

Table A1. Share of overall employment and share of college educated workers by industry

	New England											
	Industry as a share of overall employment			Share of workers with a B.A. or higher			Share of workers with an Associate's degree			Share of workers with any college degree		
	1990	2000	2006	1990	2000	2006	1990	2000	2006	1990	2000	2006
Health care and social assistance	11.5%	12.9%	14.0%	37.7%	41.7%	42.5%	14.0%	13.5%	14.0%	51.7%	55.2%	56.5%
Manufacturing	18.6%	15.1%	12.4%	24.4%	28.3%	32.0%	6.7%	7.0%	7.7%	31.1%	35.3%	39.8%
Retail trade	11.2%	10.9%	10.6%	21.1%	24.5%	24.8%	7.2%	7.5%	8.2%	28.3%	32.0%	33.0%
Education services	7.9%	9.1%	9.2%	65.9%	69.6%	70.2%	4.3%	4.8%	5.2%	70.2%	74.4%	75.4%
Construction	6.5%	6.4%	7.9%	16.9%	16.5%	15.6%	6.6%	6.0%	6.4%	23.4%	22.5%	22.0%
Professional and scientific services	4.0%	7.3%	7.3%	62.6%	68.5%	71.5%	8.6%	7.4%	6.9%	71.2%	75.8%	78.4%
Finance, insurance	6.8%	6.5%	6.5%	40.3%	51.4%	57.0%	8.5%	8.3%	7.9%	48.9%	59.7%	64.9%
Accommodation and food service	4.2%	4.5%	5.0%	18.3%	19.1%	17.7%	7.5%	7.2%	7.7%	25.7%	26.3%	25.4%
Other services	3.9%	4.6%	4.6%	22.1%	26.5%	24.0%	7.4%	6.6%	7.7%	29.5%	33.1%	31.7%
Public Administration	4.3%	4.4%	4.2%	35.1%	40.8%	43.2%	9.9%	10.6%	11.4%	45.1%	51.4%	54.6%
Administrative support and waste management	2.8%	3.1%	3.6%	34.2%	43.8%	38.4%	8.9%	11.7%	14.8%	43.1%	55.5%	53.3%
Transportation and warehousing	3.8%	3.6%	3.4%	18.7%	18.7%	19.7%	7.3%	7.9%	8.7%	26.0%	26.6%	28.4%
Wholesale trade	4.3%	3.5%	3.3%	29.2%	30.4%	34.0%	7.9%	8.3%	7.0%	37.1%	38.7%	40.9%
Information and communications	4.7%	3.3%	2.6%	38.7%	49.9%	50.1%	7.3%	7.9%	8.3%	46.0%	57.8%	58.4%
Real estate, rental and leasing	1.9%	1.8%	2.0%	38.5%	37.0%	40.2%	8.5%	8.7%	9.5%	46.9%	45.7%	49.7%
Arts, entertainment, and recreation	0.8%	1.4%	1.7%	34.3%	42.6%	42.5%	8.5%	6.8%	6.7%	42.9%	49.5%	49.2%
Utilities	1.2%	0.8%	0.7%	23.4%	31.1%	30.6%	9.4%	10.0%	13.6%	32.7%	41.1%	44.2%
Agriculture, forestry, fishing, and hunting	0.9%	0.8%	0.7%	20.8%	18.9%	20.9%	6.5%	6.0%	7.9%	27.3%	24.9%	28.8%
Management of companies and enterprises	0.7%	0.1%	0.1%	67.2%	56.8%	58.4%	6.2%	8.5%	13.2%	73.4%	65.3%	71.6%
Mining	0.1%	0.1%	0.1%	26.6%	16.4%	19.0%	3.7%	5.2%	8.0%	30.4%	21.6%	27.1%
Totals and economy-wide averages				32.5%	37.8%	39.0%	8.0%	8.0%	8.5%	40.5%	45.8%	47.5%

	United States											
	Industry as a share of overall employment			Share of workers with a B.A. or higher			Share of workers with an Associate's degree			Share of workers with any college degree		
	1990	2000	2006	1990	2000	2006	1990	2000	2006	1990	2000	2006
Health care and social assistance	10.3%	11.2%	12.1%	33.5%	36.3%	36.8%	14.0%	13.3%	14.6%	47.5%	49.6%	51.4%
Manufacturing	17.0%	15.0%	12.6%	19.5%	23.0%	24.2%	6.0%	6.3%	7.3%	25.5%	29.3%	31.5%
Retail trade	11.3%	10.9%	10.7%	17.9%	20.9%	20.5%	5.9%	6.3%	7.3%	23.9%	27.2%	27.8%
Education services	7.4%	8.0%	7.9%	61.8%	65.1%	65.6%	4.0%	4.3%	5.1%	65.8%	69.4%	70.7%
Construction	6.7%	7.3%	8.5%	14.9%	14.8%	13.3%	5.4%	5.0%	5.8%	20.3%	19.7%	19.1%
Professional and scientific services	3.4%	6.0%	6.3%	57.3%	60.9%	63.4%	7.4%	7.4%	7.9%	64.7%	68.3%	71.4%
Finance, insurance	5.3%	5.1%	5.3%	34.3%	41.7%	45.6%	7.3%	7.6%	8.4%	41.7%	49.3%	54.0%
Accommodation and food service	4.8%	5.0%	5.4%	14.8%	16.6%	15.5%	4.8%	4.8%	5.7%	19.6%	21.4%	21.2%
Other services	4.6%	5.0%	4.9%	19.5%	24.0%	23.7%	7.3%	6.1%	7.3%	26.9%	30.0%	31.1%
Public Administration	4.9%	5.0%	4.9%	32.3%	37.5%	39.5%	9.1%	9.8%	11.0%	41.4%	47.3%	50.6%
Administrative support and waste management	3.0%	3.5%	4.0%	32.2%	36.1%	32.6%	7.5%	10.7%	12.6%	39.6%	46.8%	45.3%
Transportation and warehousing	4.7%	4.6%	4.5%	16.3%	18.0%	17.4%	7.0%	7.0%	7.9%	23.3%	24.9%	25.3%
Wholesale trade	4.6%	3.8%	3.7%	23.9%	26.0%	28.2%	6.8%	6.7%	7.5%	30.7%	32.8%	35.7%
Information and communications	4.3%	3.1%	2.4%	32.2%	42.8%	44.5%	7.5%	7.8%	8.7%	39.8%	50.6%	53.2%
Real estate, rental and leasing	2.0%	1.9%	2.3%	31.0%	31.8%	34.3%	7.0%	7.0%	8.2%	37.9%	38.8%	42.4%
Arts, entertainment, and recreation	0.9%	1.6%	1.7%	25.1%	33.4%	34.5%	6.2%	6.3%	7.3%	31.3%	39.7%	41.8%
Utilities	1.4%	1.0%	0.9%	21.1%	25.1%	26.1%	8.6%	9.2%	10.6%	29.7%	34.3%	36.7%
Agriculture, forestry, fishing, and hunting	2.1%	1.6%	1.4%	14.4%	16.6%	15.8%	4.8%	4.6%	5.8%	19.2%	21.2%	21.6%
Management of companies and enterprises	0.5%	0.1%	0.1%	59.5%	51.2%	52.4%	6.0%	8.2%	7.8%	65.5%	59.4%	60.2%
Mining	0.7%	0.4%	0.5%	22.3%	22.0%	21.4%	4.6%	4.9%	5.4%	26.9%	27.0%	26.9%
Totals and economy-wide averages				27.1%	31.4%	32.0%	7.1%	7.1%	8.1%	34.2%	38.5%	40.1%

Source:
 Author's calculations based on the 1990 and 2000 decennial Census and the 2005 and 2006 American Community Surveys (combined).

Note:
 Industries are listed in order of 2006 employment share from largest to smallest. Employment shares are calculated as the percentage of workers age 25 to 64 employed in each industry. College educated share are calculated as the percentage of worker age 25 to 64 that have a degree. Industry categories may not be strictly comparable between 1990 and later years due to classification changes. For a description of industry categories, see www.ipumsusa.com.

Table A2. Share of total employment and share of college educated workers by occupation

	New England								
	Occupation as a share of employment			Share holding a Bachelor's degree			Share holding an Associates degree		
	1990	2000	2006	1990	2000	2006	1990	2000	2006
Office and administrative support	17.4%	15.0%	13.8%	16.5%	18.2%	19.8%	9.7%	10.9%	11.7%
Management occupations	8.9%	10.6%	10.9%	51.7%	57.8%	60.2%	8.6%	7.7%	8.1%
Sales and related	11.3%	10.3%	10.9%	31.9%	33.7%	37.2%	7.9%	7.8%	7.8%
Production	10.7%	8.3%	6.4%	5.5%	6.9%	8.3%	4.4%	4.8%	6.2%
Construction and extraction	5.5%	5.2%	6.3%	7.4%	7.2%	8.8%	6.2%	5.1%	5.8%
Education, training and library	5.6%	6.1%	6.0%	71.8%	80.3%	80.5%	8.4%	4.1%	4.2%
Healthcare practitioner and technical	4.5%	5.4%	5.8%	64.5%	60.1%	61.9%	11.1%	19.1%	19.7%
Business and financial operations	4.6%	5.2%	5.0%	49.4%	63.6%	67.0%	8.6%	7.8%	9.0%
Transportation and material moving	4.9%	4.9%	4.8%	6.5%	7.0%	8.8%	4.1%	4.2%	4.7%
Food preparation and serving related	3.8%	3.6%	3.9%	9.8%	8.5%	9.9%	6.8%	6.7%	7.6%
Building and grounds cleaning and maintenance	3.0%	3.0%	3.7%	7.9%	6.2%	7.3%	6.1%	4.3%	5.2%
Installation, maintenance, and repair	3.7%	3.5%	3.2%	8.2%	6.4%	7.7%	6.7%	8.7%	9.5%
Computer and mathematical	1.4%	3.1%	2.9%	58.4%	67.8%	73.2%	12.9%	8.4%	6.7%
Personal care and service	1.9%	2.6%	2.9%	12.1%	16.7%	18.1%	6.3%	7.9%	9.0%
Architecture and engineering	2.8%	2.5%	2.4%	59.6%	61.8%	66.4%	12.7%	11.2%	10.2%
Healthcare support	1.5%	2.2%	2.3%	10.9%	10.7%	10.9%	8.1%	9.9%	10.4%
Arts, design, entertainment, sports and media	2.2%	2.2%	2.1%	72.5%	61.8%	67.1%	9.0%	7.9%	7.4%
Protective service	1.8%	1.8%	1.9%	19.8%	22.9%	26.4%	11.4%	12.8%	14.0%
Community and social services	1.3%	1.7%	1.7%	73.9%	74.2%	73.7%	8.4%	4.9%	5.5%
Legal	1.0%	1.3%	1.3%	64.4%	82.2%	82.4%	10.9%	5.5%	5.0%
Life, physical, and social sciences	1.2%	1.2%	1.3%	60.8%	85.8%	89.3%	12.3%	3.0%	3.1%
Farming, fishing, and forestry	0.5%	0.4%	0.4%	14.3%	9.8%	14.7%	7.1%	4.1%	3.5%
Totals and economy-wide averages				29.8%	35.2%	37.5%	8.0%	8.1%	8.5%

