Trends in Higher Education Series

2006

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Education Pays
Second Update

A Supplement to **Education Pays 2004: The Benefits of Higher Education for Individuals and Society**

In an era of widespread concern over the rising price of college it is vital that students and parents, as well as teachers, high school counselors, and public policymakers, have a clear view of the monetary and nonmonetary benefits of higher education for both individuals and society. Inadequate information about its value may discourage individuals who are debating the pros and cons of investing in furthering their education and lead public officials to underinvest in colleges and universities. This second update to the College Board's 2004 publication, *Education Pays: The Benefits of Higher Education for Individuals and Society*, provides a needed reminder of the earnings premium associated with higher education and the ways in which an educated population strengthens society.

The personal financial benefits of higher education are very real and very important, but they do not tell the whole story. Individuals reap significant nonmonetary benefits from education and enjoy expanded life opportunities. Society as a whole benefits both in monetary terms and through the improved citizenship that is characteristic of college graduates. Information on the public benefits of higher education is particularly important as state officials make decisions about how to allocate funds following recent years of severe budget constraints.

Over the past two years, *Education Pays* has documented higher levels of voting, volunteering, and other civic behaviors, as well as improved health outcomes observed among individuals with a college education. These reports have also provided information on the budgetary impact of higher taxes paid and lower public subsidies received by individuals who have continued their education beyond high school.

This 2006 supplement includes information on:

- differences in earnings by education level over time and across age groups;
- the variation in earnings among people with similar levels of education;
- unemployment rates by education level in individual states;
- the benefits of an educated workforce for economic growth; and
- some of the positive characteristics of parent–child interactions associated with level of education.

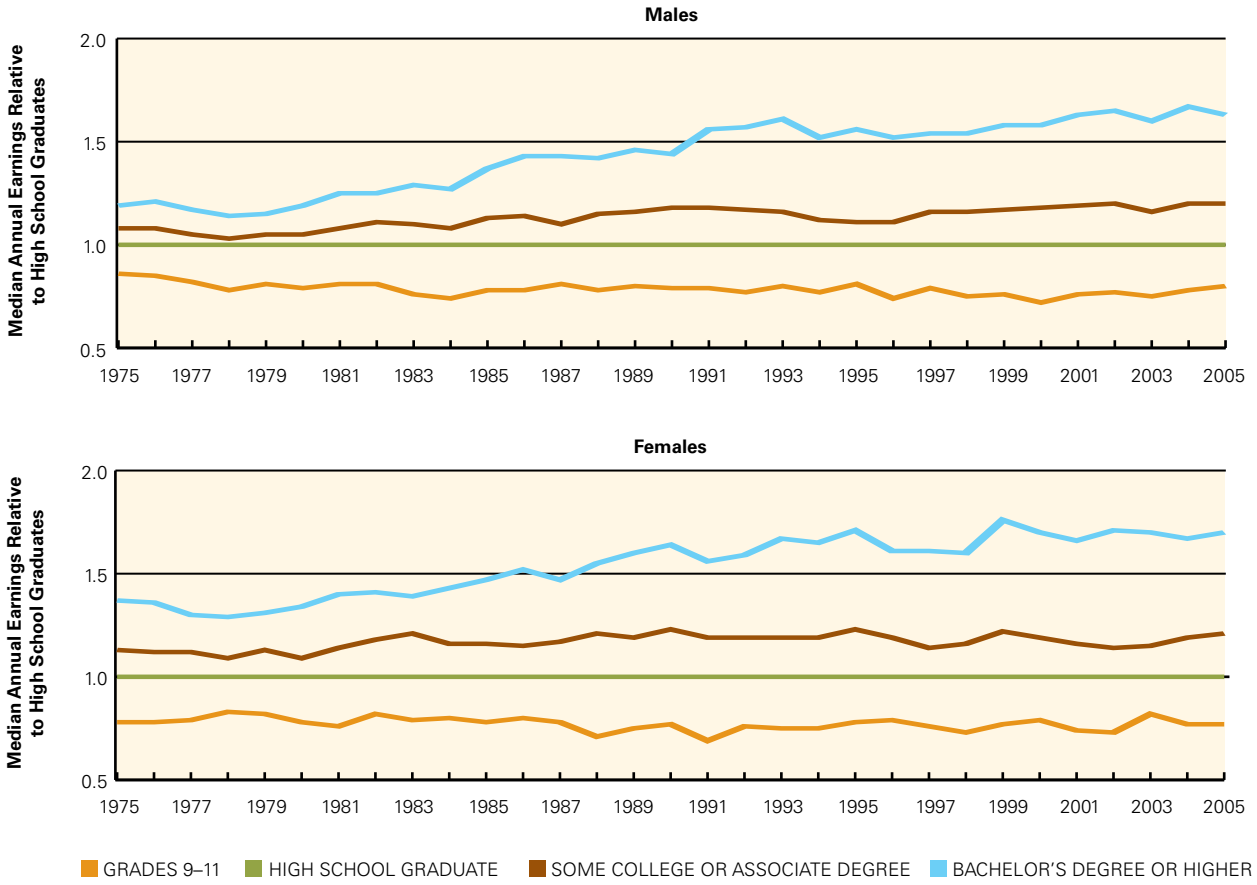
This report also continues the practice of including information about differences in rates of participation in higher education across demographic groups. It includes data on:

- college enrollment by gender within racial/ethnic groups;
- the types of institutions attended by first-year college students belonging to different racial/ethnic groups; and
- international comparison of educational attainment and national levels of postsecondary expenditures.

Information included in this report reaffirms conclusions of the two previous *Education Pays* reports. Investments in higher education pay off very well, both in dollars and in improvements to quality of life. The individuals who successfully participate in higher education generate both types of returns for themselves as well as for society as a whole. The private and public value of higher education makes it imperative that we renew efforts to narrow the educational opportunity gaps in American society.

Earnings Differentials Over Time

Figure 1: Median Annual Earnings Relative to Earnings of High School Graduates, Males and Females Ages 25–34, 1975–2005



Note: Includes full-time year-round wage and salary workers ages 25–34.
Source: National Center for Education Statistics (NCES), 2004, Table 14-1, NCES, 2006, Table 22-1 (based on U.S. Census Bureau, *Current Population Survey*) and U.S. Census Bureau, 2006. PINC-03.

