

Labor Market Experiences, Earnings, Income Inadequacy Problems, and Civic Behavior of U.S. Adults by Educational Attainment: Consequences for Adult Education Programs

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Introduction

The formulation of educational and workforce development policies and the planning of programs to upgrade the education, employability, literacy, social, and work skills of the American public are dependent on information on their labor market, income, social, and civic behavior. In the adult education world, knowledge of the employment, earnings, income and social experiences of adults with limited formal education, literacy/numeracy skills, and English-speaking skills would be helpful in making the case for additional investments in the education and employability skills of such adults.¹

This paper is primarily intended to update our current information base on the recent employment and earnings experiences, labor market problems, income inadequacy problems, public assistance status, and civic behaviors of America's adults 20-64 years old by educational attainment over the 2009-2012 time period. The primary focus is on comparing the outcomes for adults who lack both a high school diploma and GED with their peers who have a GED and those with a regular high school diploma. We will also provide comparisons with adults possessing various amounts of post-secondary schooling ranging from one or more years of college but no degree to those with a Master's or higher degree.

Our analysis is primarily focused on the behaviors and experiences of those adults who were 20-64 years old at the time of the surveys, primarily the American Community Surveys of 2009-2012. We also present findings for men and women separately to identify gender disparities in outcomes for high school dropouts and high school graduates. Many of the findings in this paper reveal large disparities in economic, labor market, social, and civic behaviors between high school dropouts and high school graduates. Many times, the revelation of such disparities, including the recent release of the findings of the OECD's Survey of Adult Skills (also known as PIACC), lead to calls to improve either early pre-school interventions in the U.S. or to upgrade our primary and secondary schools.² There were nearly 14 million U.S. adults ages 20-64 who lacked a regular high school diploma or a GED in recent years and another 5 million who only held a GED certificate. The recent OECD literacy assessment found that 85% of all

¹ The National Commission on Adult Literacy addressed a number of these issues in its 2008 report [Reach Higher America: Overcoming Crisis in the U.S. Workforce](#).

² For findings on the recent survey of the literacy proficiencies of U.S. adults and other countries, See: OECD, [Time for the U.S. to Reskill? What the Survey of Adult Skills Says](#), OECD Publishing, 2013.

U.S. adults 16-64, with low literacy skills were 25 or older. Many of the nation's dropouts and its residents with low basic skills have many years of their potential work life ahead of them. Given the importance of both formal education and literacy/numeracy skills for wages and earnings in the U.S., further investments in the education and training of America's dropouts seem clearly warranted to benefit both them and the nation as a whole.

1. The Employment Experiences of the Nation's 20-64 Year Olds by Educational Attainment, 2009-2012

Key labor market outcomes for U.S. adults have become more strongly associated with their educational attainment in recent years. Limited job growth in the U.S. from 2000-2007 followed by the Great Recession of 2007-2009 and its early jobless aftermath took a sharp toll on overall employment opportunities for all adults but especially the young, the less educated, and lower income adults. The nation's overall employment rate (persons 16+) dropped sharply from 64.5% in 2000 to 58.6% in 2012, the lowest E/P ratio since 1983.³

To illustrate the range of employment outcomes associated with the educational attainment of U.S. 20-64 year olds over the 2009-2012 time period, we identified both the employment rates (E/P ratios) and the full-time employment rates of adults by their educational attainment, ranging from those lacking a regular high school diploma/GED to those with a Master's or higher degree.⁴

The employment rates of the nation's 20-64 year olds in 2009-2012 varied quite widely across educational attainment groups, ranging from a low of just 53% for those persons lacking a high school diploma and a GED, to 68% for high school graduates, to nearly 78% for Associate degree holders, and to a high of nearly 85% for those with a Master's or higher degree (See Table 1).

³See: U.S. Council of Economic Advisers, Economic Report of the President: 2004, U.S. Government Printing Office, Washington, D.C., 2004.

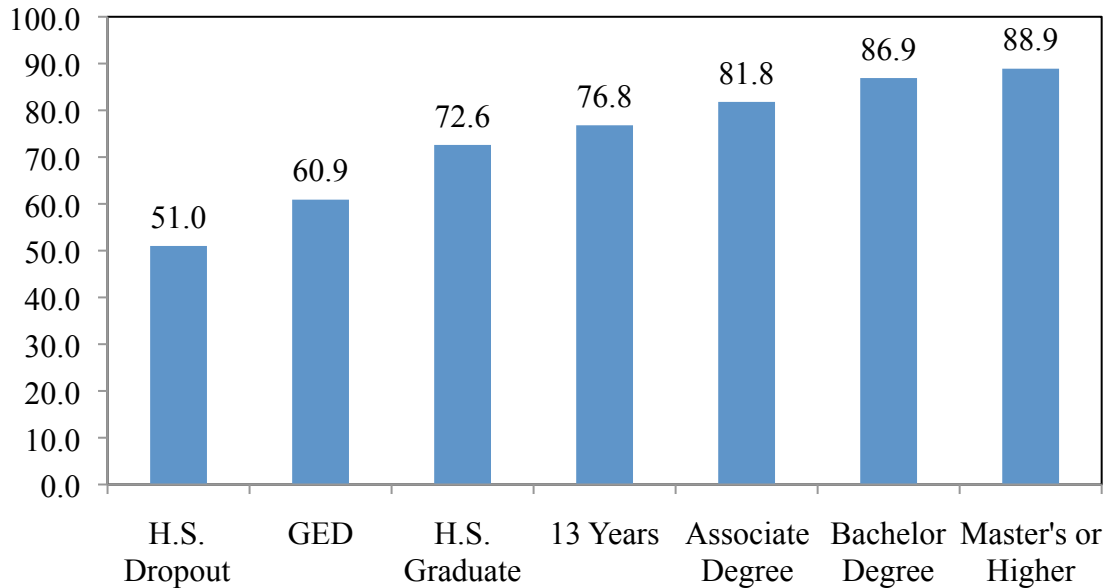
⁴ Full-time employment means working at a job that provides 35 or more hours of work per week. It includes wage and salary workers as well as the self-employed.

