

**The Labor Market, Earnings, Income
Inadequacy, and Social Problems of Young
High School Dropouts and Their Better
Educated Peers in Massachusetts, 2009-2012:
The Case for Public Interventions to Boost
Dropout Recovery**

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Introduction

During the past few decades in both Massachusetts and the U.S., the labor market, income, and social success of young adults (under 30) has become increasingly associated with their human capital traits. These include their educational attainment, especially post-secondary degrees, their literacy and numeracy proficiencies, and the cumulative amount of their work experience, especially in full-time jobs.¹ Those young adults who lack high school diplomas and modestly strong literacy and math proficiencies fare the worst, and, among men, there has been substantive declines in their employment and earnings position over their entire adult work life. Dropout women fare less well than their male peers.

The importance of keeping young people in high school through graduation and improving their ability to enroll in and persist in college has been widely recognized by policymakers at the local, state, and national level. Here, in Massachusetts, a number of efforts to boost high school retention and assist in dropout recovery have been attempted over the past few years, and there has been substantive statewide success in reducing recent dropout rates. During the past year, there have been several legislative efforts, including a 2013 House bill introduced by Representative Martha M. Walz, to raise the school dropout age and provide competitive funds to local school districts to reduce dropout problems and increase the recovery of former high school dropouts.²

This paper is primarily designed to track and assess key labor market, income, and social experiences of young adult dropouts 18-29 years old in Massachusetts in recent years (2009-2012) and to compare their results with those of their better educated peers across the state from high school graduates to those holding a Master's or more advanced degree. One of the primary objectives is to illustrate the size of the gaps in performance between high school dropouts and their better educated peers and the potential benefits to the individuals themselves and society at large from reducing high school dropout problems in the Commonwealth. There are potentially large benefits in employment, annual and lifetime earnings, incomes and reduced income

¹ For an earlier review of the labor market, income, civic, and social problems of young dropouts in Massachusetts, See: Andrew Sum, Joseph McLaughlin, Ishwar Khatiwada, The Labor Market, Income, Social, Health and Fiscal Consequences of Dropping Out of High School, Report Prepared for the Boston Youth Transition Task Force, Boston, 2008.

² See: Massachusetts Legislature, House of Representatives, House Bill No. 524, An Act for Raising the School Dropout Age, Boston, 2013.

inadequacy and social problems (unemployment, poverty/near poverty, out-of-wedlock childbearing, and incarceration) that can result from addressing these problems.

Data Sources

Almost all of the estimates of the employment and unemployment behaviors, annual and lifetime earnings, income inadequacy problems, cash and in-kind public assistance income reciprocity status, and social outcomes of young adults (and in a few cases older adults) in Massachusetts are based on the findings of multiple years of survey data from one key data source. This is the American Community Survey (ACS), a large scale national household survey, conducted annually by the U.S. Census Bureau. We rely on findings from the 2009-2012 ACS surveys to produce these estimates. We rely on four year averages to produce these findings, thereby giving us a much larger sample size. The analysis will focus on the experiences of high school dropouts, who are much more likely than their better educated peers to experience these types of labor market and income inadequacy problems in Massachusetts.

To obtain greater insight into the recent labor market, earnings,³ income inadequacy, and social problems of younger adults with no high school diploma or GED, we will compare their experiences with those of better educated adults in five other educational subgroups listed below, ranging from those with a regular high school diploma/GED certificate to those holding a Master's, Ph.D. or professional degree (Law, Medicine).

The six educational groups included in the analysis are the following:

- Lacks high school diploma or GED certificate
- High school diploma or GED
- 13-15 years, no college degree
- Associate's degree
- Bachelor's degree
- Master's or high degree

The age group covered by the bulk of our analysis consists of 18-29 year olds who were not enrolled in high school or college at the time of the ACS survey.⁴ For a few of the variables,

³ The ACS collects information on the annual earnings of working-age residents by single age group. We also use these findings to estimate lifetime earnings.

⁴ The ACS questionnaire asks each working-age respondent if they had attended school at any time in the previous three months. Those reporting no school enrollment are categorized as non-enrolled. We also exclude all

such as mean lifetime earnings and mean expected years that would be spent in a poverty/near poverty condition, the analysis is focused on 18-64 year olds in the state of Massachusetts.

Key Labor Market, Earnings, Income Inadequacy, Cash and Other Public Transfer Dependency, and Social Outcomes of Young Massachusetts Adults by Educational Attainment

The labor market experiences of the state's young adults over the 2009-2012 period in three areas of performance will be examined. These include labor market variables such as their employment rate at the time of the survey, their unemployment rate, and the percent of respondents who worked for 40 or more weeks, full-time in the prior 52 weeks. This latter employment concept represents our definition of a full-time, year round worker.

The educational attainment of adults has been found to have a strong influence on their annual earnings from employment by raising their weeks and hours of employment and their weekly earnings when working. We will present findings on both the mean annual earnings of young adults (18-29) by educational attainment over the 2009-2012 time period and on the mean lifetime earnings of 18 to 64 year olds. Differences in the mean annual and lifetime earnings between those adults lacking a high school diploma/GED and their counterparts with a high school diploma or an Associate's degree will be emphasized. The private and social economic returns to assisting current and prospective dropouts in obtaining their high school diploma and some post-secondary schooling will be heavily dependent on the size of these lifetime earnings differentials.

Our third set of measures is focused on the income inadequacy problems of young adults in our state across these six educational subgroups. There are two key income inadequacy measures that are highlighted in this analysis. The first measure is the percent of young adults that live in poor/near poor households. The near poor are those individuals who live in a family that has an annual, pre-tax money income below 125% of the official poverty lines of the federal government. Our second measure of income inadequacy is the percent of young adults who live in low income families. A low income individual is a person who lives in a family with an income below 200% of the federal government's poverty line. For a family of four in 2012, the low income threshold would have been about \$40,000.

immigrants who arrived in the U.S. from 2005 onward to focus primarily on those who completed their schooling in the U.S.