	United States								
	Occupation as a share of employment			Share holding a Bachelor's degree			Share holding an Associates degree		
	1990	2000	2006	1990	2000	2006	1990	2000	2006
Office and administrative support	16.9%	15.1%	14.1%	13.4%	15.1%	16.8%	8.1%	8.7%	10.0%
Management occupations	7.8%	9.7%	10.1%	44.7%	48.0%	50.8%	7.5%	6.9%	7.6%
Sales and related	11.6%	10.7%	11.0%	24.9%	26.2%	29.7%	6.4%	6.6%	7.5%
Production	11.2%	9.1%	7.3%	4.2%	5.6%	6.5%	4.5%	4.6%	5.7%
Construction and extraction	6.0%	5.8%	6.9%	5.5%	5.0%	5.8%	6.1%	4.3%	5.1%
Education, training and library	4.8%	5.3%	5.2%	68.6%	78.0%	78.0%	8.8%	3.5%	4.3%
Healthcare practitioner and technical	3.9%	4.7%	5.0%	60.5%	55.5%	56.9%	11.4%	21.0%	22.3%
Business and financial operations	4.0%	4.5%	4.5%	42.5%	56.8%	61.2%	7.5%	7.8%	8.6%
Transportation and material moving	6.3%	6.3%	6.4%	4.7%	5.7%	6.5%	3.7%	3.7%	4.7%
Food preparation and serving related	4.1%	3.8%	4.1%	6.9%	6.0%	7.5%	5.5%	4.1%	5.2%
Building and grounds cleaning and maintenance	3.6%	3.4%	3.9%	5.6%	4.5%	5.5%	4.7%	3.3%	4.2%
Installation, maintenance, and repair	3.8%	4.2%	3.8%	6.2%	5.4%	7.0%	6.7%	9.1%	11.2%
Computer and mathematical	1.3%	2.4%	2.3%	53.9%	62.6%	66.1%	13.1%	9.8%	9.7%
Personal care and service	2.1%	2.6%	3.0%	8.7%	12.9%	14.0%	5.1%	6.3%	7.6%
Architecture and engineering	2.5%	2.1%	2.0%	55.2%	59.6%	63.7%	13.0%	11.9%	12.0%
Healthcare support	1.6%	1.9%	2.0%	8.1%	8.2%	9.1%	6.7%	8.3%	10.1%
Arts, design, entertainment, sports and media	1.9%	1.9%	1.9%	69.3%	54.2%	57.8%	9.4%	8.4%	9.1%
Protective service	1.8%	2.0%	2.1%	16.4%	19.6%	22.2%	10.5%	11.1%	12.6%
Community and social services	1.1%	1.5%	1.5%	70.9%	71.0%	70.6%	8.8%	4.8%	5.7%
Legal	0.9%	1.2%	1.2%	60.4%	78.2%	77.8%	11.2%	5.1%	5.6%
Life, physical, and social sciences	1.0%	0.9%	0.9%	56.5%	79.7%	80.8%	12.6%	4.0%	4.5%
Farming, fishing, and forestry	0.9%	0.7%	0.7%	9.0%	5.6%	5.3%	4.4%	2.6%	3.1%
Totals and economy-wide averages				23.8%	28.2%	30.2%	7.0%	7.1%	8.1%

Source:
 Author's calculations based on the 1990 and 2000 decennial Census and the 2005 and 2006 American Community Surveys (combined).
 Note:
 Occupations are listed in order of 2006 employment share from largest to smallest. Employment shares are calculated as the percentage of workers age 25 to 64 employed in each industry. College educated share are calculated as the percentage of worker age 25 to 64 that have a degree. Occupation categories may not be strictly comparable between 1990 and later years due to classification changes. For a description of occupation categories, see www.ipumsusa.com.

Table A3. Share of industry employment by major occupation group, 2006 - New England

	Total (all occupations)	Building and grounds cleaning and maintenance	Transportation and material moving	Construction and extraction	Production	Installation, maintenance and repair	Food preparation and serving related	Healthcare support	Personal care and service	Office and administrative support	Protective service
Professional and scientific services	370,292	0.1%	0.5%	0.6%	1.0%	0.5%	0.0%	0.9%	0.1%	20.6%	0.0%
Education services	658,589	4.4%	1.0%	0.4%	0.4%	1.0%	3.1%	0.5%	1.2%	10.5%	1.0%
Management of companies and enterprises	116,047	0.7%	10.2%	0.2%	7.9%	2.0%	0.0%	0.7%	1.0%	26.9%	0.1%
Finance and insurance	350,217	0.2%	0.4%	0.0%	0.0%	0.6%	0.1%	0.0%	0.0%	42.0%	0.1%
Information and communications	140,094	0.3%	2.3%	0.0%	1.8%	8.4%	0.7%	0.0%	1.6%	23.0%	0.0%
Health care and social assistance	864,956	2.7%	0.5%	0.1%	0.3%	0.7%	3.5%	18.3%	5.5%	16.2%	0.4%
Public administration	351,859	3.6%	2.0%	6.1%	1.1%	3.6%	0.3%	3.4%	4.1%	9.7%	23.2%
Administrative support and waste management	285,197	28.5%	7.9%	2.9%	3.9%	2.0%	1.6%	1.6%	0.8%	21.1%	8.6%
Real estate, rental, and leasing	68,947	9.9%	5.5%	0.2%	2.1%	9.0%	2.6%	0.2%	0.3%	27.1%	0.6%
Arts, entertainment, and recreation	84,115	11.1%	3.4%	0.3%	1.0%	4.8%	16.5%	0.2%	26.3%	10.2%	2.8%
Utilities	20,868	0.0%	13.0%	8.5%	15.0%	29.9%	0.0%	0.0%	0.0%	13.6%	0.0%
Wholesale trade	249,435	0.3%	20.1%	0.4%	5.0%	5.6%	0.0%	0.0%	0.0%	23.7%	0.0%
Manufacturing	508,522	0.6%	7.5%	2.0%	37.2%	4.5%	0.1%	0.0%	0.0%	13.8%	0.1%
Retail trade	725,722	0.7%	10.0%	0.2%	1.6%	5.2%	3.5%	0.3%	0.1%	16.5%	0.3%
Other services	195,689	3.4%	5.7%	0.4%	4.8%	14.4%	3.8%	0.5%	20.5%	17.1%	1.4%
Agriculture, forestry, fishing and hunting	1,485	0.9%	40.3%	10.8%	0.0%	6.9%	0.0%	0.0%	7.4%	15.8%	0.0%
Transportation and warehousing	131,439	0.7%	47.0%	0.8%	1.4%	5.6%	0.0%	0.0%	2.6%	32.0%	0.4%
Mining	2,800	0.0%	27.6%	12.1%	44.8%	0.0%	0.0%	0.0%	0.0%	14.4%	0.0%
Accommodation and food services	501,079	5.7%	2.2%	0.1%	1.2%	0.4%	77.1%	0.1%	2.9%	1.7%	0.7%
Construction	355,906	0.3%	4.9%	47.5%	24.7%	5.6%	0.0%	0.0%	0.0%	8.3%	0.0%
Total (all industries)	5,983,258	3.5%	5.5%	3.7%	6.0%	3.3%	8.2%	3.1%	2.6%	16.4%	2.2%

	Sales and related	Management occupations	Arts, design, entertainment, sports and media	Business and financial operations	Architecture and engineering	Community and social services	Computer and mathematical	Healthcare practitioner and technical	Education, training and library	Legal	Life, physical, and social sciences
Professional and scientific services	4.4%	9.5%	4.2%	12.4%	11.8%	0.2%	15.6%	2.2%	0.4%	8.3%	6.5%
Education services	0.3%	5.6%	2.1%	2.2%	0.2%	2.1%	1.7%	2.6%	57.8%	0.0%	2.0%
Management of companies and enterprises	4.7%	15.0%	2.3%	14.0%	1.8%	0.8%	7.0%	1.6%	0.7%	1.2%	1.3%
Finance and insurance	10.9%	10.8%	0.4%	24.7%	0.0%	0.0%	7.7%	0.4%	0.0%	0.8%	0.6%
Information and communications	11.7%	8.7%	14.4%	5.1%	1.8%	0.0%	17.8%	0.0%	1.3%	0.1%	1.0%
Health care and social assistance	0.2%	4.1%	0.3%	1.4%	0.0%	7.6%	0.5%	33.0%	4.0%	0.0%	0.6%
Public administration	0.6%	8.5%	0.4%	10.0%	2.6%	7.1%	1.6%	4.5%	2.8%	2.2%	2.7%
Administrative support and waste management	6.3%	3.4%	0.5%	4.1%	0.9%	0.1%	2.4%	1.9%	0.8%	0.3%	0.4%
Real estate, rental, and leasing	22.1%	12.3%	0.4%	6.6%	0.0%	0.0%	0.8%	0.1%	0.0%	0.0%	0.4%
Arts, entertainment, and recreation	8.2%	4.9%	7.9%	1.4%	0.0%	0.7%	0.0%	0.1%	0.2%	0.0%	0.0%
Utilities	0.2%	5.7%	0.1%	5.7%	7.3%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%
Wholesale trade	26.0%	8.1%	0.9%	4.1%	1.3%	0.0%	3.4%	0.3%	0.0%	0.0%	0.7%
Manufacturing	4.6%	9.0%	0.3%	4.4%	10.7%	0.0%	4.2%	0.2%	0.0%	0.1%	1.0%
Retail trade	54.2%	2.8%	0.8%	1.0%	0.0%	0.0%	0.3%	2.4%	0.0%	0.0%	0.0%
Other services	4.8%	5.3%	3.0%	4.4%	0.1%	4.8%	0.6%	0.4%	4.0%	0.2%	0.4%
Agriculture, forestry, fishing and hunting	0.2%	17.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%
Transportation and warehousing	2.5%	4.4%	0.0%	1.9%	0.3%	0.0%	0.3%	0.0%	0.1%	0.0%	0.0%
Mining	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Accommodation and food services	3.0%	3.3%	0.9%	0.5%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%
Construction	1.5%	4.5%	0.0%	2.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total (all industries)	10.6%	6.1%	1.4%	5.0%	2.0%	1.9%	3.0%	5.9%	7.4%	0.7%	1.1%

Source: Connecticut Labor Department; Occupational Employment Statistics, Maine Department of Labor; Massachusetts Executive Office of Labor and Workforce Development (EOLWD), "The Massachusetts Industry-Occupation Employment Matrix, 2006-2016"; New Hampshire Economic and Labor Market Information Bureau.

Notes: New England is the sum of Connecticut, Maine, Massachusetts, and New Hampshire. Data for Rhode Island and Vermont were not available. Table excludes farming, fishing, and forestry occupations. Occupations and industries are listed in order of share of college-educated. See Table A2 for college-educated shares.

Table A4. Critical vacancies by detailed occupation for New England and the United States