Table 1:
Employment/Population Ratios of 20-64 Year Olds in the U.S. by
Educational Attainment, All and by Gender, 2009-2012 Averages

	(A)	(B)	(C)
Educational Attainment	All	Men	Women
HS DROPOUT no GED	53.4	63.2	42.0
GED, no regular diploma	58.8	62.5	54.3
HSGRAD /GED	68.2	74.0	61.9
13-15 years, no degree	72.3	77.3	67.9
Associate's degree	77.8	81.9	74.7
Bachelor's degree	81.2	86.6	76.3
Master's or higher degree	84.8	89.1	81.0
All	71.9	77.1	66.9

Similar patterns in employment rates prevailed for men with one exception. On average, only 63% of male dropouts with no GED worked versus 74% of high school graduates, 82% of those with an Associate's degree, and 87 to 89 percent of those with a Bachelor's or higher degree. However, there was very little difference (less than one percentage point) between the employment rates of male dropouts and those with a GED certificate. Much of this latter impact was due to the inclusion of the foreign born in the results. Foreign born male high school dropouts have a much higher employment rate than their native born peers (80% vs. 51%). When we confine the analysis of male employment rates to the native born only, there is a much larger gap between the employment rates of male GED holders and dropouts (nearly 10 percentage points) and a 22 percentage point gap between male high school graduates and high school dropouts. Clearly, among the male native born, dropping out of high school has a much more negative impact on their employment opportunities.

Chart 1:
The Employment Rates of 20-64 Year Old Native Born
Males in the U.S. by Educational Attainment, 2009-2012 Averages
(in %)



The findings for women are quite consistent. There are high and rising employment rates for women with their level of educational attainment. These employment rates rise from a low of 42% for high school dropouts to 54% for those with a GED to 62% for regular high school graduates and to highs of 76 to 81% for those with a Bachelor’s or more advanced degree. For women, the importance of completing high school was quite strong. Those with regular diplomas had a 20 percentage point advantage over their peers who lacked a regular high school diploma.

A similar analysis was undertaken of the full-time employment/population ratios of 20-64 year olds by their educational attainment over the 2009-2012 time period (Table 2). On average, 57% of these adults held a full-time position. Only 38% of those lacking a high school diploma or GED held such a job. The share of adults doing so increased by 15 percentage points for those with a regular high school diploma to 54% and by nearly 30 percentage points for those with a Bachelor’s degree. There were similar patterns in the links between educational attainment and full-time employment rates for both men and women. Among women, only 1 in 4 high school dropouts held a full-time job while 44% of high school graduates did so, a near 20 percentage point advantage in favor of high school graduates. The low employment rates and especially the low incidence of full-time employment among dropouts not only reduces their earnings from

employment today but also their future expected wages by reducing the amount of work experience they acquire over their work lives.

Table 2:
The Full Time Employment/Population Ratios of 20 -64 Year Olds by
Educational Attainment in the U.S., 2009-2012 Averages
(in %)

Educational Attainment	(A)		
	All	Men	Women
HSDROPOUT no GED	38.4	48.0	25.9
GED, no regular diploma	43.5	49.3	36.4
HSGRAD /GED	53.8	62.8	44.2
13-15 years, no degree	57.0	65.4	49.3
Associate's degree	62.4	71.9	55.4
Bachelor's degree	67.4	77.5	58.5
Master's or higher degree	72.4	80.8	64.9
All	57.4	66.0	49.1

2. The Labor Market Problems of U.S. Adults by Educational Attainment, 2012-2013

The labor market problems of U.S. workers come in a variety of forms. These include the open unemployed (those actively looking for work and available for employment), the hidden unemployed (those wishing to be employed but not actively looking), and the underemployed (those who are working part-time but desire full-time jobs). Persons with one of these three problems can be combined to form a pool of underutilized workers.

The incidence of labor market problems in recent years has been strongly linked to the educational attainment of U.S. workers. Findings on the incidence of each of the above four labor market problems among persons (16+) over the 2012-2013 period by educational

attainment are displayed in Table 3.⁵ For each of these four problems, the incidence of the problem is highest typically by far among high school dropouts and then drops steadily and steeply by their educational attainment. For example, the unemployment rate for all workers (16+) in the resident civilian labor force was 7.8% over this period. High school dropouts, however, faced an unemployment rate of 16%, twice the national average. The unemployment rate fell to under 10% for high school graduates and to only 3 to 4 percent among those with a Bachelor's or higher degree. High school dropouts faced an unemployment rate close to those of a major depression while their college educated peers were operating under full employment labor market conditions.

The incidence of hidden unemployment problems was extremely high among high school dropouts. Overall, less than four percent of U.S. workers were members of the hidden unemployed in 2012-2013 while over nine percent of all high school dropouts fell into this category.⁶ Only 4% of high school graduates faced such a problem as did only 2% of Bachelor degree holders.

Nearly 6% of all employed workers in the U.S. in 2012-2013 were underemployed. The personal costs of underemployment are typically quite high. The underemployed on average work only half the weekly hours of the full-time employed and receive less per hour of work relative to comparable peers. Workers lacking a high school diploma faced an underemployment rate of just under 11%, nearly twice as high as the overall average and well above that for workers with a high school diploma (7%) and a Bachelor's degree (3%).

