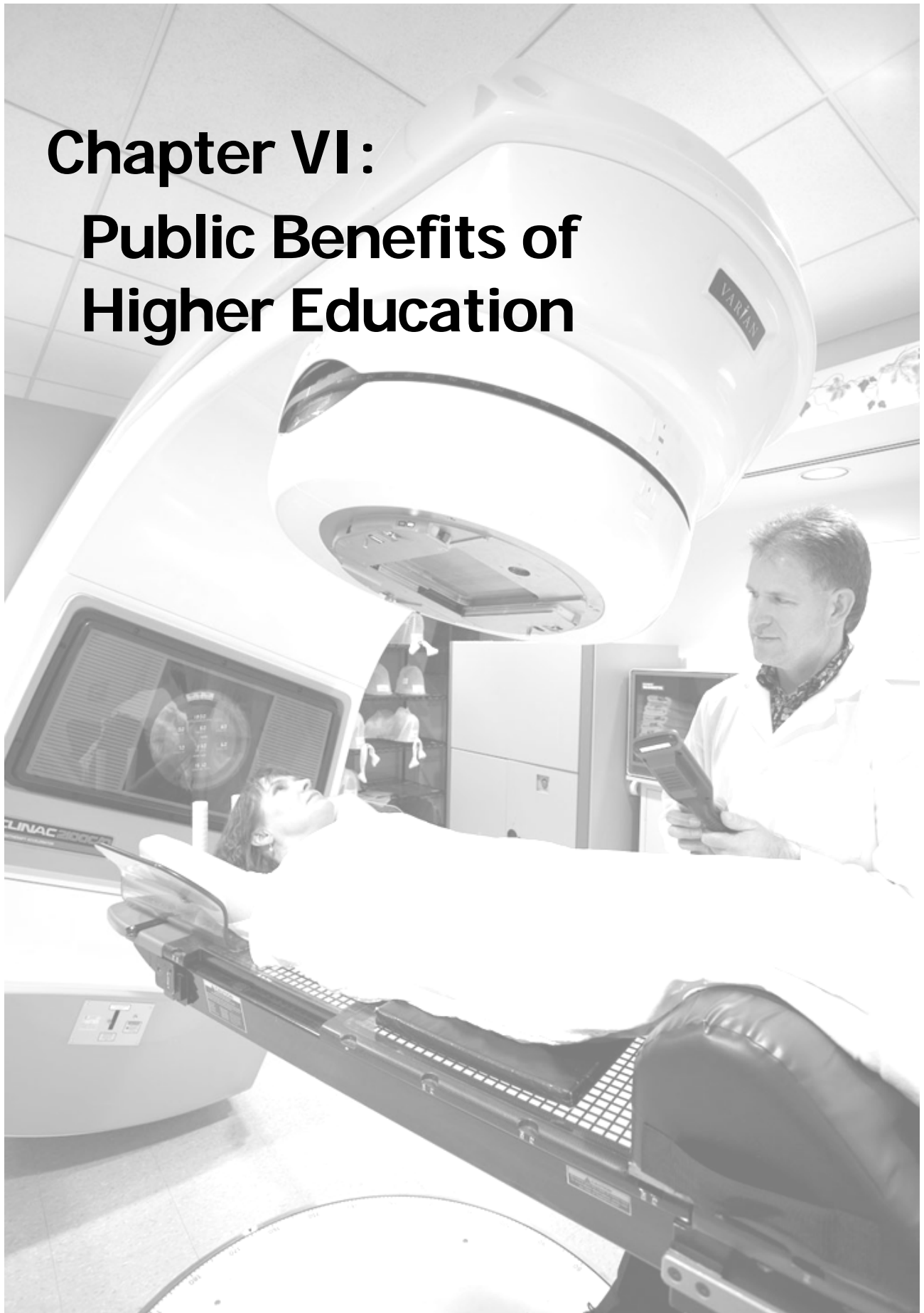


Chapter VI: Public Benefits of Higher Education



Higher education opens the door to more jobs in today's economy

The number of jobs requiring higher levels of education has increased substantially, both nationally and in Washington. According to a report issued in 2010 by the Bureau of Labor Statistics,¹ all employment growth in the nation over the previous two decades was among workers with at least some college experience, or a college degree or certificate.

While factors other than education undoubtedly impact the number of jobs a state may lose during a recession, evidence suggests that states with more highly educated populations tend to lose fewer jobs than those with less-educated populations.

Washington's economy serves as a magnet for workers with higher levels of education. Demand for these workers has remained far more stable during the recession than demand for less highly educated workers.

For example, the table below shows that Washington job growth occurred at all training levels in the pre-recession years of 2006 and 2007. However, during the recession years of 2008 and 2009, jobs declined in all education categories, except those requiring bachelor's degrees, which rose nearly 1 percent.²

Changes in Washington State Employment by Education Requirements

Education Level	Percent Change from 2006 to 2007	Percent Change from 2007 to 2008	Percent Change from 2008 to 2009	Average Annual Change from 2006 to 2009
Less than High School	2.8%	-0.5%	-6.0%	-1.2%
High School Diploma/GED	0.8%	-0.3%	-4.9%	-1.4%
Sub-Bacc. Credential	1.6%	1.8%	-3.8%	-0.1%
Bachelor's Degree	1.9%	4.4%	0.8%	2.4%
Graduate/Professional Degree	0.7%	1.1%	-2.5%	-0.2%

Note: Data does not include self-employment.

Source: HECB staff analysis of data from Second Quarter OES Survey Data, Washington Employment Security Department, LMEA Division.

¹ U.S. Bureau of Labor Statistics, "Spotlight on Statistics: Back to College," 2010. Available at <http://www.bls.gov/spotlight/2010/college/home.htm>

² Lederer, John. "Job Growth: Why Increasing Educational Attainment is so Important for Creating Jobs," HECB, October 2010. Available at <http://www.hecb.wa.gov/sites/default/files/TAB7A-JobGrowthPresentation.pdf>.

