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An Assessment of the Labor Market, Income, Health, Social, Civic and Fiscal Consequences of Dropping Out of High School: Findings for Massachusetts and Bristol County Adults in the 21st Century

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Boston, Massachusetts

Recent Findings on Four Year, On-Time High School Graduation Rates, College Attendance Rates, and Four Year College Attendance Rates for High School Students in MA, Selected School Districts Across the State and Districts in Bristol County

- Measuring on-time graduation rates; four year and five year rates
- Variations in on-time graduation rates across school districts, gender, and race-ethnic groups
- College attendance plans and types of colleges attended by four year graduates of public schools in Massachusetts and Bristol County.

Why We Should Care About High School Dropout Problems in Massachusetts and Bristol County

- There are serious negative labor market and income problems for dropouts themselves over their working lives; substantially reduced employment and earnings opportunities
- The dropout population reduces the future size and quality of the state's resident labor force, thereby limiting our economic growth potential
- Adverse effects on two parent family formation and the economic, social, and physical well-being of their children

- Negative impacts on family poverty and income inequality
- Reduced civic engagement and participation in civic affairs
- Increased incarceration rates among young dropouts
- Adverse fiscal consequences of dropouts for local, state, and federal budgets

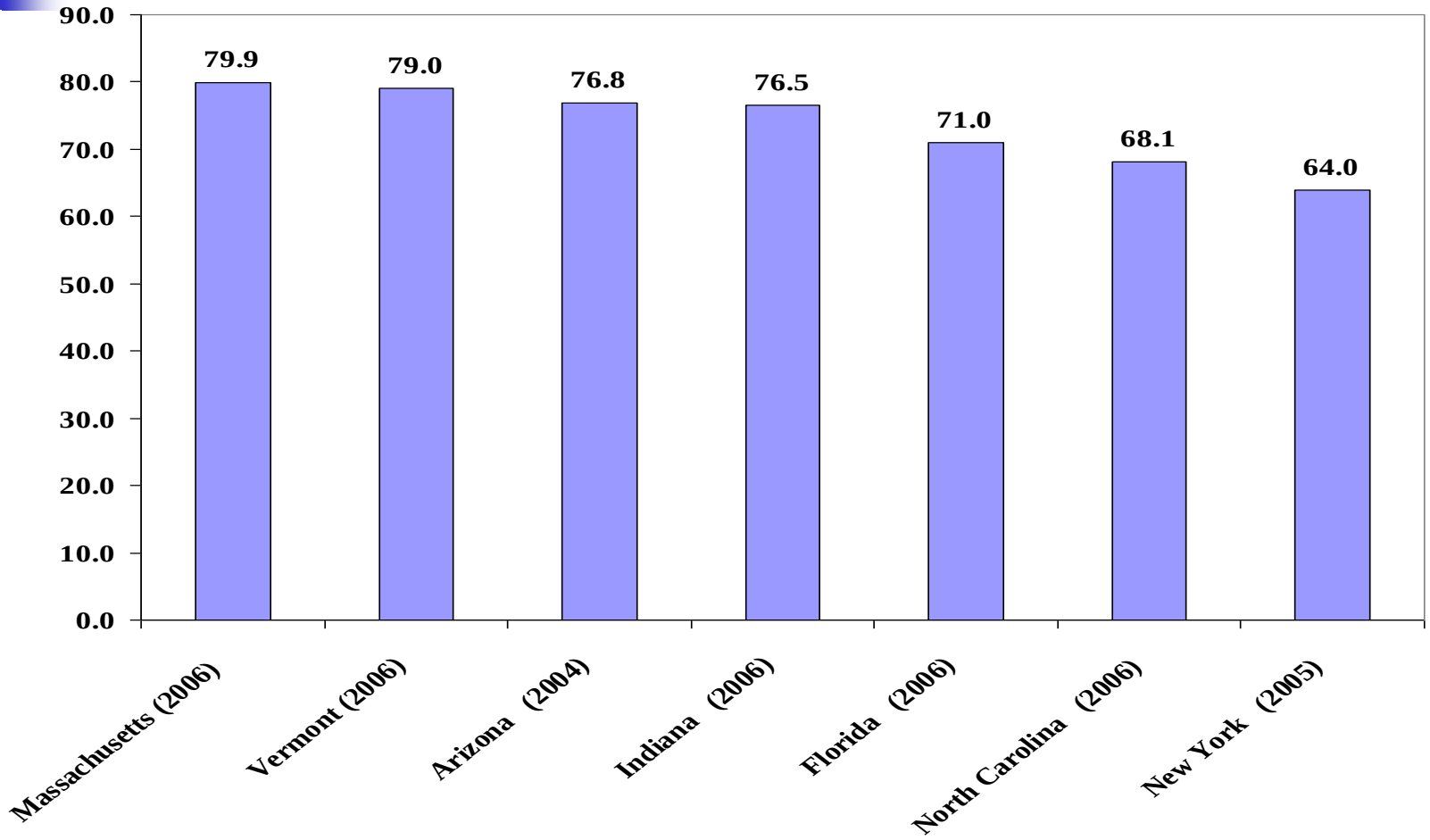
The Types of Measures Included in Our Study of the Economic and Social Consequences of Failing to Graduate from High School

- Labor market outcomes (employment and earnings on a monthly, annual, lifetime basis)
- Income outcomes (poverty, near poverty, low income status)
- Health outcomes (health status, health insurance coverage, disability status)
- Family outcomes (marriage rates, out-of-wedlock childbearing, well-being of children)
- Civic outcomes (voting behavior, volunteerism)
- Criminal justice outcomes (Incarceration rates + costs)
- Fiscal outcomes in terms of taxes paid and cash and in-kind benefits received

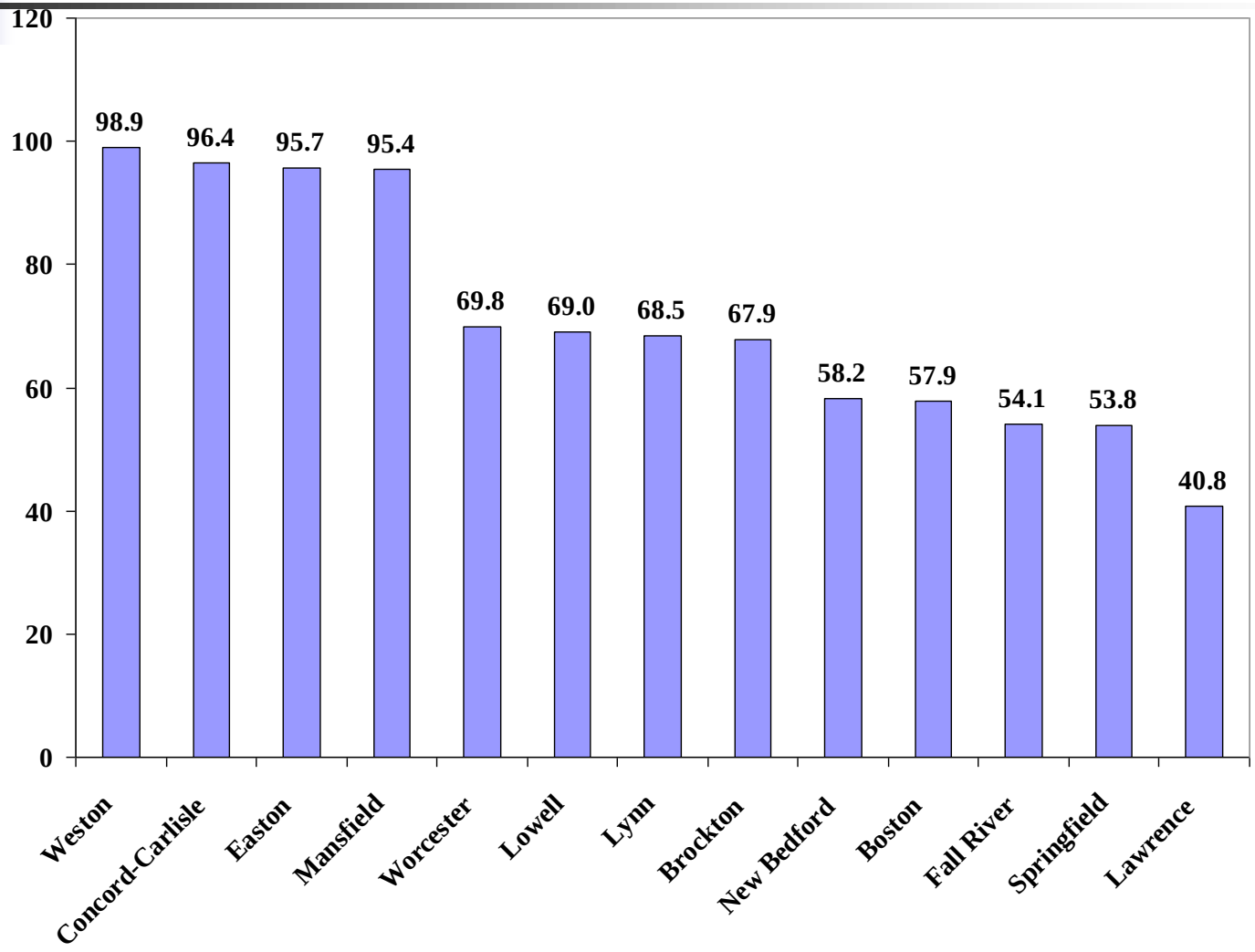
Recent Findings on Four Year Graduation Rates and College Attendance Rates in Massachusetts and Bristol County

- Four-year, on-time graduation rates for the class of 2006 across states
- Comparisons of four-year graduation rates in Massachusetts and substate areas in 2006 and 2007
- Comparisons of four-year graduation rates across cities in Massachusetts and Bristol County in 2007
- Comparisons of four-year graduation rates across gender and race-ethnic groups in Massachusetts and substate areas
- Comparisons of college attendance rates and four year college attendance rates for the expected graduating class of 2007

Ranking of Four-Year Cohort Graduation Rates in the Seven States That Have Released Graduation Rates Based on the National Governors Association's Compact Rate



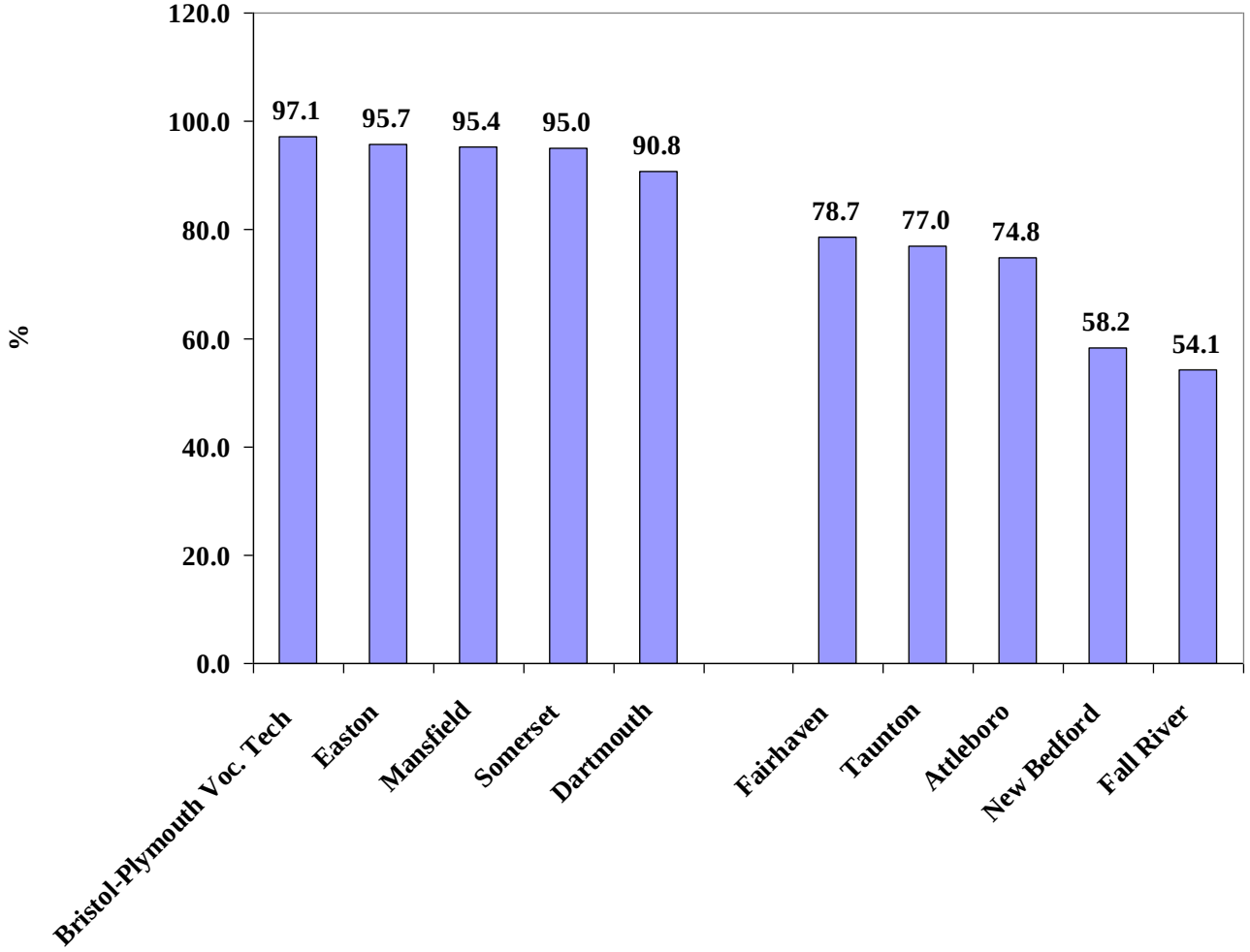
Four-Year Cohort Graduation Rates in the Selected School Districts in Massachusetts, 2007



Recent Cohort Graduation Rates of High School Students in Massachusetts and in Selected Districts of Bristol County, 2006 and 2007