The combined labor underutilization rate for all U.S. workers in 2012-13 was 16.2%.⁷ Nearly one of every six persons in the adjusted civilian labor force faced such a problem. These underutilization rates varied widely across the educational attainment groups. Nearly one-third of all high school dropouts encountered such an underutilization problems versus only one of every five high school graduates and under 10% of the nation's Bachelor degree holders.

⁵ The findings are based on the monthly Current Population Surveys (CPS), a monthly household survey conducted by the U.S. Census Bureau for the U.S. Bureau of Labor Statistics.

⁶ The hidden unemployment rate is calculated by dividing the number of hidden unemployed in a given group by its adjusted civilian labor force; i.e. the official labor force plus the hidden unemployed.

⁷ The underutilization rate is computed by dividing the number of underutilized workers by the adjusted civilian labor force which is the sum of the civilian labor force plus the number of hidden unemployed.

Table 3:
Unemployment, Underemployment, Hidden Unemployment and
Labor Underutilization Rates Among U.S. Adults (16+) in 2012-2013
(in %)

Educational Attainment	Unemployment Rate	Underemployment Rate	Hidden Unemployment Rate	Labor Force Underutilization Rate
H.S. Dropout no GED	15.9	10.8	9.2	31.9
H.S. Graduate/GED ⁽¹⁾	9.6	7.2	4.0	19.5
13-15 Years, no degree	8.2	6.2	3.9	17.2
Associate's degree	6.1	4.7	2.5	12.8
Bachelor's degree	4.6	3.4	2.0	9.6
Master's or higher degree	3.2	2.2	1.7	6.9
All	7.8	5.6	3.7	16.2

⁽¹⁾This group includes some labor force participants who were still enrolled in high school at the time of the CPS survey. They accounted for about 15% of the combined group.

Source: 2012 and 2013 monthly CPS surveys, tabulations by authors.

3. Annual Earnings of U.S. Adults (20-to-64 Years Old) Adults by Educational Attainment in 2009-2012

The most important indicator of the economic wellbeing of individual U.S. workers is their annual earnings during the year. Annual earnings of workers are directly influenced by both the intensity of their employment during the year, including both hours and weeks worked and their hourly wages. In the earlier section, we revealed that better educated adults not only had higher employment rates but if employed worked higher numbers of hours and weeks than their peers with less schooling. When employed, less educated adults also earn substantially less per week than their better educated peers. Both these effects are captured by their annual earnings during the year, including those with no paid earnings. The mean annual earnings of adults rose steadily and strongly with their level of formal schooling. (Table 4). The mean annual earnings of adults ranged from only \$14,600 for those without a high school diploma, \$19,600 for those with a GED or its equivalent, \$24,600 for those with a regular high school diploma, \$35,900 for those with an Associate's degree, nearly \$54,000 for those with a bachelor's degree and \$81,000 for those with a Master's or higher degree.

Our previous research showed that GED holders' labor market outcomes were typically much better than their peers who were high school dropouts, but they did not fare as well as their peers with a regular high school diploma.⁸ On average, GED holders earned \$5,000 more per year than their peers without a high school diploma (\$19,600 versus \$14,600), but earned \$5,000 less than their peers who held a regular high school diploma (\$24,600 versus \$19,600). Mean annual earnings of high school graduates exceeded those of high school dropouts by nearly \$10,000, and mean earnings of Bachelor degree recipients exceeded those of high school dropouts by more than \$39,000 and were four times as high.

Table 4:
Mean Annual Earnings of Adults 20-to-64 Year Olds⁽¹⁾ by
Educational Attainment Levels, U.S., 2009 through 2012 Averages
 (Earnings in 2012 Inflation Adjusted Dollars)

	(A)	(B)	(C)
Educational Attainment Level	All	Men	Women
<12 or 12, No H.S. Diploma	14,590	19,638	8,667
GED/Equivalent	19,607	24,089	14,095
HS Diploma	24,587	31,100	17,580
Some College, No degree	30,386	38,815	22,747
Associate's Degree	35,935	44,823	29,314
Bachelor Degree	53,782	70,231	39,266
Master's or Higher Degree	81,003	106,264	58,432
Total	36,725	46,396	27,395

Note: ⁽¹⁾The mean annual earnings include zero earners. Students 20-to-24 years old are excluded from the analysis.

Source: 2009 through 2012 American Community Surveys (ACS), public use files, U.S. Census Bureau, tabulations by authors.

For both U.S. adult men and women, mean annual earnings rose steadily and strongly with additional years of schooling (Table 4, Columns B and C). Among males with a regular high school diploma, but no years of completed post-secondary schooling, mean annual earnings were \$11,500 above those of high school dropouts (\$31,100 versus \$19,600). U.S. males with a

⁸ See: Andrew Sum, Ishwar Khatiwada, et.al, The Labor Force Behaviors, Labor Market Experiences, and Labor Market Outcomes of the Nation's Adults with No Post-Secondary Education, 2000-2010: Differences in Outcomes Between High School Dropouts, GED Holders, and High School Graduates, Center for Labor Market Studies, Northeastern University, a Report Prepared for the U.S. Department of Education's Office of Vocational and Adult Education, February 2012.

GED or its equivalent earned \$4,400 more annually than their high school dropout peers, but earned \$7,000 less than their peers with a regular high school diploma. The mean annual earnings of male bachelor degree holders were 3.6 times as high as those of their dropout peers. Similar findings on annual earnings prevailed for U.S. women. The absolute and relative differences in mean earnings between high school dropouts and high school/four year college graduates were also quite high among women. Female high school graduates with a regular diploma had mean annual earnings that were twice as high as those of high school dropouts, and female Bachelor degree holders obtained mean annual earnings that were 4.5 times as high as those of high school dropouts (\$39,266 vs. \$8,667). Women with a GED or equivalent earned \$5,400 more than their peers who were high school dropouts (\$14,100 versus \$8,700), but earned \$3,500 less than their peers with a regular high school diploma (Table 4).