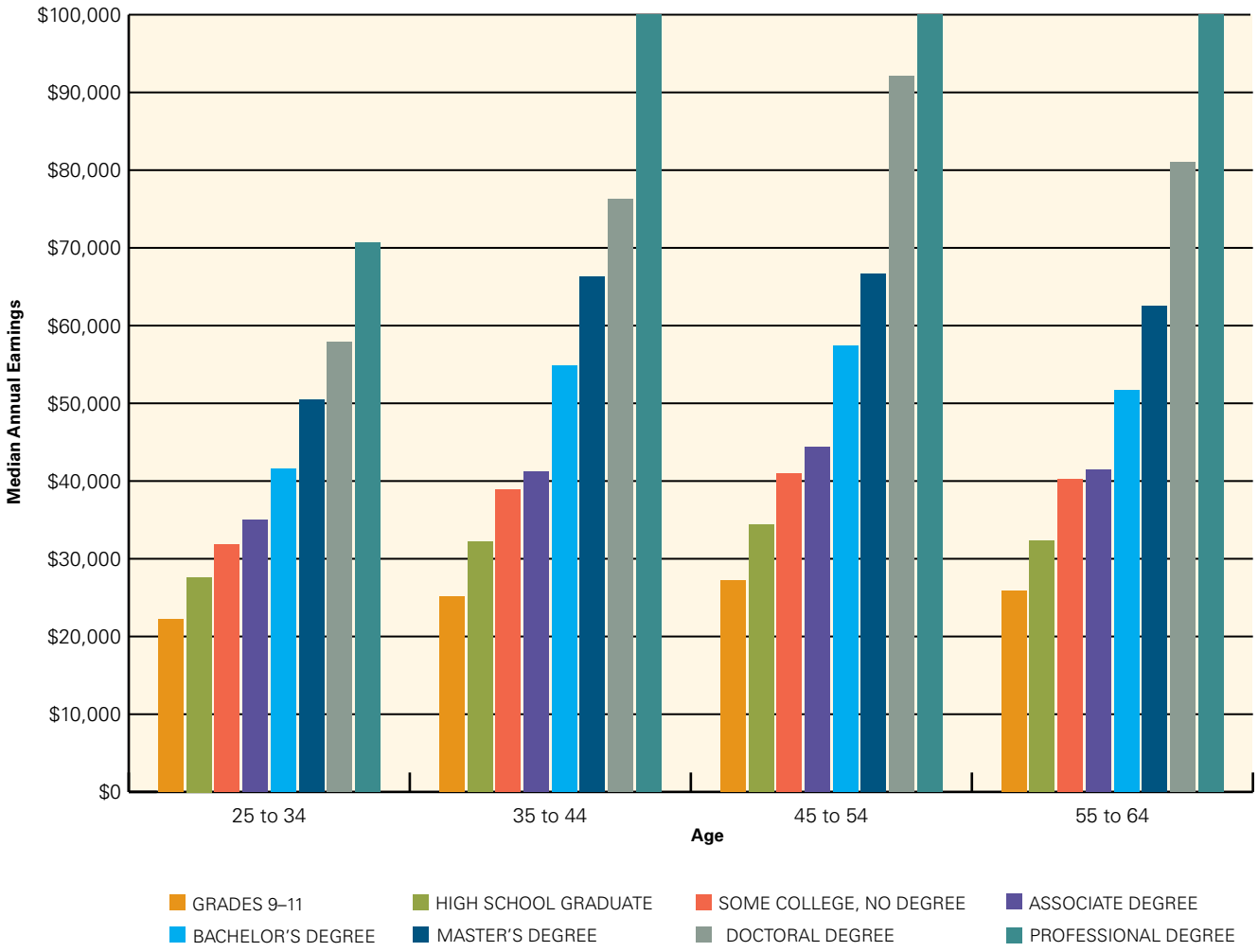
Earnings for each level of education are shown relative to median earnings for high school graduates. For example, a ratio of 1.5 indicates that median earnings are 150 percent of the median earnings of high school graduates.

For both men and women, the gap between the median earnings of college graduates and the median earnings of high school graduates has increased significantly over the past 30 years.

- Among men, median earnings of four-year college graduates were 19 percent higher than median earnings of high school graduates in 1975. The gap grew to 37 percent in 1985, 56 percent in 1995, and 63 percent in 2005.
- Among women, median earnings of four-year college graduates were 37 percent higher than median earnings of high school graduates in 1975. The gap grew to 47 percent in 1985, and 71 percent in 1995. It was 70 percent in 2005.
- Among men, the earnings premium for those with some college education relative to those with a high school diploma has also increased over time and, at 20 percent in 2005, has caught up to the gap for women, which has fluctuated between 14 and 23 percent since 1981.
- The difference in earnings between those with some college education but no bachelor's degree and those who have completed a four-year degree has increased over time and is now about 37 percent for men and 41 percent for women.

Earnings Differentials by Age

Figure 2: Median Annual Earnings by Level of Education and Age, 2005



Note: High School Graduate includes GED. Includes full-time year-round workers. Census earnings data are capped at a maximum of $100,000.
Source: U.S. Census Bureau, 2006, PINC-03.

The gap between median earnings of high school graduates and median earnings of those with college degrees is larger for individuals in their mid-thirties or older than for those who have more recently entered the labor force.