Our fourth set of measures of the economic and social well-being of young adults focuses on their influence on the rest of society through transfer payments to support lower income individuals. There are three key cash income and in-kind transfer receipt measures across educational groups covered in this section of the report. They are the following:

- The percent of young adults receiving cash public assistance income
- The percent of young adults who lived in families receiving food stamps
- The percent of young adults who received their health insurance coverage from Medicaid or some other public subsidized health care program

Our final set of measures is focused on the social behaviors of young adults in these educational attainment groups. The first behavior is the share of young adult women in each educational attainment group who were single mothers and lived with their child. Nationally, marriage rates among young adults have declined sharply over the past few decades while the share of births taking place out-of-wedlock, especially among the less educated, have risen to record highs.⁵ Our second set of social measures examines the incarceration rates of native-born young adults (18-29) and those of a slightly older set of males (30-44 years). These incarceration rates impose high fiscal costs on the rest of society today to house and provide services to these inmates as well as future costs in providing post-release services to them and the lost future earnings and outputs from being incarcerated.

The Employment and Unemployment Experiences of Young Adults by Educational Attainment in Massachusetts

The ACS questionnaire collected information on the employment activities of all working-age respondents (16 and older) at the time of the surveys. All paid jobs, including self-employment, were included in the count of the employed. The employment rates (also referred to as employment/population ratios) of the state's young adults over the 2009-2012 time period varied quite widely across educational attainment groups. They ranged from a low of only 48% among high school dropouts to 67% among high school graduates/GED holders to highs of 91 to 94 percent among those with a bachelor's or more advanced degree (Chart 1 and Table 1). Fewer

⁵ See: Irwin Kirsch, Andrew Sum, and Kentaro Yamamoto, [The Perfect Storm: Changing Demographics and Their Economic and Social Consequences](#), Educational Testing Service, Center for Policy Analysis, Princeton, 2008.

than half of all dropouts had some job and an above average share of the employed were also under-employed; i.e., working part-time only while seeking full-time jobs.

Young female dropouts fared particularly badly in the labor market. Only 41 of every 100 were able to obtain some type of job versus 65 of every 100 female high school graduates and 92 to 96 percent of their peers with a bachelor's or higher degree. Young dropouts in each major race-ethnic group faced severe difficulties in finding any type of employment, with their employment rates ranging from a low of 40% among Black youth to 49% among White, non-Hispanic youth (See Table 1).

Chart 1:
Employment Rates of 18-to29 Year Old, Non-Enrolled Young Adults in
Massachusetts by Educational Attainment, 2009-2012 Averages (in %)

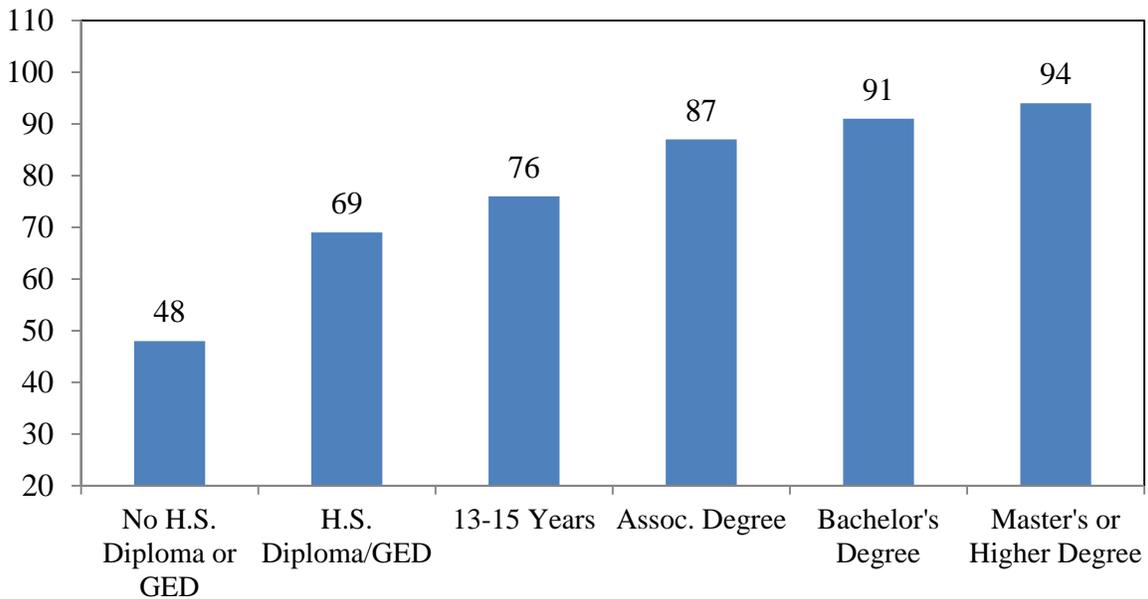


Table 1:
Employment/Population Ratios of 18 to 29 Year Old Non-Enrolled
Young Adults in Massachusetts by Educational Attainment, All and by Gender and
Race-Ethnic Group, 2009 - 2012 (in %)

Educational Attainment	All	Male	Female	Asian	Black	Hispanic	White
High School Dropout	47.8	52.0	41.4	49.0	40.3	47.1	49.0
High School Graduate/GED	67.2	68.9	64.7	71.9	56.1	61.2	69.8
Some college	75.9	78.0	73.6	85.9	67.8	68.9	78.2
Associate degree	87.0	85.3	88.4	97.3	87.0	79.4	87.6
Bachelor's degree	91.3	90.7	91.9	88.2	81.6	91.0	92.1
Master's or higher degree	93.8	90.5	95.6	93.2	84.0	89.9	94.5
All	76.8	76.1	77.7	82.9	63.1	63.0	80.4

Source: American Community Surveys, 2009-2012, public use files, tabulations by authors.