Major group	OCC code	Detailed occupation	New England				United States				Distribution of educational attainment					
			2006		2009		2006		2009		"Low-Skill"		"Middle-Skill"		"High-Skill"	
			Number of vacancies	Vacancy rate	Number of vacancies	Vacancy rate	Number of vacancies	Vacancy rate	Number of vacancies	Vacancy rate	Less than high school	High school graduate	Some college	Associate's degree	Bachelor's degree	Advanced degree
Management occupations																
	11-2011	Advertising and promotions managers	516.3	21.4%	243.6	12.1%	7,510.8	19.7%	3,859.7	10.8%	1.1%	7.2%	12.6%	5.4%	61.7%	11.9%
	11-2021	Marketing managers	4,333.6	33.8%	1,871.8	11.8%	51,213.6	32.0%	23,866.5	14.1%	1.1%	9.1%	17.8%	6.6%	48.0%	17.4%
	11-2022	Sales managers	4,235.7	22.2%	2,588.0	12.8%	59,785.2	19.4%	31,932.5	9.7%	1.1%	9.1%	17.8%	6.6%	48.0%	17.4%
	11-2031	Public relations managers	530.3	14.9%	359.7	8.6%	5,896.3	13.4%	4,505.1	8.5%	0.8%	8.4%	14.4%	6.1%	47.0%	23.3%
	11-3021	Computer and information systems managers	3,955.9	20.8%	1,218.1	5.0%	46,943.3	18.7%	12,552.1	4.4%	0.6%	4.7%	16.3%	9.2%	45.3%	23.9%
	11-3031	Financial managers	6,429.8	17.1%	2,808.3	6.7%	79,549.4	17.0%	31,654.7	6.4%	1.1%	12.6%	20.0%	7.9%	39.9%	18.5%
	11-3061	Purchasing managers	415.3	9.4%	310.5	6.5%	6,492.2	9.8%	4,066.1	6.2%	1.1%	12.2%	21.6%	8.9%	38.6%	17.6%
	11-3071	Transportation, storage, and distribution managers	578.8	13.2%	227.5	5.5%	11,395.4	12.8%	4,505.9	4.9%	5.7%	32.3%	27.8%	8.7%	19.4%	6.1%
	11-9021	Construction managers	1,022.0	10.7%	426.8	5.0%	18,302.9	8.8%	6,065.4	3.0%	7.7%	30.9%	24.6%	8.1%	23.4%	5.4%
	11-9032	Education administrators, elementary and secondary school	649.3	5.3%	347.8	2.5%	4,623.8	2.1%	3,004.2	1.4%	0.8%	5.6%	10.1%	5.0%	22.6%	55.9%
	11-9033	Education administrators, postsecondary	1,265.0	15.0%	635.8	6.6%	11,851.6	11.5%	8,399.2	7.9%	0.8%	5.6%	10.1%	5.0%	22.6%	55.9%
	11-9041	Engineering managers	702.9	5.8%	527.2	4.1%	10,504.5	5.7%	7,896.7	4.4%	0.8%	3.9%	7.8%	5.6%	45.5%	36.5%
	11-9051	Food service managers	822.3	7.4%	481.2	4.4%	12,125.1	6.4%	7,425.0	3.9%	10.4%	31.1%	28.1%	8.4%	18.8%	3.2%
	11-9111	Medical and health services managers	3,961.0	26.3%	2,926.6	16.9%	49,795.9	21.4%	35,521.8	13.1%	1.3%	9.1%	16.3%	12.6%	31.4%	29.2%
	11-9121	Natural sciences managers	567.1	20.6%	403.3	10.9%	4,094.1	10.6%	2,465.8	5.6%	0.6%	1.4%	5.1%	1.5%	34.2%	57.2%
	11-9141	Property, real estate, and community association managers	816.3	12.6%	567.8	7.3%	14,985.3	9.6%	12,265.7	8.1%	5.1%	21.4%	27.7%	8.3%	28.2%	9.4%
	11-9151	Social and community service managers	1,446.5	15.6%	1,015.4	9.6%	13,490.3	12.0%	11,424.1	10.0%	1.7%	8.8%	15.4%	6.4%	38.5%	29.3%
Business and financial operations occupations																
	13-1031	Claims adjusters, examiners, and investigators	671.0	5.6%	414.3	2.5%	7,820.6	2.8%	5,448.1	2.0%	1.3%	17.9%	26.0%	10.7%	38.7%	5.5%
	13-1071	Employment, recruitment, and placement specialists	2,570.7	22.5%	810.7	6.8%	36,707.0	19.7%	10,583.4	5.3%	1.6%	13.8%	24.3%	9.1%	37.5%	13.6%
	13-1072	Compensation, benefits, and job analysis specialists	888.0	12.4%	405.8	6.0%	13,343.3	12.8%	5,452.1	4.9%	1.6%	13.8%	24.3%	9.1%	37.5%	13.6%
	13-1073	Training and development specialists	848.2	7.4%	517.4	4.8%	11,396.4	5.8%	8,432.8	4.1%	1.6%	13.8%	24.3%	9.1%	37.5%	13.6%
	13-2011	Accountants and auditors	9,515.3	15.3%	3,295.4	5.2%	107,336.0	9.8%	29,332.4	2.6%	0.3%	5.1%	8.9%	10.4%	56.5%	18.8%
	13-2051	Financial analysts	1,883.3	10.3%	791.2	3.5%	17,739.3	9.0%	7,313.1	3.1%	0.7%	4.1%	10.3%	2.6%	47.3%	35.0%
	13-2052	Personal financial advisors	438.8	7.7%	436.2	4.4%	6,002.0	5.0%	6,348.3	4.2%	0.6%	4.9%	12.5%	4.9%	51.5%	25.5%
	13-2072	Loan officers	1,655.1	9.8%	760.4	6.2%	29,696.8	8.3%	15,266.3	5.1%	1.3%	15.8%	26.3%	9.9%	38.8%	7.9%
Computer and mathematical science occupations																
	15-1021	Computer programmers	3,751.3	16.2%	1,618.6	9.0%	48,615.7	12.3%	22,570.0	6.1%	0.7%	5.4%	15.5%	9.9%	49.5%	18.9%
	15-1031	Computer software engineers, applications	7,930.4	21.5%	2,637.5	6.8%	77,064.2	16.3%	33,357.4	6.7%	0.4%	2.6%	10.2%	5.4%	49.5%	31.8%
	15-1032	Computer software engineers, systems software	2,358.8	8.5%	1,014.4	2.8%	27,264.2	8.3%	18,470.3	4.8%	0.4%	2.6%	10.2%	5.4%	49.5%	31.8%
	15-1041	Computer support specialists	4,535.0	14.7%	2,470.6	7.6%	63,549.0	12.4%	35,128.9	6.5%	1.3%	13.4%	31.5%	15.4%	31.5%	7.0%
	15-1051	Computer systems analysts	11,107.3	37.6%	4,037.8	12.3%	134,583.0	30.1%	61,575.8	12.0%	0.7%	6.7%	18.3%	10.4%	44.0%	19.9%
	15-1061	Database administrators	2,120.8	29.1%	1,017.2	16.1%	26,559.0	24.2%	15,634.8	14.5%	0.5%	4.3%	17.6%	9.5%	47.1%	21.0%
	15-1071	Network and computer systems administrators	2,944.4	16.8%	1,969.8	10.5%	43,510.5	15.0%	34,508.7	10.2%	0.8%	8.4%	26.5%	15.7%	38.0%	10.7%
	15-1081	Network systems and data communications analysts	755.6	6.2%	590.2	5.7%	13,709.8	6.7%	10,888.2	4.8%	1.1%	8.4%	23.3%	13.4%	41.6%	12.1%
	15-1099	Computer specialists, all other	7,126.4	130.0%	3,622.7	44.7%	88,355.4	49.0%	35,389.0	18.1%	0.7%	6.7%	18.3%	10.4%	44.0%	19.9%
Architecture and engineering occupations																
	17-2051	Civil engineers	924.6	7.2%	540.1	4.0%	22,290.5	9.4%	10,193.8	3.9%	0.3%	3.8%	6.5%	5.8%	57.0%	26.6%
	17-2071	Electrical engineers	1,759.5	17.3%	1,358.4	11.2%	21,432.0	14.5%	18,346.8	12.1%	0.3%	4.1%	9.4%	8.8%	50.7%	26.6%
	17-2072	Electronics engineers, except computer	900.9	11.6%	694.9	9.0%	11,037.5	8.4%	7,847.7	5.8%	0.3%	4.1%	9.4%	8.8%	50.7%	26.6%
	17-2112	Industrial engineers	3,846.5	28.6%	2,034.1	16.6%	41,637.2	21.0%	22,777.8	10.9%	0.3%	8.0%	13.8%	10.0%	49.8%	18.1%
	17-2141	Mechanical engineers	2,106.6	13.1%	1,236.7	7.6%	25,560.7	11.8%	14,897.3	6.4%	0.4%	5.3%	10.6%	11.1%	51.7%	20.8%
	17-3023	Electrical and electronic engineering technicians	722.1	7.0%	414.3	3.4%	9,935.6	6.0%	5,681.7	3.7%	4.0%	22.9%	35.2%	21.5%	13.8%	2.6%
	17-3026	Industrial engineering technicians	480.9	10.9%	285.2	6.2%	6,716.0	9.1%	4,310.8	6.6%	4.0%	22.9%	35.2%	21.5%	13.8%	2.6%
Life, physical, and social science occupations																
	19-1042	Medical scientists, except epidemiologists	3,253.6	36.5%	1,577.0	13.8%	19,209.2	24.6%	11,968.4	11.8%	0.2%	0.8%	0.8%	0.6%	14.4%	83.3%
	19-2031	Chemists	463.2	10.6%	209.9	4.4%	3,777.8	4.7%	2,187.8	2.7%	0.2%	0.8%	3.9%	3.2%	54.0%	37.9%
	19-3021	Market research analysts	2,689.4	20.5%	1,269.6	8.6%	29,601.4	13.9%	20,225.0	8.9%	0.5%	5.0%	12.9%	5.3%	48.4%	27.8%
	19-4021	Biological technicians	416.8	6.7%	286.9	3.7%	2,444.3	3.4%	2,155.0	2.9%	4.3%	16.6%	20.8%	10.3%	34.3%	13.7%
Community and social services occupations																
	21-1012	Educational, vocational, and school counselors	627.8	4.6%	380.4	2.5%	7,252.6	3.2%	5,382.3	2.1%	1.9%	7.9%	13.5%	5.5%	25.9%	45.3%
	21-1014	Mental health counselors	442.0	5.2%	327.3	3.9%	2,149.7	2.3%	2,190.3	2.0%	1.9%	7.9%	13.5%	5.5%	25.9%	45.3%
	21-1023	Mental health and substance abuse social workers	1,330.2	12.1%	1,004.8	8.1%	8,170.0	7.1%	7,716.8	6.1%	1.2%	6.1%	10.7%	5.9%	43.6%	32.4%
Legal occupations																
	23-2011	Paralegals and legal assistants	730.4	4.8%	336.5	2.2%	10,825.3	4.7%	6,252.9	2.5%	1.0%	13.3%	26.3%	18.2%	35.2%	6.0%
Arts, design, entertainment, sports, and media occupations																
	27-1024	Graphic designers	570.8	5.3%	428.9	4.0%	9,276.3	4.9%	7,001.8	3.5%	2.8%	12.8%	20.5%	14.2%	42.2%	7.6%
	27-1026	Merchandise displays and window trimmers	449.1	18.9%	523.1	15.9%	6,822.3	10.9%	8,185.6	13.4%	2.8%	12.8%	20.5%	14.2%	42.2%	7.6%
	27-3031	Public relations specialists	686.4	4.7%	445.1	2.8%	8,470.0	4.0%	6,533.5	2.7%	0.8%	6.2%	14.0%	4.2%	55.7%	19.2%

Table A4. Critical vacancies by detailed occupation for New England and the United States (continued)