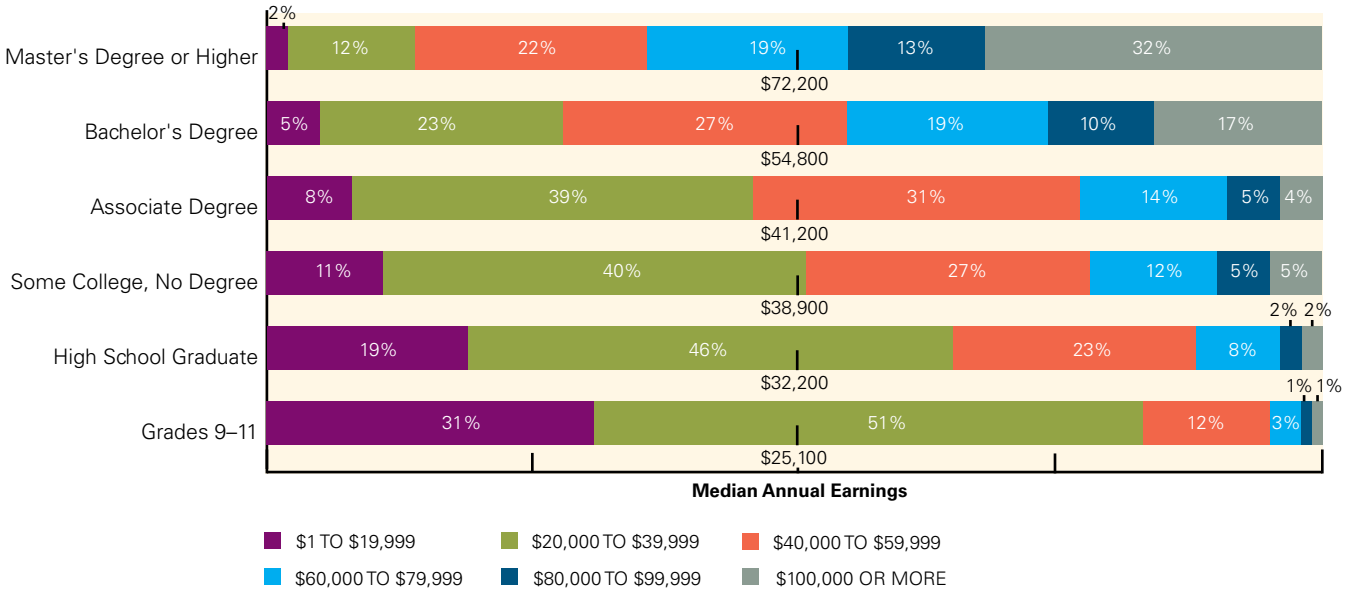
- The median earnings premium for associate degree holders relative to high school graduates ranges from $7,300 for 25- to 34-year-olds to $9,900 for 45- to 54-year-olds.
- The median earnings premium for bachelor's degree holders relative to high school graduates ranges from $13,900 for 25- to 34-year-olds to $22,900 for 45- to 54-year-olds.
- The median earnings premium for master's degree holders relative to those with bachelor's degrees ranges from $8,800 for 25- to 34-year-olds to $11,600 for 35- to 44-year-olds.

Also important:

- Twenty-eight percent of 55- to 64-year-olds have a bachelor's degree or higher, as do 30 percent of those in each of the younger age groups. (U.S. Census Bureau, 2004, Table 1a)
- Differences in the earnings premium by age result both from earnings paths over the life span of the workers and from differences in the experiences of workers who entered the labor force at different points in time.

Variation in Earnings Within Education Levels

Figure 3: Distribution of Annual Earnings by Level of Education, Ages 35–44, 2005



Note: Includes full-time year-round workers. Percents may not sum to 100 percent due to rounding.
Source: U.S. Census Bureau, 2006, PINC-03.

Forty-six percent of bachelor's degree recipients between the ages of 35 and 44 working full-time in 2005 earned at least $60,000. Only 12 percent of high school graduates earned $60,000 or more.

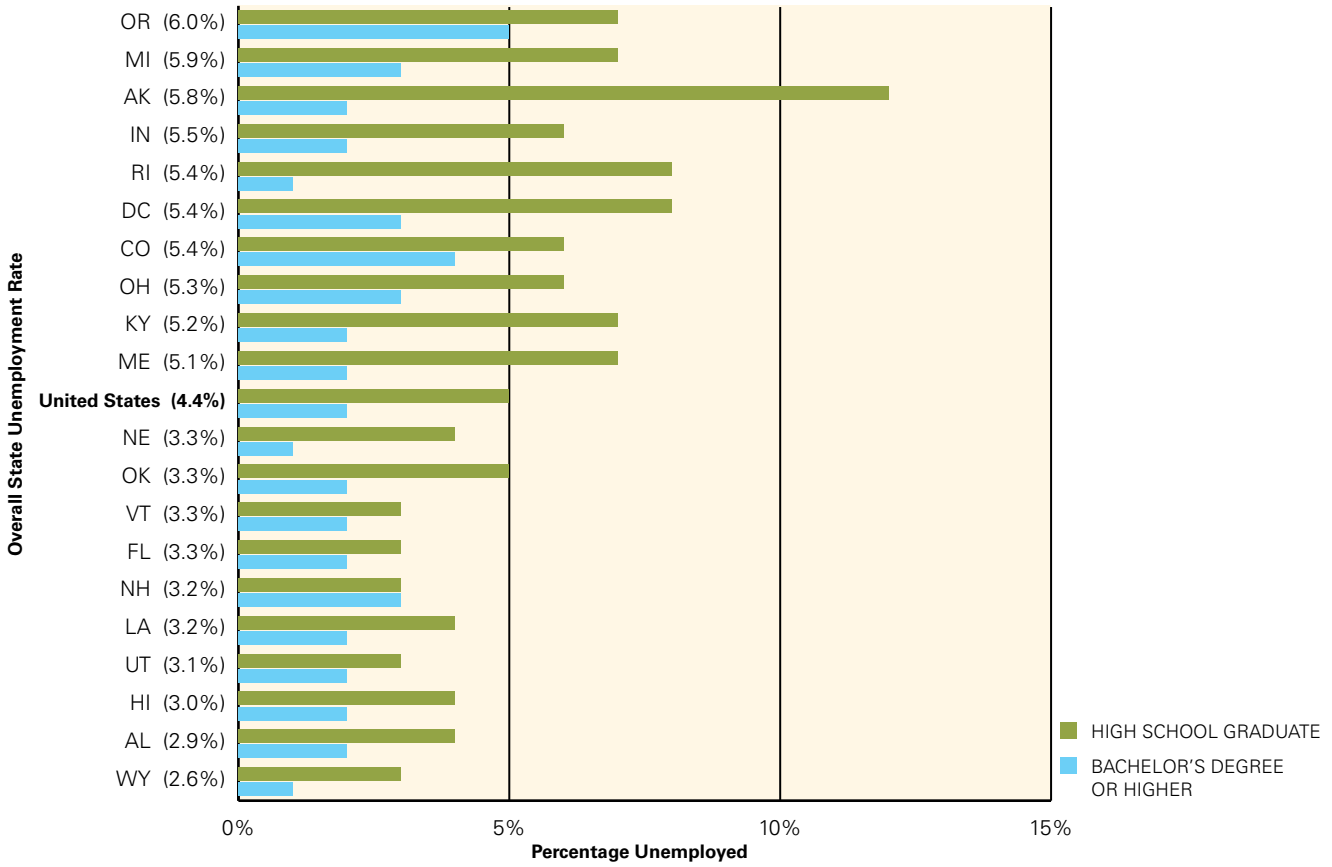
- On average, earnings are higher for individuals who have completed higher levels of education. However, there is considerable variation in earnings among individuals with similar levels of education.
- Although median earnings for four-year college graduates ages 35–44 were about $54,800 in 2005, 28 percent of this group earned less than $40,000 and 17 percent earned $100,000 or more.
- About 15 percent of high school graduates and 27 percent of associate degree holders earned more than the median earnings of four-year college graduates. Sixty-eight percent of advanced degree holders earned more than the median income for four-year college graduates.
- About one-third of associate degree recipients ages 35–44 working full-time earned less than the $32,200 median earnings of high school graduates. Nineteen percent of bachelor's degree recipients and 8 percent of advanced degree holders earned less than the median for high school graduates.