4. Mean Lifetime Earnings of U.S. Adults (20-64) by Their Educational Attainment Levels, 2009-2012

In the previous section, differences in the mean annual earnings of U.S. adults (20-64) in different educational groups were examined. The mean annual earnings of workers rose strongly and steadily with the level of their educational attainment. The annual earnings data can be used to construct a snapshot of the expected lifetime earnings of U.S. adults, including those with no paid employment during a given year. To illustrate the procedures used to calculate the expected lifetime earnings for each gender/educational attainment group, we have generated an actual subset of the lifetime earnings data for male high school graduates during the 2009-2012 period (Table 5). First, the mean annual earnings of each single age group of male high school graduates from ages 20 to 64 are estimated, including those with zero earnings during the year. High shares of dropouts especially women report no paid earnings during the year. Annual earnings of each educational group tend to rise fairly continuously though eventually at a diminishing rate from their early teens to their mid-40s to early 50s depending on their level of schooling.⁹ Second, the mean annual earnings of each age group from 20 to 64 are then summed to estimate their expected mean lifetime earnings in 2012 dollars. The underlying assumption for this set of calculations is that over time the mean annual earnings of each age group in each educational

⁹ Earnings of adults in each educational group tend to rise most rapidly from their early 20s through their mid-30s. The age/earnings profiles of better educated adults tend to be more steeply sloped than those of their less educated peers and peak at a later age. The earnings gaps between adults in those different educational subgroups tend to widen over time as they gain more work experience.

group will remain at their 2009-2012 levels.¹⁰ Under this set of assumptions, the mean expected lifetime earnings of male high school dropouts in the U.S. during 2009-2012 period was \$870,077.

Table 5:
Actual Calculation of the Mean Lifetime Earnings of Male High School
Dropouts from Ages 20 to 64, U.S., 2009 to 2102 Averages (in 2012 Dollars)

Age	Mean Annual Earnings
20	\$8,337
21	9,871
22	11,135
23	12,535
▪	
▪	
▪	
62	14,554
63	12,906
64	11,106
Sum, 20-64	\$870,077

Estimates of the mean lifetime earnings of adults (20-64) in seven educational groups, both for all adults and for men and women separately, are displayed in Table 5. For all U.S. adults combined, mean lifetime earnings during the 2009-2012 period were estimated at \$1.598 million. These mean lifetime earnings varied widely across the seven educational groups, ranging from lows of \$645,800 among those adults lacking a high school diploma, \$869,200 among those with a GED or its equivalent, and \$1.088 million among those with a regular high school diploma to highs of \$2.322 million among Bachelor’s degree holders and \$3.321 million among Master’s or more advanced degree holders (Table 6, Column A).

There was a substantial lifetime earnings difference between GED holders and high school dropouts. The estimated gap between the mean lifetime earnings of GED holders and high school dropouts was \$223,000 or 35% in 2009-2012 (Table 7). Regular high school diploma holders earned \$219,000 or 25% more than their peers with a GED or its equivalent. The gap between high school graduates and dropouts without a GED was over \$432,000. For men, the

¹⁰ For a review of alternative methods for adjusting lifetime earnings corrected for expected changes in these earnings over time, see: Richard Freeman, The Overeducated American, St. Martin’s Press, New York, 1976.

gap was slightly over a half a million dollars Bachelor degree holders were characterized by mean lifetime earnings nearly \$980,000 or 90% higher than those of high school graduates. The gap between the mean lifetime earnings of high school dropouts and bachelor degree holders was an extremely substantial \$1.676 million. The mean lifetime earnings of U.S. adults with a bachelor's degree were 260% higher than those of their peers with no high school diploma.

Table 6:
Real Mean Lifetime Earnings of U.S. Adults (20-64)⁽¹⁾ by Gender and Educational Attainment 2009 to 2012 Averages (in Constant 2012 Dollars)

	(A)	(B)	(C)
Educational Attainment	All	Male	Female
<12 or 12, No H.S. Diploma	\$645,824	\$870,077	\$383,727
GED/Equivalent	869,231	1,076,144	619,475
HS Diploma	1,088,573	1,379,975	773,134
Some College, No Diploma	1,341,885	1,717,857	1,000,069
Associate's Degree	1,539,046	1,922,842	1,252,401
Bachelor Degree	2,321,999	3,009,658	1,695,716
Master's or Higher Degree	3,321,142	4,254,287	2,445,048
Total	1,597,756	2,024,984	1,187,921

Note: ⁽¹⁾Students 20-to-24 years old are excluded from the analysis.

Source: 2009 through 2012 American Community Surveys (ACS), public use files, U.S. Census Bureau, tabulations by authors.

Table 7:
Absolute and Relative Differences Between the Mean Lifetime Earnings of U.S. Adults in Selected Educational Attainment Groups (2009-2012 Averages)

Groups Being Compared	Absolute Difference (in \$1,000)	Relative Difference (in %)
High school dropout versus GED holder	223	35
GED holders versus regular high school diploma holder	219	25
High school dropout versus regular high school diploma holder	443	69
Regular high school diploma versus bachelor degree holder	980	90
High school dropout versus bachelor degree holder	1,676	260

Adult men earned more than women in every educational group on this lifetime earnings measure. For both men and women, however, lifetime earnings rose steadily and strongly with

levels of educational attainment. Both men and women with a GED or a regular high school diploma had higher lifetime earnings than their dropout peers.