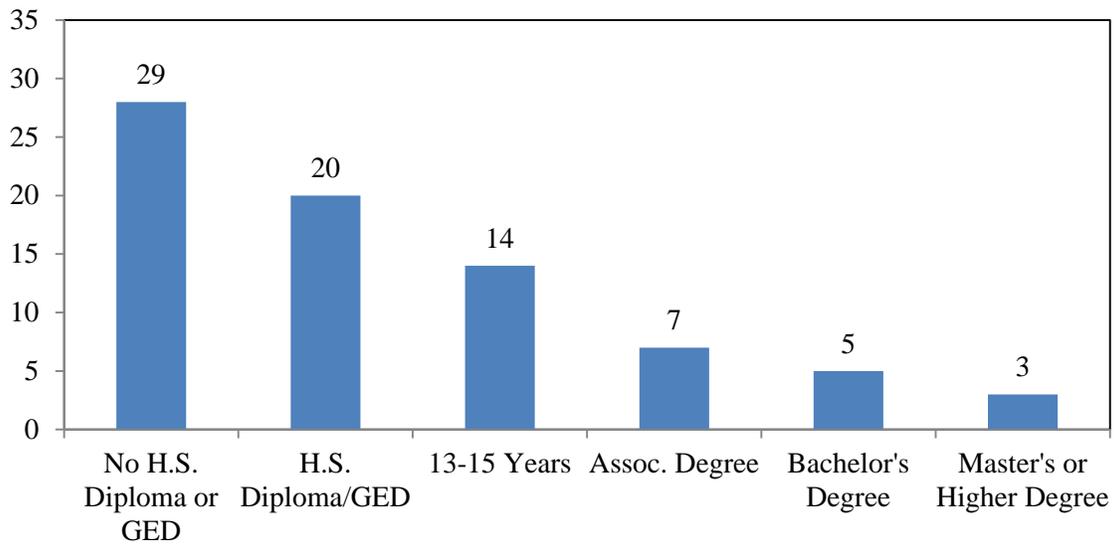
The low employment rates of young high school dropouts in Massachusetts in recent years were influenced by a combination of both below average labor force participation rates and above average unemployment rates. The unemployment rates of 18-29 year olds by educational attainment in 2009-2012 are presented in Table 2 and Chart 2. Unemployment rates of these young adults varied quite considerably across educational attainment subgroups. Overall, 13% of these young adults were unemployed, but among high school dropouts the unemployment rate was close to 30%. It fell to 20% among high school graduates, to 7% for Associate degree holders and to only 5% for Bachelor degree holders. Very similar patterns prevailed among both men and women with dropouts in both gender groups facing unemployment rates close to or just under 30%.

Table 2:
Unemployment Rates of Non-Enrolled 18 to 29 Year Olds in Massachusetts,
All and by Educational Attainment, 2009 - 2012 (in %)

Educational Attainment	All	Men	Women
High School Dropout	29.3	30.0	28.0
High School Graduate/GED	20.4	22.2	17.4
Some college	14.3	14.9	13.7
Associate degree	7.5	9.9	5.4
Bachelor's degree	5.6	6.9	4.5
Master's or higher degree	3.2	6.3	1.5
All	13.2	15.9	10.2

Source: American Community Surveys, 2009-2012, public use files, tabulations by authors.

Chart 2:
Unemployment Rates of 18 to 29 Year Old, Non-Enrolled Young Adults in Massachusetts by Educational Attainment, 2009-2012 Averages (In %)



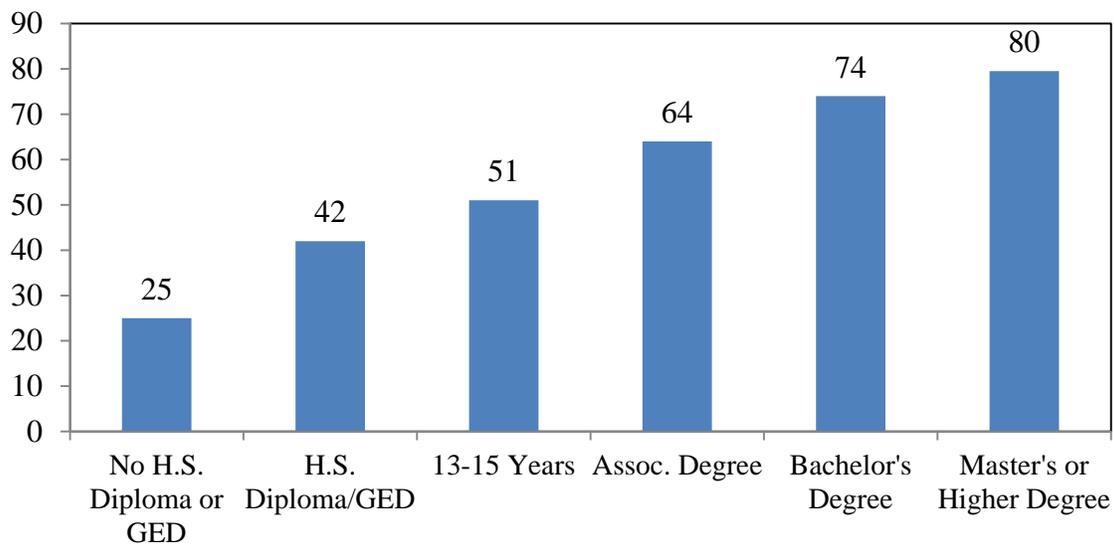
Our third measure of employment experiences examines the share of young adults that were employed 40 or more weeks on a full-time basis (35 or more hours per week) during the year. For all non-enrolled young adults, 55% met this criteria over the 2009-2012 time period (See Table 3). Among high school dropouts, only one of four youth was employed on a full-time, year-round basis. This employment rate was 17 percentage points below that of high school graduates and only one-third as high as that of Bachelor degree holders (74%).