Major group	OCC code	Detailed occupation	New England				United States				Distribution of educational attainment					
			2006		2009		2006		2009		"Low-Skill"		"Middle-Skill"		"High-Skill"	
			Number of vacancies	Vacancy rate	Number of vacancies	Vacancy rate	Number of vacancies	Vacancy rate	Number of vacancies	Vacancy rate	Less than high school	High school graduate	Some college	Associate's degree	Bachelor's degree	Advanced degree
Arts, design, entertainment, sports, and media occupations (continued)																
	27-3042	Technical writers	592.8	17.2%	497.3	16.4%	7,794.7	17.2%	7,481.9	16.2%	0.7%	4.8%	15.4%	6.3%	48.7%	24.0%
Healthcare practitioners and technical occupations																
	29-1051	Pharmacists	1,824.8	15.1%	2,244.4	16.0%	25,628.8	10.7%	29,034.5	10.8%	0.2%	0.5%	3.3%	1.1%	43.9%	51.0%
	29-1071	Physician assistants	410.4	8.8%	1,088.3	18.1%	4,734.6	7.5%	10,971.7	14.3%	1.3%	7.1%	9.3%	14.5%	30.4%	37.3%
	29-1111	Registered nurses	16,925.8	11.0%	6,351.0	3.9%	216,039.0	8.9%	78,095.0	3.0%	0.2%	1.2%	5.4%	37.4%	42.9%	12.9%
	29-1122	Occupational therapists	1,383.9	17.8%	2,686.1	35.0%	16,986.7	19.2%	39,778.8	40.7%	0.2%	0.5%	0.9%	8.8%	55.2%	34.3%
	29-1123	Physical therapists	2,966.5	23.9%	4,419.8	32.8%	33,716.7	21.6%	49,948.7	28.6%	0.2%	2.2%	1.8%	7.3%	41.4%	47.1%
	29-1126	Respiratory therapists	616.7	13.7%	322.5	6.8%	6,805.7	6.9%	5,511.8	5.1%	0.4%	2.7%	12.1%	56.9%	23.6%	4.4%
	29-1127	Speech-language pathologists	1,051.3	16.0%	1,827.8	29.1%	12,663.2	12.8%	26,619.3	23.8%	0.2%	0.8%	0.7%	0.7%	9.0%	88.5%
	29-2011	Medical and clinical laboratory technologists	770.7	6.8%	456.1	4.0%	6,573.0	4.1%	6,026.4	3.6%	1.4%	11.5%	20.0%	16.5%	43.4%	7.2%
	29-2031	Cardiovascular technologists and technicians	405.8	20.4%	185.9	7.5%	4,315.1	9.8%	3,104.0	6.5%	0.7%	8.9%	22.0%	45.1%	19.2%	4.1%
	29-2032	Diagnostic medical sonographers	513.1	21.2%	288.7	10.8%	4,416.3	10.0%	2,874.1	5.6%	0.7%	8.9%	22.0%	45.1%	19.2%	4.1%
	29-2034	Radiologic technologists and technicians	1,968.5	16.5%	566.2	4.4%	16,510.6	8.7%	6,785.9	3.2%	0.7%	8.9%	22.0%	45.1%	19.2%	4.1%
	29-2071	Medical records and health information technicians	784.7	8.0%	738.0	7.0%	10,438.8	6.3%	10,242.4	6.0%	4.2%	33.9%	33.6%	15.2%	11.5%	1.7%
Healthcare support occupations																
	31-2011	Occupational therapist assistants	505.4	27.0%	1,036.2	49.8%	7,248.7	30.6%	18,500.0	69.3%	1.1%	1.4%	11.6%	73.1%	11.0%	1.8%
	31-2021	Physical therapist assistants	773.0	23.5%	1,351.0	34.9%	10,341.2	17.4%	20,611.2	32.3%	2.6%	10.9%	20.6%	45.4%	16.7%	3.7%
	31-9099	Healthcare support workers, all other	421.9	5.1%	333.2	3.5%	4,961.7	2.7%	3,911.3	2.1%	6.2%	28.4%	38.9%	15.4%	8.7%	2.4%
Food preparation and serving related occupations																
	35-1011	Chefs and head cooks	437.6	5.1%	271.6	3.5%	3,669.3	3.5%	3,467.6	3.7%	17.9%	31.9%	20.6%	17.3%	10.6%	1.8%
	35-1012	First-line supervisors/managers of food preparation and serving workers	2,097.8	6.0%	1,415.5	3.8%	28,071.3	3.6%	20,661.7	2.6%	14.2%	38.1%	28.8%	6.9%	10.5%	1.5%
Sales and related occupations																
	41-1011	First-line supervisors/managers of retail sales workers	4,191.4	6.9%	4,450.2	7.3%	59,613.1	5.4%	66,494.3	5.7%	6.5%	32.4%	28.8%	8.8%	19.9%	3.6%
	41-1012	First-line supervisors/managers of non-retail sales workers	1,203.5	7.9%	925.0	6.3%	16,780.7	5.9%	14,230.1	5.4%	5.5%	24.0%	24.4%	8.1%	29.5%	8.5%
	41-3011	Advertising sales agents	936.5	12.9%	775.3	11.3%	14,860.7	9.3%	12,917.0	8.5%	2.1%	13.5%	22.8%	8.3%	46.8%	6.6%
	41-3021	Insurance sales agents	1,753.7	11.8%	1,359.5	9.1%	25,299.0	8.1%	21,863.2	6.7%	1.2%	18.2%	27.3%	9.1%	37.3%	6.9%
	41-3031	Securities, commodities, and financial services sales agents	2,048.7	11.4%	1,510.8	9.0%	28,380.3	10.9%	24,694.5	9.1%	1.3%	10.3%	18.0%	6.2%	48.1%	16.0%
	41-3099	Sales representatives, services, all other	2,025.4	9.9%	1,393.3	6.2%	27,468.4	5.5%	18,875.6	3.5%	3.0%	17.5%	26.8%	8.3%	36.8%	7.5%
	41-4011	Sales representatives, wholesale and manufacturing, technical and scientific products	2,296.9	7.4%	1,004.4	3.5%	31,017.3	7.9%	15,171.1	3.7%	3.3%	18.7%	23.5%	8.1%	39.4%	7.0%
	41-9022	Real estate sales agents	1,455.3	39.7%	689.1	17.3%	14,095.1	8.4%	11,142.8	7.4%	1.6%	15.6%	28.3%	9.8%	34.7%	10.0%
	41-9031	Sales engineers	492.7	12.9%	222.5	3.7%	5,794.8	7.7%	3,289.0	4.6%	0.8%	4.4%	15.6%	8.0%	56.3%	14.8%
	41-9041	Telemarketers	1,121.2	8.3%	805.3	5.7%	17,789.3	4.6%	16,277.2	5.3%	12.7%	34.9%	34.3%	6.8%	9.6%	1.7%
Office and administrative support occupations																
	43-3051	Payroll and timekeeping clerks	588.2	5.3%	273.1	2.9%	8,711.1	4.2%	3,890.3	2.0%	2.3%	32.5%	37.0%	12.8%	13.6%	1.8%
	43-4081	Hotel, motel, and resort desk clerks	544.7	5.8%	366.3	4.2%	8,205.3	3.8%	6,359.8	2.8%	7.7%	34.2%	37.6%	8.4%	10.9%	1.3%
	43-4161	Human resources assistants, except payroll and timekeeping	661.4	9.0%	344.3	4.8%	10,415.9	6.5%	5,330.3	3.3%	2.6%	25.4%	37.3%	11.5%	19.2%	4.0%
	43-5061	Production, planning, and expediting clerks	732.4	5.1%	354.1	2.5%	11,006.3	3.8%	6,228.3	2.3%	3.8%	26.4%	31.2%	10.7%	22.4%	5.6%
	43-6011	Executive secretaries and administrative assistants	7,080.4	8.2%	2,754.7	3.7%	83,853.7	5.6%	32,968.3	2.4%	2.9%	31.8%	35.8%	12.9%	14.2%	2.3%
	43-6012	Legal secretaries	842.4	6.3%	230.4	2.0%	12,526.8	4.7%	4,797.8	2.0%	2.9%	31.8%	35.8%	12.9%	14.2%	2.3%
	43-6013	Medical secretaries	1,667.8	5.1%	1,025.7	3.0%	16,810.4	4.3%	13,992.9	3.0%	2.9%	31.8%	35.8%	12.9%	14.2%	2.3%
	43-9021	Data entry keyers	697.0	5.0%	468.2	4.1%	12,147.4	4.1%	6,187.8	2.5%	4.4%	32.9%	36.1%	11.0%	13.7%	2.0%
Installation, maintenance, and repair occupations																
	49-1011	First-line supervisors/managers of mechanics, installers, and repairers	1,043.6	5.1%	470.5	2.4%	19,899.7	4.4%	12,295.4	2.9%	7.7%	37.7%	30.5%	11.9%	10.0%	2.2%
Production occupations																
	51-1011	First-line supervisors/managers of production and operating workers	2,539.5	7.3%	1,291.8	4.2%	38,542.8	5.7%	20,009.9	3.3%	11.2%	41.0%	25.4%	7.6%	11.8%	3.1%
Transportation and material moving occupations																
	53-1031	First-line supervisors/managers of transportation and material-moving machine and vehicle operators	756.9	8.7%	527.5	6.0%	15,204.2	6.9%	10,064.0	4.9%	8.4%	35.2%	30.4%	9.0%	14.5%	2.6%
Total vacancies			285,904.8	4.3%	180,004	2.7%	3,822,134	2.9%	2,523,451	1.9%						

Source:

Vacancy rate is based on the author's calculations of vacancies as a share of total employment. The number of vacancies by detailed occupation was obtained from the Help Wanted Online Survey from the Conference Board. Total employment by detailed industry was obtained from the U.S. Bureau of Labor Statistics. Distribution of education attainment is based on the author's calculations from the 2006-08 combined American Community Survey.

Note:

Occupations with "critical vacancies" are those where the vacancy rate is greater than or equal to 4.3%, the number of vacancies is greater than or equal to 400, and total employment is greater than or equal to 1,500 in New England in 2006.

Table A5. Occupations projected to grow rapidly in New England, 2009-2018
By detailed occupation group

OCC code	Occupation	Employment		Change		Distribution of educational attainment					
		2009-Actual	2018-Projected	Number	Percent	"Low-Skill"		"Middle-Skill"		"High-Skill"	
						Less than high school	High school graduate	Some college	Associate's degree	Bachelor's degree	Advanced degree
Management occupations											
11-9021	Construction managers	8,510	10,971	2,461	28.9%	7.7%	30.9%	24.6%	8.1%	23.4%	5.4%
Business and financial operations occupations											
13-1031	Claims adjusters, examiners, and investigators	16,620	20,645	4,025	24.2%	1.3%	17.9%	26.0%	10.7%	38.7%	5.5%
13-1041	Compliance officers, except agriculture, construction, health and safety, and transportation	13,310	17,639	4,329	32.5%	1.1%	12.5%	21.2%	10.4%	37.3%	17.4%
13-1051	Cost estimators	9,310	13,324	4,014	43.1%	3.3%	24.3%	30.9%	11.6%	26.3%	3.6%
13-1071	Employment, recruitment, and placement specialists	11,930	16,310	4,380	36.7%	1.6%	13.8%	24.3%	9.1%	37.5%	13.6%
13-1072	Compensation, benefits, and job analysis specialists	6,810	8,959	2,149	31.6%	1.6%	13.8%	24.3%	9.1%	37.5%	13.6%
13-1073	Training and development specialists	10,700	13,566	2,866	26.8%	1.6%	13.8%	24.3%	9.1%	37.5%	13.6%
13-1199	Business operations specialists, all other	38,340	47,884	9,544	24.9%	2.1%	15.5%	23.9%	11.4%	32.3%	14.7%
13-2011	Accountants and auditors	62,880	77,905	15,025	23.9%	0.3%	5.1%	8.9%	10.4%	56.5%	18.8%
13-2052	Personal financial advisors	9,900	12,935	3,035	30.7%	0.6%	4.9%	12.5%	4.9%	51.5%	25.5%
13-2061	Financial examiners	2,140	3,233	1,093	51.1%	0.2%	7.7%	11.4%	4.2%	58.3%	18.1%
13-2072	Loan officers	12,270	15,234	2,964	24.2%	1.3%	15.8%	26.3%	9.9%	38.8%	7.9%
13-2099	Financial specialists, all other	6,570	8,873	2,303	35.1%	1.9%	15.2%	22.5%	9.7%	34.8%	15.8%
Computer and mathematical science occupations											
15-1031	Computer software engineers, applications	38,610	52,599	13,989	36.2%	0.4%	2.6%	10.2%	5.4%	49.5%	31.8%
15-1032	Computer software engineers, systems software	35,810	45,706	9,896	27.6%	0.4%	2.6%	10.2%	5.4%	49.5%	31.8%
15-1071	Network and computer systems administrators	18,680	23,093	4,413	23.6%	0.8%	8.4%	26.5%	15.7%	38.0%	10.7%
15-1081	Network systems and data communications analysts	10,360	17,790	7,430	71.7%	1.1%	8.4%	23.3%	13.4%	41.6%	12.1%
Architecture and engineering occupations											
17-2051	Civil engineers	13,600	16,677	3,077	22.6%	0.3%	3.8%	6.5%	5.8%	57.0%	26.6%
17-2112	Industrial engineers	12,280	15,912	3,632	29.6%	0.3%	8.0%	13.8%	10.0%	49.8%	18.1%
17-2199	Engineers, all other	5,750	8,373	2,623	45.6%	0.3%	3.8%	8.4%	7.7%	48.7%	31.1%
17-3011	Architectural and civil drafters	4,820	5,978	1,158	24.0%	2.0%	13.1%	31.5%	30.5%	19.5%	3.6%
Life, physical, and social science occupations											
19-1021	Biochemists and biophysicists	3,060	4,768	1,708	55.8%	0.1%	0.9%	3.5%	3.2%	45.2%	47.0%
19-1042	Medical scientists, except epidemiologists	11,460	15,089	3,629	31.7%	0.2%	0.8%	0.8%	0.6%	14.4%	83.3%
19-2041	Environmental scientists and specialists, including health	4,770	6,355	1,585	33.2%	0.3%	0.9%	3.5%	3.1%	50.0%	42.3%
19-3021	Market research analysts	14,830	18,748	3,918	26.4%	0.5%	5.0%	12.9%	5.3%	48.4%	27.8%
19-4021	Biological technicians	7,680	10,151	2,471	32.2%	4.3%	16.6%	20.8%	10.3%	34.3%	13.7%
Community and social services occupations											
21-1014	Mental health counselors	8,430	11,644	3,214	38.1%	1.9%	7.9%	13.5%	5.5%	25.9%	45.3%
21-1021	Child, family, and school social workers	18,090	22,724	4,634	25.6%	1.2%	6.1%	10.7%	5.9%	43.6%	32.4%
21-1092	Probation officers and correctional treatment specialists	710	2,660	1,950	274.6%	2.7%	15.4%	22.4%	9.6%	36.5%	13.5%
21-1093	Social and human service assistants	30,920	42,140	11,220	36.3%	2.7%	15.4%	22.4%	9.6%	36.5%	13.5%
Legal occupations											
23-2011	Paralegals and legal assistants	15,020	20,160	5,140	34.2%	1.0%	13.3%	26.3%	18.2%	35.2%	6.0%
Education, training, and library occupations											
25-1071	Health specialties teachers, postsecondary	5,030	7,068	2,038	40.5%	0.3%	0.8%	5.1%	2.4%	19.1%	72.4%
25-1124	Foreign language and literature teachers, postsecondary	1,660	2,763	1,103	66.4%	0.3%	0.8%	5.1%	2.4%	19.1%	72.4%
25-1191	Graduate teaching assistants	4,070	6,320	2,250	55.3%	0.3%	0.8%	5.1%	2.4%	19.1%	72.4%
25-1199	Postsecondary teachers, all other	10,040	13,239	3,199	31.9%	0.3%	0.8%	5.1%	2.4%	19.1%	72.4%
25-2021	Elementary school teachers, except special education	71,080	85,084	14,004	19.7%	0.3%	1.0%	3.2%	2.1%	47.8%	45.4%
25-2032	Vocational education teachers, secondary school	5,320	6,742	1,422	26.7%	0.3%	0.7%	2.7%	1.6%	47.0%	47.7%
25-3021	Self-enrichment education teachers	12,370	16,585	4,215	34.1%	4.2%	13.4%	25.6%	7.8%	30.9%	18.0%
25-3099	Teachers and instructors, all other	21,150	25,688	4,538	21.5%	4.2%	13.4%	25.6%	7.8%	30.9%	18.0%
25-9031	Instructional coordinators	6,030	7,268	1,238	20.5%	1.0%	5.3%	13.1%	5.8%	25.7%	49.1%
25-9041	Teacher assistants	90,760	100,300	9,540	10.5%	3.9%	31.2%	33.2%	13.2%	15.4%	3.1%
Arts, design, entertainment, sports, and media occupations											
27-1024	Graphic designers	10,850	13,188	2,338	21.5%	2.8%	12.8%	20.5%	14.2%	42.2%	7.6%
27-1025	Interior designers	2,390	3,486	1,096	45.9%	2.8%	12.8%	20.5%	14.2%	42.2%	7.6%
27-3031	Public relations specialists	16,000	19,636	3,636	22.7%	0.8%	6.2%	14.0%	4.2%	55.7%	19.2%
Healthcare practitioners and technical occupations											
29-1062	Family and general practitioners	3,710	5,079	1,369	36.9%	0.2%	0.4%	0.5%	0.5%	1.1%	97.4%
29-1065	Pediatricians, general	2,740	4,056	1,316	48.0%	0.2%	0.4%	0.5%	0.5%	1.1%	97.4%
29-1067	Surgeons	3,380	4,591	1,211	35.8%	0.2%	0.4%	0.5%	0.5%	1.1%	97.4%
29-1071	Physician assistants	6,000	7,561	1,561	26.0%	1.3%	7.1%	9.3%	14.5%	30.4%	37.3%
29-1111	Registered nurses	163,900	194,860	30,960	18.9%	0.2%	1.2%	5.4%	37.4%	42.9%	12.9%
29-1122	Occupational therapists	7,670	9,596	1,926	25.1%	0.2%	0.5%	0.9%	8.8%	55.2%	34.3%
29-1123	Physical therapists	13,490	16,909	3,419	25.3%	0.2%	2.2%	1.8%	7.3%	41.4%	47.1%
29-1126	Respiratory therapists	4,740	5,900	1,160	24.5%	0.4%	2.7%	12.1%	56.9%	23.6%	4.4%
29-2021	Dental hygienists	12,360	16,745	4,385	35.5%	0.5%	2.7%	5.5%	56.7%	30.0%	4.7%
29-2053	Psychiatric technicians	770	2,584	1,814	235.6%	2.9%	26.1%	37.9%	17.5%	13.4%	2.1%
Healthcare support occupations											
31-1011	Home health aides	43,910	63,679	19,769	45.0%	14.7%	39.6%	31.5%	6.9%	5.4%	1.8%
31-1012	Nursing aides, orderlies, and attendants	96,540	112,877	16,337	16.9%	14.7%	39.6%	31.5%	6.9%	5.4%	1.8%
31-1013	Psychiatric aides	5,600	9,012	3,412	60.9%	14.7%	39.6%	31.5%	6.9%	5.4%	1.8%
31-2021	Physical therapist assistants	3,870	5,065	1,195	30.9%	2.6%	10.9%	20.6%	45.4%	16.7%	3.7%
31-9091	Dental assistants	13,960	19,412	5,452	39.1%	3.7%	32.2%	39.1%	15.7%	6.5%	2.8%
31-9092	Medical assistants	25,240	31,493	6,253	24.8%	6.2%	28.4%	38.9%	15.4%	8.7%	2.4%
31-9096	Veterinary assistants and laboratory animal caretakers	3,330	4,371	1,041	31.2%	6.2%	28.4%	38.9%	15.4%	8.7%	2.4%
Food preparation and serving related occupations											
35-3021	Combined food preparation and serving workers, including fast food	113,040	127,940	14,900	13.2%	30.3%	39.8%	22.4%	3.6%	3.3%	0.5%
35-3022	Counter attendants, cafeteria, food concession, and coffee shop	35,320	43,830	8,510	24.1%	47.3%	28.1%	19.8%	2.2%	2.3%	0.4%
35-3031	Waiters and waitresses	121,680	132,558	10,878	8.9%	19.0%	30.4%	35.2%	6.0%	8.5%	0.9%
Building and grounds cleaning and maintenance occupations											
37-3011	Landscaping and groundskeeping workers	46,150	58,021	11,871	25.7%	40.4%	34.2%	15.8%	3.8%	5.1%	0.8%
Personal care and service occupations											
39-9021	Personal and home care aides	41,240	57,301	16,061	38.9%	20.4%	37.2%	25.5%	6.9%	8.0%	2.0%
39-9031	Fitness trainers and aerobics instructors	15,750	20,084	4,334	27.5%	6.5%	19.6%	31.5%	8.5%	27.3%	6.6%
39-9099	Personal care and service workers, all other	2,930	3,931	1,001	34.2%	14.9%	30.6%	30.1%	5.9%	14.9%	3.6%
Sales and related occupations											
41-2031	Retail salespersons	218,550	255,327	36,777	16.8%	10.8%	30.7%	32.2%	7.6%	16.0%	2.7%
Office and administrative support occupations											
43-1011	First-line supervisors/managers of office and administrative support workers	79,980	89,488	9,508	11.9%	3.0%	25.9%	31.0%	11.5%	22.3%	6.3%
43-3011	Bill and account collectors	14,980	19,667	4,687	31.3%	4.4%	34.7%	36.2%	10.1%	12.5%	2.1%
43-3021	Billing and posting clerks and machine operators	26,880	32,786	5,906	22.0%	3.8%	33.3%	36.0%	12.1%	12.7%	2.2%
43-3031	Bookkeeping, accounting, and auditing clerks	94,730	113,058	18,328	19.3%	3.3%	32.0%	40.2%	12.1%	12.7%	2.1%
43-4051	Customer service representatives	111,290	134,012	22,722	20.4%	7.1%	30.4%	34.6%	9.5%	15.9%	2.5%
43-4061	Eligibility interviewers, government programs	3,190	5,208	2,018	63.3%	1.5%	16.2%	29.2%	14.1%	33.8%	5.2%
43-4081	Hotel, motel, and resort desk clerks	8,730	10,857	2,127	24.4%	7.7%	34.2%	37.6%	8.4%	10.9%	1.3%
43-4111	Interviewers, except eligibility and loan	10,610	13,019	2,409	22.7%	5.3%	26.7%	37.2%	10.5%	16.0%	4.3%
43-4171	Receptionists and information clerks	50,390	61,863	11,473	22.8%	6.7%	36.3%	36.9%	8.9%	9.5%	1.6%
43-6011	Executive secretaries and administrative assistants	74,220	92,174	17,954	24.2%	2.9%	31.8%	35.8%	12.9%	14.2%	2.3%
43-6012	Legal secretaries	11,800	14,888	3,088	26.2%	2.9%	31.8%	35.8%	12.9%	14.2%	2.3%
43-6013	Medical secretaries	34,290	41,981	7,691	22.4%	2.9%	31.8%	35.8%	12.9%	14.2%	2.3%