5. Poverty/Near Poverty Rates of U.S. Adults (20-64) by Educational Attainment in 2009-2012

Given the lower employment rates, annual earnings, and marriage rates of less educated adults in the U.S., one would expect that they would be more likely to experience an array of income inadequacy problems than their better educated peers. These differences in income inadequacy rates also would be expected to rise over time, given substantial disparities in earnings trends and marriage rates for adults in different educational subgroups. The analysis in this section is confined to the average poverty/near poverty rates¹¹ of U.S. adults 20-to-64 years of age during the 2009 to 2012 period. A high share of U.S. adults without a high school diploma lived in poverty/near poverty. During the 2009 to 2012 period, the poverty/near poverty rates of these U.S. adults varied considerably across educational attainment groups for all adults and for men and women separately (Table 8). Over the 2009 to 2012 period, on average, nearly 36% of all U.S. adults 20-to-64 years of age without a high school diploma were living in poverty/near poverty. The poverty/near poverty rate fell to 25% among GED or alternative credential holders, 17.6% among adults with a regular high school diploma, 9.6% among Associate's degree holders, 5.7% among Bachelor's degree holders, and only 3.5% among Master's or higher degree holders. GED holder adults were 11-percentage points less likely than their high school dropouts peers to be poor/near poor, but were 7-percentage points more likely than their peers with a regular high school diploma to be poor/near poor. Adults without a high school diploma were twice as likely as their peers with a high school diploma to be poor or near poor and they were 6 times more likely than those with a Bachelor's degree.

The overall poverty/near poverty rate was higher among females than males (16.7% versus 13.4%). High school dropout females had the highest poverty/near poverty rate among the six educational subgroups. Nearly 41% of all high school dropout women between the ages of 20 and 64 were living in poverty/near poverty during 2009-2012. GED holder women were 11 percentage points less likely than their high school dropout peers to be poor/near poor, while

¹¹ The /near poor are those with incomes between 100% and 125% of the federal government's official poverty income thresholds.

those with a regular high school diploma were only half as likely to be poor/near poor, and women with a Bachelor's degree were only one-sixth as likely as their high school dropout peers to be poor/near poor. Similar findings prevailed for adult men across the six educational groups. High school dropout males faced the highest incidence of poverty/near poverty (32%) while 21.7% of GED holders were poor/near poor, 15% of adults with a regular high school diploma were poor/near poor, and only 3% to 5% of Bachelor's or higher degree holders were poor/near poor.

Table 8:
Poverty/Near Poverty Rates of U.S. Adults, 20-to-64⁽¹⁾, by
Their Educational Attainment Level, 2009 to 2012 Averages
(In %)

	(A)	(B)	(C)
Educational Attainment	All	Male	Female
<12 or 12, No H.S. Diploma	35.9	31.8	40.7
GED/Equivalent	25.1	21.7	29.3
HS Diploma	17.6	15.0	20.3
Some College, No Diploma	14.5	11.5	17.2
Associate's Degree	9.6	7.9	10.9
Bachelor Degree	5.7	5.2	6.1
Master's or Higher Degree	3.5	3.3	3.6
Total	15.1	13.4	16.7

Note: ⁽¹⁾Students 20-to-24 years old are excluded from the analysis.

Source: 2009 through 2012 American Community Surveys (ACS), public use files, U.S. Census Bureau, tabulations by authors.

The data on the income inadequacy problems of adults in each educational group also can be used to construct an expected number of lifetime years in poverty/near poverty for the six educational groups. We calculated the expected number of years with a poverty/near poverty problem for each educational group by summing the percent of adults in each single age group in each educational group with such a problem over the 20-to-64 age range. Our estimates of expected mean lifetime years with a poor/near poor problem for each educational subgroup in the 2009-2012 period are displayed in Tables 8 for all adults and for men and women separately.¹²

¹² The key assumption underlying these point-in-time lifetime estimates of income inadequacy problems is that the incidence of such problems for each single age group will remain constant at their observed values as they move through their work life. For those adults with no post-secondary schooling, especially males, this is a conservative assumption since their incidence of income inadequacy in single age groups has been rising over time

The mean expected years of poverty/near poverty among U.S. adults from ages 20-to-64 varied considerably by educational attainment over 2009-2012 time period. (Table 9). For all adults combined, mean expected years in a poverty/near poverty status in 2009-2012 were equal to approximately 7 or 16% of the years in the 20-64 age span. These mean expected years in a poverty/near poverty condition varied considerably across the six educational subgroups, ranging from 16 years among high school dropout adults, 11 years among adults with a GED or equivalent, 8 years among adults with a regular high school diploma, and only 2 to 3 years for those adults with a Bachelor’s or higher degree. Mean expected years in a poor/near poor status among dropouts was twice as high as that of high school graduates, and 5.5 times higher than that of their peers with a Bachelor’s degree. Similar patterns prevailed for both men and women in each of the six educational groups; however, women’s expected lifetime years in poverty/near poverty status were higher than that of men in each of the six educational groups.

Table 9:
Mean Expected Lifetime Years in Poverty/Near Poverty Spent by U.S. Adults,
20-to-64, by Their Educational Attainment Level, 2009 to 2012 Averages
(In %)

	(A)	(B)	(C)
Educational Attainment	All	Male	Female
<12 or 12, No H.S. Diploma	16	14	18
GED/Equivalent	11	10	13
HS Diploma	8	7	10
Some College, No Diploma	7	5	8
Associate's Degree	5	4	5
Bachelor Degree	3	3	3
Master's or Higher Degree	2	2	2
Total	7	6	8

Note: ⁽¹⁾Students 20-to-24 years old are excluded from the analysis.