School	2007 4-Year	2006 4-Year	2006 5-Year
Massachusetts Total	**80.9**	**79.9**	**82.7**
Attleboro	74.8	71.3	74.5
Bristol-Plymouth Voc. Tech	97.1	93.1	93.1
Dartmouth	90.8	85.6	86.8
Dighton-Rehoboth	89.7	86.0	87.2
Easton	95.7	95.8	96.2
Fairhaven	78.7	89.2	89.8
Fall River	54.1	54.2	56.8
Freetown-Lakeville	88.2	82.1	83.4
Mansfield	95.4	93.0	93.0
New Bedford	58.2	57.4	60.5
North Attleborough	90.1	85.2	86.9
Norton	87.0	78.5	80.4
Seekonk	90.6	92.5	93.5
Somerset	95.0	86.3	86.7
Swansea	82.8	85.7	85.7
Taunton	77.0	70.5	71.2
Westport	82.5	69.4	71.0

Top Five and Bottom Five 4-Year Cohort Graduation Rates for Selected Districts in Bristol County, Class of 2007



Four-Year Cohort Graduation Rates for All Students and by Gender and Race-Ethnic Group, Massachusetts and Boston, Class of 2007

Gender/ Race-Ethnic Group	(A) Massachusetts
All	80.9
Male	77.8
Female	84.1
Black	65.2
Asian	83.7
Hispanic	58.5
White	86.4

Gender Gaps in Four-Year Cohort Graduation Rates in Selected Affluent School Districts and Larger School Districts in Massachusetts, 2006

School District	(A) Male 4-Year Graduation Rate	(B) Female 4-Year Graduation Rate	(C) Males - Females
Weston	98.6	98.8	-0.2
Chelmsford	95.5	98.6	-3.1
Concord	93.8	98.4	-4.6
Brockton	64.7	76.1	-11.4
Worcester	63.9	70.6	-6.7
Lynn	57.5	72.5	-15.0
Boston	52.3	65.8	-13.5
New Bedford	51.2	63.4	-12.2
Fall River	50.6	57.6	-7.0
Springfield	45.0	57.7	-12.7
Lawrence	34.2	48.0	-13.8

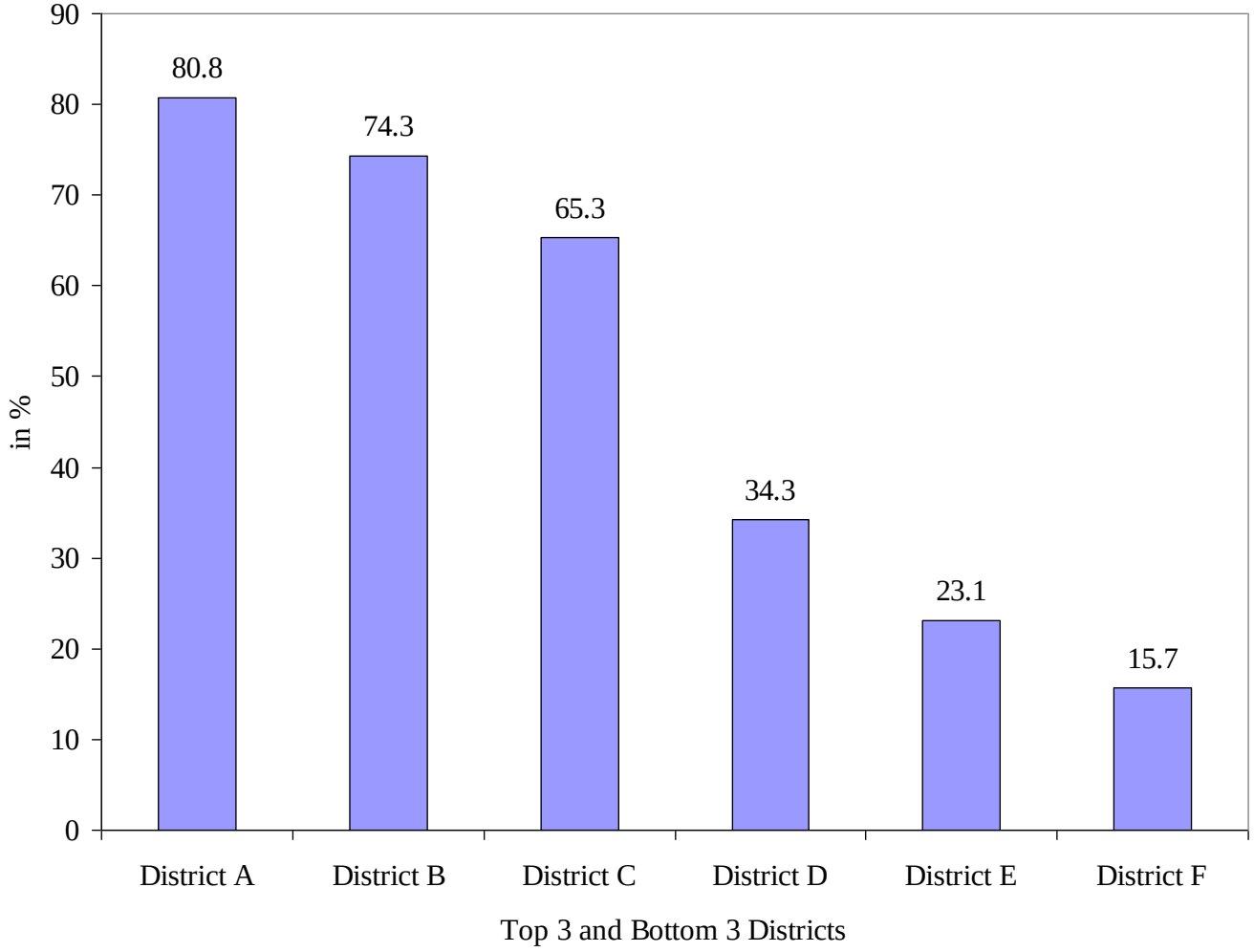
Gender Gaps in Four-Year Cohort Graduation Rates in Selected School Districts in Bristol County, 2007

School	Female	Male	Male - Female
Attleboro	79.2	69.9	-9.3
Bristol-Plymouth Voc. Tech	97.2	96.9	-0.3
Dartmouth	93.2	88.8	-4.4
Dighton-Rehoboth	87.9	91.5	3.6
Easton	97.0	94.2	-2.8
Fairhaven	84.4	71.2	-13.2
Fall River	62.9	45.5	-17.4
Freetown-Lakeville	91.3	85.1	-6.2
Mansfield	95.1	95.7	0.6
New Bedford	69.1	46.2	-22.9
North Attleborough	91.5	88.8	-2.7
Norton	91.8	81.8	-10.0
Seekonk	89.1	91.8	2.7
Somerset	96.6	93.8	-2.8
Swansea	89.6	77.7	-11.9
Taunton	80.8	73.0	-7.8
Westport	87.9	76.8	-11.1

4-Year Cohort Graduation Rates for All, Low Income, and Non-Low Income Students in MA and the Bristol County Area, Class of 2007

Geographic Area	(A) All Students	(B) Non-Low Income	(C) Low Income	(D) Gap Between Income Groups of Students
Massachusetts	80.9	88.4	65.2	23.2
Bristol County (Selected Districts)	77.6	86	57.1	28.9

The Percentage of Students in the Class of 2007 That Graduated High School On Time and Planned on Attending a 4-Year College or University



Negative Labor Market Outcomes Associated with Being a High School Dropout

- Labor market outcomes
  - Lower rates of labor force attachment
  - Lower employment rates
  - Lower weekly wages
  - Lower annual earnings
  - Lower lifetime earnings
  - Reduced employee benefits; health insurance and pension coverage

Employment to Population Ratios of Out of School 16 to 19 Year Olds by Educational Attainment in the U.S., the State of Massachusetts, City of Boston, City of Springfield, and Suffolk County, 2004-2005 Averages (in %)

Geographic Area	(A) Total Out of School	(B) H.S. Graduates	(C) H.S. Dropouts
U.S.	52.7	61.8	39.9
Massachusetts	54.1	64.6	38.8
Suffolk County	39.1	49.7	21.8
Boston city	44.2	65.2	20.0
Springfield city	34.9	54.0	24.0

Source: 2004 and 2005 American Community Surveys, public use files, tabulations by authors.

Employment to Population Ratios of Out of School 16 to 19 Year Olds by Educational Attainment in the U.S., the State of Massachusetts, City of Boston, City of Springfield, and Selected Counties, 2005-2006 Averages (in %)

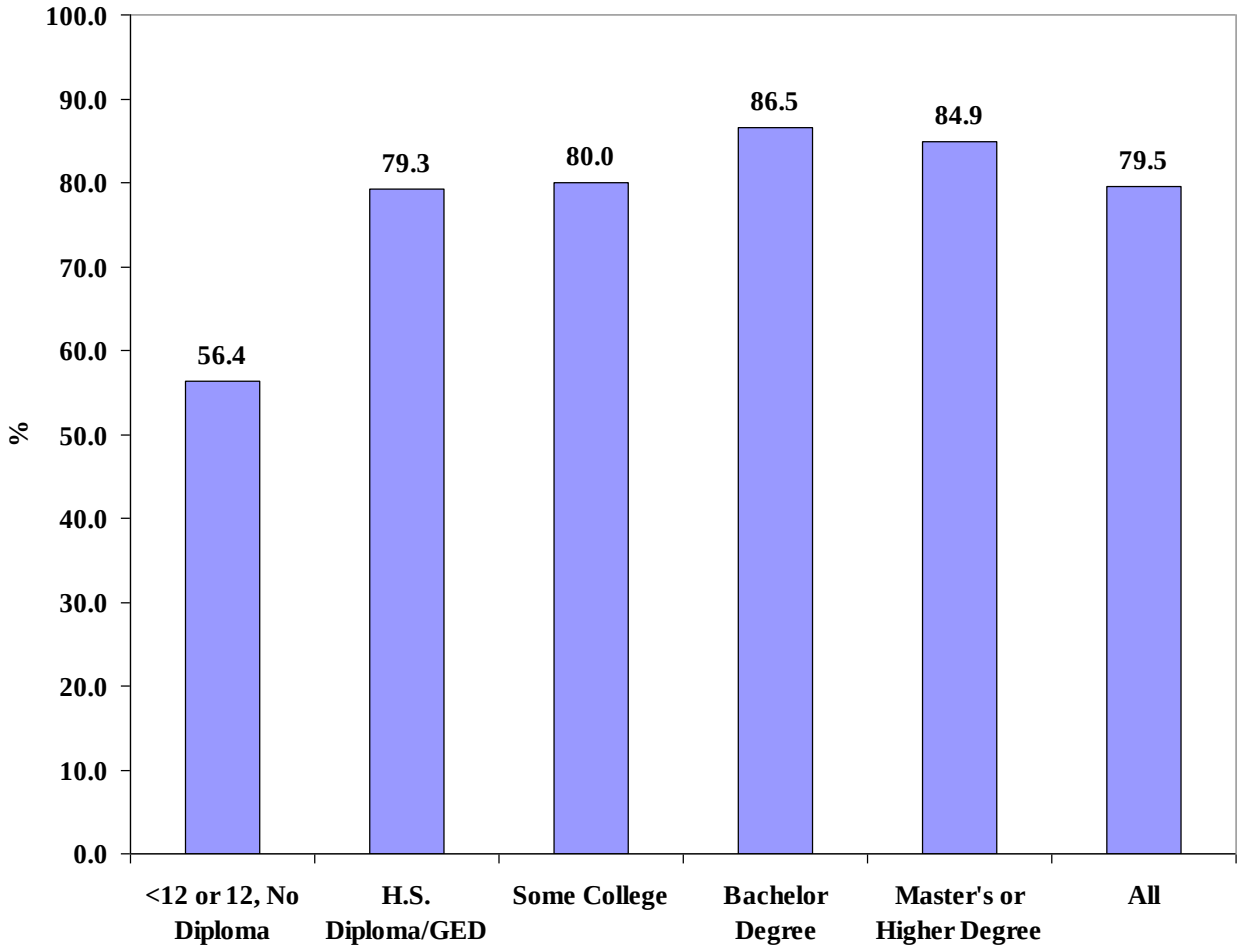
Geographic Area	(A) H.S. Graduate	(B) H.S. Dropout	(C) Graduate - Dropout
Massachusetts	67.4	39.9	27.5
Bristol County	82.0	38.7	43.3
Worcester County	74.2	33.0	41.2
Hampden County	63.6	34.7	28.9
Essex County	66.0	39.4	26.6
Suffolk County	59.9	38.9	21.0
Boston city	55.6	34.8	20.8
Springfield city	47.1	27.6	19.5
Middlesex County	65.1	52.0	13.1

Employment Rates of 16-64 Year Old Adults in Massachusetts by Educational Attainment and Gender, 2005 (in %)