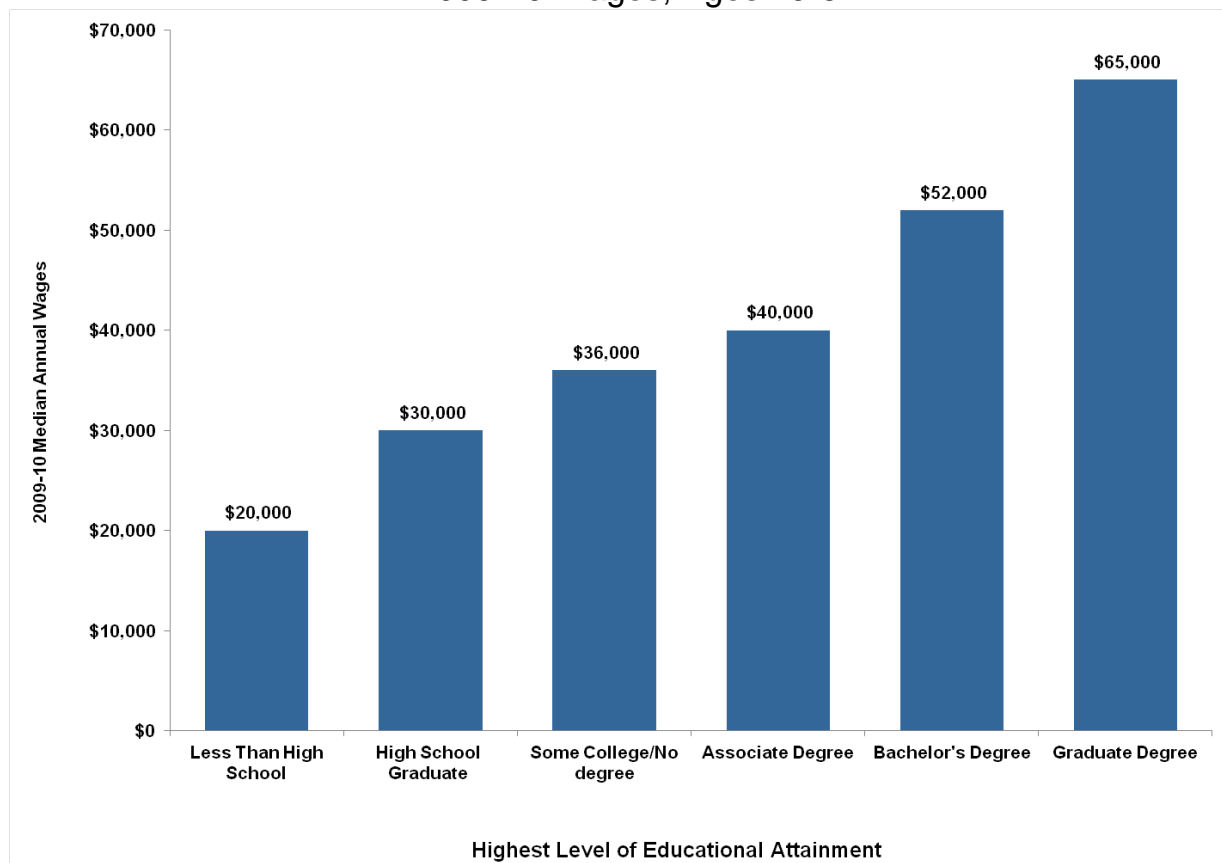
Increased educational attainment boosts personal earning power

Individuals have strong financial incentives to earn college degrees and certificates. Incomes tend to increase with higher levels of educational attainment. Median annual earnings for those with an associate degree are 33 percent higher than those with a high school diploma.

The increase for those with a bachelor's degree is even more striking, with graduates earning 30 percent more annually than those with an associate degree, and 73 percent more than those with a high school diploma.

Research suggests that increasing the number of educated workers even leads to financial benefits for people who have not attained higher levels of education. One study found that a 1 percent increase in the proportion of the population holding four-year college degrees led to a 1.9 percent increase in the wages of workers without high school diplomas, and a 1.6 percent wage increase for high school graduates.³

Washington Median Annual Earnings by Educational Attainment
2009-10 Wages, Ages 25-64



Source: HECB staff analysis of data from American Community Survey, 2010.

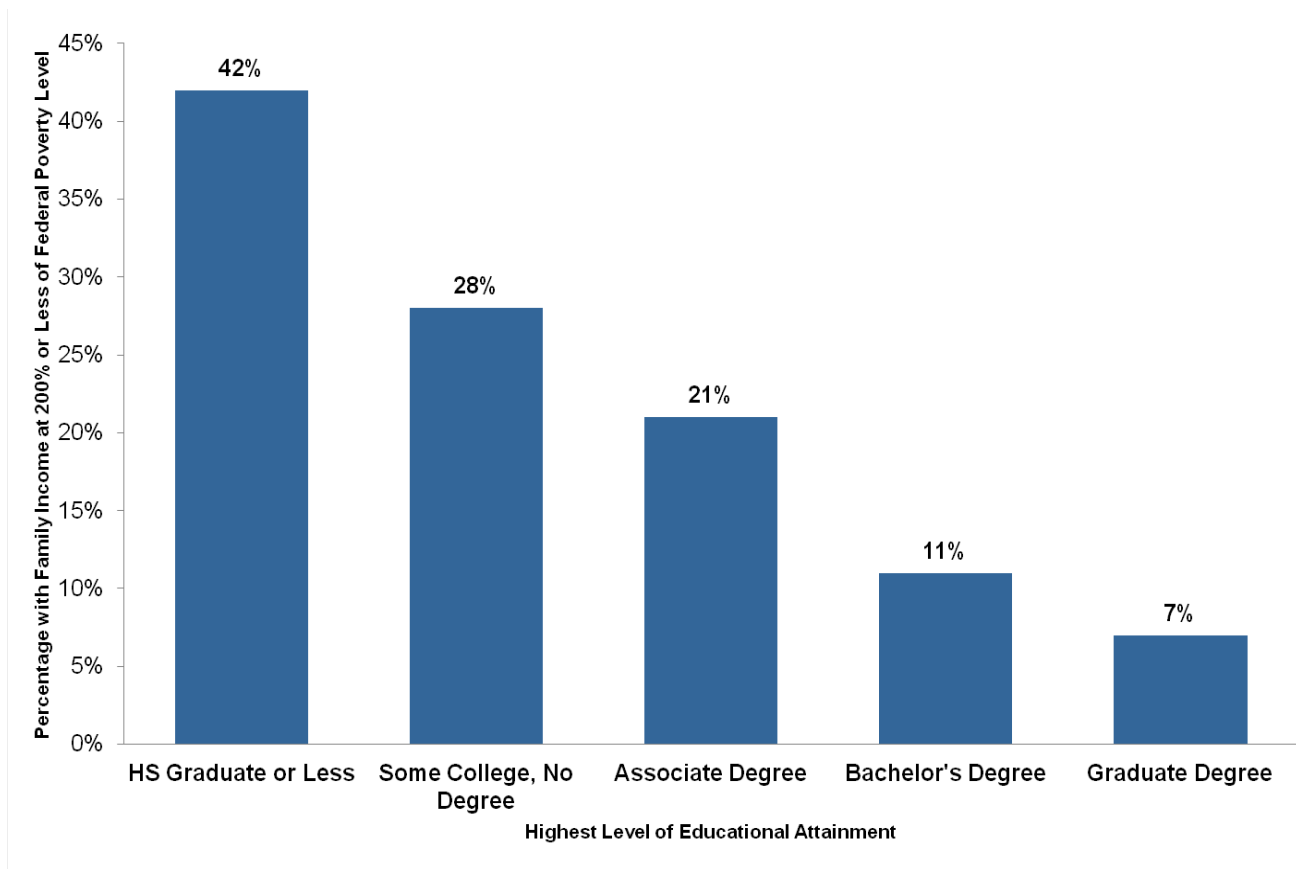
³ Moretti, E. "Estimating the social return to higher education: Evidence from longitudinal and repeated cross-section data," *Journal of Econometrics*, 121. pp. 175-212, 2004. Available at <http://www.econ.berkeley.edu/~moretti/socret.pdf>.