Table 3:
Percent of Non-Enrolled 18 to 29 Year Olds in Massachusetts Who Were Employed Full-Time, Year-Round by Educational Attainment, All and by Gender, 2009-2012 Averages (in %)

Educational Attainment	All	Men	Women
High School Dropout	24.9	29.8	17.6
High School Graduate/GED	41.9	47.9	32.7
Some college	50.8	56.3	44.6
Associate degree	63.9	67.0	61.2
Bachelor's degree	74.3	75.5	73.3
Master's or higher degree	79.5	78.5	80.0
All	55.1	56.9	53.1

Source: American Community Surveys, 2009-2012, public use files, tabulations by authors.

Chart 3:
Percent of Non-Enrolled 18 to 29 Year Olds in Massachusetts Who Were
Employed Full-Time, Year-Round by Educational Attainment, 2009-2012 Averages (in %)



Large gaps in full-time, year-round employment rates by schooling level prevailed among both gender groups. Only 3 of 10 male high school dropouts and only 1 of every 6 women met the criteria for full-time, year-round work. The substantial lack of full-time, work experience for most years reduces the cumulative work experience of high school dropouts as they age, thereby curtailing their future wage potential and reducing their willingness to provide more hours of paid work. Both factors will reduce their future annual earnings and increase the likelihood of their encountering severe income inadequacy problems, including poverty/near poverty and low income problems. These income and wealth problems as well as their limited formal schooling will reduce the future educational attainment of their children, yielding negative intergenerational effects.

The Annual and Lifetime Earnings of Massachusetts Adults by Educational Attainment

Perhaps the most important measure of the labor market success of non-enrolled young adults is their annual earnings from employment. The annual earnings of any young adult is influenced by his weeks of employment during the year, the average hours of work per week during the year, and his average hourly wage.

The mean annual earnings of 18-29 year old dropouts who resided in Massachusetts were averaged over a four year period (2009-2012). Those with no paid employment during the year were assigned a value of zero. The mean annual earnings of a high school dropout in 2009-2012 were only \$10,651 while a high school graduate received \$17,200, an Associate’s degree holder \$29,564, and a Bachelor’s degree holder \$41,945.

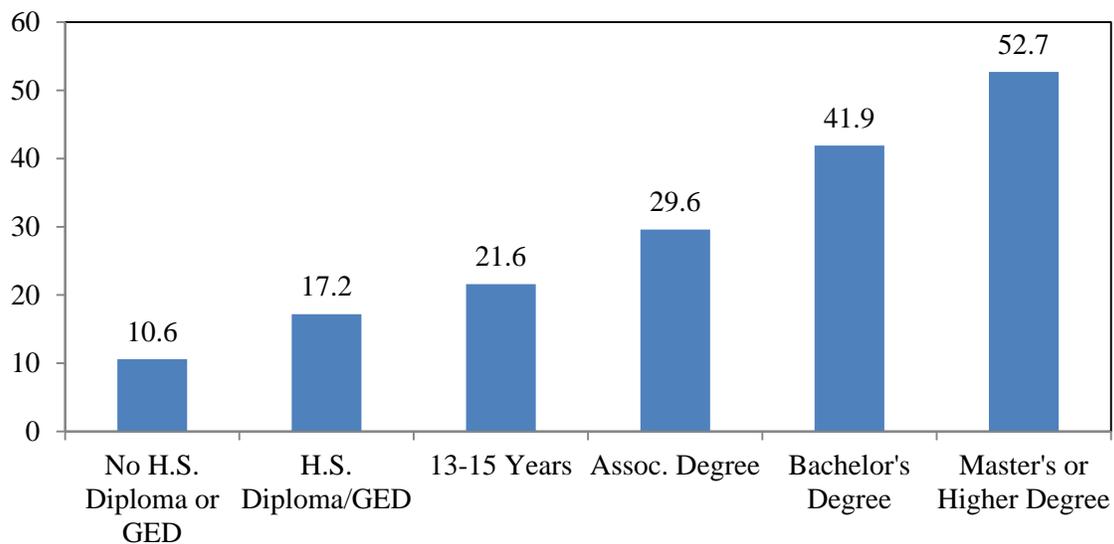
Similar earnings patterns prevailed among both men and women. Among males, mean annual earnings rose steeply with their educational attainment. A male dropout only obtained earnings of \$12,681. A young high school graduate would earn close to \$20,000, or \$7,000 more per year, and annual earnings would rise further to just under \$32,000 for Associate degree holders and \$46,800 for Bachelor degree holders. A male high school graduate obtained annual earnings that were 60% above those of high school dropouts while a Bachelor degree holder earned nearly four times as much as a dropout. These young men clearly live in economic worlds that are far apart from one another and represent substantially different living standard.

Table 4:
Mean Annual Earnings of Non-Enrolled 18 to 29 Year Old Adults in Massachusetts by Educational Attainment (Including Zero Earners), All and by Gender, 2009-2012 Averages (in 2012 Dollars)

Educational Attainment	All	Men	Women
High School Dropout	10,651	12,681	7,648
High School Graduate/GED	17,236	19,810	13,270
Some college	21,643	24,598	18,362
Associate degree	29,564	31,703	27,750
Bachelor's degree	41,945	46,818	37,677
Master's or higher degree	52,708	56,353	50,671
All	27,755	29,197	26,164

Source: American Community Surveys, 2009-2012, public use files, tabulations by authors.