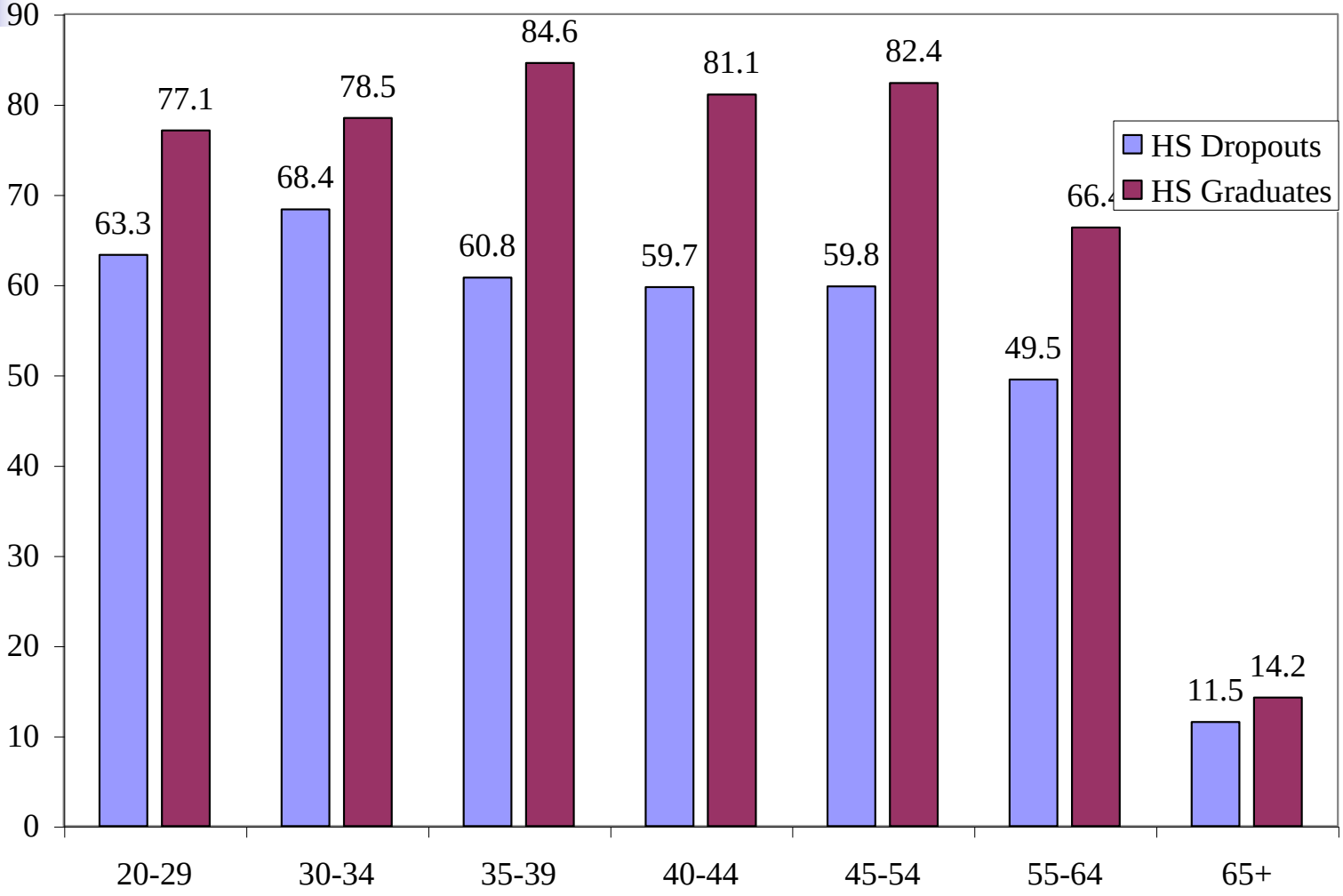
Educational Attainment	(A) All	(B) Men	(C) Women
<12 or 12, no diploma/GED	55.2	63.6	44.8
H.S. diploma/GED	73.4	79.7	66.2
13-15 years	77.6	83.6	72.7
BA degree	82.0	88.8	75.8
Master's or higher degree	86.0	90.0	82.2

Source: 2005 American Community Surveys, public use files, tabulations by authors.

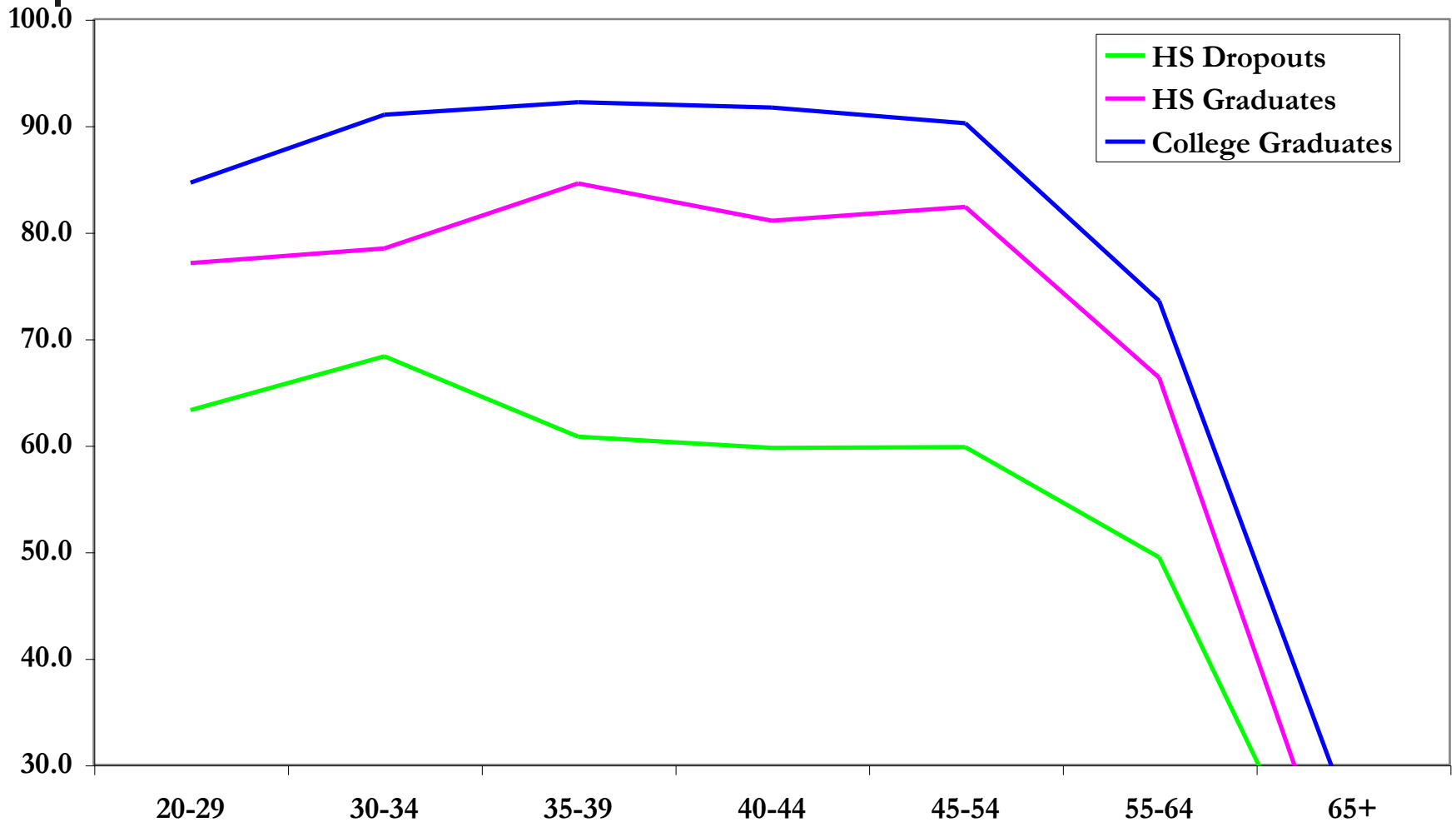
Employment Rates of 16-64 Year Old Native-Born Adults in Bristol County by Educational Attainment, 2006 (Excluding Those Enrolled in School)



Employment Rates of 20 Years and Older Native-Born Male Adult Dropouts and High School Graduates by Age Group in Massachusetts, 2005



Employment Rates of Native-Born Male Adult Dropouts, High School Graduates, and College Graduates by Age Group in Massachusetts, 2005

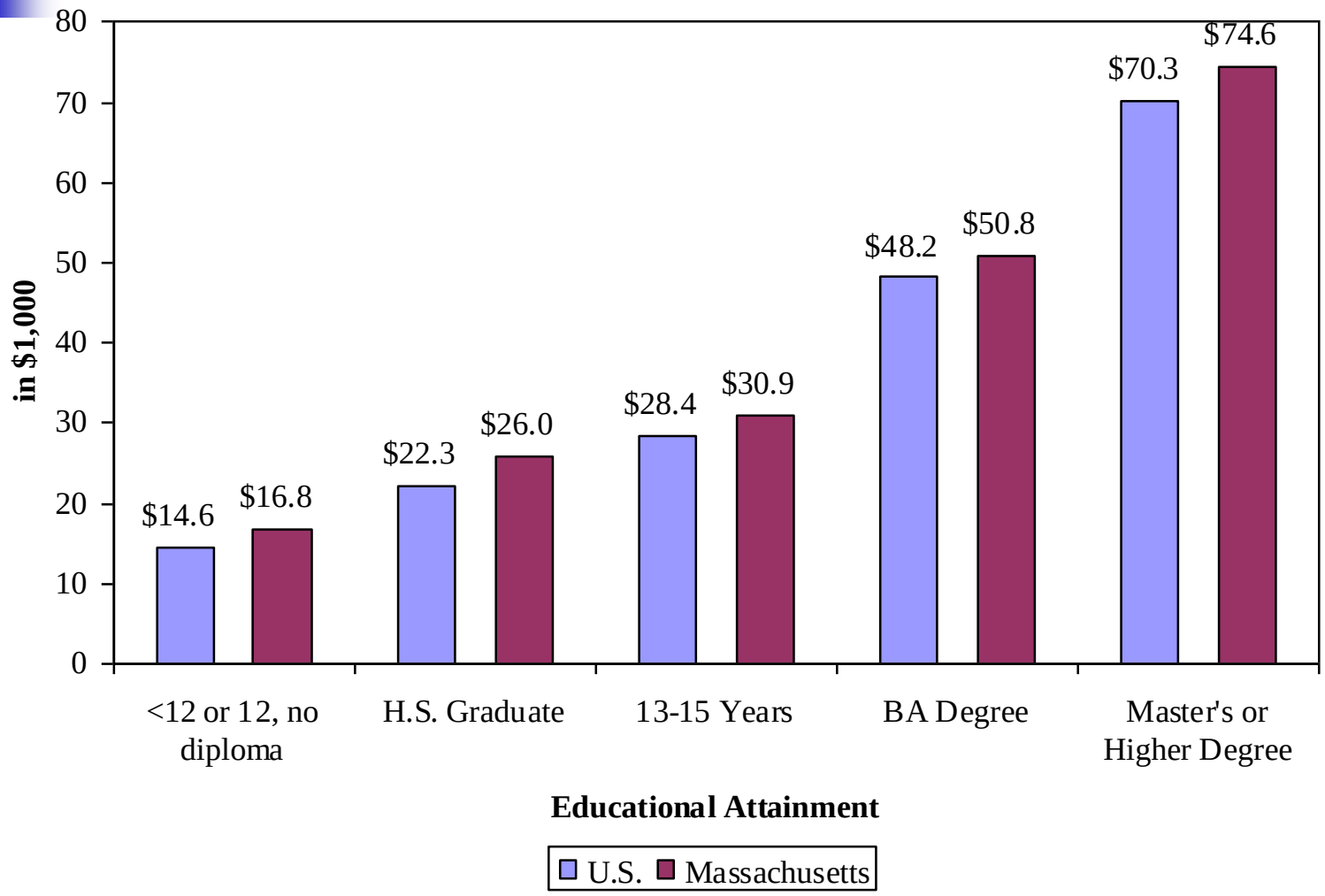


Mean Annual Earnings of 18-64 Year Old Adults in Massachusetts by Educational Attainment and Gender, including Zero Earners, 2005

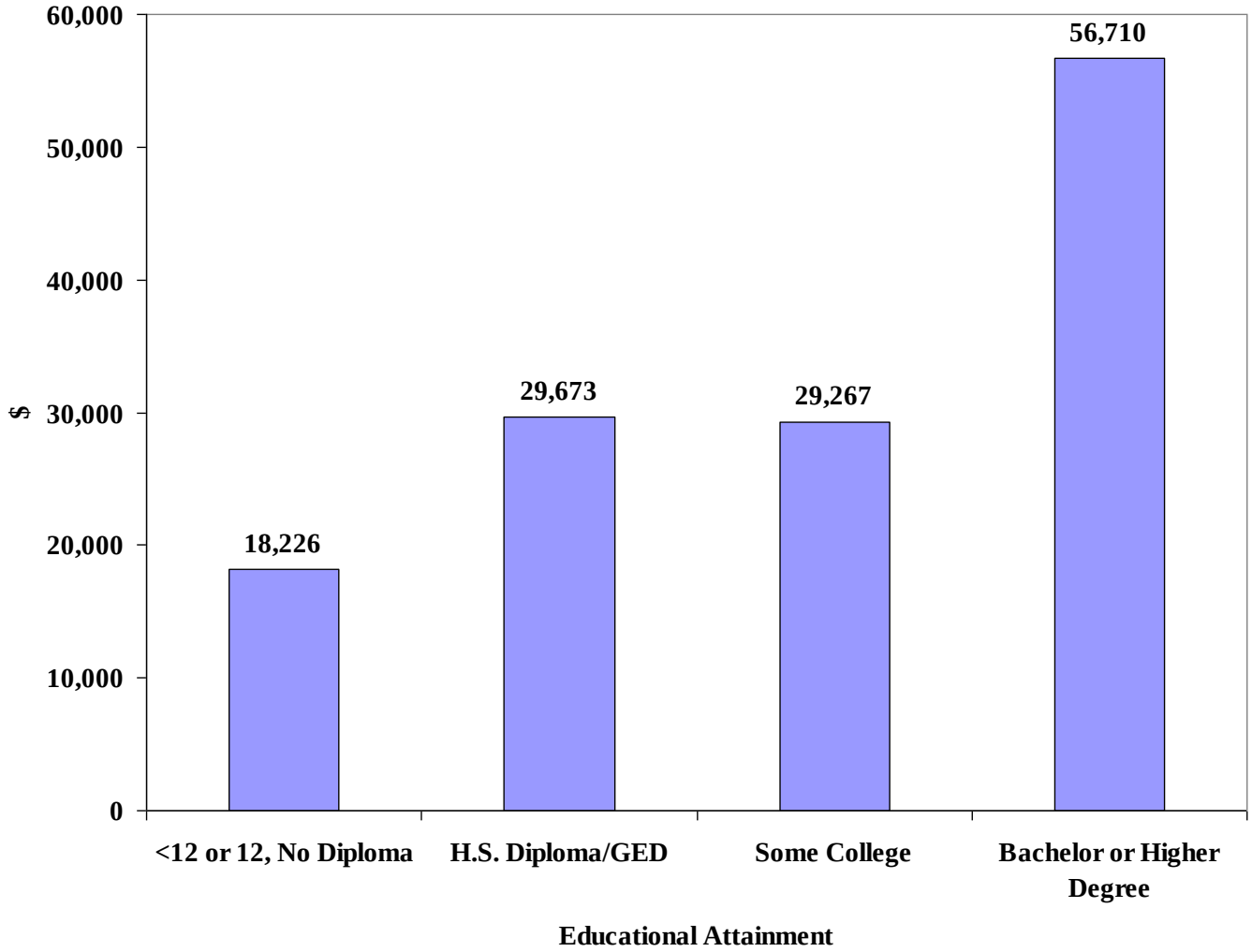
Educational Attainment	(A) All	(B) Men	(C) Women
<12 or 12, no diploma or GED	$16,764	$21,554	$10,847
H.S. diploma/GED	26,013	33,638	17,524
13 – 15 years, including Associate's degree	30,909	39,263	24,111
Bachelor's degree	50,887	68,435	35,371
Master's or higher degree	74,562	96,578	53,982
All	38,998	50,082	28,372

Source: 2005 American Community Surveys, public use files, tabulations by authors.