Poverty levels decline as education levels rise

The financial rewards that accompany higher levels of educational attainment allow many college graduates to live well above the poverty level.

The poverty rate for Washington households with bachelor's degree recipients is one-third the rate of households with high school graduates only.⁴

Washington Poverty Level by Educational Attainment and Family Income 2010, Ages 25-64



Source: HECB staff analysis of data from Washington State Population Survey, 2010.

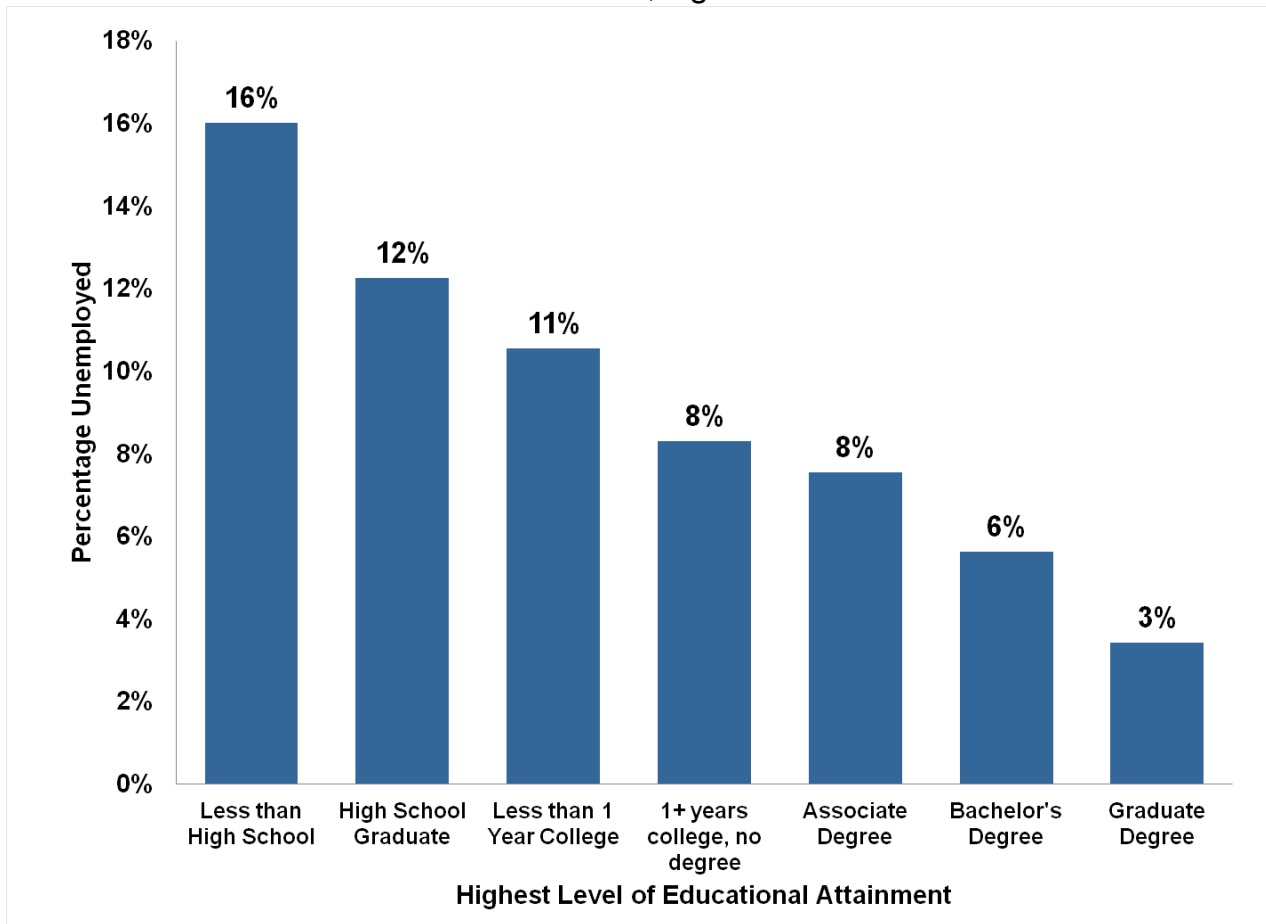
⁴ Baum, S., & Ma, J. "Education Pays. The Benefits of Higher Education for Individuals and Society." New York, New York: College Board, 2007.

More highly educated workers face fewer unemployment problems

People who possess knowledge or skills that are highly marketable in today's economy tend to experience a greater sense of security about future employment prospects than those who do not. This is especially true in difficult economic times. Jobs that remain in high demand through good and bad times often are those that require college degrees, certificates or other forms of specialized education after high school.

Data confirm that people who attain higher educational levels tend to have lower levels of unemployment and the financial uncertainty that comes with it. The chart below shows that the percentage of Washington residents who were unemployed during 2009-10 declined as education level increased. The data also suggest that more highly educated individuals will be less likely to require services such as unemployment insurance during their working lives.