Chart 4:
Mean Annual Earnings of Non-Enrolled 18 to 29 Year Old Adults in Massachusetts by
Educational Attainment (Including Zero Earners), 2009-2012 Averages (in \$1,000)



The expected lifetime earnings of Massachusetts men and women from ages 18-64 are displayed in Table 5 and Chart 5. These findings on the earnings gaps across educational groups are likely to be conservative since they assume that the existing earnings situation in the 2009-2012 period across educational groups will remain constant overtime. In reality in both the U.S. and our state they have increased since the late 1970s, especially among men. Among both genders combined expected lifetime earnings of \$696,000 among dropouts were more than \$520,000 below those of high school graduates. Staying in college to get an Associate's degree will yield \$1.72 million in earnings or \$1 million more than dropouts. Bachelor degree holders have expected annual earnings of \$2.633 million, nearly four times as high as those of high school dropouts.

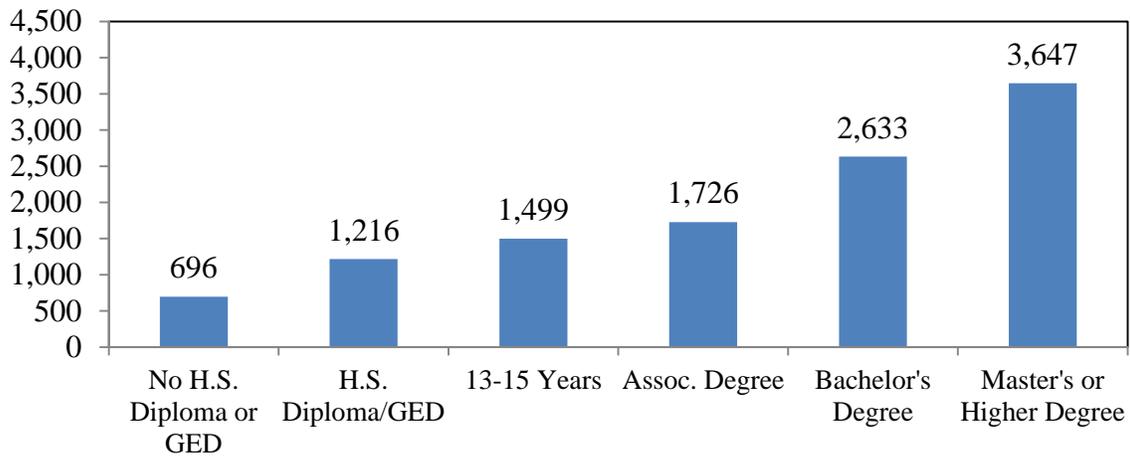
Among men, the mean lifetime earnings of dropouts were \$876,000. High school graduates achieved earnings of \$1.478 million or \$600,000 higher than that of dropouts. Bachelor degree holders obtained mean lifetime earnings of \$3.476 million or nearly four times that of dropouts.

Table 5:
Mean Expected Lifetime Earnings of 18 to 64 Year Olds in Massachusetts by Educational Attainment (Including Zero Earners), All and by Gender, 2009-2012 Averages (in \$1,000)

Educational Attainment	All	Men	Women
High School Dropout	696	876	481
High School Graduate/GED	1,216	1,478	897
Some college	1,499	1,853	1,179
Associate degree	1,726	2,110	1,485
Bachelor's degree	2,633	3,476	1,911
Master's or higher degree	3,647	4,774	2,632
All	2,021	2,516	1,550
H.S. Diploma - H.S. Dropout	+520	+601	+415
Associate's Degree - H.S. Dropout	+1,030	+1,234	+1,004

Source: American Community Surveys, 2009-2012, public use files, tabulations by authors.

Chart 5:
Mean Expected Lifetime Earnings of 18 to 64 Year Olds in Massachusetts by Educational Attainment (Including Zero Earners), 2009-2012 Averages (in \$1,000)



Very similar lifetime earnings patterns prevailed among women in Massachusetts. High school dropouts have the lowest by far expected lifetime earnings at only \$481,000 (Table 5). A female high school graduate will obtain lifetime earnings of \$897,000 or \$400,000 higher. Female Associate degree earners have expected lifetime earnings of \$1.485 million and \$1.911 million for Bachelor degree holders (See Table 5 and Chart 5).

Similar to our earlier findings for men, the average female Bachelor degree holder in Massachusetts will have expected lifetime earnings that are 4 times as high as those of high school dropouts. Female dropouts, on average, face a dismal labor market situation that has reduced their ability to gain the earnings sufficient to raise themselves and their children out of poverty or a low income status as will be revealed in a following section of this paper. The low lifetime earnings of males also curtails their ability to form independent households, to marry, and avoid income inadequacy problems. Preventing potential dropouts from our high schools and working to recover existing dropouts to return to school and earn their diploma/GED and obtain some post-secondary education and training is crucial to their long-term labor market success.

The Income Inadequacy Problems of Young Adults in Massachusetts

Among the economic indicators used to identify the social progress of families and individuals is their poverty/near poverty, or low income status.⁶ Young adults across the country have faced increasing rates of poverty and low incomes, especially young families with children.

The poverty/near poverty status of any individual is based on their family size and age distribution. The near poor are those individuals who live in families with incomes between 1.00 and 1.25* the poverty line while low income implies that the persons lives in a family with an income below two times the poverty line, i.e. about \$40,000 for a family 4 in 2012.⁷

The combined poverty/near poverty rate among young adults was slightly under 15% (Table 6). Young school dropouts by far had the highest poverty/near poverty rate at 37%. As educational attainment increased, the share of young adults who were poor/near poor declined continuously and sharply. Twenty percent of young high school graduates were poor/near poor and fewer than five percent of Bachelor degree holders were. Young dropouts were twice as likely to be poor/near poor as graduates and seven times more likely than Bachelor degree holders.