Source: 2009 through 2012 American Community Surveys (ACS), public use files, U.S. Census Bureau, tabulations by authors.

6. Low Income Status of U.S. Adults (20-64) by Educational Attainment in 2009-2012

The income inadequacy problems among U.S. adults without a college degree go well beyond those of poverty/near poverty rates. A rising share of adults without a college degree also face low income problems. The definition of low income is that used by a number of poverty and

welfare reform researchers across the country over the past decade.¹³ A “low income” family is one whose annual income is below 200% of their official poverty income threshold based on their family size and age composition.

The low income problems of adults are strongly associated with their level of educational attainment. High school dropouts had the highest incidence of low-income problems. Nearly 58% of high school dropout adults in the nation were members of low-income families (Table 10). The share of adults with a GED or its equivalent living in low-income families was 43% compared to nearly 34% for those adults with a regular high school diploma and only 7% to 12% for those adults with a Bachelor’s or a higher degree. High school dropouts were 1.7 times more likely than their peers with a regular high school diploma to be members of low-income families and nearly 5 times more likely than their peers with a Bachelor’s degree to be members of low-income families.

The incidence of low-income problems was modestly higher among women than among men (29.5% versus 25.9%). In every education group below the Bachelor’s degree level, women had a higher incidence of low-income rates than their male peers. Women without a high school diploma had the highest low-income problem among the six educational subgroups. More than 61% of all high school dropout women between the ages of 20 and 64 were living in low-income families over the 2009-2012 period. Similar findings for adult men across the six educational groups prevailed with high school dropout men facing the highest incidence of low-income problem (54%), versus 37% of adults with a regular high school diploma, and only 7% to 11% of men with a Bachelor’s or higher degree were low-income.

¹³ See: (i) Gregory P. Acs, Katherine Ross Phillips, and Daniel McKenzie, Playing by the Rules but Losing the Game: America’s Working Poor, Urban Institute, Washington, D.C., 2000; (ii) Garth Mangum, Stephen Mangum, and Andrew Sum, The Persistence of Poverty in the United States, Johns Hopkins University Press, Baltimore, MD, 2003.

Table 10:
Incidence of Low Income Problems of U.S. Adults, 20-to-64,
by Their Educational Attainment Level, 2009 to 2012 Averages
(In %)

	(A)	(B)	(C)
Educational Attainment Level	All	Women	Men
<12 or 12, No H.S. Diploma	57.6	61.3	54.5
GED/Equivalent	42.6	47.3	38.8
HS Diploma	33.6	36.7	30.6
Some College, No Diploma	27.9	31.8	23.7
Associate's Degree	20.3	22.4	17.6
Bachelor Degree	12.1	12.9	11.2
Master's or Higher Degree	7.2	7.3	7.1
Total	27.8	29.5	25.9

Note: ⁽¹⁾Students 20-to-24 years old are excluded from the analysis.

Source: 2009 through 2012 American Community Surveys (ACS), public use files, U.S. Census Bureau, tabulations by authors.

7. Receipt of Food Stamps and Medicaid Health Insurance Services by U.S. Adults in 2009-2012 by Their Educational Attainment Level

Given the more limited employment prospects and the low annual incomes for many less educated adults, they rely more heavily on both cash and in-kind transfers, including Medicaid, food stamps, and rental subsidies. The American Community Survey collects information from respondents on their receipt of food stamps and Medicare/Medicaid benefits. Findings for 2009-2012 revealed that on average the share of adults living in households receiving food stamps varied widely by their educational attainment, ranging from highs of 32 to 28 percent among high school dropouts and GED holders to below 17 percent among regular high school diploma holders and lows of 2 to 4 percentage points among those with a Bachelor's or higher degree (Table 11). The incidence of food stamp receipt among women was higher than among men (15.3% versus 11.9%). Among high school dropout women, on average, 37% received food stamps during the 2009-2012 period nearly twice as high as the incidence among women with a high school diploma and nine times higher than those women with a Bachelor's degree.

Table 11:
Share of Adults, 20-64, Living in Households Who Received Food Stamps, All and by Gender, U.S., 2009-2012 Averages

	(A)	(B)	(C)
Educational Attainment	All	Men	Women
<12 or 12, No H.S. Diploma	32.4	28.3	37.1
GED/Equivalent	27.9	24.8	31.7
HS Diploma	16.7	14.6	18.9
Some College, No Diploma	13.4	10.1	16.4
Associate's Degree	9.1	7.0	10.6
Bachelor's Degree	3.8	3.2	4.3
Master's or Higher Degree	2.0	1.8	2.3
Total	13.7	11.9	15.3

Source: 2009 through 2012 American Community Surveys (ACS), public use files, U.S. Census Bureau, tabulations by authors.

Given their lower incidence of paid employment and their below average annual incomes, one might well anticipate that adults 20-64 years old without regular high school diplomas would be more reliant on government health insurance coverage, such as Medicaid or Medicare in a few instances. The findings from the ACS surveys for 2009-2012 clearly bear this out (Table 12). On average, 12% of all adults overall reported the receipt of Medicaid health insurance coverage. Among high school dropouts, 27% of adults did so as did 23% of those with a GED. Of those adults with a high school diploma only 15% received Medicaid and the share doing so fell steadily with educational attainment dropping to 4% for Bachelor degree holders. While women were more likely than men to report receiving such health insurance benefits, the educational patterns were quite similar for both groups. Men and women without high school diplomas were nearly twice as likely to obtain such benefits as high school graduates.