Washington Unemployment by Educational Attainment
2009-10, Ages 25-64



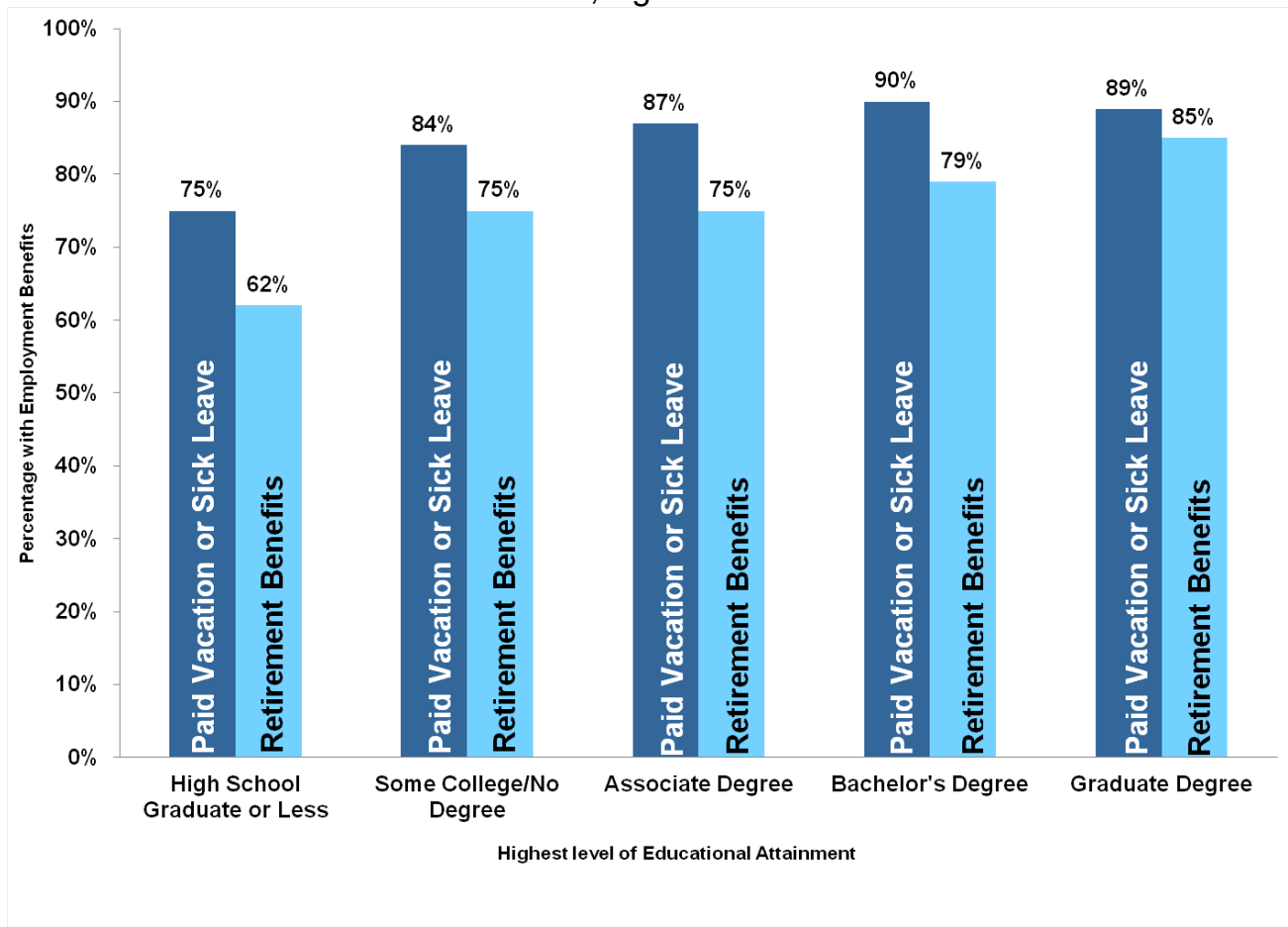
Source: HECB staff analysis of data from American Community Survey, 2011.

Education leads to more comprehensive employer benefits

In addition to higher annual wages and increased job security, educational attainment brings other financial benefits to workers and their families. For example, employees with higher levels of education are more likely to work in jobs that offer benefits packages such as paid vacation, sick leave, or company retirement plans.

Employers who need highly trained and educated workers tend to view benefits packages as one way to gain an edge over competing employers. By offering generous benefits packages, some employers also hope to reduce turnover in positions that require trained or experienced staff.

Washington Employment Benefits by Educational Attainment
2010, Ages 25-64

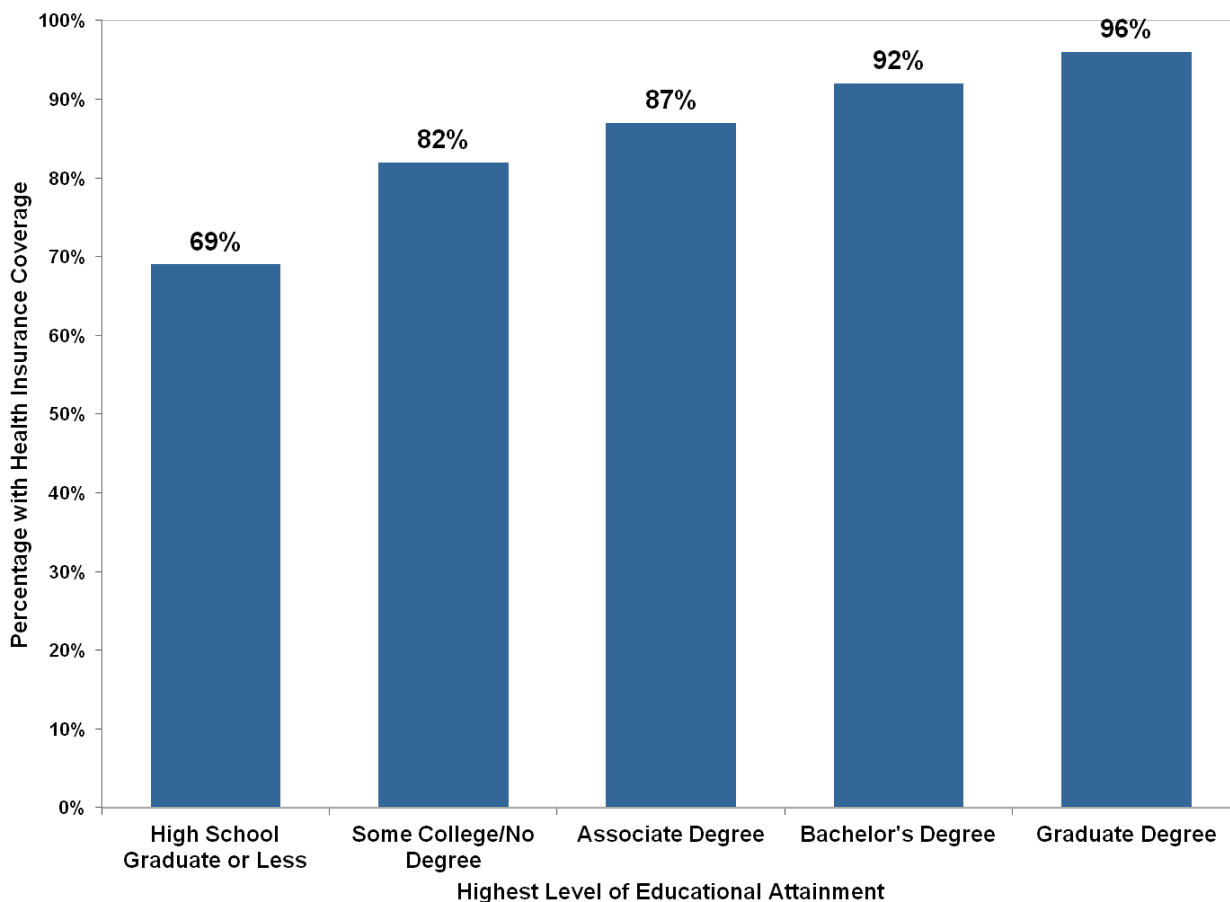


Source: HECB staff analysis of data from Washington State Population Survey, 2010.