Table A5. Occupations projected to grow rapidly in New England, 2009-2018 (continued)
By detailed occupation group

OCC code Occupation	Employment		Change		Distribution of educational attainment					
	2009-Actual	2018-Projected	Number	Percent	"Low-Skill"		"Middle-Skill"		"High-Skill"	
					Less than high school	High school graduate	Some college	Associate's degree	Bachelor's degree	Advanced degree
Office and administrative support occupations (continued)										
43-9022 Word processors and typists	3,460	4,470	1,010	29.2%	3.3%	31.4%	37.0%	12.5%	13.7%	2.1%
43-9061 Office clerks, general	125,950	148,528	22,578	17.9%	5.2%	32.1%	36.6%	10.1%	13.4%	2.5%
Construction and extraction occupations										
47-1011 First-line supervisors/managers of construction trades and extraction workers	21,350	26,362	5,012	23.5%	15.5%	43.0%	24.7%	6.5%	8.7%	1.7%
47-2031 Carpenters	37,040	48,918	11,878	32.1%	25.1%	44.0%	19.4%	5.0%	5.6%	1.0%
47-2051 Cement masons and concrete finishers	3,090	4,256	1,166	37.7%	42.3%	42.3%	11.6%	1.9%	1.6%	0.2%
47-2061 Construction laborers	29,420	39,497	10,077	34.3%	36.1%	40.2%	15.2%	3.5%	4.3%	0.8%
47-2073 Operating engineers and other construction equipment operators	12,060	14,991	2,931	24.3%	24.3%	52.1%	17.1%	4.0%	2.2%	0.3%
47-2111 Electricians	25,850	31,030	5,180	20.0%	9.3%	41.3%	30.3%	12.0%	5.9%	1.2%
47-2141 Painters, construction and maintenance	8,750	11,232	2,482	28.4%	33.7%	39.4%	15.9%	3.7%	6.0%	1.3%
47-2152 Plumbers, pipefitters, and steamfitters	20,780	26,316	5,536	26.6%	19.3%	47.5%	23.2%	5.9%	3.4%	0.8%
47-3012 Helpers--carpenters	3,160	4,687	1,527	48.3%	40.2%	38.5%	16.3%	2.6%	2.1%	0.3%
47-3013 Helpers--electricians	3,850	5,535	1,685	43.8%	40.2%	38.5%	16.3%	2.6%	2.1%	0.3%
47-3015 Helpers--pipelayers, plumbers, pipefitters, and steamfitters	1,730	2,852	1,122	64.9%	40.2%	38.5%	16.3%	2.6%	2.1%	0.3%
47-4031 Fence erectors	600	1,681	1,081	180.2%	37.6%	40.7%	14.6%	2.2%	4.4%	0.5%
Installation, maintenance, and repair occupations										
49-2022 Telecommunications equipment installers and repairers, except line installers	6,190	8,331	2,141	34.6%	4.0%	32.8%	35.0%	16.3%	10.4%	1.5%
49-2098 Security and fire alarm systems installers	3,220	5,205	1,985	61.7%	9.0%	39.4%	29.3%	13.5%	7.5%	1.2%
49-9021 Heating, air conditioning, and refrigeration mechanics and installers	16,340	21,892	5,552	34.0%	13.4%	43.4%	26.8%	11.4%	4.2%	0.8%
49-9098 Helpers--installation, maintenance, and repair workers	4,850	6,457	1,607	33.1%	38.0%	38.2%	17.5%	2.9%	2.9%	0.5%
49-9099 Installation, maintenance, and repair workers, all other	5,840	7,284	1,444	24.7%	16.1%	39.8%	26.9%	8.0%	7.7%	1.5%
Production occupations										
51-7011 Cabinetmakers and bench carpenters	5,040	6,075	1,035	20.5%	22.9%	42.0%	21.0%	6.3%	6.5%	1.3%
51-9023 Mixing and blending machine setters, operators, and tenders	4,230	5,636	1,406	33.2%	23.9%	48.0%	18.5%	5.0%	3.9%	0.7%
51-9041 Extruding, forming, pressing, and compacting machine setters, operators, and tenders	3,090	4,312	1,222	39.6%	20.6%	54.5%	19.5%	2.9%	2.4%	0.1%
51-9198 Helpers--production workers	14,730	18,049	3,319	22.5%	33.7%	41.5%	17.5%	2.2%	4.3%	0.8%
51-9199 Production workers, all other	7,420	9,311	1,891	25.5%	23.6%	48.0%	18.7%	4.9%	4.1%	0.8%
53-3032 Truck drivers, heavy and tractor-trailer	57,380	70,097	12,717	22.2%	19.5%	49.0%	21.8%	4.8%	4.1%	0.7%
53-3041 Taxi drivers and chauffeurs	11,940	14,453	2,513	21.0%	17.0%	39.2%	22.5%	6.4%	12.0%	2.9%
TOTAL	2,685,240	3,304,650	619,410	23.1%						

Source:

Author's calculations based on data from the U.S. Bureau of Labor Statistics and the 2006-08 combined American Community Survey.

Notes:

Number of current jobs is the sum of 2009 total employment as reported by the U.S. Bureau of Labor Statistics plus the average number of vacancies for 2009 as reported by the Conference Board's Help Wanted On-Line (HWOL) Survey. Number of future jobs is projected by applying the 2008-2018 growth rates as projected by the U.S. Bureau of Labor Statistics for the U.S. to 2008 employment for both the region and the nation separately. The distribution of jobs across education levels is our lower bound measure which is based on the actual distribution of educational attainment from the 2006-08 combined American Community Survey. Rapidly growing occupations are those that have either a high rate of job growth (greater than or equal to 20 percent) combined with an employment gain of 1,000 jobs or a large employment gain (defined as greater than or equal to 9,000 jobs which is roughly equivalent to 1 percent of overall job growth).