Table 12:
Share of Adults, 20-64, Who Received Medicare Health Insurance Coverage,
All and by Gender, U.S., 2009-2012 Averages (in %)

	(A)	(B)	(C)
Educational Attainment	All	Men	Women
<12 or 12, No H.S. Diploma	27.0	22.1	32.9
GED/Equivalent	23.1	19.1	27.9
HS Diploma	14.9	12.3	17.7
Some College, No Diploma	11.5	8.6	14.2
Associate's Degree	8.7	6.9	10.0
Bachelor Degree	4.0	3.5	4.4
Master's or Higher Degree	2.7	2.5	2.9
Total	12.1	10.1	14.0

Source: 2009 through 2012 American Community Surveys (ACS), public use files, U.S. Census Bureau, tabulations by authors.

8. The Voting and Volunteering Behavior of US Adults by Their Educational Attainment, 2010-2012 Time Period

The educational attainment and the literacy proficiencies of US adults also have important effects on a wide array of their civic behaviors, including voter registration, actual voting rates, participating in civic functions, and providing volunteer services in their community. Over time, voting in national elections for the President and the US Congress has become more strongly linked to the human capital characteristics of voting age adults, especially their education, as well as to their ages and household incomes.¹⁴

Findings on the voting behavior of US citizens (18+) in the recent 2012 Presidential election by their educational attainment and their gender are displayed in Table 13 and Chart 3. Overall, approximately 62 of every 100 voting age citizens reported to have voted in the November election.¹⁵ Voting rates varied widely across adults in the six educational attainment groups, being lowest by far (38%) among those adults with no high school diploma/GED and

¹⁴ For a recent analysis of the widening variations over time in voting and other forms of civic behavior across educational attainment, literacy and income subgroups in the US, see: Richard Coley and Andrew Sum, Fault Lines in Our Democracy: Civic Knowledge, Voting Behavior and Civic Engagement in the United States, Educational Testing Service, Princeton, New Jersey, 2012.

¹⁵ The November 2012 voting results are based on the findings of the November 2012 Current Population Survey of the nation. The results are confined to those respondents who identified themselves as citizens in the survey, including naturalized citizens.

then rising steadily and steeply with additional years of schooling from nearly 53% among high school graduates to 67% among Associate degree holders and to a high of 81% among those with a Master's or higher degree (Chart 3, Table 12).

Chart 3:
Percent of All US Citizens (18+) Who Voted in the 2012
Presidential Election by Educational Attainment

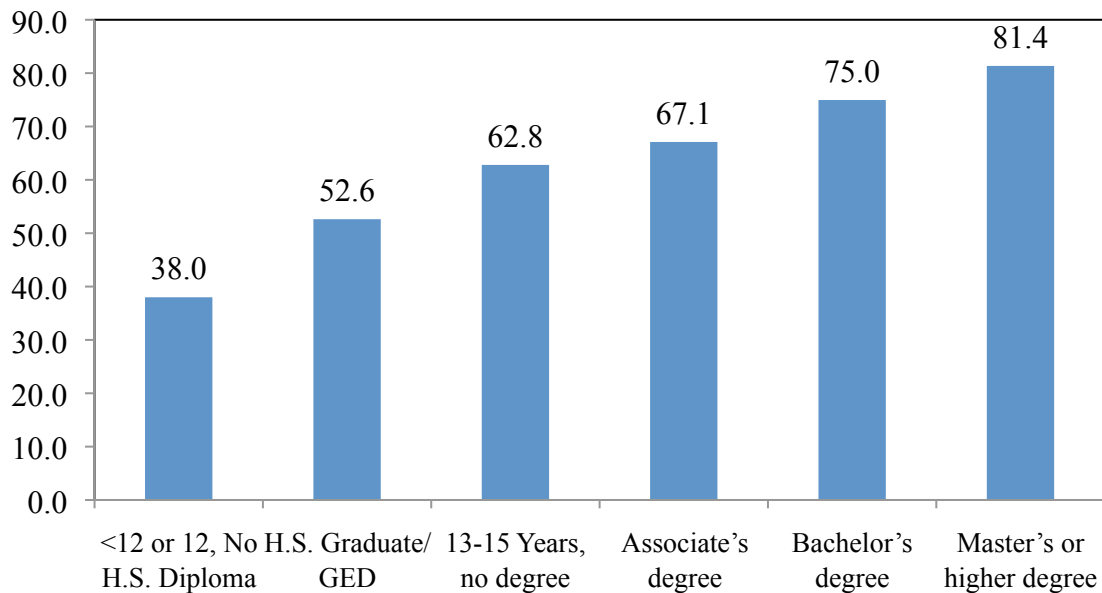


Table 13:
Percent of All US Citizens (18+) Who Voted in the 2012
Presidential Election by Educational Attainment, All and by Gender

Educational Attainment	(A)	(B)	(C)
	All	Men	Women
HS Dropouts no GED	38.0	36.1	40.4
HS Grad/GED	52.6	49.8	55.4
13-15 years, no degree	62.8	60.9	64.5
Associate's degree	67.1	65.8	68.0
Bachelor's degree	75.0	74.5	75.4
Master's or higher degree	81.4	80.2	82.4
All	61.8	59.8	63.7

Source: Current Population Survey, November Voting and Registration Supplement 2012, public use files, U.S. Census Bureau, tabulations by authors.

The links between voting rates and educational attainment were quite strong among both men and women and most major race-ethnic groups. Only 36% of those men lacking a high school diploma /GED voted versus 50% of their peers with a regular high school diploma and 75% of those with a bachelor's degree. While women overall were moderately more likely to vote than men, their voting rates also rose steadily with their level of schooling. Only 4 of every 10 women without a high school diploma or GED voted in comparison to 55% of those with a high school diploma and 75% of those with a bachelor's degree.