Employer health insurance coverage increases with educational attainment

Individuals with higher levels of postsecondary education are more likely to have health insurance coverage from sources other than public plans that specifically are designed to provide health coverage to low-income people. Health insurance for higher-income persons typically is acquired through an employer, union, military organization, or by self-purchase.

Washington Worker Health Insurance Coverage by Educational Attainment 2010, Ages 25-64



Note: Includes health insurance provided by employer, union, military, or self-purchased.

Source: HECB staff analysis of data from American Community Survey, 2010.

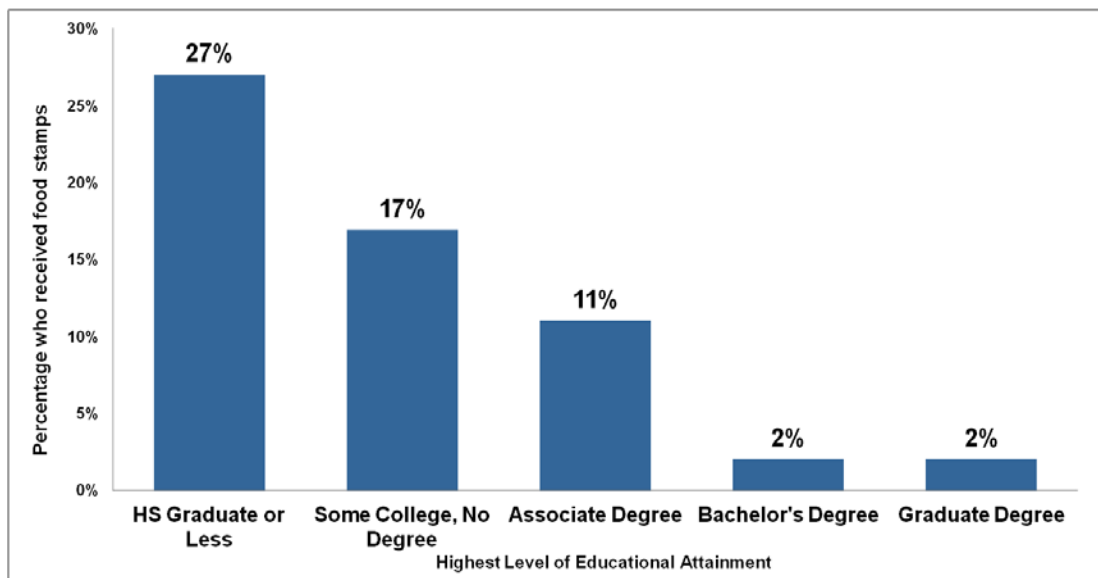
Increasing education reduces reliance on federal and state social services

The national recession has brought economic hardship to many, including some college graduates who hoped their investments in higher education would immediately lead to rewarding careers in their fields. Today, even people with more education may need some assistance to make ends meet.

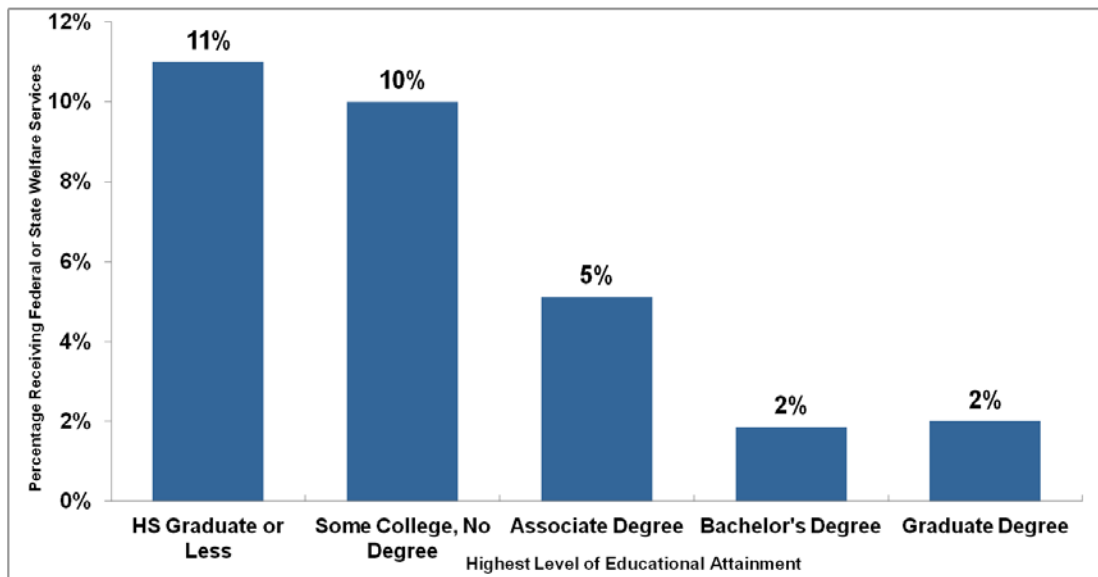
Nevertheless, it remains generally true that increasing levels of education mean less need for federal or state social service programs, such as food stamps or welfare. Reducing the cost of social programs by enabling more families to remain economically self-sufficient is another long-term benefit of continued public investment in higher education.

Use of Federal or State Services by Educational Attainment, Ages 25-64

Food Stamps



Federal or State Welfare Payments



Source: HECB staff analysis of data from Washington State Population Survey, 2010.