Also important:

The variation in earnings described in Figure 3 has implications for student loan repayment. Although education debt repayment obligations may be manageable for graduates with earnings at or above the median, those at the lower end of the earnings distribution may have serious difficulties.

Unemployment

Figure 4: Unemployment Rates by Education Level for States with the Highest and Lowest Unemployment, 2005



Source: U.S. Census Bureau, 2005; calculations by the Institute for Higher Education Policy.

The bars in this graph show the rate of unemployment by state for high school graduates versus those with a bachelor's degree or higher in states with the highest and lowest overall unemployment. The average rate of unemployment for each of the selected states is listed in parentheses beside the state abbreviation.

Unemployment rates are lower for adults with higher levels of education all across the country, but the differences vary significantly by state and are larger in states with higher overall unemployment rates.

- The 4.4 percent national unemployment rate in 2005 reflected large differences by educational attainment:

ALL	NOT A HIGH SCHOOL GRADUATE	HIGH SCHOOL GRADUATE	SOME COLLEGE OR ASSOCIATE DEGREE	BACHELOR'S DEGREE OR HIGHER
4.4%	8.8%	5.4%	4.2%	2.3%

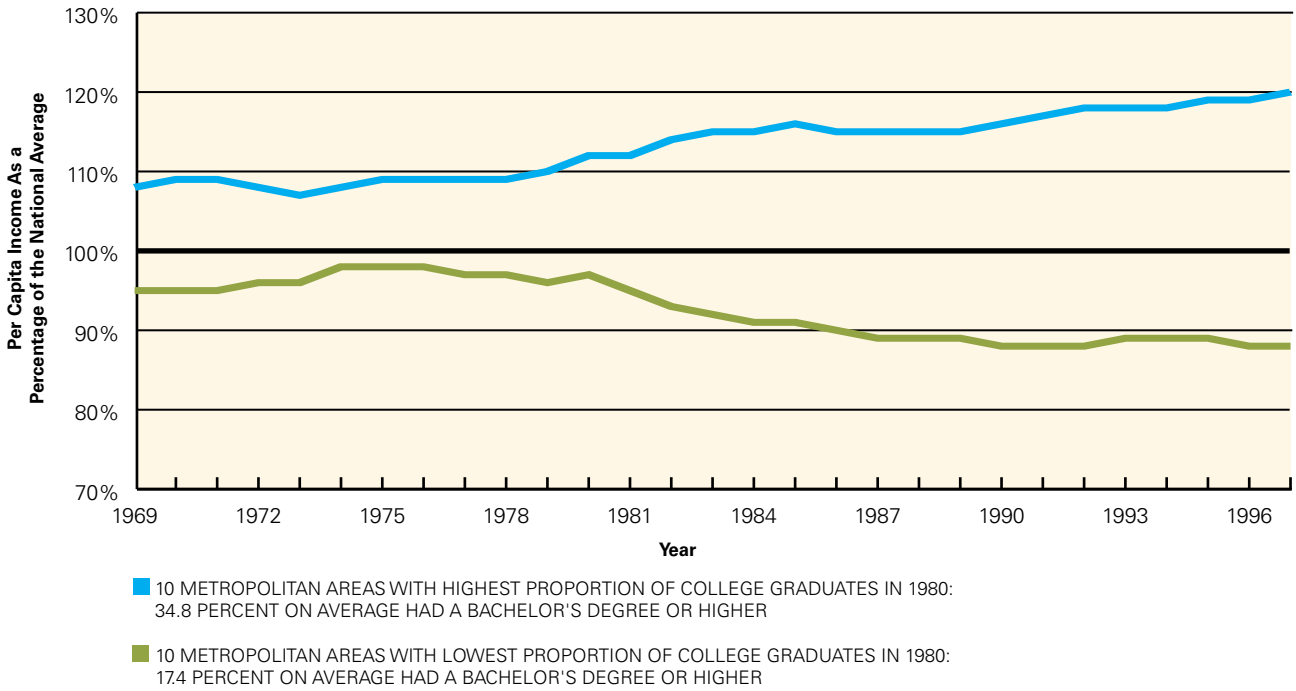
- Comparison of the bars in the upper half of Figure 4 reveals that in the 10 states with the *highest* unemployment, the average unemployment rate was 5.5 percent and the unemployment rate for high school graduates was an average of 4.6 percentage points higher than the unemployment rate for four-year college graduates.
- Comparison of the bars in the lower half of Figure 4 reveals that in the 10 states with the *lowest* unemployment, the average unemployment rate was 3.1 percent and the unemployment rate for high school graduates was an average of 2.0 percentage points higher than the unemployment rate for four-year college graduates.
- Among all 50 states, the largest differences in unemployment rates between high school graduates and those with a bachelor's degree or higher were 10.1 percentage points in Alaska, 6.6 in Rhode Island, and 6.0 in Montana. The smallest gaps were 0.3 percentage points in New Hampshire, 0.5 in Missouri, and 1.0 in Utah.

