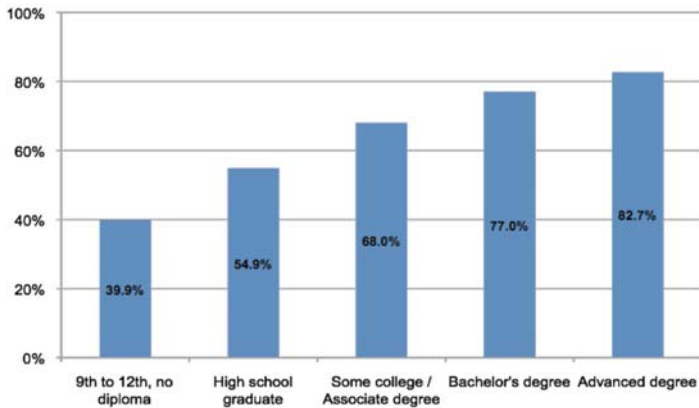
Table 7. Reported health status by educational attainment, 2009



Source: Center for Disease Control, Behavioral Risk Factor Surveillance System, 2009.

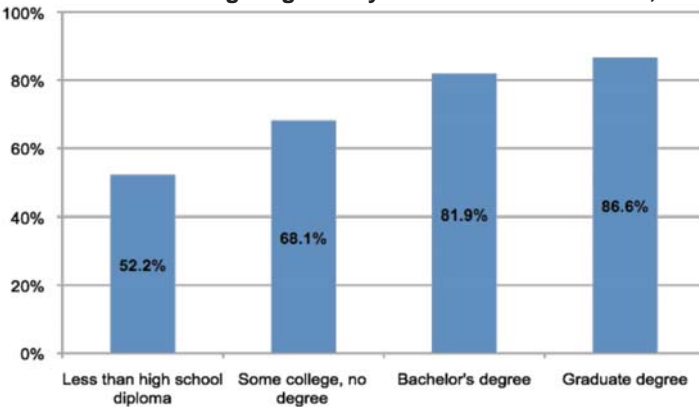


Table 8. Voter participation in the 2008 presidential election by educational attainment, 2008



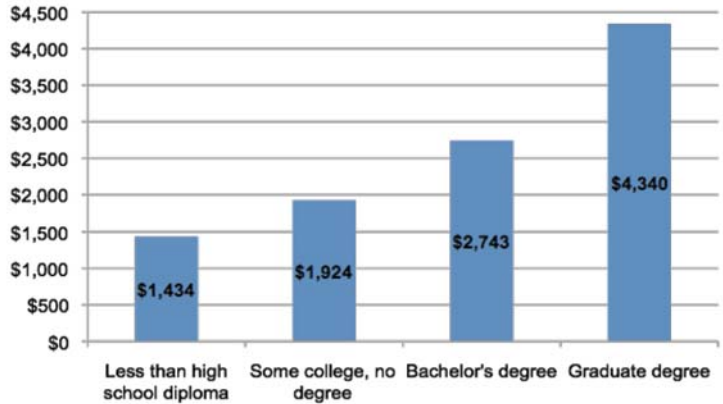
Source: U.S. Census Bureau, Current Population Survey, November 2008.

Table 9. Charitable giving rate by educational attainment, 2007



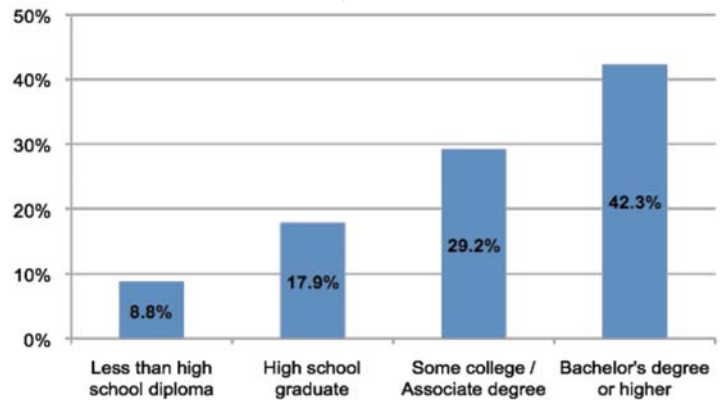
Source: Center on Philanthropy, COPPS 2007 - Panel Study of Income Dynamics, 2008.

Table 10. Average charitable contribution by educational attainment, 2007



Source: Center on Philanthropy, COPPS 2007 - Panel Study of Income Dynamics, 2008

Table 11. Volunteerism rate by educational attainment, 2010



Source: Source: U.S. Bureau of Labor Statistics, 2010.

Conclusion

As the demand for a more educated workforce increases in response to global social and economic changes, the need to properly discuss the inherent value of education becomes even more important. While it is difficult to isolate the effects of education from the many other factors that contribute to the aggregate behaviors of diverse groups of people, only after we consider the entire range of benefits associated with education does the full value of education come into focus. For all the available data that demonstrate the positive benefits that education confers, there are likely far more benefits that have yet to be researched. Does an educated parent read more often to their children? Are more educated communities better able to attract and retain human capital? How does education affect support for the arts?

While the levels of public debt make discussions of investment in education more difficult, we should make certain that the policies we adopt are reached only after we have adequately weighed all of the considerations that affect our future, both as individuals and as a society. The United States has long been a world leader in education, boasting of and benefiting from high levels of literacy and education. In the midst of a rapidly changing world, it is vital that traditional understandings reinforce modern realities.

Despite recent ruminations that the value of a post-secondary degree is in decline, the educational premium has never been higher than it is today. The time when a high school diploma was a ticket to the middle class has passed; and while a four-year degree may not be appropriate for everyone, tomorrow's jobs increasingly require some post-secondary education and training. As Hoosier families recover from a recession that battered their retirement accounts, devalued their homes, and contracted employment opportunities, policymakers should ensure that the decisions they make today serve to position Indiana to meet the challenges and opportunities the future holds.

Education has long served as a vehicle to human progress and social mobility. By overemphasizing the private nature of the benefits that flow from education, we risk diminishing or even disregarding education as the common denominator in producing the human capital required to compete in an increasingly global economy. We must be careful not to let political expediency and economic myopia impede the reforms and investments necessary to ensure that education's benefits are realized. While the costs incurred educating our society are enormous, and growing, we must be aware that the costs of failing to do so might be even greater.



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