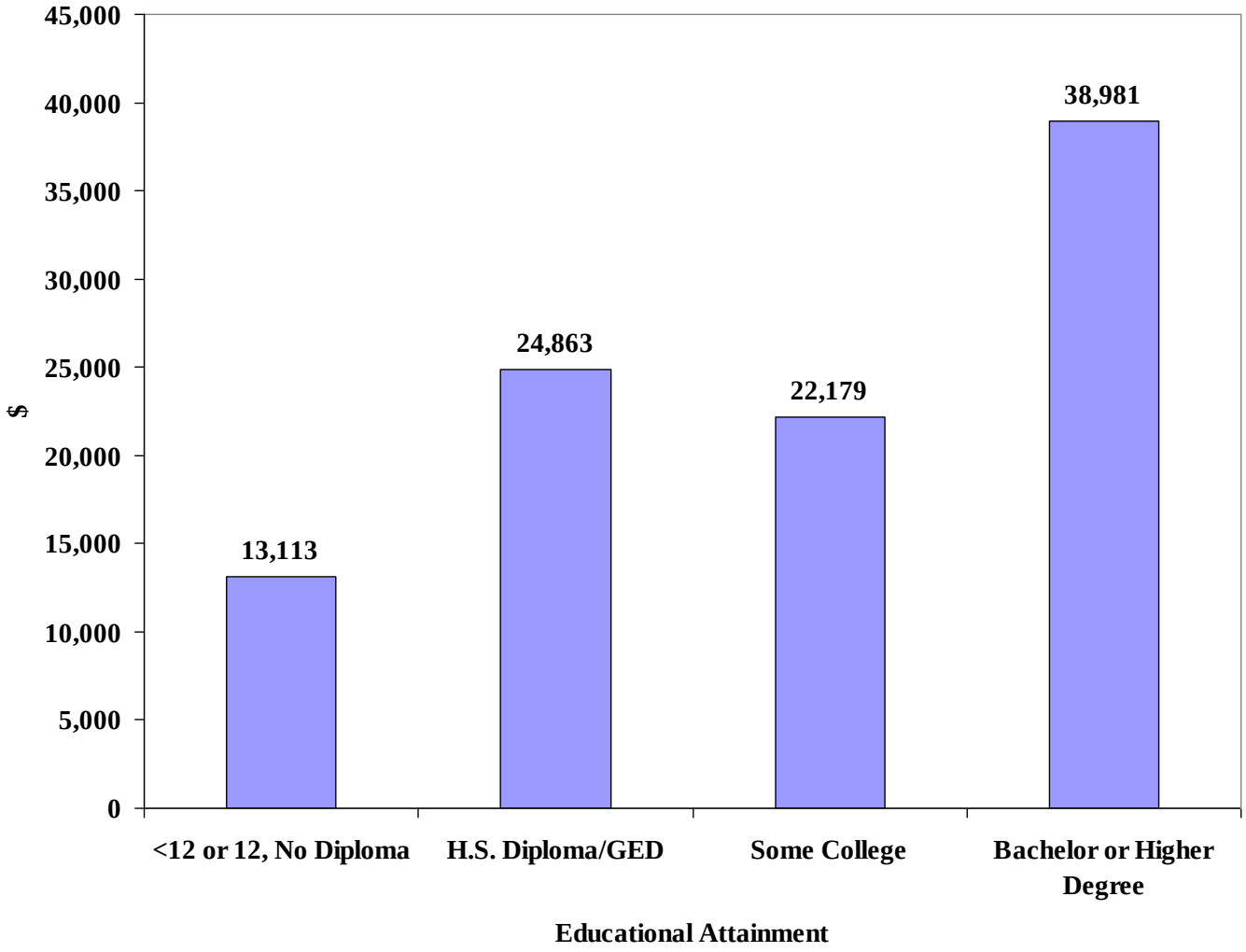
Comparisons of the Mean Annual Earnings of 18-64 Year Old Adults by Educational Attainment in the U.S. and Massachusetts, 2005 (in $1,000)



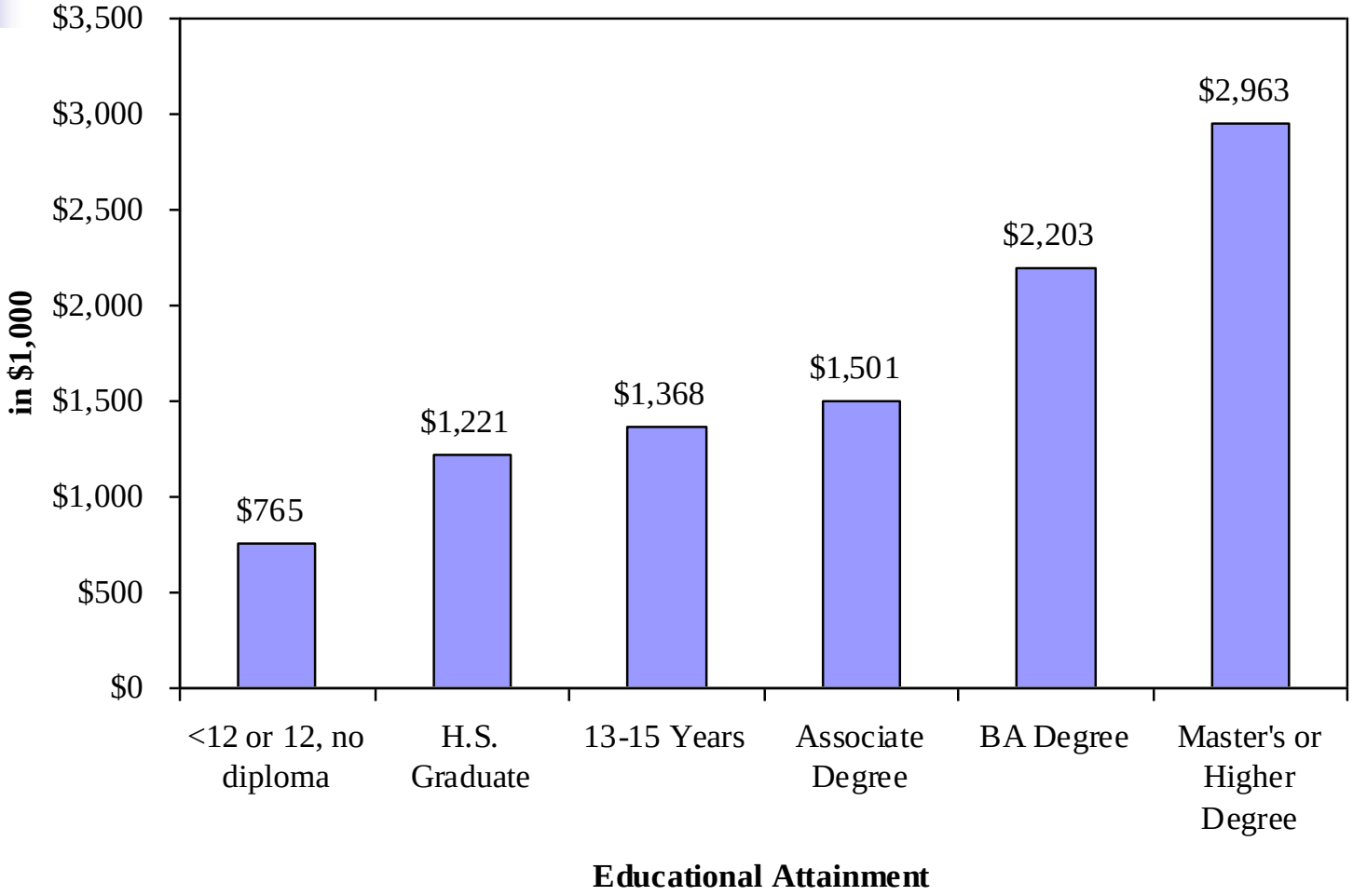
Mean Annual Earnings of 18-64 Year Olds in Bristol County in 2006 by Educational Attainment, Includes Zero Earners



Mean Annual Earnings of 18-29 Year Olds in Bristol County in 2006 by Educational Attainment (Including Zero Earners But Excluding College Students)



Mean Lifetime Earnings of 18-64 Year Old Massachusetts Adults by Educational Attainment (in 1000s of 2005 Dollars)



Differences Between the Mean Lifetime Earnings of Massachusetts Adults in Selected Educational Groups, All and by Gender (in $1,000)

Educational Groups Being Compared	(A) All	(B) Men	(C) Women
H.S. Graduate vs. High School Dropout	$456	$601	$325
Associate Degree vs. High School Graduate	280	349	354
Bachelor's Degree vs. High School Graduate	982	1,340	710
Bachelor's Degree vs. High School Dropout	1,438	1,941	1,035

Trends in the Mean Lifetime Earnings of Male Adults From Ages 18-64 by Educational Attainment Over the 1979 to 2005 Period (in 1000s of Constant 2005 CPI-U Dollars)

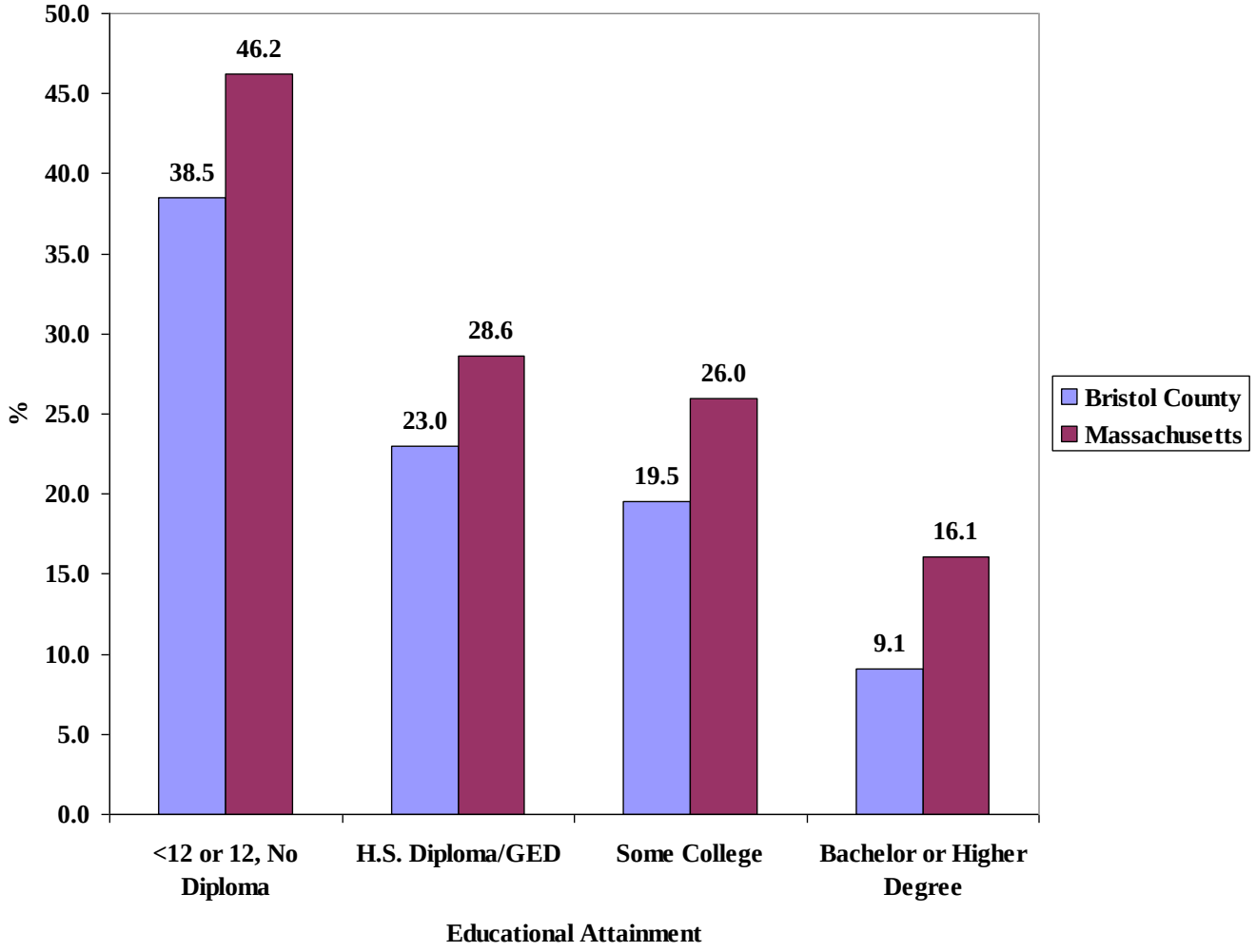
Educational Attainment	(A) 1979	(B) 1989	(C) 1999	(D) 2005	(E) 1999–2005	(F) 1979–2005	(G) Per Cent Change 1979-2005
<12 or 12, no diploma/GED	$1,383	$1,276	$1,104	$981	$-123	$-402	-29
H.S. diploma/GED	1,892	1,891	1,672	1,582	-90	-310	-16
13-15 years	2,196	2,165	2,134	1,912	-222	-284	-13
Bachelor's degree	2,836	3,156	3,368	2,933	-435	+97	+3
Master's or higher degree	3,273	3,722	4,133	3,744	-384	+471	+15