Also important:

In addition to the obvious problems for the individuals and families directly affected, unemployment carries significant costs for society as a whole. Fewer goods and services are produced, tax revenues decline, access to health care is diminished, children enjoy fewer opportunities, and more people are in need of taxpayer support.

Income Growth in Metropolitan Areas

Figure 5: Per Capita Income As a Percentage of the National Average in Large Metropolitan Areas with High and Low Proportions of College Graduates, 1969–1997



Note: The 10 metropolitan areas with the highest share of college graduates in 1980 include: Albuquerque, NM; Austin, TX; Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH; Denver-Boulder-Greeley, CO; Honolulu, HI; Minneapolis-St. Paul, MN-WI; Raleigh-Durham, NC; San Francisco-Oakland-San Jose, CA; Seattle-Tacoma-Bremerton, WA; Washington-Baltimore, DC-MD-VA-WV.
The 10 metropolitan areas with the lowest share of college graduates in 1980 include: Allentown-Bethlehem-Easton, PA; Bakersfield, CA; Jacksonville, FL; Las Vegas, NV-AZ; Little Rock-North Little Rock, AR; Mobile, AL; Stockton-Lodi, CA; Tampa-St. Petersburg-Clearwater, FL; Toledo, OH; Youngstown, OH.
Source: Gottlieb and Fogarty, 2003.

Growth in per capita income has been more rapid in metropolitan areas where high proportions of adults have four-year college degrees.

- In the 10 large metropolitan areas with the *highest* proportion of college graduates in 1980, per capita income grew at an average rate of 1.8 percent per year and increased from 112 percent of the national average in 1980 to 120 percent in 1997.
- In the 10 large metropolitan areas with the *lowest* proportion of college graduates in 1980, per capita income grew at an average rate of 0.8 percent per year and fell from 97 percent of the national average in 1980 to 88 percent in 1997.
- A more educated workforce may lead to more rapid economic growth as worker interaction leads to productivity increases, management is more effective, and technology and other innovations are more rapidly integrated into the workplace.
- Statistical analysis suggests that after controlling for changes in labor force participation over time, industrial structure, population size, and geographical location, the proportion of adults holding bachelor's degrees has a significant positive relationship to the growth rate of per capita income. (Gottlieb and Fogarty, 2003)

Also important:

- Income per capita is a common measure of economic growth and development, but does not reflect income inequality and other aspects of human well-being.
- The earnings gap between bachelor's degree recipients and high school graduates grew significantly during the 1980–1997 period but not in the preceding years, when the difference in per capita income across metropolitan areas was also more stable.
- Moretti (2004) provides evidence that higher proportions of college graduates in local labor markets increase the wages of workers with lower levels of education more than they increase the wages of those with higher levels of education.

Parents Preparing Children

Figure 6a: Percentage of Parents Providing Their Tenth-Grade Children with Information About Community, National, and World Events, 2002

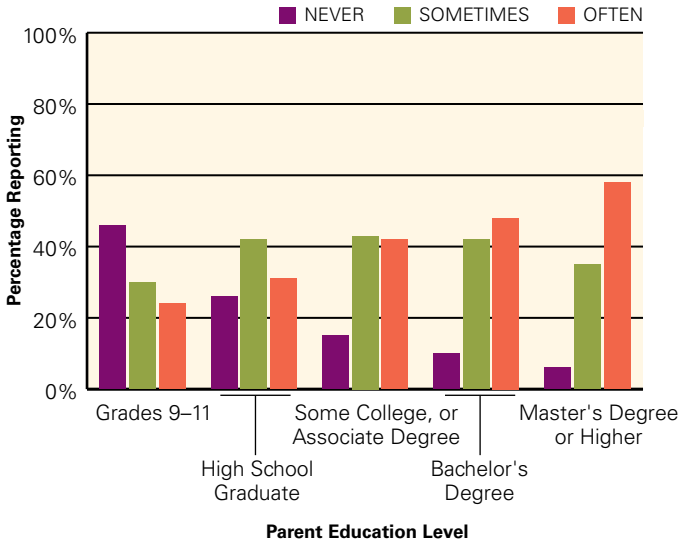


Figure 6b: Percentage of Parents Attending Sporting Events, Religious Services, Concerts, Movies, or Plays with Their Tenth-Grade Children, 2002