Educated people report feeling healthier

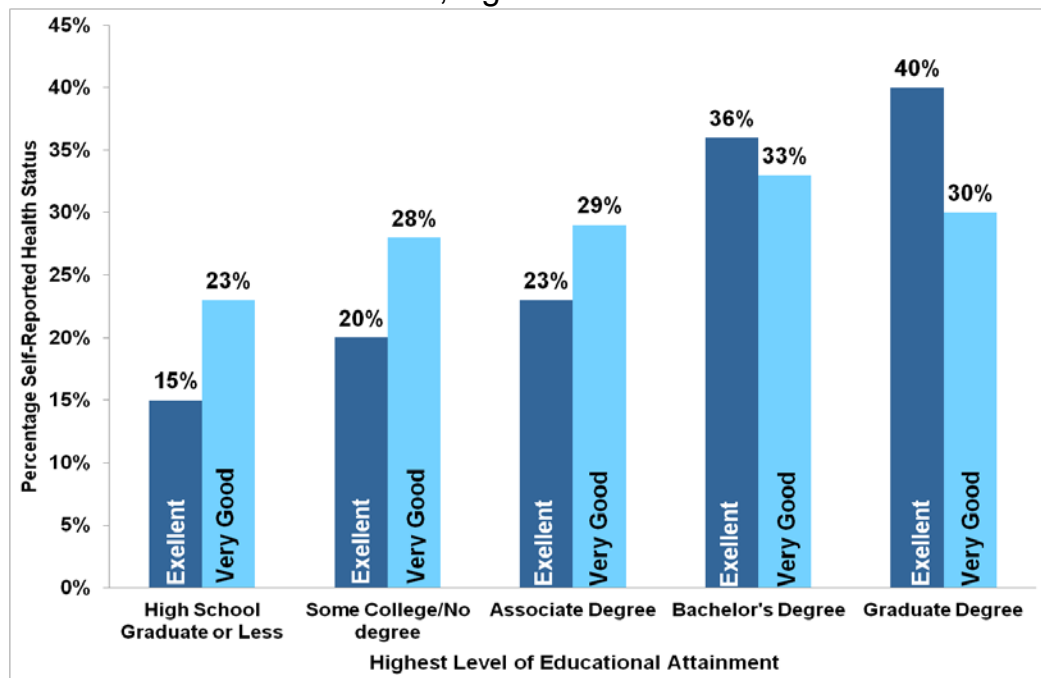
People who attain higher levels of education report they feel healthier than people who do not. Nationally, at every age and income level, individuals with higher educational attainment report better health than those with less postsecondary education.⁵

In Washington, the percentage of residents who perceive their health is either excellent or very good also increases with higher levels of educational attainment.

Evidence also suggests that more highly educated people may be less likely to engage in health-damaging behaviors. For example, studies suggest that college graduates are more likely to heed widespread public warnings about the serious health effects of smoking than those with less education. In 2010, the smoking rate among bachelor's degree holders was 10 percent and among graduate degree holders 6 percent—far lower than the rates among those with only a high school diploma (24 percent) or a GED (45 percent).⁶

The relationship between educational achievement and better health not only has implications for individuals, but also for the broader social goals of reducing health care costs and improving the overall health of the population.

Washington Resident Self-Reported Health by Educational Attainment 2010, Ages 25-64



Source: HECB staff analysis of data from Washington State Population Survey, 2010.

⁵ National Center for Health Statistics, National Health Interview Survey, 2005. As cited by Baum, S., & Ma, J., As cited by Baum, S., & Ma, J., "Education Pays. The Benefits of Higher Education for Individuals and Society." New York, New York: College Board, 2007.

⁶ Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report, Vol. 60, No. 35, 9-9-11.

Academic research generates new businesses for Washington's economy

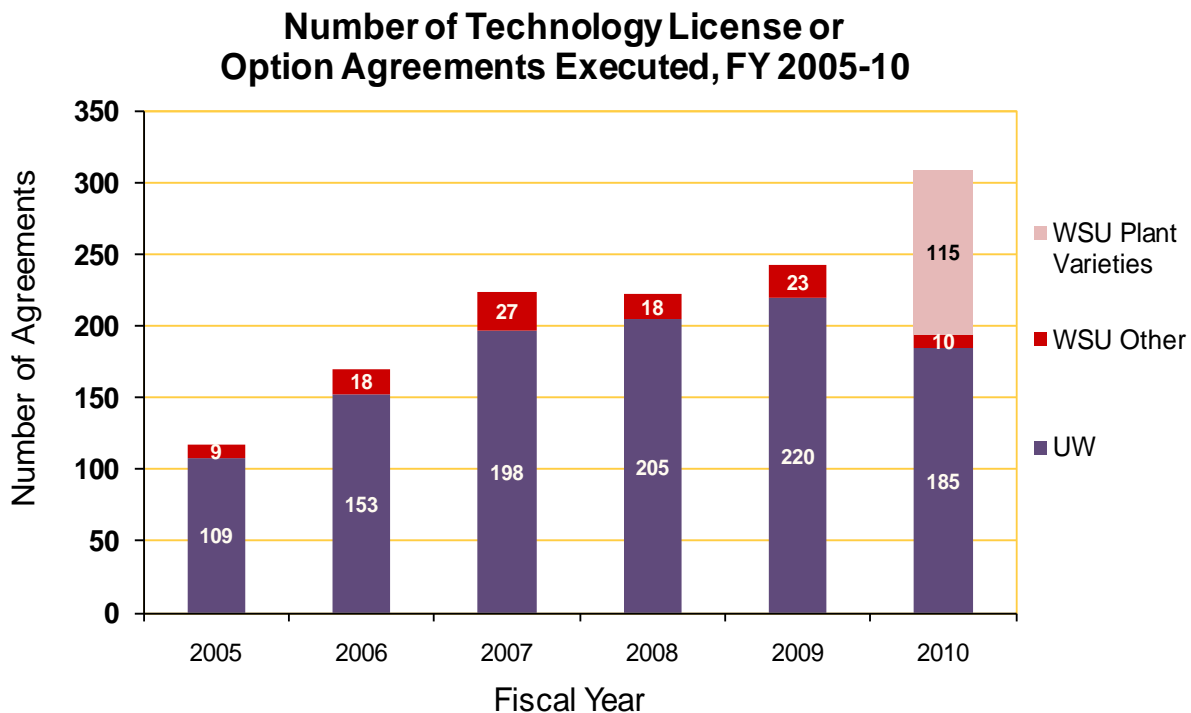
Academic research conducted primarily at the University of Washington and Washington State University impacts the state economy in two ways.

The first is through the hiring of research staff and the purchase of supplies and equipment. Academic research expenditures annually produce more than 15,000 jobs and \$2.2 billion in increased sales in Washington's economy.⁷

The second is through the use of research results to develop new technologies with commercial potential. This is known as "technology commercialization."

Licensing makes new research-generated technologies available for commercial application by outside organizations and private companies. The university and the researcher sometimes receive a small royalty for the commercial use of their research results. These royalties are often channeled back into research and development activities at the institution.

There has been a steady increase in licensing activity since 2005. In 2010, WSU developed a new apple variety that led to 115 separate licenses with individual growers in the Northwest. Without that technology, overall licensing activity would have declined due to the downturn in the economy and the short supply of investment capital.



Source: Government Management Accountability Performance, fall 2011.

⁷National Science Foundation and Economic Modeling Specialists, Inc., input-output model based on Employment Security Department data, 2008-09.

Higher education spending provides direct economic support to communities

Higher education institutions make direct contributions to the economies and social fabric of communities across the state. Without a higher education system, businesses would have to look to other states and countries for the trained and educated workers they need, and more Washingtonians would miss opportunities for well-paying jobs in local communities.