While similar patterns between educational attainment and poverty/near poverty held true for both gender groups, women, especially those with no post-secondary degree, were more likely to be poor/near poor than men. Forty-seven percent of women without a high school

⁶ For those young adults living at home with their parents or other relatives, their poverty status will be based on the whole family's income.

⁷ The poverty status of individuals and families is based on the federal government's definition of poverty status.

diploma were poor/near poor and 27% of those with a diploma and even 22% of those who completed some post-secondary schooling. These poverty/near poverty rates were only 5 to 6 percent among those women with a Bachelor’s or higher degree. Being a high school dropout in Massachusetts today massively increases the probability that the individual will experience a high degree of income inadequacy, especially among women, many of whom are mothers.

Findings on the incidence of low income problems among young adults are displayed in Table 7. One of every four young adults was low income in 2009-2012. Again, we find very large differences in the incidence of such problems across educational groups. A majority (54%) of all young dropouts were members of low income households, nearly 20 percentage points above that of high school graduates (34%) and five times higher than that of Bachelor degree holders (10%). In the aggregate and in five of the six educational categories, women faced higher low income rates than their male counterparts. Among young female dropouts, nearly two of every three were low income in 2009-2012. This incidence of being low income was three times as high as that of Associate degree holders and five times that of Bachelor degree recipients.

Table 6:
Poverty/ Near Poverty Rates of 18-29 Year Olds in Massachusetts by
Educational Attainment, All and by Gender, 2009 - 2012 (in %)

Educational Attainment	All	Men	Women
High School Dropout	37.3	30.7	47.2
High School Graduate/GED	20.4	15.6	27.7
Some college	15.8	9.9	22.2
Associate degree	8.7	6.2	10.7
Bachelor's degree	4.8	3.7	5.8
Master's or higher degree	4.4	4.1	4.6
All	14.9	12.2	17.9

Source: American Community Surveys, 2009-2012, public use files, tabulations by authors.

Table 7:
Per Cent of 18-29 Year Olds in Massachusetts Who Were Members of
Low Income Families, All and by Gender, 2009 - 2012 (in %)

Educational Attainment	All	Men	Women
High School Dropout	53.6	46.8	63.5
High School Graduate/GED	34.5	28.2	44.3
Some college	27.5	18.8	37.2
Associate degree	16.4	13.7	18.7
Bachelor's degree	10.5	8.6	12.2
Master's or higher degree	8.1	8.4	8.0
All	25.3	21.8	29.1

Source: American Community Surveys, 2009-2012, public use files, tabulations by authors.

Receipt of Food Stamps, Public Assistance Income, and Medicare/Medicaid Services by Massachusetts' Young Adults in 2009-2012 by Their Educational Attainment Level

In the previous section, we revealed that the recent labor market fortunes of Massachusetts' young adults (18-29) without a high school diploma were very dismal in comparison to their better educated peers. Young adults without a high school diploma were less likely to any type of find employment, less likely to work full-time year round, more likely to be unemployed, and as a result they earn substantially lower incomes annually than their better educated peers. Due to the lower earnings and incomes of these less educated adults, they pay less in tax revenues at the federal and state level and depend more on both cash and in-kind transfers, including Medicaid, food stamps, and rental subsidies to support themselves.

The ACS questionnaire also collected information on the receipt of food stamps, public assistance income (TANF, GA etc.), Supplement Security Income, Social Security income etc. by all households in the survey. Nearly 4 percent of Massachusetts' young adults relied on some form of public assistance income during the 2009-2012 period (Table 8). High school dropout young adults (18-29) had the highest incidence of receipt of public assistance income. Nearly 12% of young high school dropouts relied on public assistance income compared to 6% of high school graduates and less than one percent of Bachelor's or higher degree holders. Female young adults were more likely than their peers to depend upon public assistance income (4.6% versus 2.7%). Women who were high school dropouts were two times more likely than their

male dropout peers to rely on public assistance income (16.3% versus 8.3%). The incidence of receipt of public assistance income among both groups of adults declined with increased years of schooling. Less than 1% of young men and women with a Bachelor’s or higher degree relied on public assistance income during the 2009-2012 period (Table 8).

Table 8:
Percent of 18-29 Year Olds in Massachusetts Who Were Members of Families
Receiving Public Assistance Income by Educational Attainment, Total and by Gender

Educational Attainment	All	Men	Women
High School Dropout	11.7	8.5	16.3
High School Graduate/GED	6.0	4.0	8.5
Some college	2.3	1.3	3.2
Associate’s degree	2.5	1.8	3.1
Bachelor's degree	0.7	0.6	0.8
Master's or higher degree	0.5	0.6	0.5
All	3.6	2.7	4.6

Note: Public assistance income includes, SSI income, Temporary Assistance to Needy Families (TANF) and General Assistance (GA).

Source: American Community Surveys, 2009-2012, public use files, tabulations by authors.

As we noted earlier less than 50% of Massachusetts’ young adults without a high school diploma were employed, and only one-quarter of them were employed full-time/year-round. A majority of full-time employed adults get their health insurance coverage from their employers and thus do not rely on government provided Medicaid. However, young dropouts’ employment and intensity of work is low and these young dropouts seek Medicaid to fulfill their health care needs. During and after the Great Recession of 2007-2009, the share of young adults relying on Medicaid coverage has increased for all 18-29 year olds (Table 9). This increase was primarily driven by a substantial increase in the use of Medicaid by less educated jobless youth. One-quarter of Massachusetts’ young adults had Medicaid health insurance during 2009-2012. The use of Medicaid services was highest among Massachusetts’ high school dropouts (57%) followed by high school graduates (37.6%) and lowest among Bachelor’s degree holders (6.1%) and Master’s or higher degree holders (3.5%). Massachusetts young female adults were more likely than their male peers to use Medicaid insurance (30% versus 21%). More than 71% of young women who were high school dropouts were relying on Medicaid versus 47% of men who were doing so. The Medicaid insurance coverage rate among women with a high school diploma

or a GED was more than 50% while only 28% of young males with a high school diploma or a GED relied on Medicaid. Among men and women with a college degree, less than 7% reported to have used Medicaid services for their healthcare needs (Table 9).