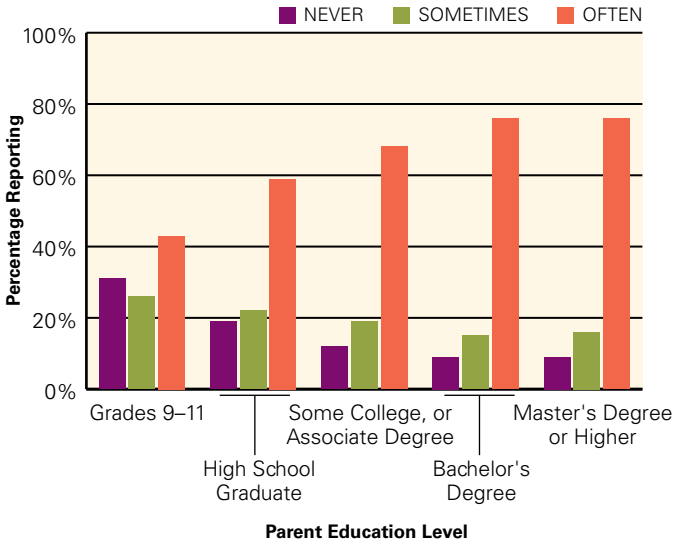
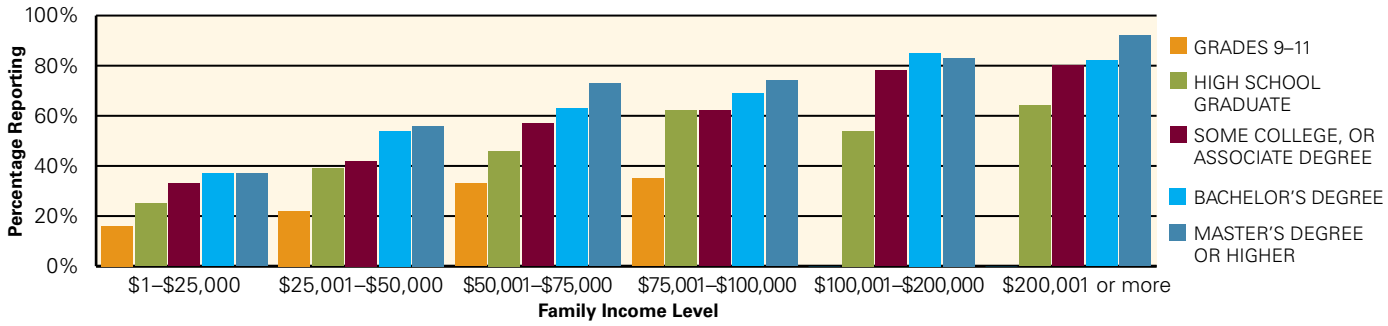


Figure 6c: Percentage of Parents Saving for College for Their Tenth-Grade Child by Income and Education Level of Parents, 2002



Note: The annual earnings categories in Figure 6c do not necessarily indicate identical financial circumstances for parents with different levels of education. Aside from the fact that they may be concentrated at different income levels within the specified ranges, college graduates may, for example, have enjoyed higher incomes more consistently in the years preceding the 2002 year reported here or have greater future earnings expectations. Sample size is too small to report on those with a grade 9–11 education level and earnings over $100,000.
Source: Education Longitudinal Study (ELS), 2002; calculations by authors. Based on parental reporting.

College-educated parents discuss community, national, and world events with their tenth-graders and participate in activities related to sports, religion, or culture more frequently than parents without a college education. In every income range, saving for college is also more common among parents with higher levels of education.

- Almost half of parents with a bachelor's degree speak with their tenth-graders often about current events, but less than a third of high school graduates do so.
- Three-quarters of parents with bachelor's degrees frequently attend sporting, religious, or cultural events with their children, compared to 59 percent of parents who are high school graduates.
- Among parents with incomes between $25,001 and $50,000 in 2002, 39 percent of high school graduates and 54 percent of those whose highest degree was a bachelor's reported having saved money for college. Among those with incomes between $100,001 and $200,000, the savings rates were 54 percent for high school graduates, 73 percent for associate degree holders, and 85 percent for four-year college graduates.

Also important:

Among those who have saved for college, 57 percent have saved $10,000 or less, 18 percent have saved between $10,000 and $20,000, and 25 percent have saved more than $20,000. (ELS, 2002)

Enrollment by Race and Gender

Figure 7a: College Enrollment Among Males and Females by Race/Ethnicity, Ages 16–24, 2004

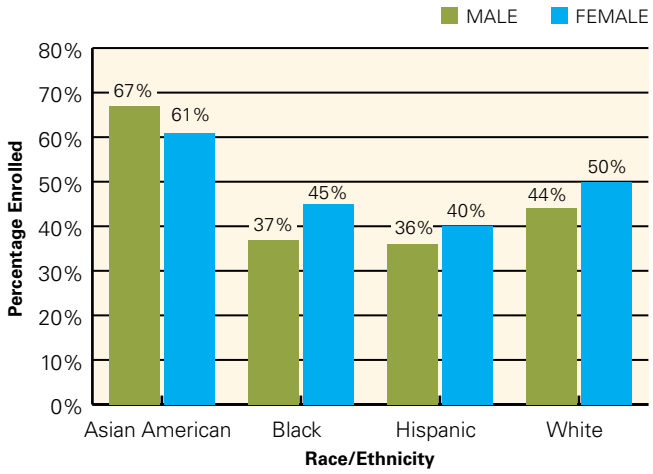
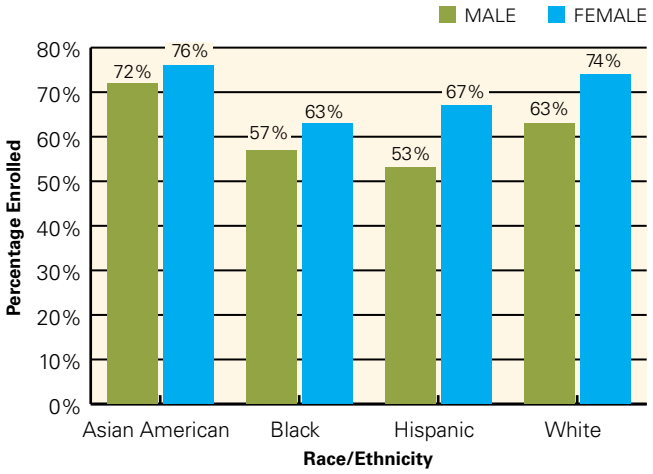


Figure 7b: Immediate College Enrollment Among Male and Female Recent High School Graduates, by Race/Ethnicity, 2004



Note: College enrollment includes those who are enrolled full-time or part-time at two-year colleges, four-year colleges, or graduate schools. In Figure 7a, which reports on individuals ages 16 to 24, those who are not enrolled include those who have previously enrolled in college but either left without a degree or completed a degree. In Figure 7b, immediate enrollment in college is defined as enrollment by October among those who completed high school during the preceding 12 months.
Source: U.S. Census Bureau, 2004, Table 13; calculations by authors.

Overall, college enrollment rates are significantly lower for men than for women and lower for blacks and Hispanics than for whites and Asian Americans.