Per Cent of 18-64 Year Old Employed Workers in Massachusetts Who Are Covered by a Health Insurance or Pension Plan at Work by Educational Attainment, 2004-2005 Averages

Educational Attainment	(A) Health Insurance	(B) Pension Coverage
<12 or 12, no diploma or GED	36.2	24.9
H.S. graduate/GED	47.6	41.5
13-15 years	49.9	40.0
B.A. degree	67.3	58.8
Master's or higher degree	67.5	68.4
All	55.7	49.1

- Income outcomes
  - Higher incidence of income inadequacy problems over the lifetime (poverty, near poverty, low incomes)
  - Higher dependence on cash public assistance income to support themselves
  - Higher dependence on in-kind transfers (food stamps, rental housing subsidies, Medicaid)
- Family outcomes
  - Lower marriage rates among men and women
  - Higher rates of out-of-wedlock childbearing
  - Poorer nutrition, health, cognitive, schooling outcomes for children of high school dropouts

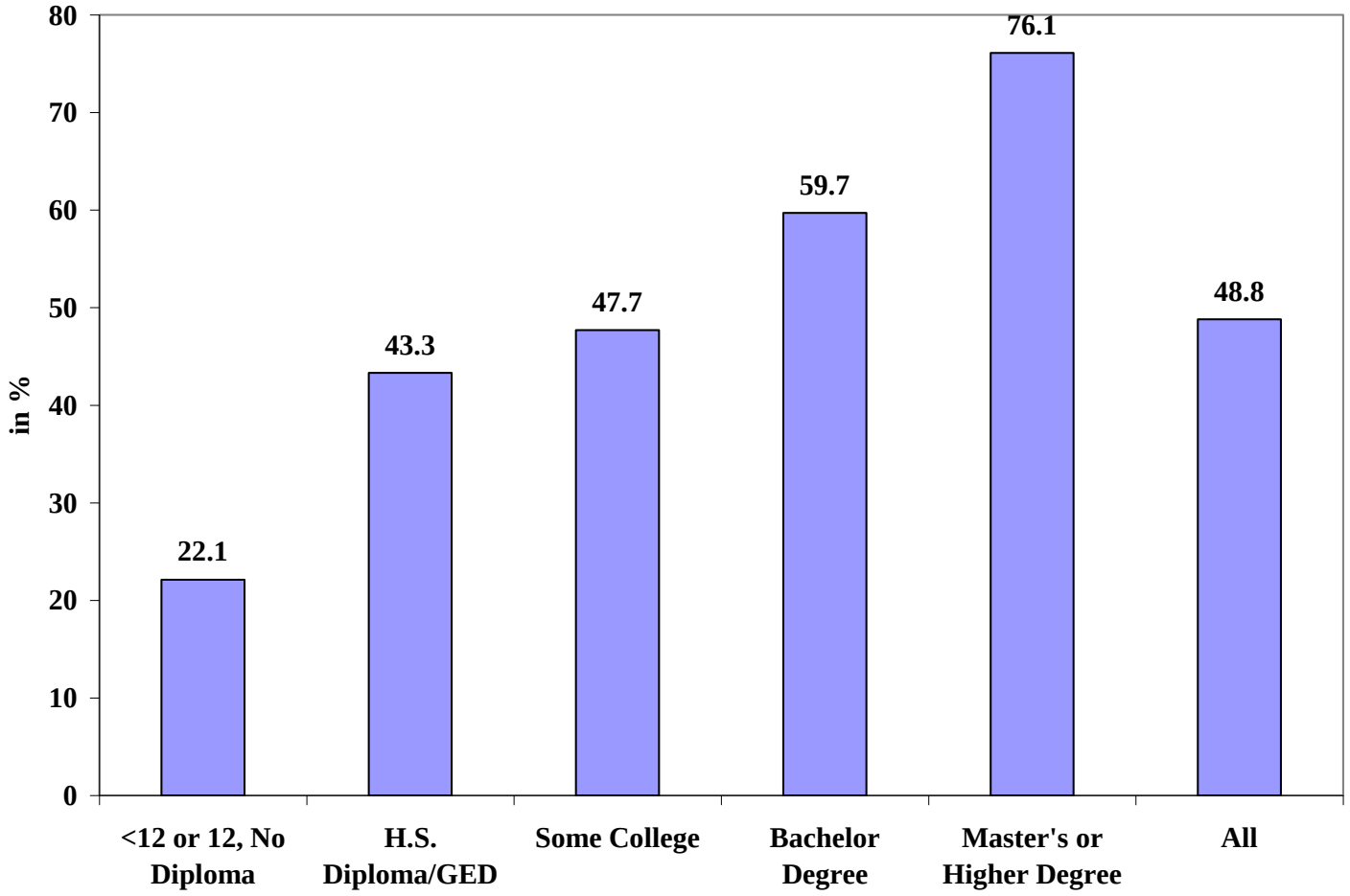
Percent of 18-29 Year Olds in Bristol County and Massachusetts Who Were Low Income in 2006 by Educational Attainment



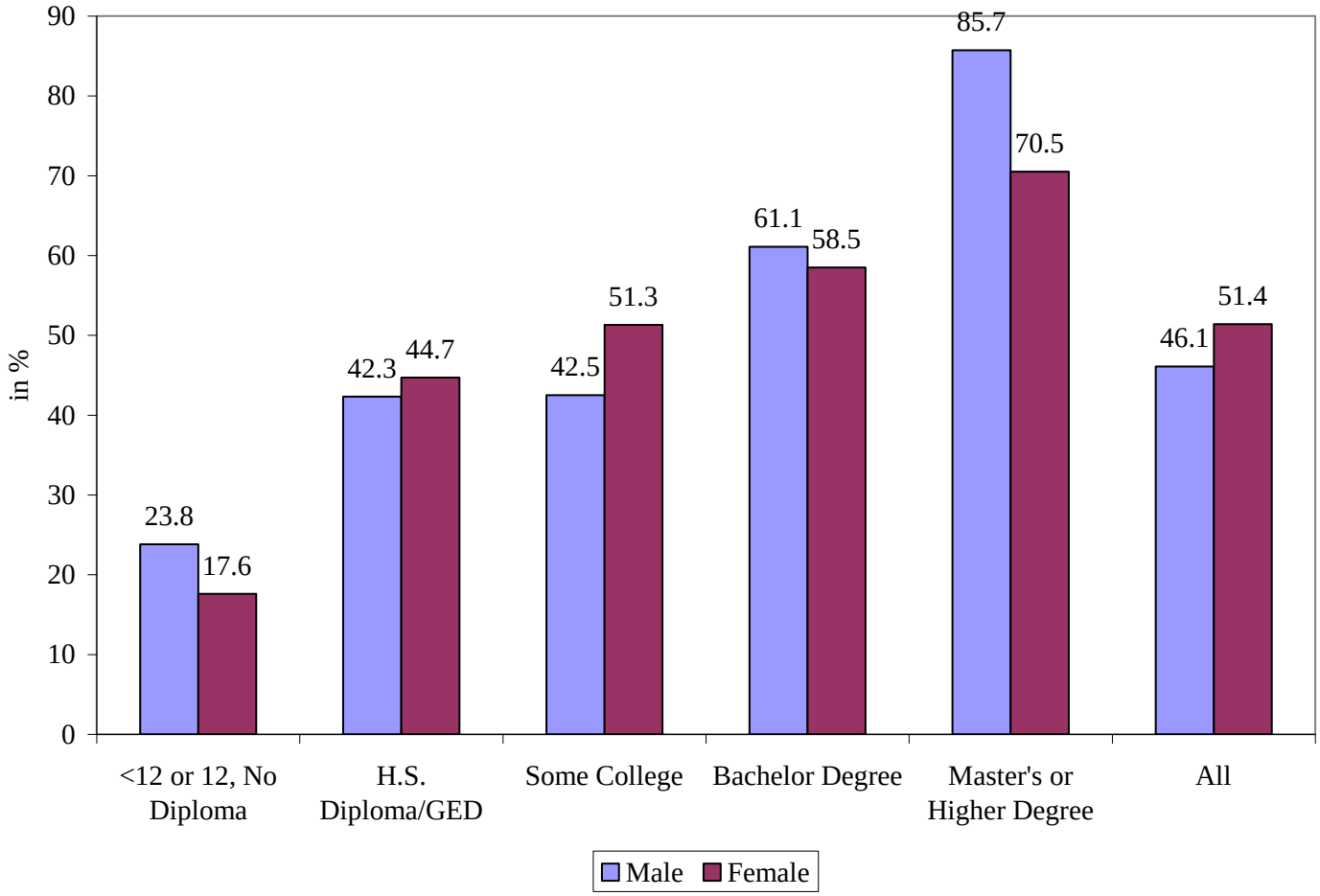
Trends in Marriage Rates Among 20-64 Year Old Native Born Males in Massachusetts by Educational Attainment, 1980 to 2005 (in %)

Educational Attainment	(A) 1980	(B) 1990	(C) 2000	(D) 2005	(E) Percentage Point Change, 1980 – 2005
<12 or 12, no diploma or GED	67.6	53.5	45.9	42.8	-24.8
H.S. graduate/GED	66.0	54.3	52.2	49.5	-16.5
13-15 years	53.9	53.2	54.7	53.2	-.7
Bachelor's degree	61.2	57.0	59.4	60.4	-.8
Master's or higher degree	73.5	73.3	73.9	74.5	+1.0
All	63.6	56.7	56.9	56.4	-7.2

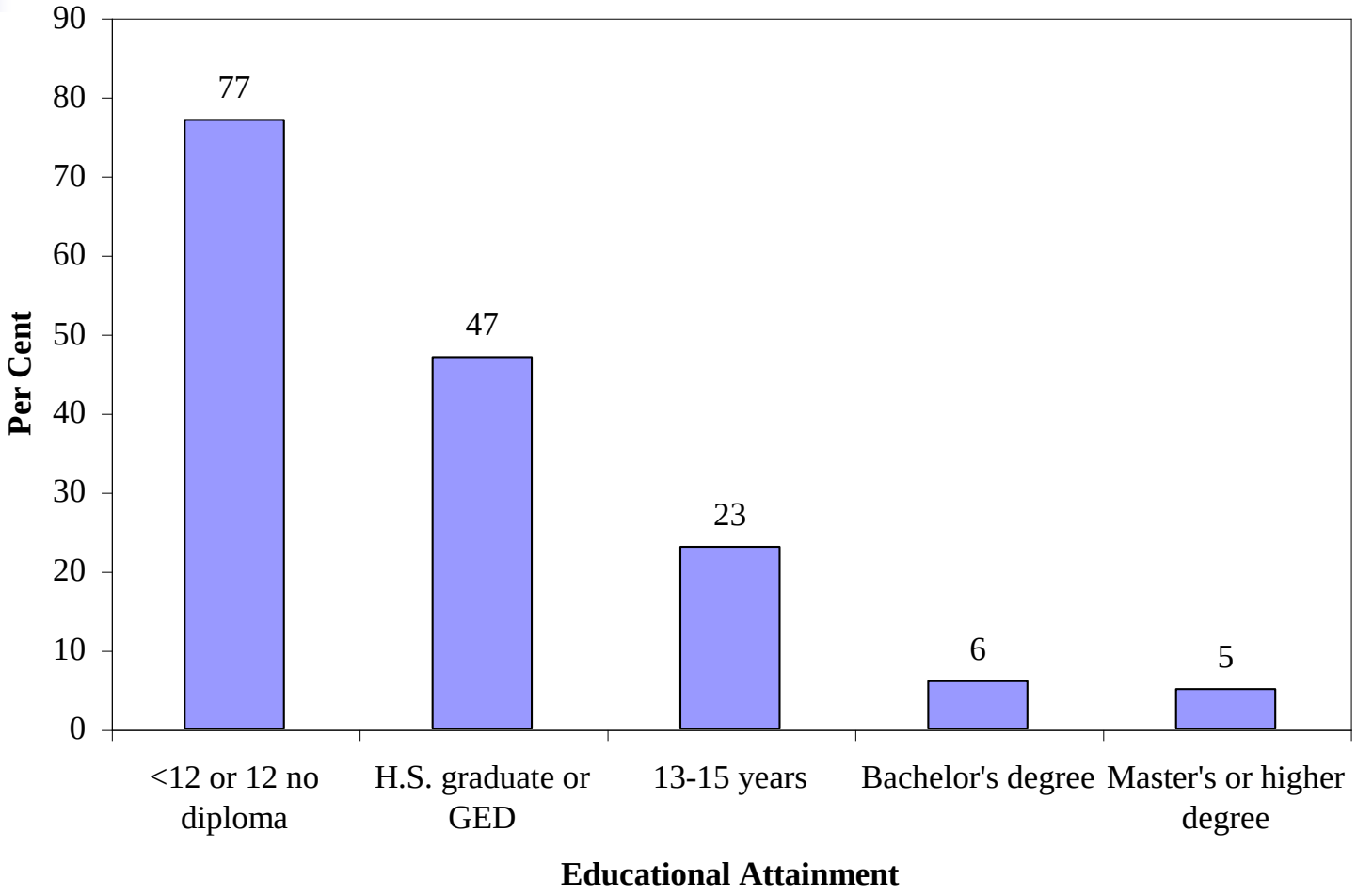
Marriage Rates of All Native-Born 18-50 Year Olds in Bristol County By Educational Attainment, 2006