Table A6. Projecting educational attainment between 2009 and 2019
New England, native white males

	Cohort 1		Cohort 2		Cohort 3		Cohort 4		Cohort 5	
	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019
	Age 15-19	Age 25-29	Age 20-24	Age 30-34	Age 25-29	Age 35-39	Age 30-34	Age 40-44	Age 35-39	Age 45-49
	Actual	Estimate	Actual	Estimate	Actual	Estimate	Actual	Estimate	Actual	Estimate
Total number of individuals	385,292	314,758	361,511	317,239	318,738	302,707	290,597	270,816	330,272	310,322
Lower bound estimates: holding educational attainment patterns constant										
Less than highschool	66.4%	7.0%	7.0%	5.4%	7.0%	7.0%	5.4%	5.4%	6.0%	6.0%
High school graduate	17.9%	30.8%	30.7%	28.9%	30.8%	30.8%	28.9%	28.9%	30.0%	30.0%
Some college	15.4%	19.9%	40.2%	17.9%	19.9%	19.9%	17.9%	17.9%	16.7%	16.7%
Associate's degree	0.2%	7.3%	5.3%	7.7%	7.3%	7.3%	7.7%	7.7%	8.2%	8.2%
Bachelor's degree	0.1%	28.4%	15.8%	27.7%	28.4%	28.4%	27.7%	27.7%	25.8%	25.8%
Advanced degree	0.0%	6.6%	1.0%	12.4%	6.6%	6.6%	12.4%	12.4%	13.3%	13.3%
Upper bound estimates: allowing educational attainment patterns to increase over lifecycle										
Less than highschool	66.4%	7.0%	7.0%	5.4%	7.0%	5.8%	5.4%	4.3%	6.0%	5.5%
High school graduate	17.9%	30.8%	30.7%	28.9%	30.8%	28.4%	28.9%	27.6%	30.0%	29.0%
Some college	15.4%	19.9%	40.2%	17.9%	19.9%	20.0%	17.9%	18.0%	16.7%	16.5%
Associate's degree	0.2%	7.3%	5.3%	7.7%	7.3%	6.9%	7.7%	7.7%	8.2%	7.6%
Bachelor's degree	0.1%	28.4%	15.8%	27.7%	28.4%	26.1%	27.7%	27.1%	25.8%	25.3%
Advanced degree	0.0%	6.6%	1.0%	12.4%	6.6%	12.7%	12.4%	15.2%	13.3%	16.0%
Market adjustment estimates: Increasing educational attainment across cohorts										
Less than highschool	66.4%	6.9%	7.0%	5.3%	7.0%	5.8%	5.4%	4.3%	6.0%	5.5%
High school graduate	17.9%	29.4%	30.7%	27.5%	30.8%	28.4%	28.9%	27.6%	30.0%	29.0%
Some college	15.4%	19.6%	40.2%	17.6%	19.9%	20.0%	17.9%	18.0%	16.7%	16.5%
Associate's degree	0.2%	7.7%	5.3%	8.0%	7.3%	6.9%	7.7%	7.7%	8.2%	7.6%
Bachelor's degree	0.1%	29.9%	15.8%	29.1%	28.4%	26.1%	27.7%	27.1%	25.8%	25.3%
Advanced degree	0.0%	6.6%	1.0%	12.4%	6.6%	12.7%	12.4%	15.2%	13.3%	16.0%

	Cohort 6		Cohort 7		Cohort 8		Cohort 9		Cohort 10	
	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019
	Age 40-44	Age 50-54	Age 45-49	Age 55-59	Age 50-54	Age 60-64	Age 55-59	Age 65-69	Age 60-64	Age 70-74
	Actual	No change	Actual	No change	Actual	No change	Actual	No change	Actual	No change
Total number of individuals	393,654	367,755	456,500	405,669	444,143	383,074	384,052	319,442	316,091	226,962
Lower bound estimates: holding educational attainment patterns constant										
Less than highschool	6.6%	6.6%	7.1%	7.1%	6.2%	6.2%	6.2%	6.2%	9.4%	9.4%
High school graduate	33.3%	33.3%	32.7%	32.7%	30.0%	30.0%	25.2%	25.2%	26.4%	26.4%
Some college	16.0%	16.0%	17.1%	17.1%	17.7%	17.7%	18.0%	18.0%	16.8%	16.8%
Associate's degree	7.9%	7.9%	7.7%	7.7%	8.3%	8.3%	8.2%	8.2%	7.0%	7.0%
Bachelor's degree	23.3%	23.3%	22.0%	22.0%	21.6%	21.6%	22.9%	22.9%	20.0%	20.0%
Advanced degree	13.0%	13.0%	13.5%	13.5%	16.2%	16.2%	19.5%	19.5%	20.3%	20.3%
Upper bound estimates: allowing educational attainment patterns to increase over lifecycle										
Less than highschool	6.6%	6.6%	7.1%	7.1%	6.2%	6.2%	6.2%	6.2%	9.4%	9.4%
High school graduate	33.3%	33.3%	32.7%	32.7%	30.0%	30.0%	25.2%	25.2%	26.4%	26.4%
Some college	16.0%	16.0%	17.1%	17.1%	17.7%	17.7%	18.0%	18.0%	16.8%	16.8%
Associate's degree	7.9%	7.9%	7.7%	7.7%	8.3%	8.3%	8.2%	8.2%	7.0%	7.0%
Bachelor's degree	23.3%	23.3%	22.0%	22.0%	21.6%	21.6%	22.9%	22.9%	20.0%	20.0%
Advanced degree	13.0%	13.0%	13.5%	13.5%	16.2%	16.2%	19.5%	19.5%	20.3%	20.3%
Market adjustment estimates: Increasing educational attainment across cohorts										
Less than highschool	6.6%	6.6%	7.1%	7.1%	6.2%	6.2%	6.2%	6.2%	9.4%	9.4%
High school graduate	33.3%	33.3%	32.7%	32.7%	30.0%	30.0%	25.2%	25.2%	26.4%	26.4%
Some college	16.0%	16.0%	17.1%	17.1%	17.7%	17.7%	18.0%	18.0%	16.8%	16.8%
Associate's degree	7.9%	7.9%	7.7%	7.7%	8.3%	8.3%	8.2%	8.2%	7.0%	7.0%
Bachelor's degree	23.3%	23.3%	22.0%	22.0%	21.6%	21.6%	22.9%	22.9%	20.0%	20.0%
Advanced degree	13.0%	13.0%	13.5%	13.5%	16.2%	16.2%	19.5%	19.5%	20.3%	20.3%

Source:

Author's calculations using the 2006-08 combined American Community Survey.

Notes:

Lower bound estimates are made by assigning the education distribution of current cohorts age 25-29 and 30-34 in 2009 to those individuals who will be aged 25-29 and 30-34 in 2019. Upper bound estimates are made by also applying the change in educational attainment between 1990 and 2000 for individuals age 25-29, 30-34, and 35-39 in 2009 to those aged 25-29, 30-34, and 35-39 years in 2019. Market adjustment estimates are made by also applying changes in high school graduation, college continuation, and college completion rates over the last decade to individuals who will be age 25-29 and 30-34 in 2019.

Table A7. Changing educational attainment of the labor force over time
 Labor force participants aged 25-64 Years

		New England					
		Less than high school	High school graduate	Some college	Associate's degree	Bachelor's degree	Advanced degree
Actual 2009		6.8%	26.8%	17.6%	9.1%	23.7%	16.0%
Lower bound: holding educational attainment patterns constant							
	2019	7.0%	26.2%	17.9%	8.8%	25.4%	14.7%
	2029	7.8%	25.6%	18.2%	8.0%	26.2%	14.2%
Upper bound: allowing educational attainment to increase over lifecycle							
	2019	6.7%	25.6%	17.9%	8.8%	25.1%	15.8%
	2029	7.2%	24.4%	18.3%	8.1%	25.6%	16.5%
		United States					
		Less than high school	High school graduate	Some college	Associate's degree	Bachelor's degree	Advanced degree
Actual 2009		10.4%	27.4%	21.3%	8.9%	20.4%	11.6%
Lower bound: holding educational attainment patterns constant							
	2019	11.8%	26.8%	21.2%	8.8%	21.1%	10.3%
	2029	13.5%	26.2%	21.1%	8.4%	21.2%	9.5%
Upper bound: allowing educational attainment to increase over lifecycle							
	2019	11.4%	26.2%	21.4%	8.7%	21.1%	11.1%
	2029	12.7%	25.2%	21.4%	8.3%	21.2%	11.2%

Source:

Author's calculations using data from the American Community Survey, the decennial Census, and the National Center for Education Statistics.

Note:

Lower bound estimates are made by assigning the current education distribution to those individuals who will be aged 25-29 and 30-34 in 2019. Upper bound estimates are made by also allowing additional attainment over lifecycle for current cohorts aged 25-39 years in 2009.

Table A8. College completion rates by race, U.S.

	Two year colleges			Four year colleges		
	5-year completion Rate		Change across cohorts	5-year completion Rate		Change across cohorts
	89/94	96/01	89/94 to 96/01	89/94	96/01	89/94 to 96/01
Total	24.7%	27.0%	2.3%	53.3%	58.4%	5.1%
White	26.0%	29.6%	3.6%	54.3%	61.9%	7.6%
Black	17.3%	11.7%	-5.6%	41.9%	43.4%	1.5%
Hispanic	23.0%	23.3%	0.3%	47.2%	44.0%	-3.2%
Asian/Pacific Islander	22.6%	30.4%	7.8%	51.7%	63.1%	11.4%

Source:

Author's calculations based on data from the National Center for Education Statistics, Beginning Postsecondary Survey, various years.

Table A9. Migration rates by demographic group, 2006

	Domestic migration						International migration		2006 populations
	In-migrants	In-migration rate (per 1,000)	Out-migrants	Out-migration rate (per 1,000)	Net migrants	Net-migration rate (per 1,000)	International immigrants	Immigration rate (per 1,000)	
<u>New England (division-to-division movers)</u>									
Working age adults, age 25-64	122,967	15.8	156,508	20.1	-33,541	-4.3	43,457	5.6	7,779,326
College graduates, age 25-64	61,888	23.4	74,126	28.0	-12,238	-4.6	16,811	6.4	2,646,829
Young professionals, age 25-39	39,435	42.2	45,031	48.1	-5,596	-6.0	11,031	11.8	935,524
<u>Massachusetts (state-to-state movers)</u>									
Working age adults, age 25-64	66,244	19.0	92,340	26.5	-26,096	-7.5	26,496	7.6	3,481,109
College graduates, age 25-64	35,808	27.5	47,411	36.4	-11,603	-8.9	10,339	7.9	1,302,398
Young professionals, age 25-39	24,725	51.0	31,584	65.1	-6,859	-14.1	6,299	13.0	485,025

Source:

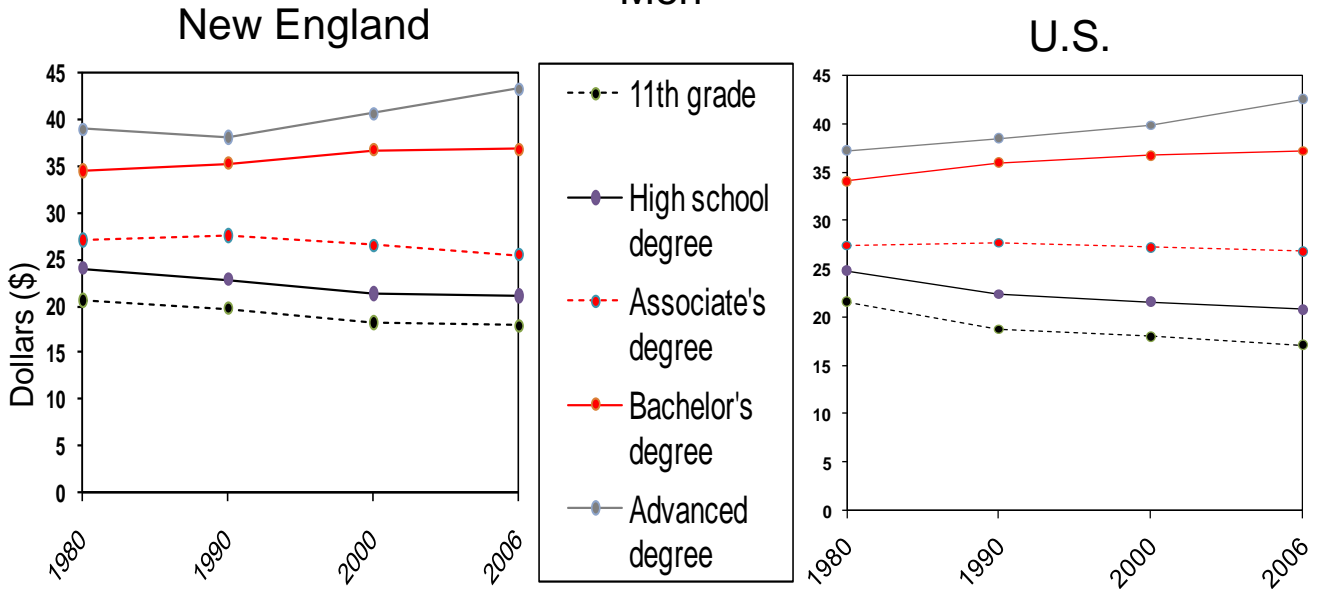
Author's calculations for the 2006 American Community Survey.