- In Figure 7a, the gender gap in college enrollment rates for all 16- to 24-year-olds is larger for blacks than for whites and Hispanics, with 8 percentage points fewer black males than females enrolled, compared to gaps of 6 points for whites and 4 points for Hispanics. More Asian American men than women between ages 16 and 24 are enrolled in college.
- The gap in college enrollment between black men and white men ages 16 to 24 is similar to the gap between Hispanic men and white men, but among women, the gap is larger between Hispanics and whites.
- In Figure 7b, the patterns are somewhat different for immediate enrollment of recent high school graduates. In all racial/ethnic groups, women are significantly more likely than men to enroll in college within 12 months after graduation from high school. The gender gap is 14 percentage points for Hispanics, 11 for whites, 6 for blacks, and 4 for Asian Americans.
- Among recent high school graduates, the proportion of black men enrolling in college immediately is 6 percentage points lower than the proportion of white men enrolling and the proportion of Hispanic men enrolling is 10 percentage points lower than the proportion of white men enrolling. Asian American men are 9 percentage points more likely than white men to enroll in college following high school graduation.
- A larger proportion of Hispanic than black female high school graduates enroll in college immediately. The enrollment rate for black women is 11 percentage points lower than the enrollment rate for white women, and the enrollment rate for Hispanic women is 7 percentage points lower than the enrollment rate for white women. Asian American women are 2 percentage points more likely than white women to enroll in college within a year after high school graduation.

Also important:

- The college enrollment patterns among all 16- to 24-year-olds (Figure 7a) differ from the enrollment patterns among recent high school graduates (Figure 7b) for several reasons. The 16- to 24-year-olds include those who have not graduated from high school, and therefore enrollment rates are lower for all groups. The difference is largest for black and Hispanic males, whose high school graduation rates are lower than those of other demographic groups. Also, the 16- to 24-year-olds who are not in college may include individuals who have already earned college degrees, in addition to those who have started college and dropped out.
- The gender gap in enrollment is limited to middle- and lower-income students. Among dependent college students in the upper quarter of the income distribution, 52 percent are male, compared to 47 percent in the middle half and 44 percent in the lower quarter. (King, 2006)

Race/Ethnicity and Institution Type

Figure 8a: Fall Enrollment of Full-Time First-Year Students by Race/Ethnicity and Institution Type, 2004

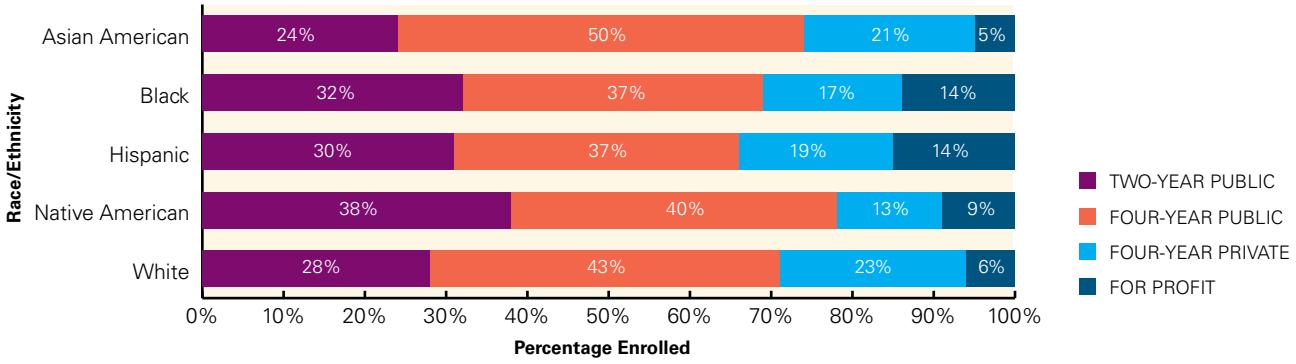
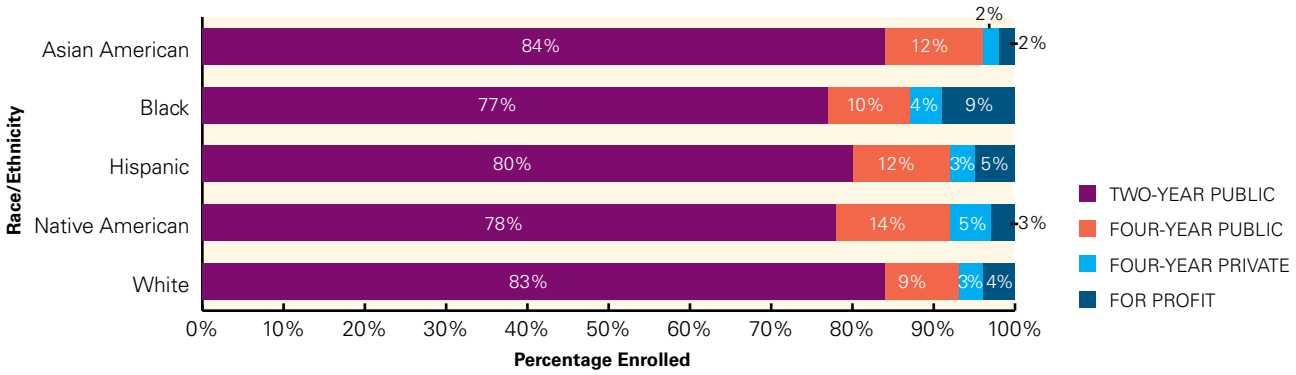


Figure 8b: Fall Enrollment of Part-Time First-Year Students by Race/Ethnicity and Institution Type, 2004



Notes: These data include first-time degree-seeking students at postsecondary institutions offering degrees and certificates. Students who entered school at times other than fall of 2004 and students who were not working toward a degree or certificate at that time are not included in this analysis. Percents may not sum to 100 percent due to rounding.
Source: Integrated Postsecondary Education Data System (IPEDS), 2004; calculations by authors.

Black, Hispanic, and Native American full-time first-year students are more likely than whites and Asian Americans to enroll in two-year public institutions and for-profit institutions.

- The proportion of full-time first-year students enrolled in private four-year colleges and universities ranges from 13 percent of Native Americans and 17 percent of blacks to 19 percent of Hispanics, 21 percent of Asian Americans, and 23 percent of whites.
- The proportions of white and Asian American part-time students enrolled in two-year public colleges are higher than the proportions of other racial/ethnic groups; part-time first-year black students are disproportionately enrolled in for-profit institutions.