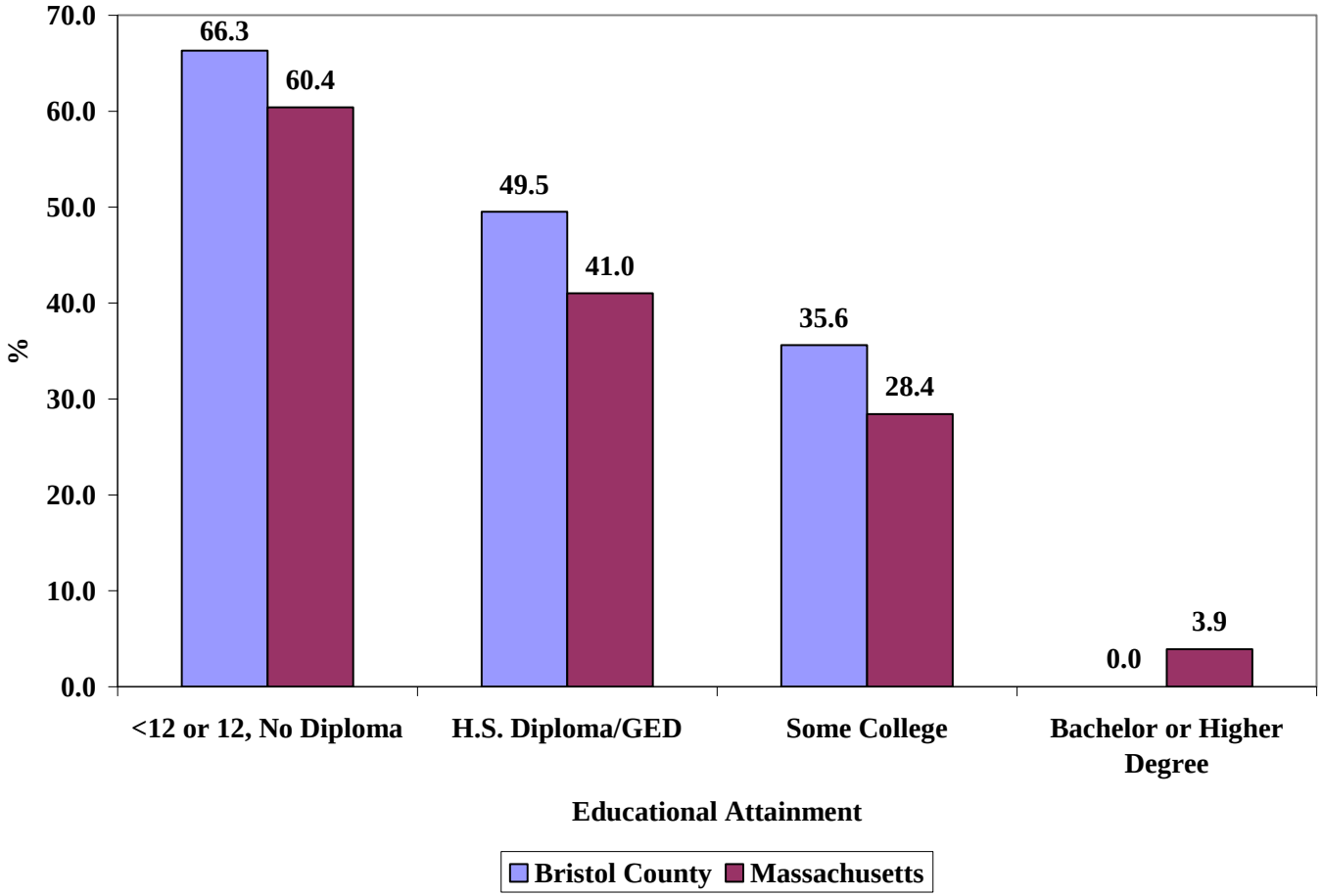
Marriage Rates of Male and Female Native-Born 18-50 Year Olds in Bristol County By Educational Attainment, 2006



Per Cent of Births to Massachusetts Native Born Women (15-50 Years Old) That Were Out-of-Wedlock by Educational Attainment of the Mother, 2005



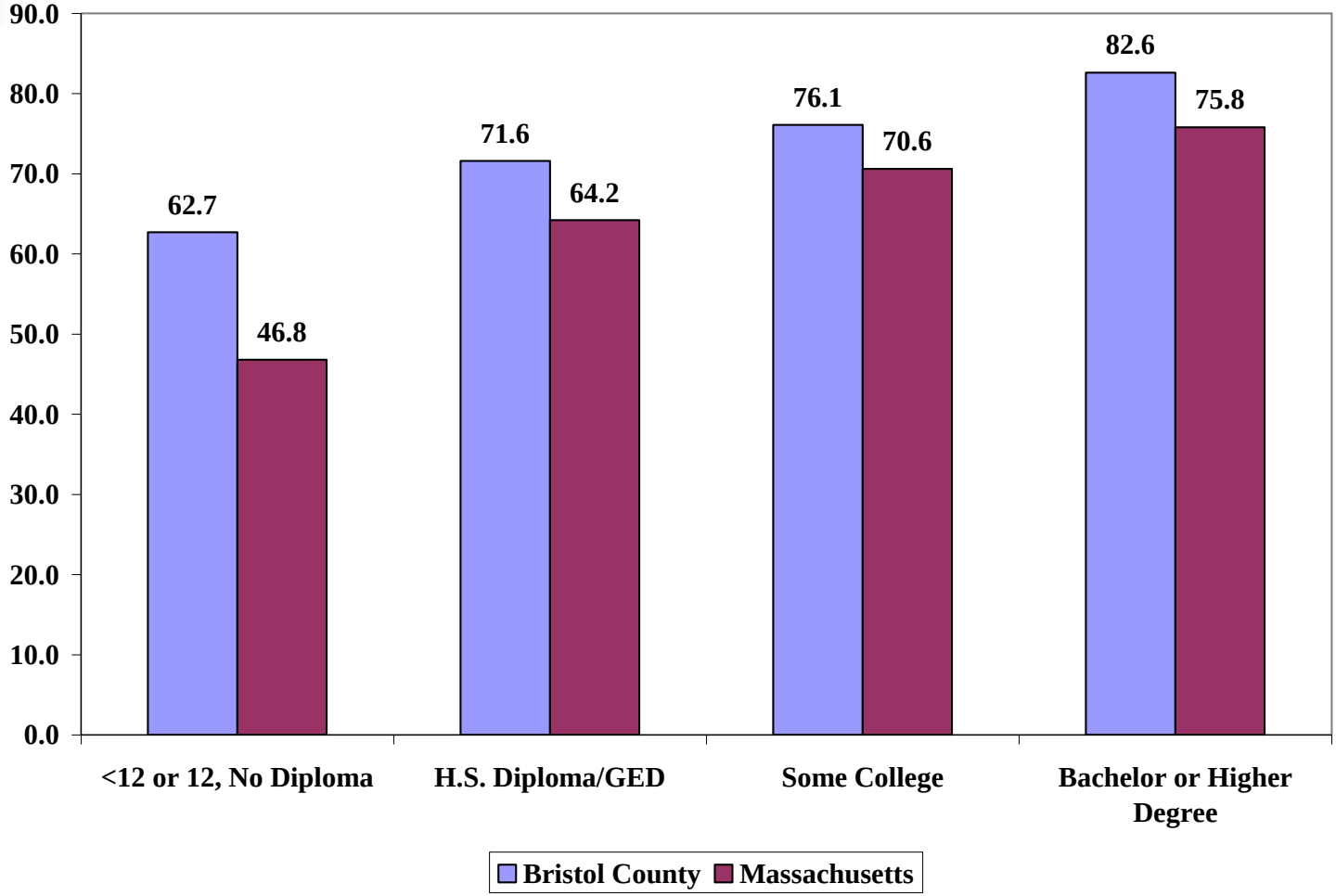
Percent of Births Out-of-Wedlock Among 18-50 Year Old Women in Bristol County and Massachusetts, 2006, by Educational Attainment of Mother



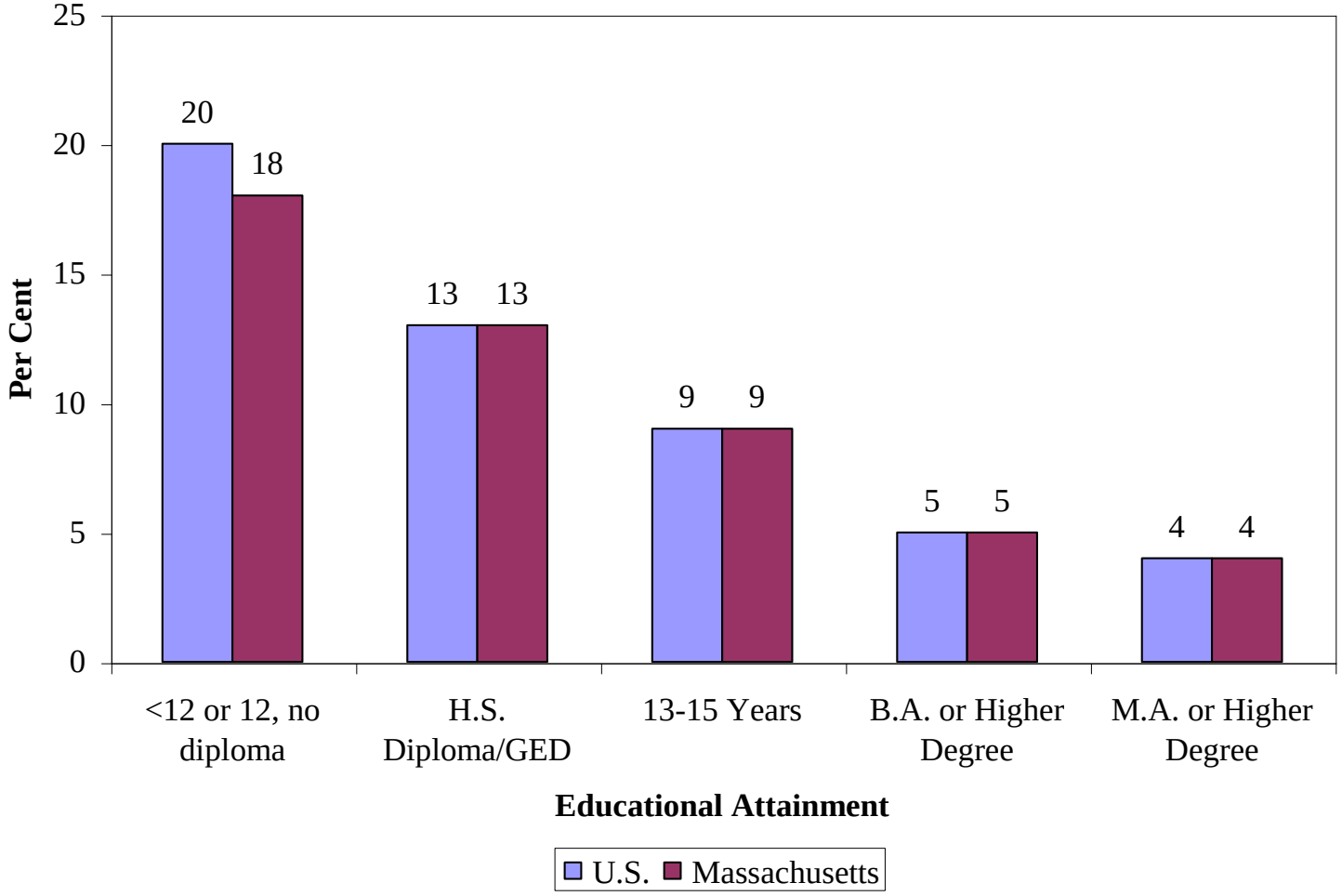
Per Cent of Massachusetts Families with Children that Were Poor/Near Poor by Educational Attainment of the Family Head, 2005

Educational Attainment	(A) Families with Children	(B) Families with Children Who Were Poor or Near Poor	(C) % Poor or Near Poor
<12 or 12, no diploma/GED	63,451	25,508	40.2%
H.S. diploma/GED	193,140	39,316	20.3%
13-15 years	208,318	30,316	14.7%
Bachelor's degree	17,234	6,030	3.4%
Master's or higher degree	139,404	3,568	2.6%
All family heads with children	779,547	105,087	13.5