Table 9:
Percent of 18-29 Year Olds in Massachusetts Who Were
Receiving Medicaid Health Insurance by Educational Attainment and by Gender

Educational Attainment	All	Men	Women
High School Dropout	57.1	47.4	71.1
High School Graduate/GED	37.6	28.5	51.6
Some college	27.0	18.3	36.5
Associate degree	19.0	14.1	23.2
Bachelor's degree	6.1	5.5	6.6
Master's or higher degree	3.5	3.6	3.4
All	25.3	21.2	29.8

Source: American Community Surveys, 2009-2012, public use files, tabulations by authors.

Nationally, the use of food stamp services has increased at historically high rates over the past few years, particularly during and after the Great Recession of 2007-2009. Evidence also reveals that the demography of food stamp recipients has changed markedly in recent years. At the national level, rising numbers of college educated adults are also relying on it in recent years.⁸ In Massachusetts, a high share of non-college educated adults living in households relied on food stamps. Findings for 2009-2012 revealed that the share of Massachusetts' adults living in households receiving food stamps varied widely by educational attainment, ranging from highs of 42 percent among high school dropouts and 24% among high school diploma/GED holders, respectively, to lows of 2% to 3% among Bachelor's or higher degree holders (Table 10). The incidence of food stamp receipt among women was higher than among men (19% versus 14%). Among women who were high school dropouts, 51% received food stamps during the 2009-2012 period while 38% of men did so. Just under 3% of young men and women with a Bachelor's or higher degree obtained food stamps during 2009-2012.

⁸ See: Hope Yen, "The new face of food stamps: Working-age Americans", The Associated Press, January 27, 2014.

Table 10:
Percent of 18-29 Year Old Massachusetts Adults Who Were
Receiving Food Stamps by Educational Attainment, All and by Gender

Educational Attainment	All	Men	Women
High School Dropout	42.7	36.7	51.2
High School Graduate/GED	23.8	18.5	32.0
Some college	18.0	11.8	24.9
Associate's degree	11.2	7.4	14.6
Bachelor's degree	2.7	1.8	3.4
Master's or higher degree	1.9	1.3	2.2
All	16.5	13.8	19.3

Source: American Community Surveys, 2009-2012, public use files, tabulations by authors.

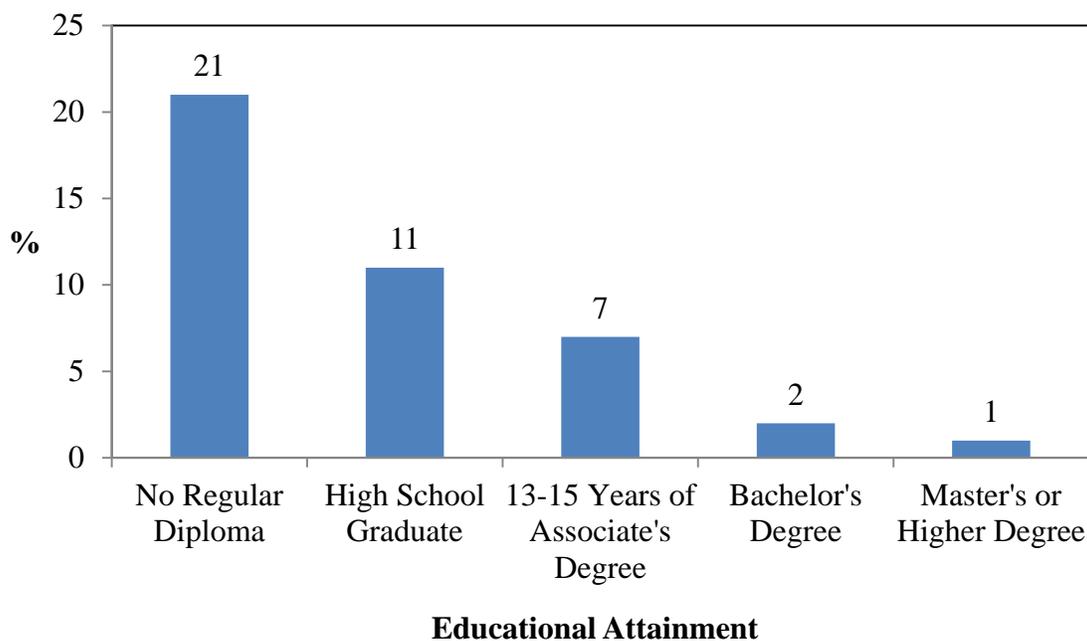
Single Parenthood Among Women in 2009-2011

Throughout both Massachusetts and the nation, the incidence of births among women under 30 that has been taking place out-of-wedlock has been rising sharply over the past few decades. By the end of the past decade (2010), approximately one half of all births to national women under age 30 took place out-of-wedlock. Here in Massachusetts, over half (55%) of all mothers under age 30 in 2009-2011 were single mothers.⁹

The incidence of single motherhood among all women under 30 in Massachusetts during the 2009-2011 period was strongly related to their educational attainment. Overall, slightly over 7% of all young women were classified as single mothers. The fraction of women doing so varied widely across the five educational attainment groups, ranging from a high of 21% among women with no regular high school diploma (including GED holders) to only 11% among high school graduates and to lows of 1 to 2 percent among women with a Bachelor's or higher degree. Young women without a high school diploma were twice as likely as high school graduates to be unwed mothers and 12 times more likely than those with a Bachelor's degree.