Also important:

- Part-time enrollment is less prevalent among first-year white students than among other first-year students. Sixteen percent of first-year white students are enrolled part-time, compared to 18 percent of Asian Americans, 21 percent of Native Americans, 22 percent of blacks, and 24 percent of Hispanics. (IPEDS, 2004)
- Part-time enrollment is most prevalent in the two-year public college sector than in any other sector of postsecondary education. (IPEDS, 2004)
- Students make different choices about which type of institution to attend for a variety of reasons. Financial considerations, academic preparation, desired course of study, geographical location, and family and work responsibilities all enter into the decision. Differences in enrollment patterns across demographic groups reflect a combination of differences in available opportunities and differences in preferences.

International Comparisons

Figure 9a: Percentage of Adults Who Have Completed Programs of Postsecondary Education, Ages 25–34 and 55–64, 2004

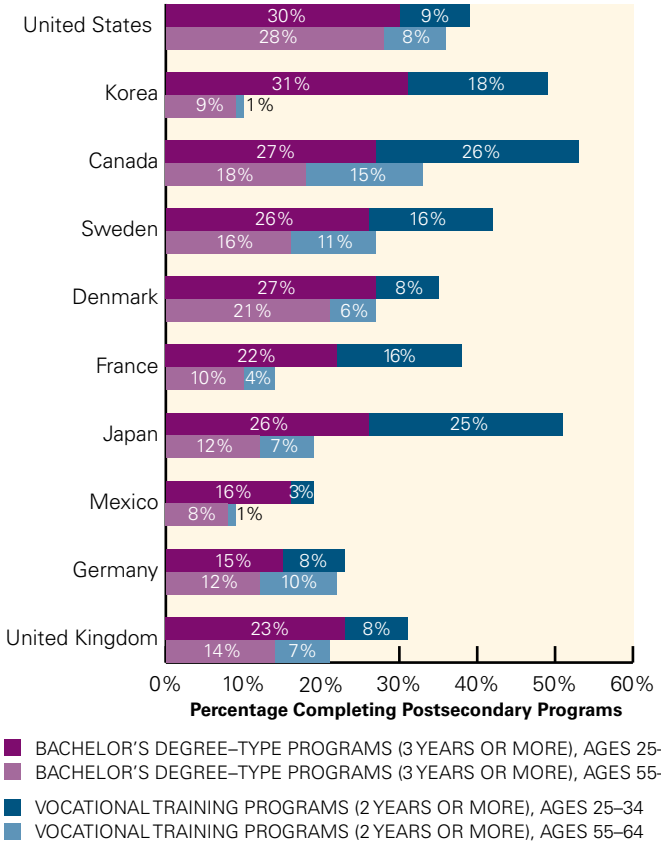
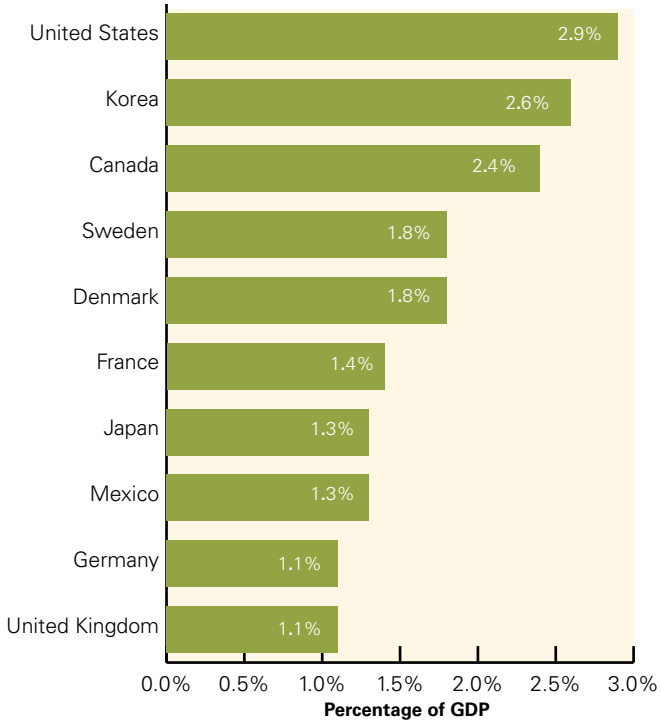


Figure 9b: Total Expenditures on Postsecondary Education As a Percentage of Gross Domestic Product (GDP), 2003



Source: Organisation for Economic Co-operation and Development (OECD), 2006, Tables A.1.3a and B2.1b.

The proportion of adults between the ages of 55 and 64 who have completed a postsecondary education program is higher in the United States than in any other country in the OECD. However, Canada has the highest educational attainment level among 25- to 34-year-olds.

- The United States has the highest proportion of adults between the ages of 55 and 64 who have completed bachelor's degree-type programs, but among all OECD countries, Korea, the Netherlands, and Norway (the latter two countries not shown in Figure 9a) have higher completion rates among 25- to 34-year-olds.
- As indicated in Figure 9a, the percentage of 25- to 34-year-olds who have completed a postsecondary program is higher in Canada, Japan, Korea, and Sweden than in the United States. Among all OECD countries postsecondary completion is also higher in Belgium, Ireland, and Norway (not shown in Figure 9a) than in the United States.
- The United States and Germany have small differences in postsecondary attainment between the 25–34 age group and the 55–64 age group. This contrasts with large differences of 32 percentage points in Japan and 39 percentage points in Korea.
- The 2.9 percent of GDP that the United States spends on postsecondary education is higher than the percentage of GDP spent in any other OECD country. The overall OECD average is 1.4 percent.

Also important:

- Educational programs differ considerably across countries, so international comparisons are not precise.
- The overall proportion of adults who have completed postsecondary education is correlated with the percentage of GDP devoted to education, but differences in attainment across age cohorts are not correlated with changes in expenditures over the past decade. (OECD, 2006, Table B2.1b; calculations by authors)

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