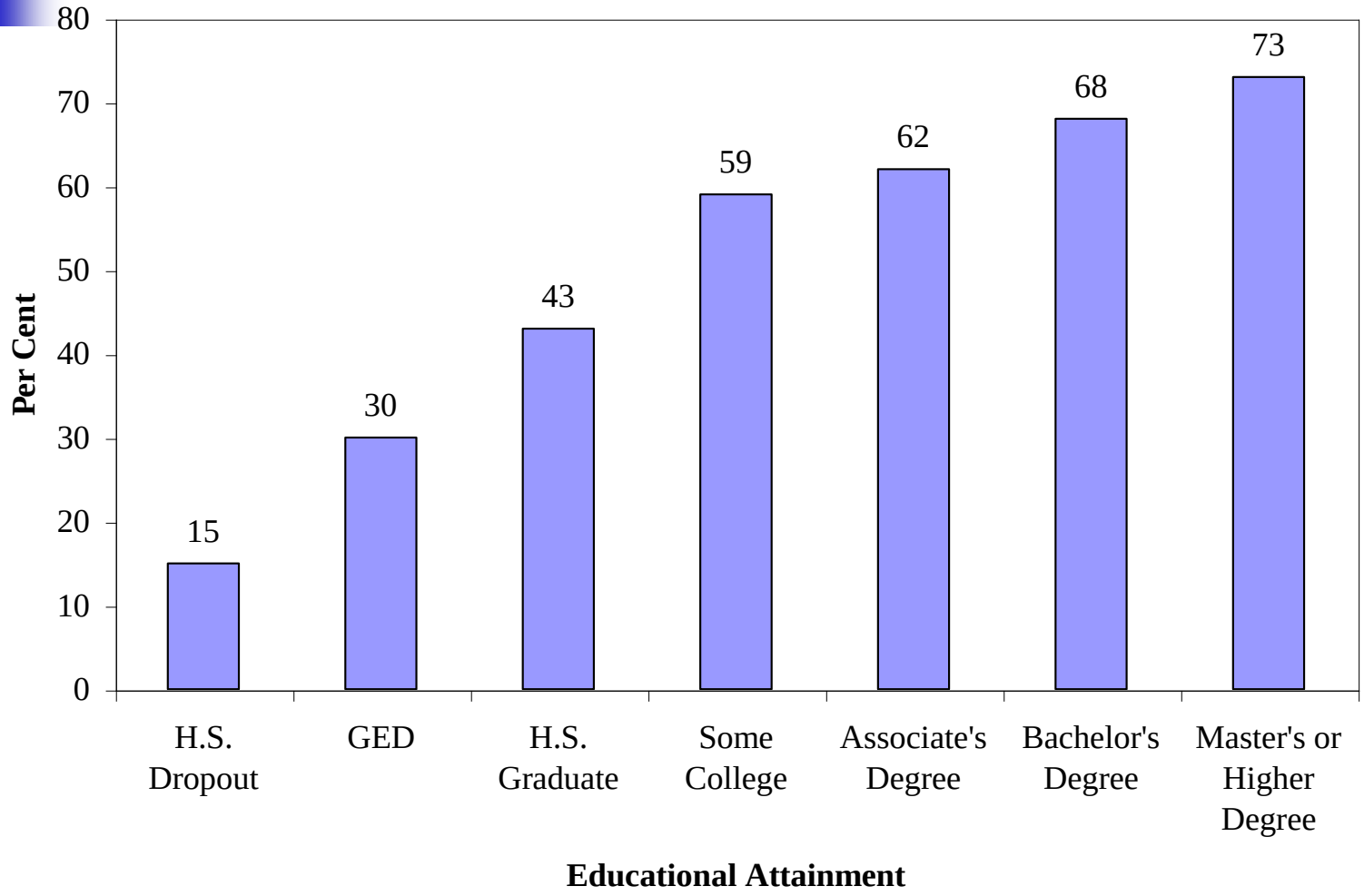
Home Ownership Rates of 18-64 Year Olds in Massachusetts and Bristol County by Educational Attainment in 2006



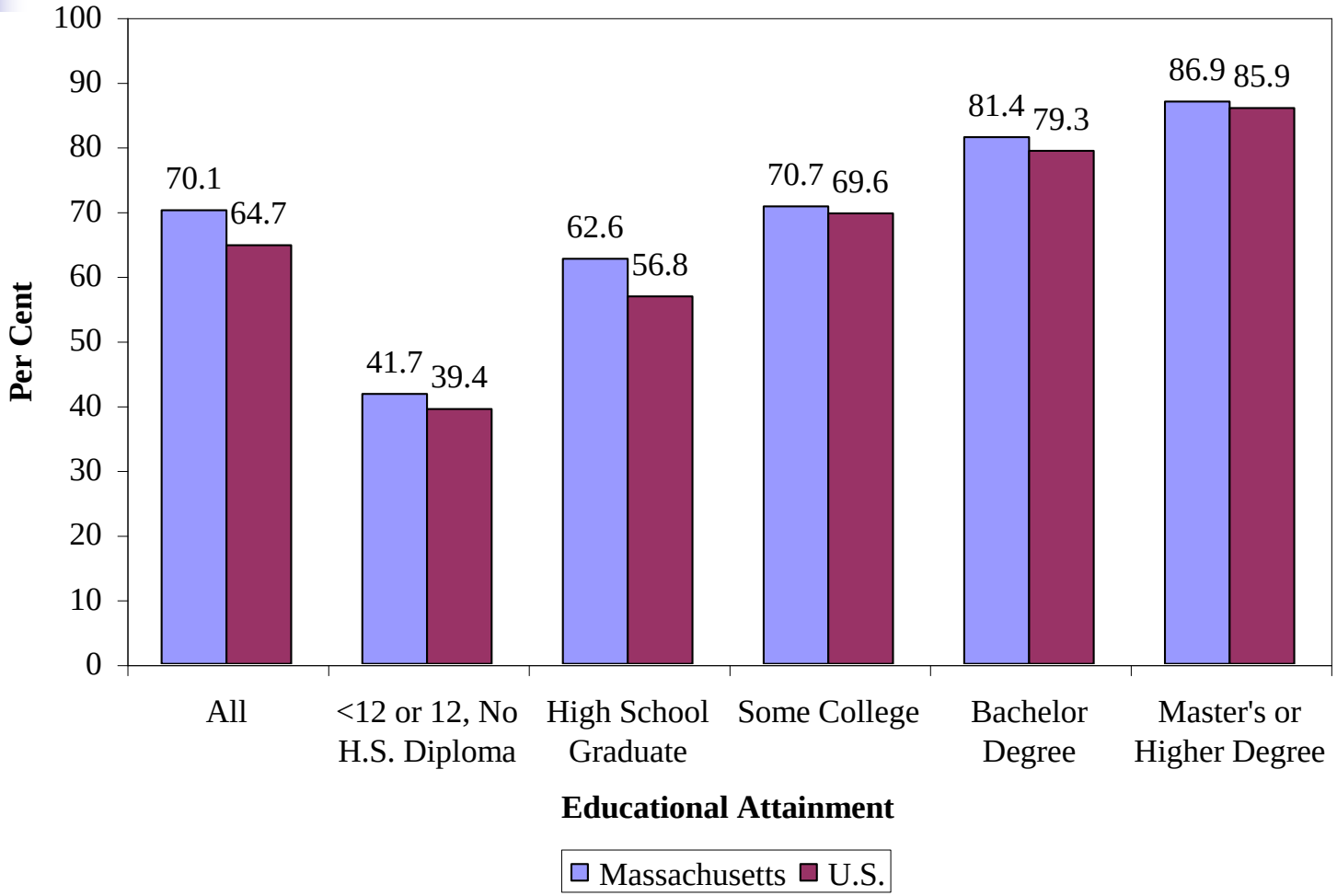
Per Cent of 18-64 Year Old Adults in Massachusetts and the U.S. Reporting Their Health Status as Fair or Poor, March 2006



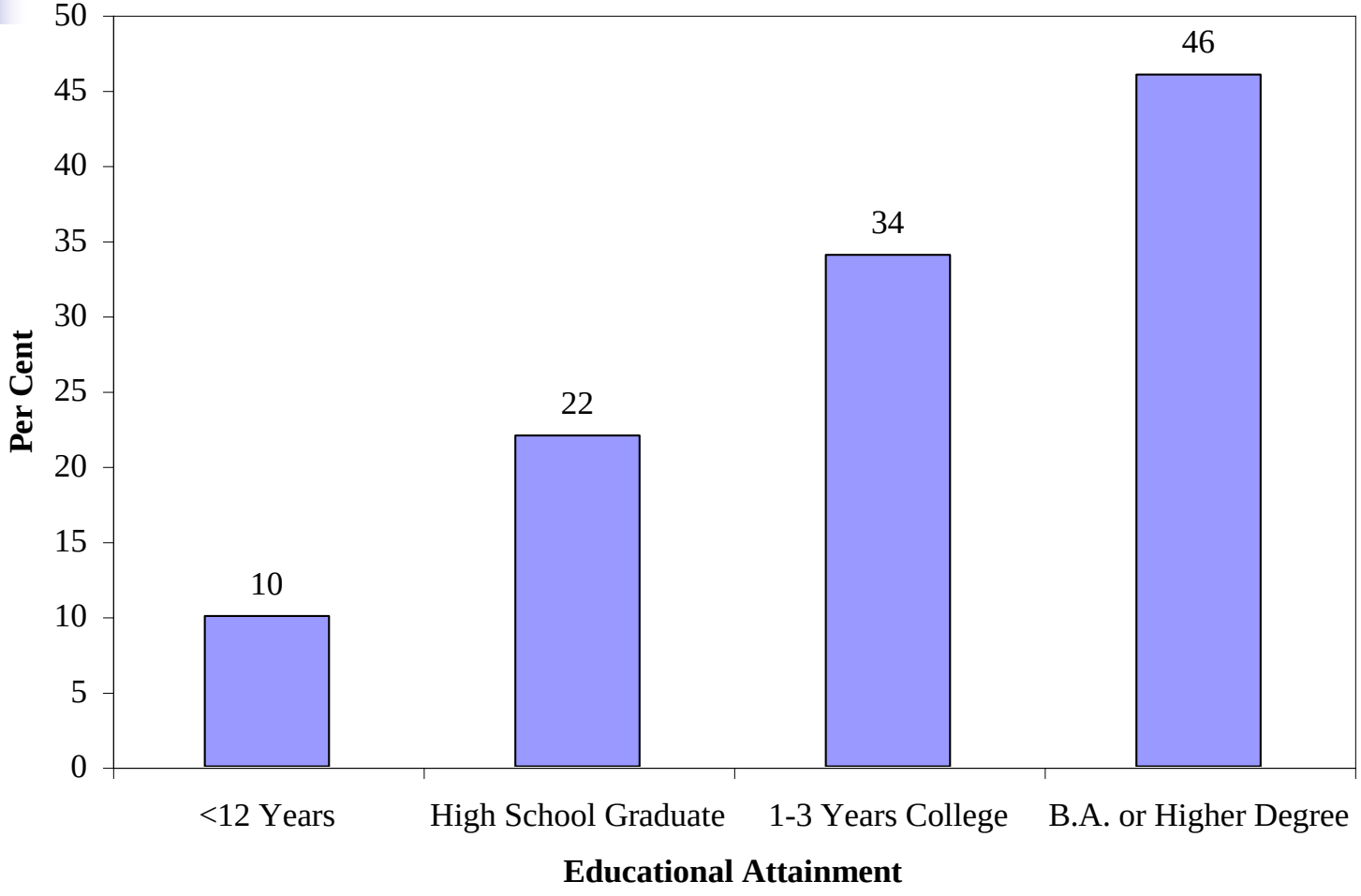
Per Cent of 21-24 Year Olds Who Voted in the 1996 Presidential Election by Educational Attainment, U.S.



Per Cent of Voting Eligible Adults (18 and Older) Who Voted in the November 2004 Election by Level of Educational Attainment, Massachusetts Versus the U.S.



Per Cent of U.S. Adults 25 and Older Who Did Volunteer Work in 2003 by Educational Attainment

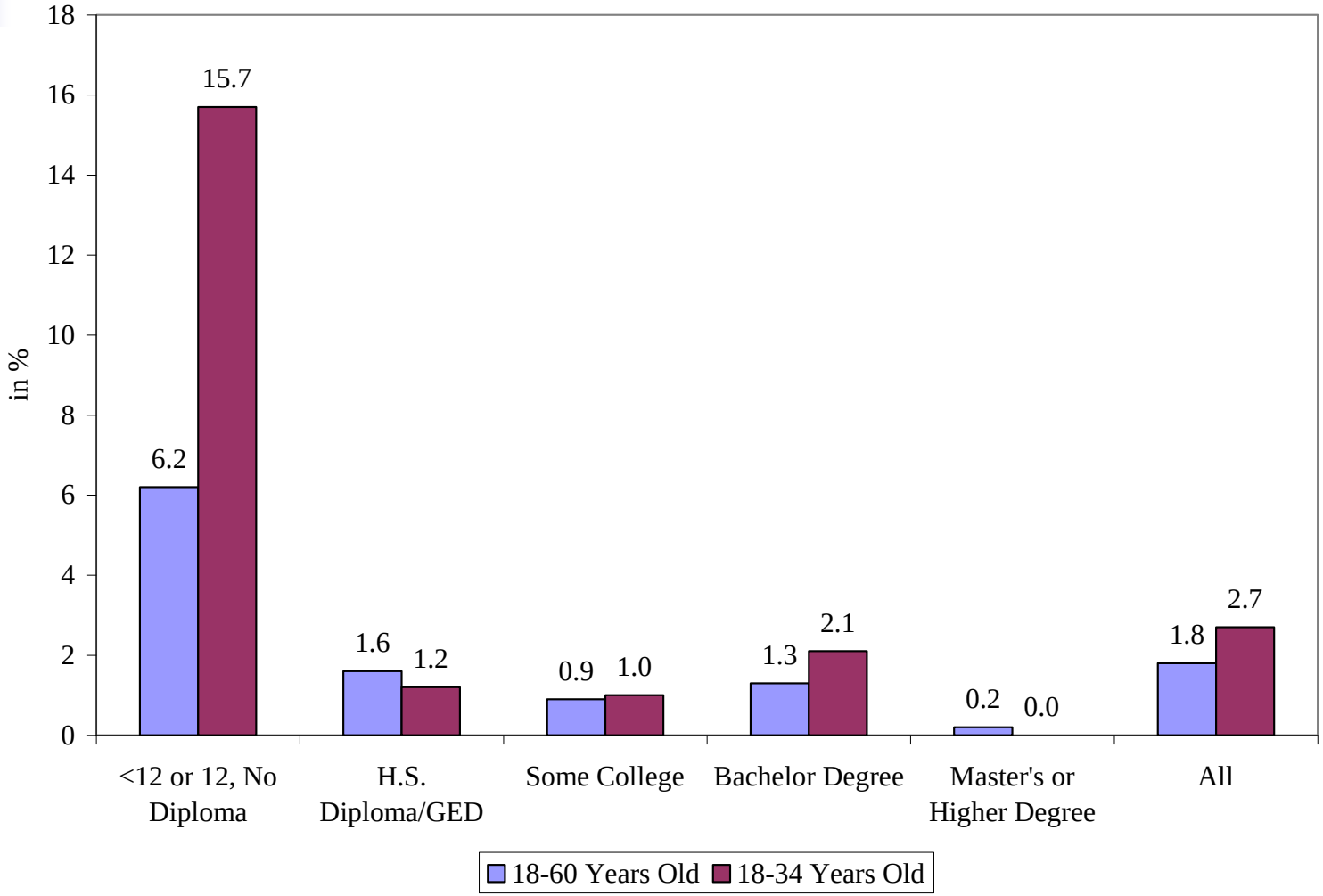


- Criminal justice Outcomes
  - Higher rates of incarceration in jails and prisons
  - Higher victimization costs
  - Higher costs of maintaining prisons and jails
- Fiscal Outcomes
  - Lower payments of payroll and federal/state income taxes
  - Lower property tax payments due to lower home ownership rates and lower value homes
  - Higher receipt of cash transfer incomes and in-kind transfers (food stamps, rental subsidies, energy assistance, Medicaid)
  - Large net fiscal burdens on rest of taxpayers