Studies of voting behavior in the 2010 Congressional elections also showed very strong associations between voting behavior and educational attainment, both overall and across age and gender groups. The youngest high school dropouts (under 25) had the lowest voting rate, only 5%. In contrast, those older adults (65+) with a bachelor's or higher degree voted at a 76-80 % rate. Many young high school dropouts have voluntarily disengaged themselves from the voting process in the United States. This is an acute problem that deserves the attention of the nation's political leaders given the strong path dependency that is typically found in voting behavior. Those who are more civically active today and pay closer attention to public affairs are more likely to vote in future elections. The growing educational divide in voting behavior is quite likely to persist in the near future in the absence of a concerted effort to reverse course.

The volunteering behavior of U.S. adults has also been found to be strongly linked to their educational attainment.¹⁶ Between November 2011 and November 2012, approximately 23% of US adults (18-64 years old) volunteered for a private, nonprofit or a public organization, including schools, health care agencies, churches, political parties, and other civic organizations. The incidence of any volunteering rose steadily and strongly with the educational attainment of these adults (see Chart 4, Table 14). Only 8% of those persons lacking a high school diploma or a GED provided any volunteering services during this 12 month period in 2011-2012 versus 15% of high school graduates, 23 % of those with some college and 42% of those with a Masters or higher degree. Among high school dropouts, volunteering rates were lowest among the young (those under 30), males, and immigrants. The most well educated adults in the US were more than five times as likely to volunteer as high school dropouts.

¹⁶ The CPS survey on volunteering activities is conducted in the month of September. Respondents are asked to report on their volunteering activities over the previous 12 month period.

Chart 4:
Volunteering Rates of Adults 18-to-64 by Their
Educational Attainment Level, 2011-2012 Averages

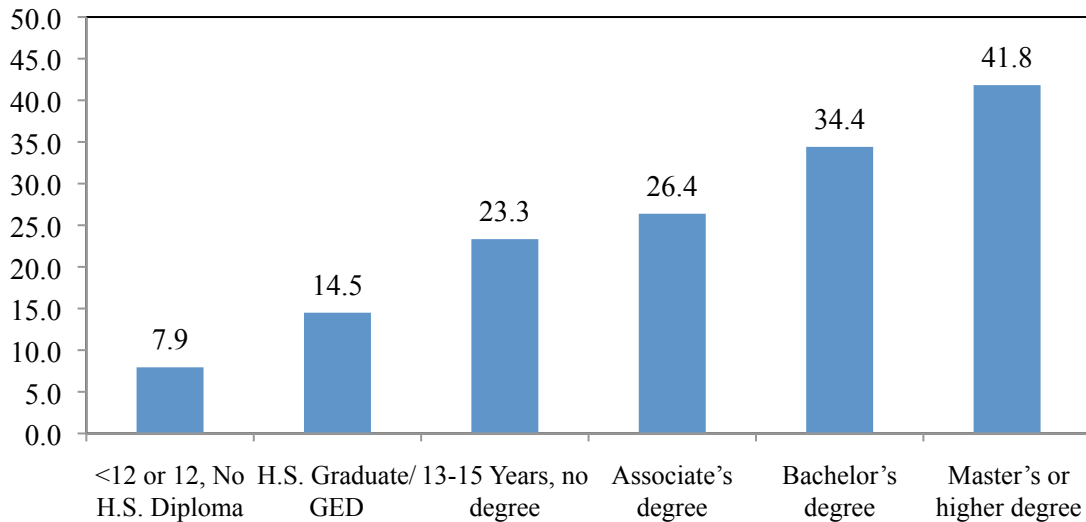


Table 14:
Volunteering Rates of Adults 18-to-64 by Their
Educational Attainment Level, 2011-2012 Averages

Educational Attainment	(A)	(B)	(C)
	% With Any Type of Volunteering	% With Civic Type of Volunteering	% With Healthcare/Education Type of Volunteering
<12 or 12, No H.S. Diploma	7.9	1.1	2.6
H.S. Diploma/GED	14.5	2.6	4.6
Some College	23.3	4.6	7.7
Associate's Degree	26.4	4.7	9.4
Bachelor's Degree	34.4	6.8	11.9
Master's or Higher Degree	41.8	7.8	15.2
All	23.4	4.4	8.0

Note: ⁽¹⁾ High school students are excluded from the analysis.

Source: Current Population Survey, September Volunteer Supplements 2011 and 2012, public use files, U.S. Census Bureau, tabulations by authors.

Very similar results prevailed for most types of volunteering activities. Only between 4 and 5 percent of U.S. adults volunteered for a political or civic organization, both public and private, including participation in political campaigns, canvassing the public, and assisting

neighborhood development agencies. Only 1 of every 100 high school dropouts provided such volunteering services versus nearly 3 of every 100 high school graduates, and 7 to 8 percent of those with a bachelor's or higher academic degree.

The evidence for recent years completely reveals that the nation's high school dropouts rank at the bottom for every major form of volunteering, with especially low rates for civic, educational, and political activities. While only a minority of the nation's adults in each educational attainment category do engage in such volunteering activities, the higher one's educational attainment, the more likely they are to do so. This heightened degree of inequality in volunteering across educational and income groups does not bode well for the future strength of American democracy. Seventy years ago, Robert Hutchins remarked that "the death of democracy would likely not be an ambush ... but be a slow extinction from apathy, indifference and undernourishment"¹⁷. There is a clear need to strengthen civic engagement among every major demographic subgroup, especially the less educated, low income and the jobless young in our country. Adult education programs should play an active role in this area by encouraging participants to volunteer and register to vote in elections.

¹⁷ Robert Hutchins, The Great Books, 1954.