Notes:

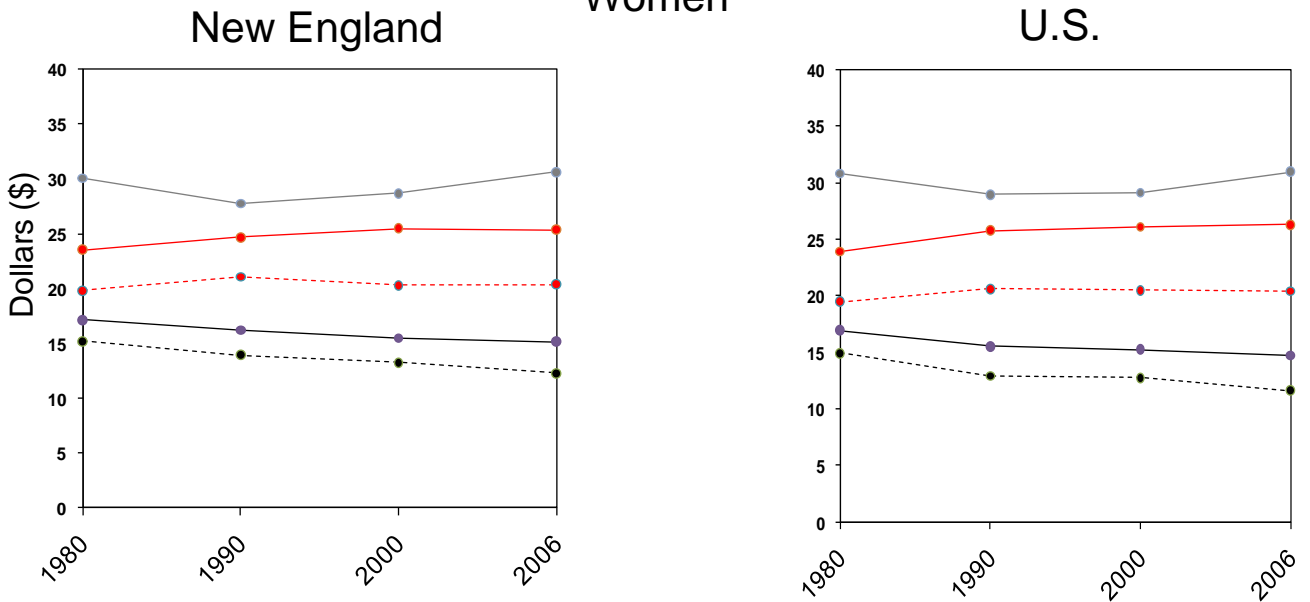
Sample include population residing in non-institutional group quarters (e.g. college dormitories) but excludes those in institutional group quarters (correctional facilities, nursing and in-patient hospice facilities, mental hospitals, juvenile group homes and juvenile residential treatment centers). Migration rates for New England are for division-to-division moves. Massachusetts migration rates are for state-to-state moves. Migrants are defined as individuals who lived in a different state, region, or country in the previous year. College graduates are defined as individuals, age 25 to 64 years who have completed a bachelor's degree or higher and are also not enrolled in school. Young professionals are defined as individuals, age 25 to 39 years who have completed a bachelor's degree or higher and are also not enrolled in school. Working age adults are defined as individuals, age 25 to 64 years with any level of education.

Figure A1. Estimates of hourly wages by level of education, 1980-2006

Men



Women

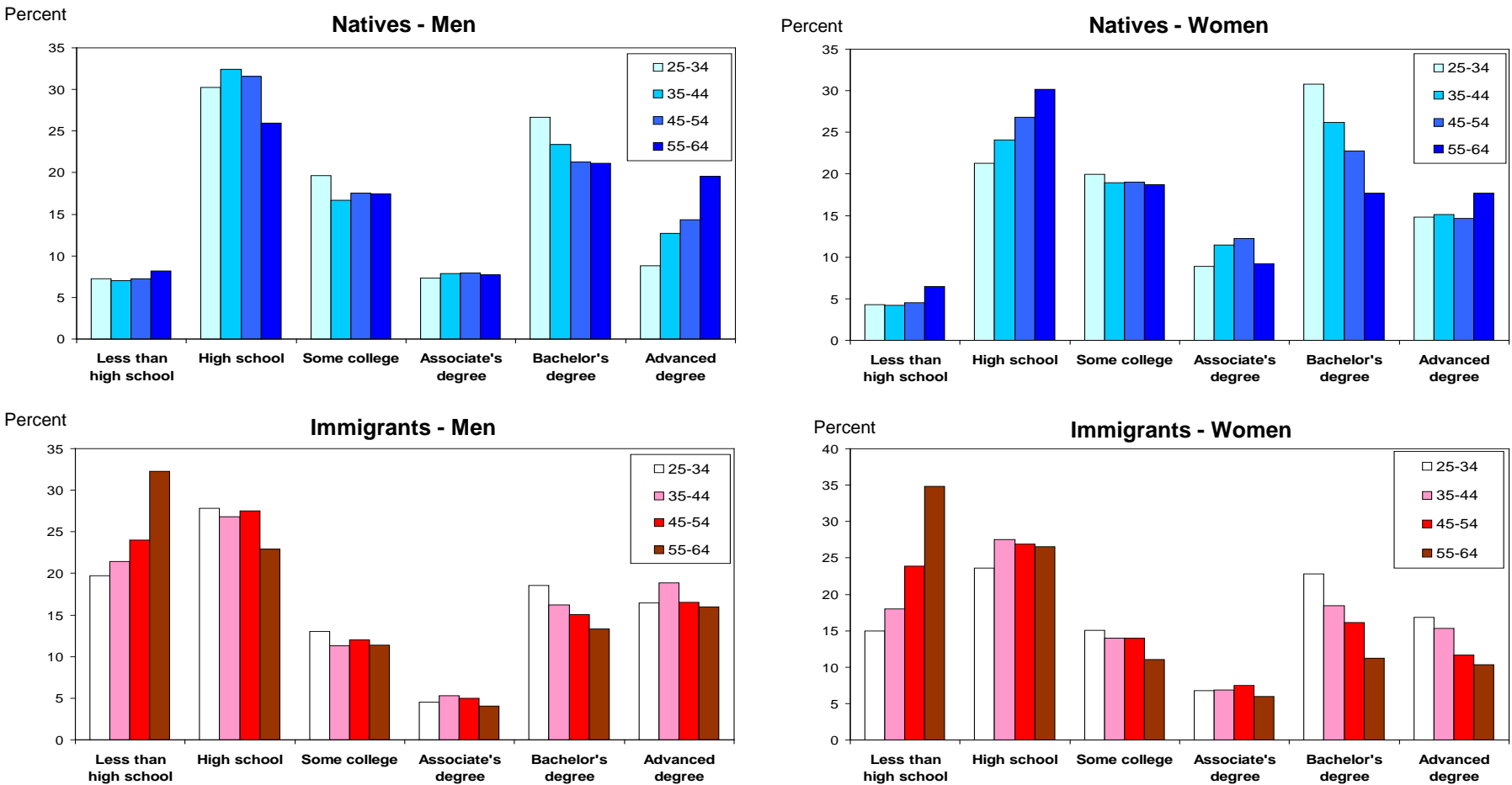


Source: Author's calculations based on the decennial Census and the 2005 and 2006 American Community Surveys (combined).

Note: Wages are estimated using a separate ordinary least squares regression for each year and are adjusted for inflation to 2006 dollars. See the appendix for details.

Figure A2. Current distribution of educational attainment in New England by age cohort

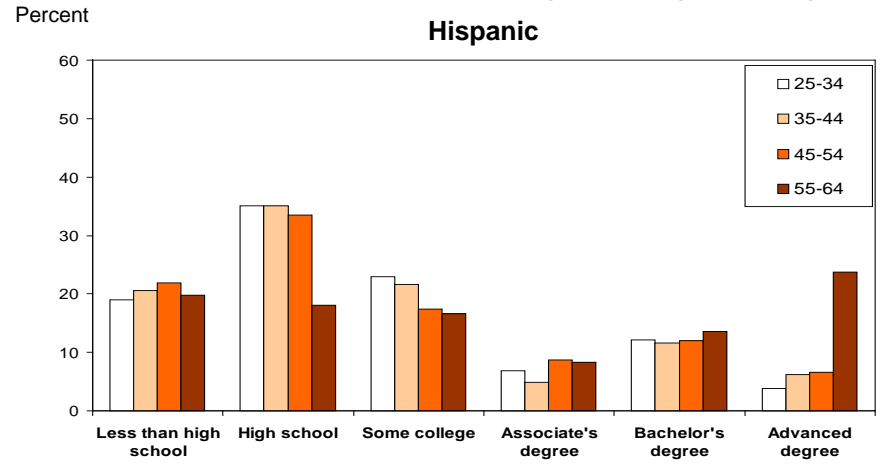
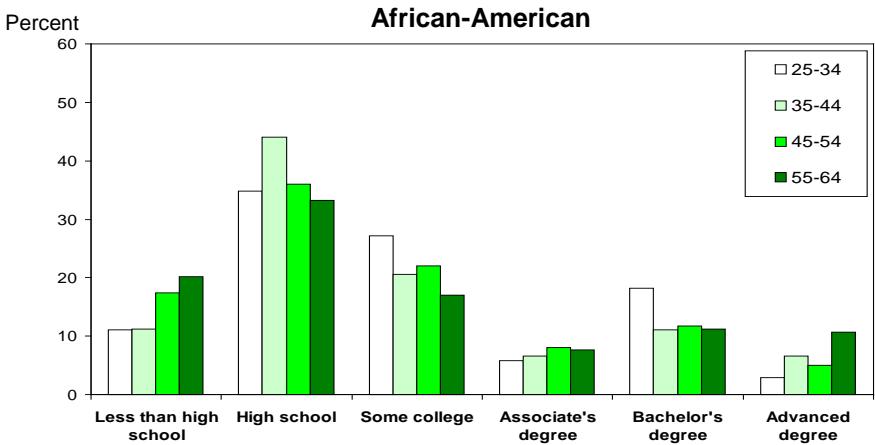
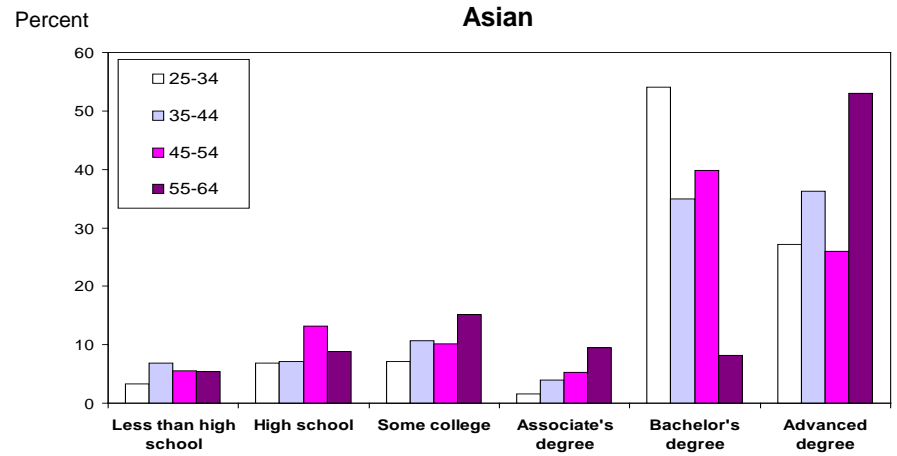
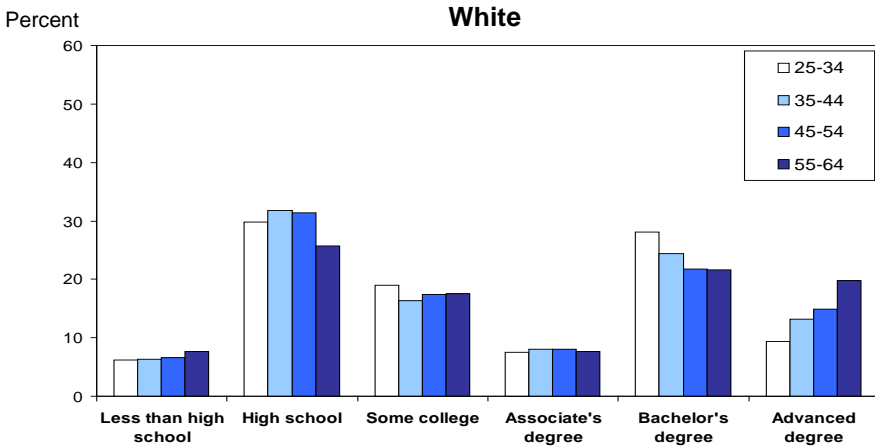
Native versus foreign populations, 2009



Source: 2006-08 combined American Community Survey.