Higher education institutions are themselves major economic forces in the communities they serve. They make up a large segment of the education services industry, which has major supplier and purchasing linkages to many other industries in the Washington economy. Faculty and staff spend a portion of their salaries on groceries, autos, clothing, and other personal and family needs that help drive consumption spending.

A 2010 study commissioned by the University of Washington looked at the economic and employment impacts of the UW on Seattle, the Puget Sound region, and the state. It found that the UW has a statewide economic impact of approximately \$9.1 billion per year, is the state's third largest employer, behind Boeing and Microsoft, employing 6.1 percent of the total labor force in Seattle.⁸

On a smaller scale, Central Washington University may have an even bigger economic impact on the community in which it is located. CWU is the largest single employer in Ellensburg and Kittitas County.

The chart below provides a more general picture of the economic impact of operational (FTE) instruction funding for public higher education. It shows that each \$1 million in funding creates 23 direct and indirect jobs and generates \$2.1 million in additional sales in the state economy.

Return on Investment for Higher Education Operations Funding, 2010⁹

Economic Impact	\$1 Million in Operations Funding
Direct Employment	14 jobs
Total Employment (Direct and Indirect, 2010)	23 jobs
Jobs Multiplier (Total Employment/Direct Employment)	1.63
Increase in Total Earnings	\$1.0 million
Earnings Multiplier (Earnings from Total Employment /Earnings from Direct Employment)	1.59
Increase in Washington Total Sales	\$2.1 million

⁸ TrippUmbach, "The Economic and Societal Impact of the University of Washington, July 2010. Available at <http://www.washington.edu/externalaffairs/eir/pdfs/fullreport.pdf>.

⁹ Source: Economic Modeling Specialists, Inc., input-output model based on Employment Security Department data.

Higher education investments yield taxpayer dividends

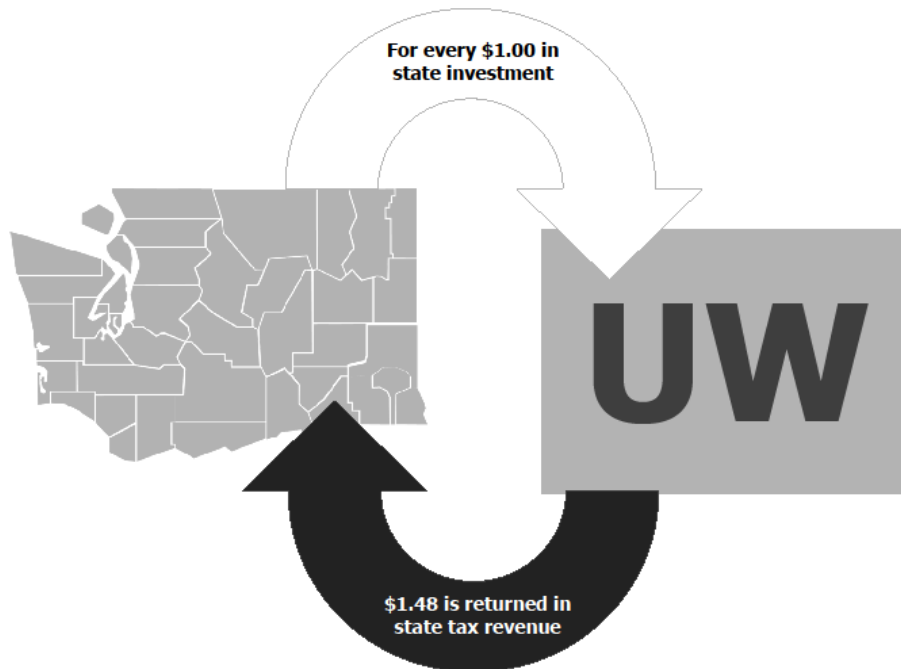
The flow of tax dollars for public higher education moves in two directions. Studies show that for every dollar of tax money allocated for higher education, a greater amount of revenue is returned to state and local governments through taxes on the economic activities conducted by the higher education system.

The State Board for Community and Technical Colleges and the University of Washington conducted economic impact studies examining the degree to which Washington taxpayers benefit from public investments in higher education.

The UW found that state and local governments received \$618 million in tax revenue as the result of university activities during fiscal year 2008-09. That included \$84.5 million in sales and corporate income taxes paid directly to the state, and \$533.6 million in indirect taxes paid to vendors that do business with the university. For every \$1 in state funding allocated to the UW, \$1.48 in tax revenue is returned to the state.¹⁰

The SBCTC study found that in a little less than 11 years, taxpayers recoup their investments in two-year professional and technical degree programs as a result of the increased taxes paid by higher-earning program participants.¹¹

University of Washington's Return on Investment for Taxpayers



¹⁰ TrippUmbach, "The Economic and Societal Impact of the University of Washington," July 2010. Available at <http://www.washington.edu/externalaffairs/eir/pdfs/fullreport.pdf>.

¹¹ "Investment, Innovation, Impact: Washington State Community and Technical Colleges," State Board for Community and Technical Colleges, 2009.