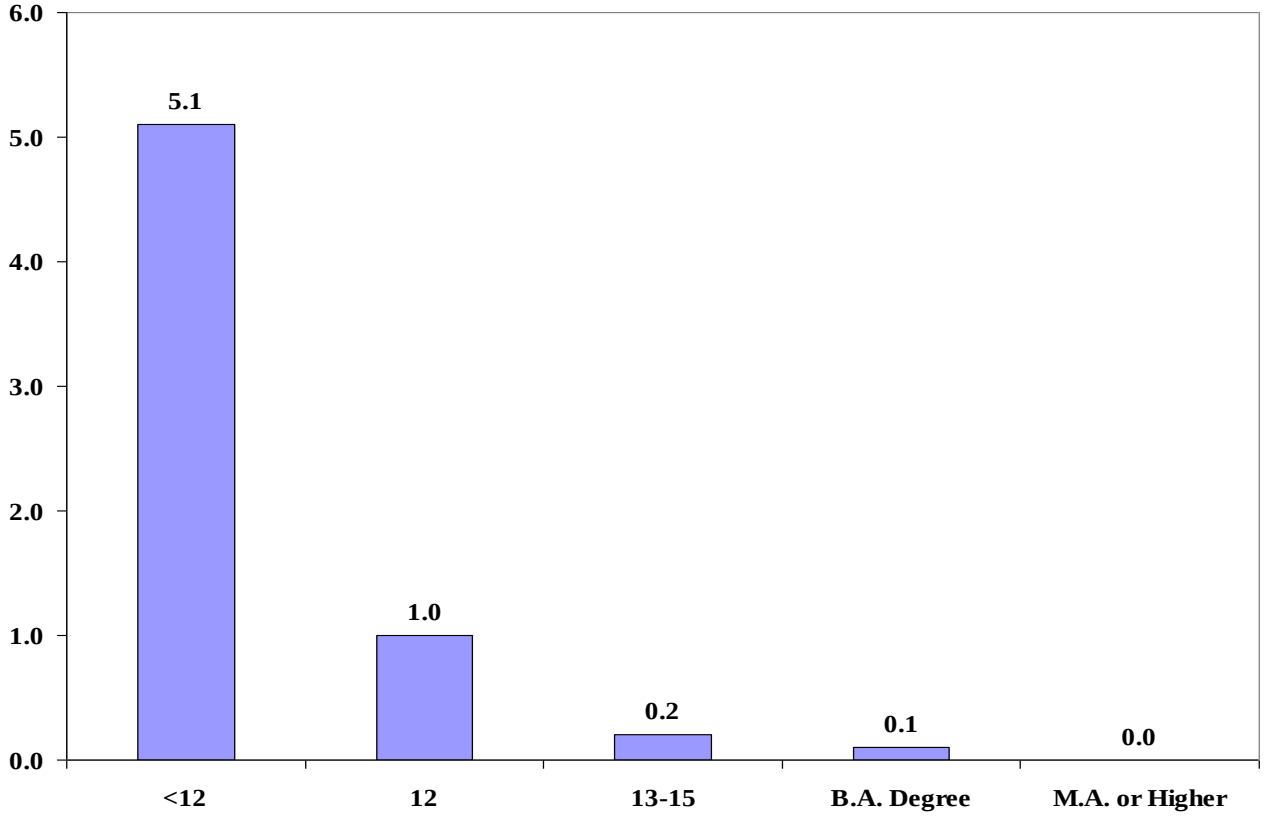
Percent Distribution of the Criminally Sentenced Population in Department of Correction Facilities by Educational Attainment, January 1, 2005

Educational Attainment	(A) Number	(B) Percent
1-12 Years, No Diploma	4,334	70.4
High School Diploma, No College	1,452	23.6
Some College, Including Associate Degree	258	4.2
Bachelor's Degree	85	1.4
Master's Degree or Higher	29	.4
Total (With Reported Level of Educational Attainment)	6,158	100.0

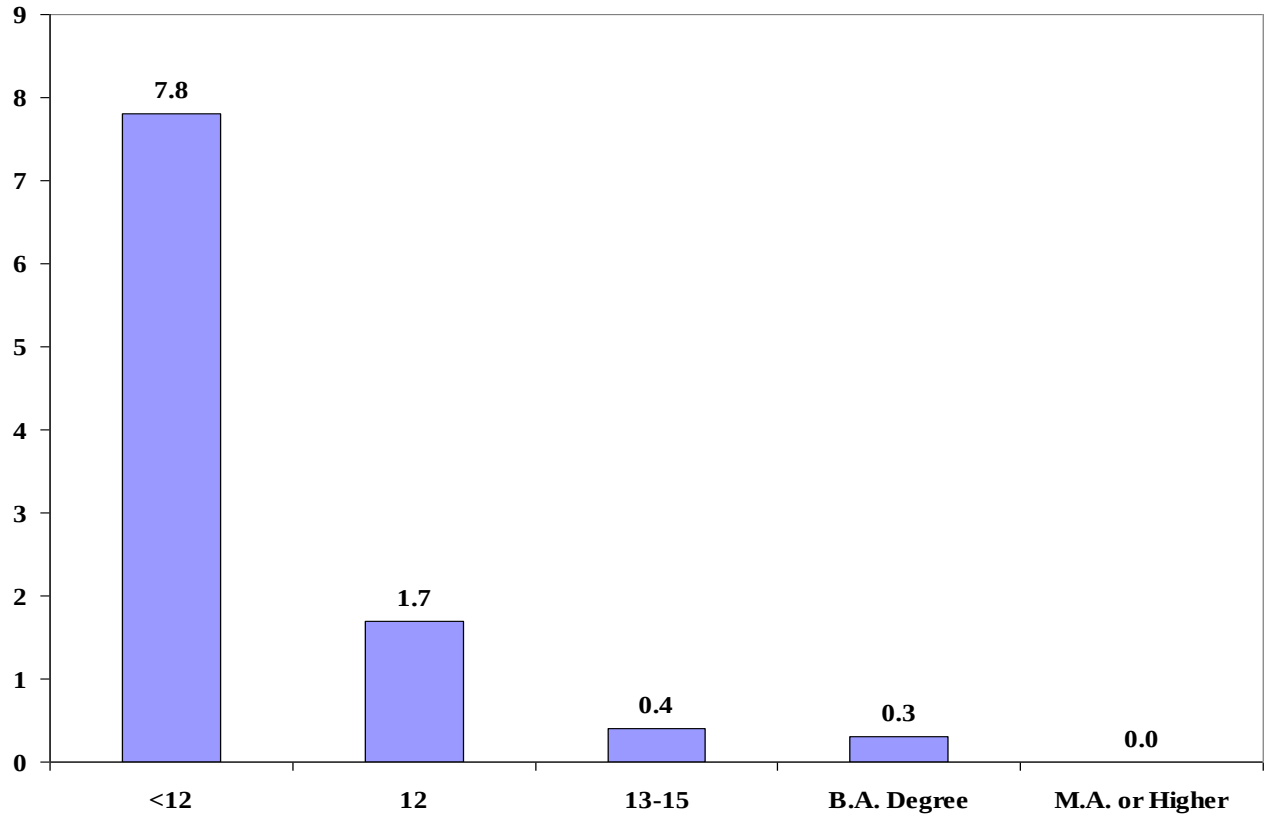
Institutionalization Rates of 18-34 Year Old and 18-60 Year Old Adults by Their Level of Educational Attainment, Bristol County, 2006 ACS



Institutionalization Rates of 18-34 Year Old Adults by Their Level of Educational Attainment, Massachusetts, 2006



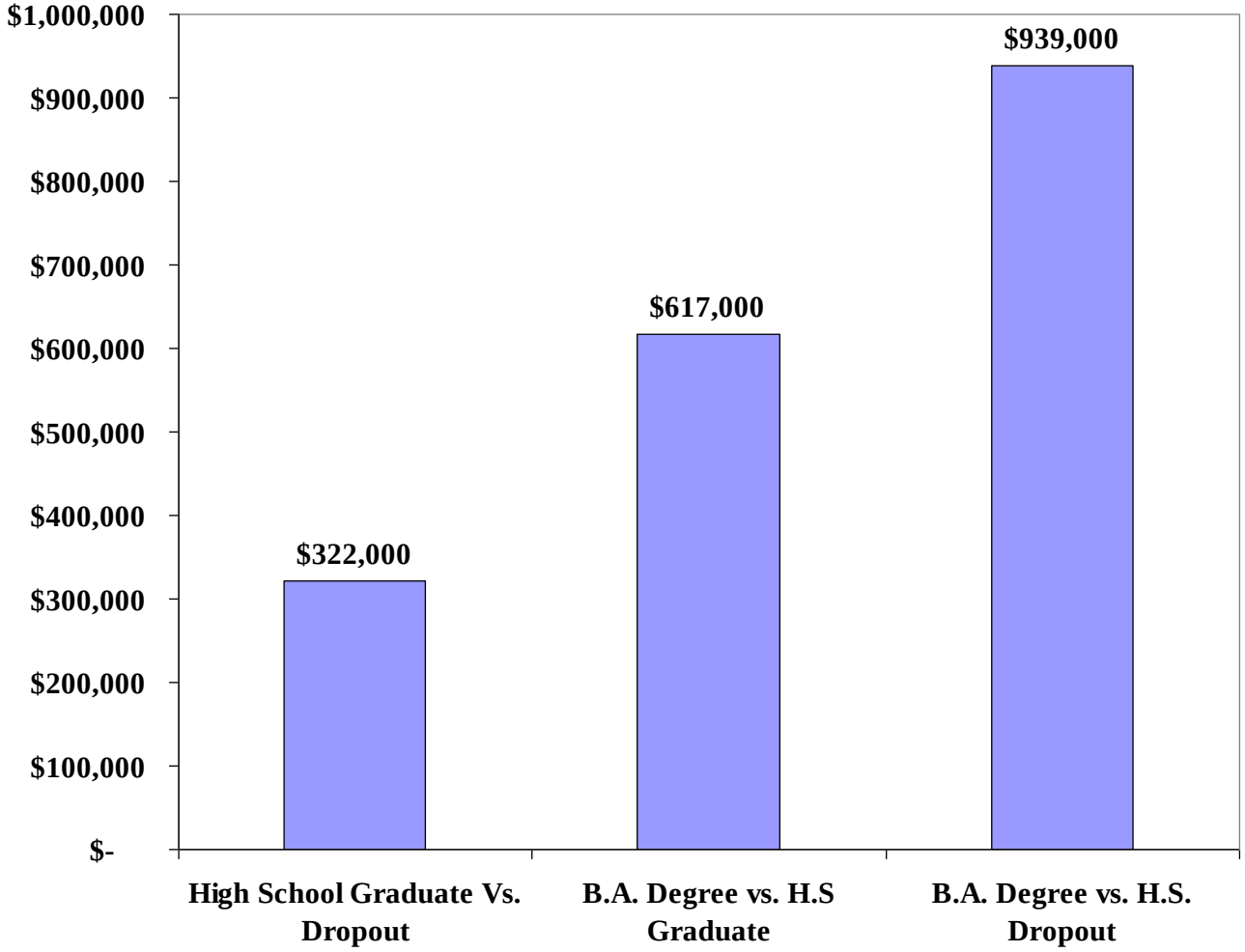
Institutionalization Rates of 18-34 Year Old Males by Their Level of Educational Attainment, Massachusetts, 2006



Lifetime Per Capita Costs of Institutionalization for Males by Educational Attainment, Massachusetts, 2005

Educational Attainment	(A) Institutionalization Rate (in %)	(B) Per Capita Cost	(C) Average Annual Cost (in $)	(D) Average Lifetime Cost of Institutionalization (in $)
1-12 Years, No Diploma or GED	4.0	43,025	1,721	80,887
High School Diploma, No College	1.9	43,025	817	38,399
Some College, Including Associate Degrees	0.9	43,025	387	18,189
Bachelor's Degree	0.2	43,025	86	4,042
Master's Degree	0.1	43,025	43	2,021

Estimates of Tax Payments Made and Transfers Received By Adults 16 to 64 Years Old By Educational Attainment, U.S., 2005-2007 (3-Year Averages)

Educational Attainment	(A) Total Tax Payments	(B) Total Transfers including Prison Expenditures	(C) Net Fiscal Impact (Column A - Column B)
<12 or 12, No Diploma	$ 7,461	$ 8,832	$ (1,371)
H.S. Diploma/GED	$ 11,894	$ 6,414	$ 5,480
Some College	$ 13,568	$ 5,263	$ 8,305
Bachelor Degree	$ 22,137	$ 3,527	$ 18,610
Master's or Higher Degree	$ 31,448	$ 2,625	$ 28,823
All	$ 17,929	$ 4,867	$ 13,062

Differences Between Mean Lifetime Net Fiscal Contributions of Massachusetts Adults in Selected Educational Groups, 2007