⁹ "Single motherhood" simply means that the woman lives with one or more own children and reports her marital status as not married. In some cases an unwed father will be present.

Chart 6:
Percent of 18-29 Year Old Women⁽¹⁾ in Massachusetts in 2009-2011
Who Were Single Mothers by Their Educational Attainment



⁽¹⁾ All women included regardless of their schooling status.

The Incarceration Rates of Massachusetts' Younger Adults, 18-29, by Educational Attainment, 2009-2012

National research findings reveal that high shares of non-elderly native-born U.S. adults, particularly males, lacking a high school diploma are incarcerated on any given day. Being jailed also has been consistently found to negatively affect the post-release employment and earnings of inmates.¹⁰ There is a strong link between one's educational attainment and being incarcerated. To identify the simple links between the incarceration rates of Massachusetts' 18-29 year old native-born residents and their educational attainment, we examined the findings of the ACS surveys for 2009-2011.¹¹ One in 100 of all 18-29 year olds were inmates of correctional institutions (jail or prisons) in Massachusetts (Table 11). These incarceration rates varied widely across educational attainment groups being highest by far among adults lacking a high school diploma or a GED. Nearly 6% of young high school dropouts were incarcerated versus only

¹⁰ See: (i). Mark Peters, "Men With Criminal Records Face Steep Challenge Getting Work", The Wall Street Journal, February 5, 2014; (ii). See: The Pew Research Center on the States, One in 100: Behind Bars in America 2008, the Washington, D.C., 2009.

¹¹ The ACS actually presents data on the institutionalization status of adults. Nationally, over 90% of the institutionalized residents under 59 years of age were residing in jail.

slightly more than 1% of high school graduates and only 0.1% (or less than 1 in 1,000) adults with a bachelor's or higher degree. Overall, high school dropouts were four times as likely to be incarcerated as high school graduates.

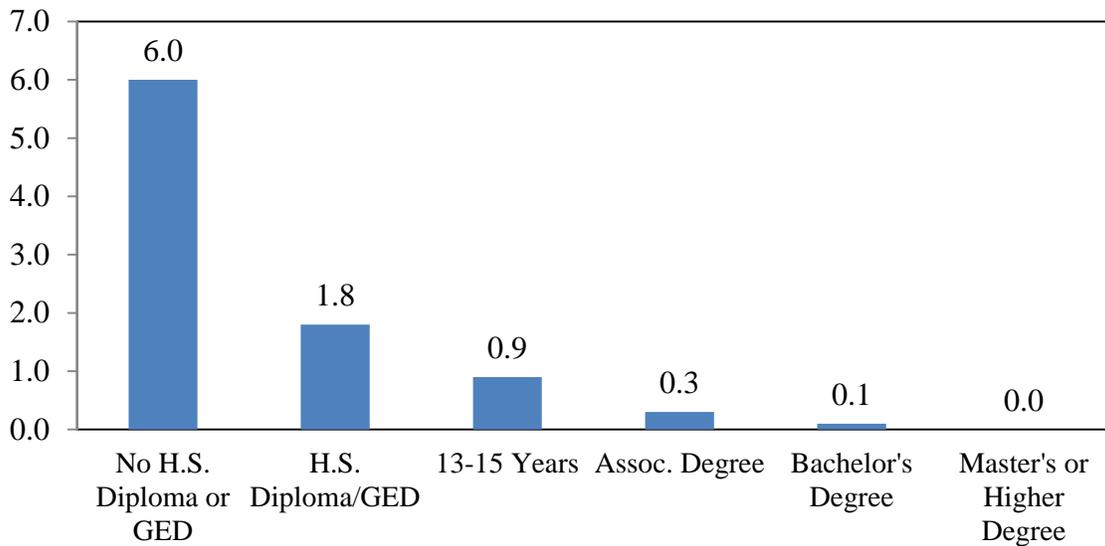
Incarceration rates were much higher among Massachusetts' young adult men than among women (1.7% versus 0.2%), or an eight times difference. More than 8% of Massachusetts' young adult men without a high school diploma were in jail or prison compared to 2% of high school graduates/GED holders and 1 in 1,000 bachelor's or higher degree holders. The incarceration rates by educational attainment levels were quite similar among both gender groups. The higher the level of education, the less likely one was to be incarcerated. For both men and women, high school dropouts were 4 times as likely to be in jail/prison than those with a regular high school diploma. The financial costs for keeping these inmates are high and borne by the inmates themselves and the rest of society. All members of the state would benefit from a reduction in the numbers and rate of incarceration.

Table 11:
Percent of Native-Born 18-to-29 Year Olds in Massachusetts Who Were Residing in
Correctional and Other Institutions by Educational Attainment, All and by Gender, 2009 - 2012
(in %)

Educational Attainment	All	Men	Women
High School Dropout	5.6	8.2	1.4
High School Graduate/GED	1.5	2.3	0.4
Some college	0.3	0.5	0.1
Associate degree	0.1	0.2	0.0
Bachelor's degree	0.1	0.1	0.1
Master's or higher degree	0.0	0.1	0.0
All	1.0	1.7	0.2

Source: American Community Surveys, 2009-2012, public use files, tabulations by authors.

Chart 7:
Percent of 30 to 44 Year Old Native Born Persons in Massachusetts
Who Were Institutionalized by Educational Attainment, 2009-2012 Averages (In %)



The wide disparities in incarceration rates by educational attainment also prevail among persons 30-44. In our state, over the 2009-2012 period, 6% of all high school dropouts were in jail or prisons versus under 2% of high school graduates and only 1% of those with a Bachelor's degree. Dropouts were 60 times more likely to be jail inmates than their Bachelor degree counterparts.