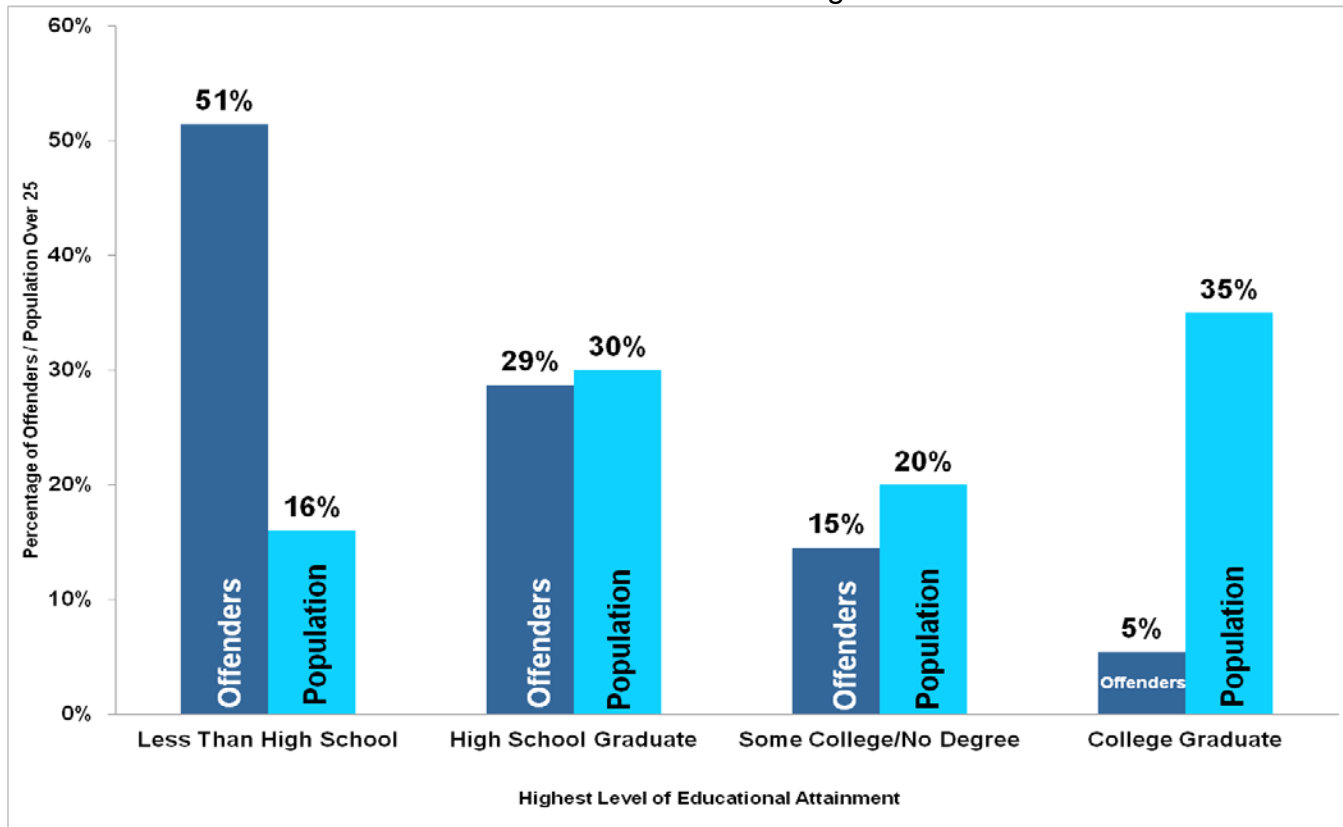
Education reduces propensity toward criminal behavior

Studies have long shown a relationship between levels of educational attainment and crime. Research exploring this relationship within Washington could not be found, but national studies suggest that more highly educated people tend to commit fewer criminal acts against their neighbors than less-educated people. This also means that individuals who have attained higher levels of education tend to be less likely to enter the criminal justice system and thus avoid attendant costs to the state.

The U.S. Department of Justice provides data on offenders by education level who have been sentenced in U.S. District Court. The data show a clear relationship between sentencing and level of education. While 16 percent of the U.S. population 25 or older have not earned a high school diploma, those with no diploma make up over half of those sentenced. At the same time, those with a college degree make up 35 percent of the U.S. population but only account for 5 percent of those sentenced.

Offenders Sentenced in U.S. District Courts as compared to United States Population 25 and Over, by Education Level

Offenders Sentenced under the U.S. Sentencing Commission Guidelines



Source: Sourcebook of Criminal Justice Statistics Online, 2010. Retrieved from <http://www.albany.edu/sourcebook/pdf/t5282010.pdf>.

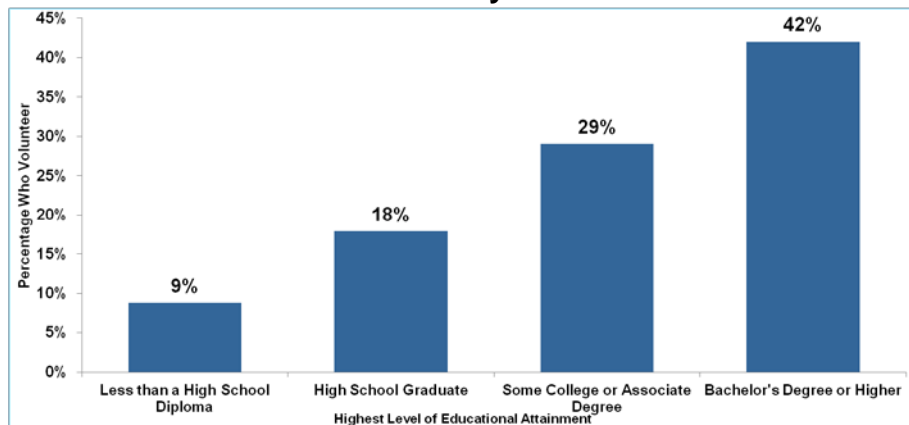
Education influences voting behavior and volunteerism

Society benefits when citizens actively engage in the democratic process and contribute time and resources to improve their communities. Evidence suggests that levels of educational attainment are associated with increased voting behavior and participation in charitable or public service activities.

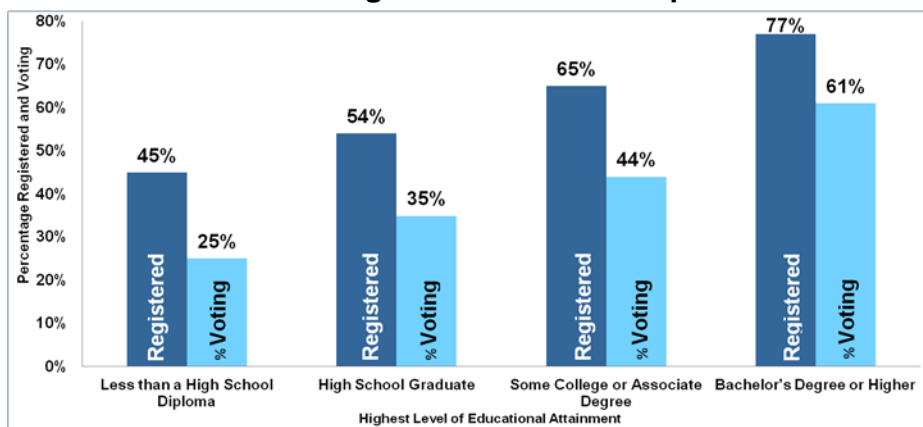
U.S. Census surveys conducted after recent national elections show that adults with higher levels of education are more likely to vote than those with less education. In another Census survey, the percentage of individuals 25 and older who engaged in volunteer activities also increased with higher levels of postsecondary education.

Rather than indicating a lack of interest in voting and volunteerism, these findings may suggest that at least some less-educated people face greater hurdles to participation than those with more education. For example, following the November 2008 general election, nearly 40 percent of non-voting survey respondents with high school diplomas or less reported “illness or disability” as a reason for not voting, compared to 23 percent of those with at least some college. Those with less education also were more than twice as likely to report “transportation problems” as a reason for not voting.

United States Volunteerism by Educational Attainment



U.S. Voter Registration and Participation



Sources: HECB staff analysis of data from U.S. Census Bureau, Current Population Survey 2010.