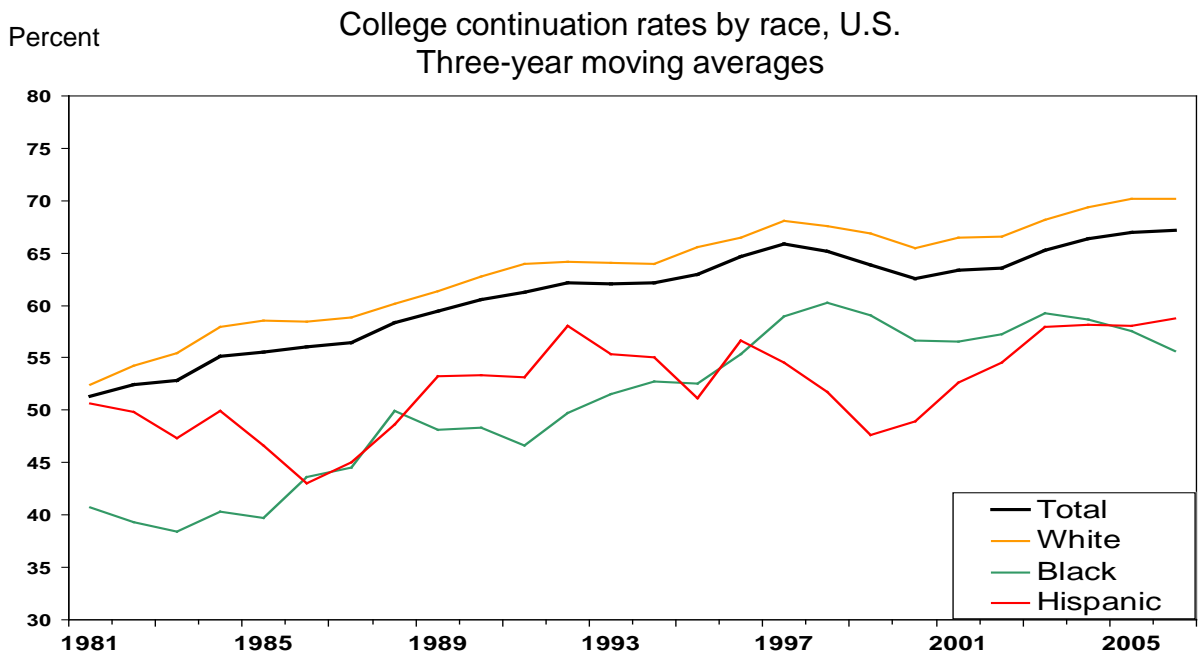
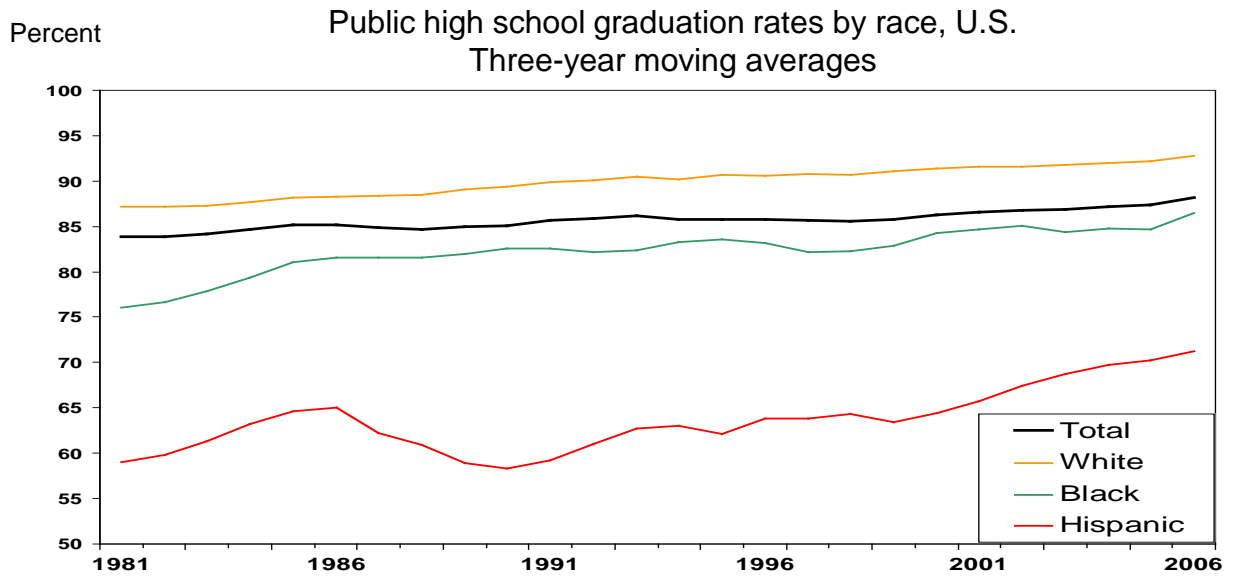
Figure A3. Current distribution of educational attainment in New England by age cohort

Across native racial and ethnic groups, 2009



Source: 2006-08 combined American Community Survey.

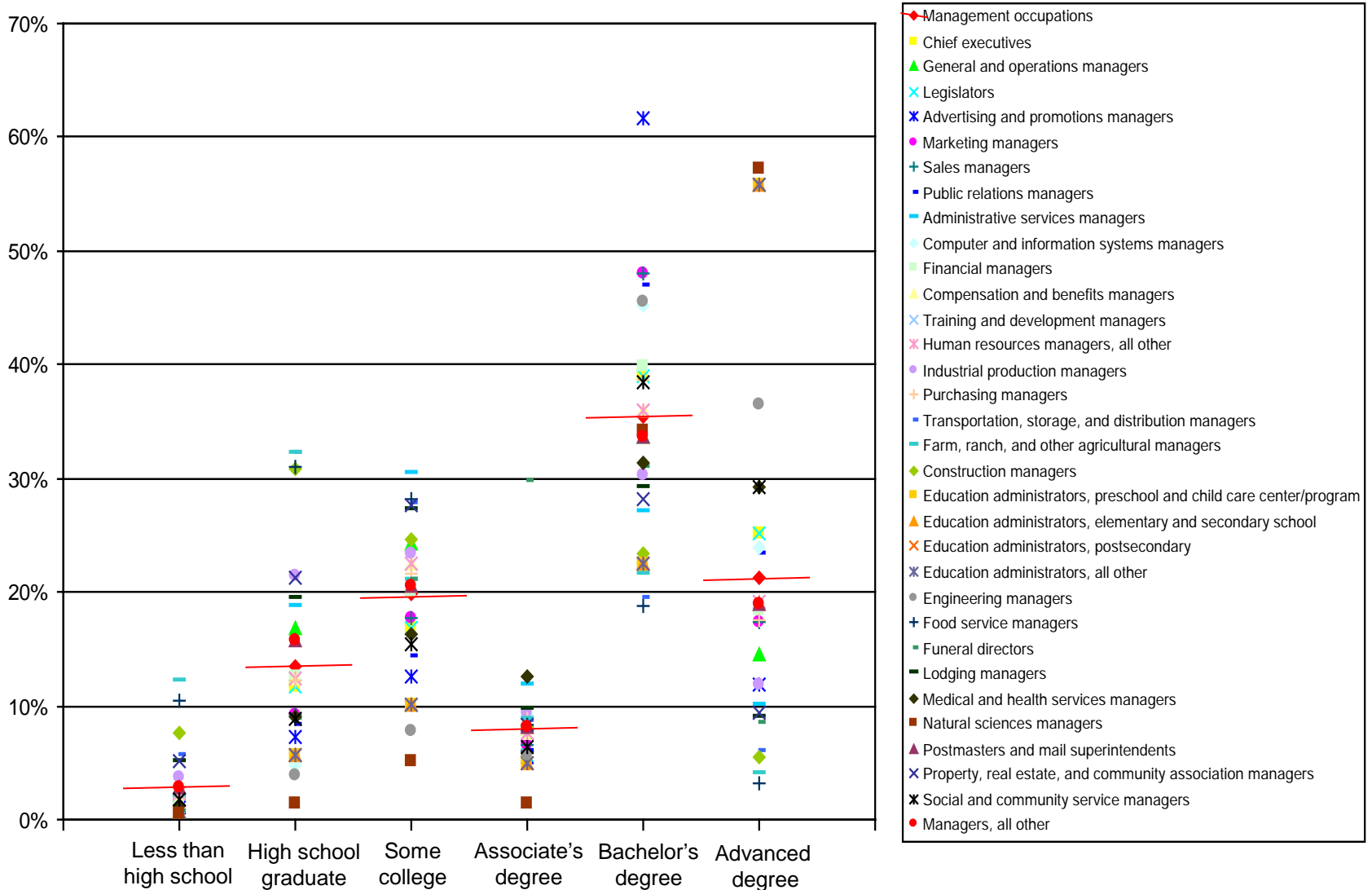
Figure A4. Trends in high school graduation and college continuation



Source: National Center for Education Statistics (NCES), U.S. Department of Education.

Figure A5.a Education distribution of workers by occupation

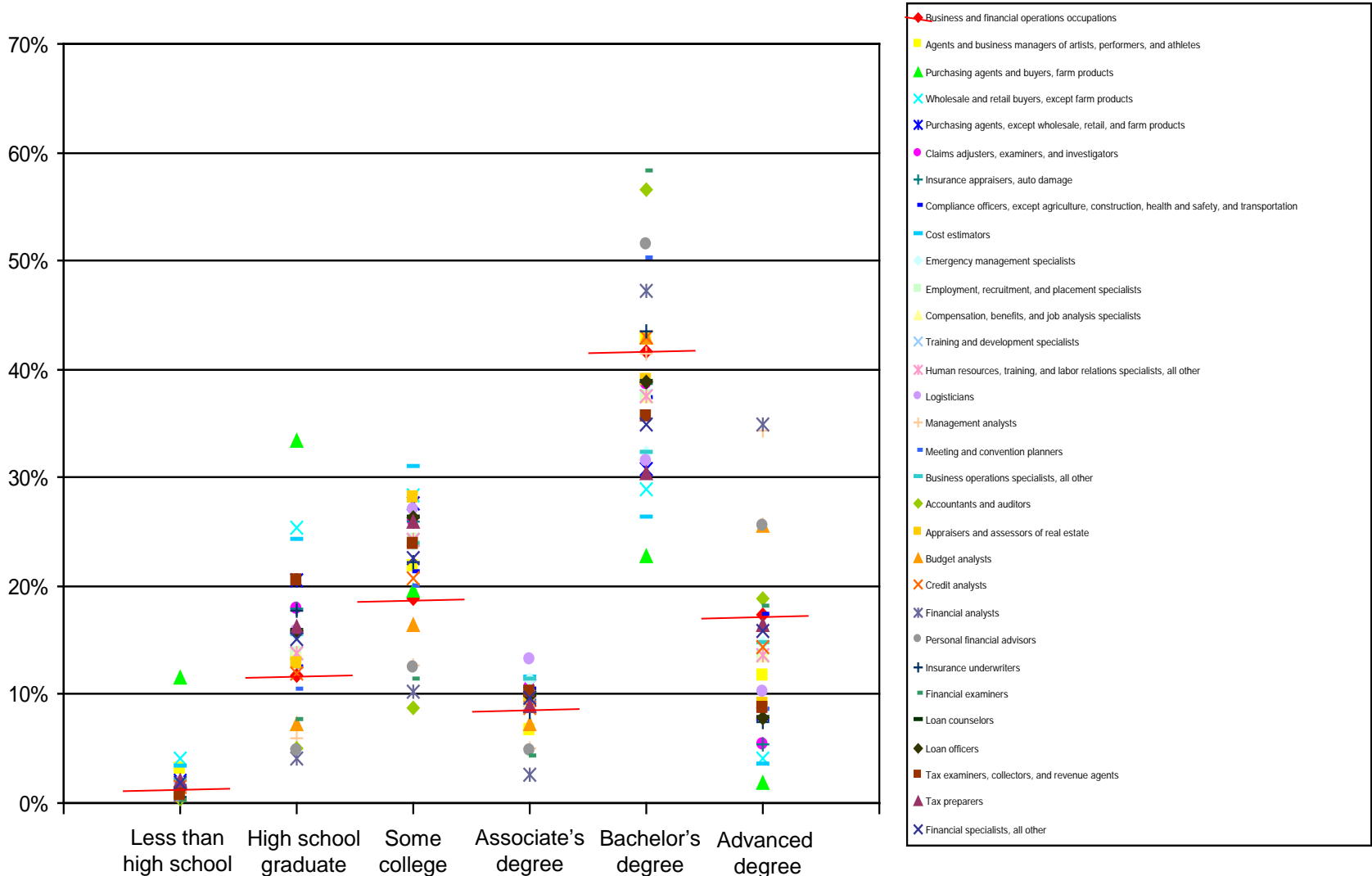
Management



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.b Education distribution of workers by occupation

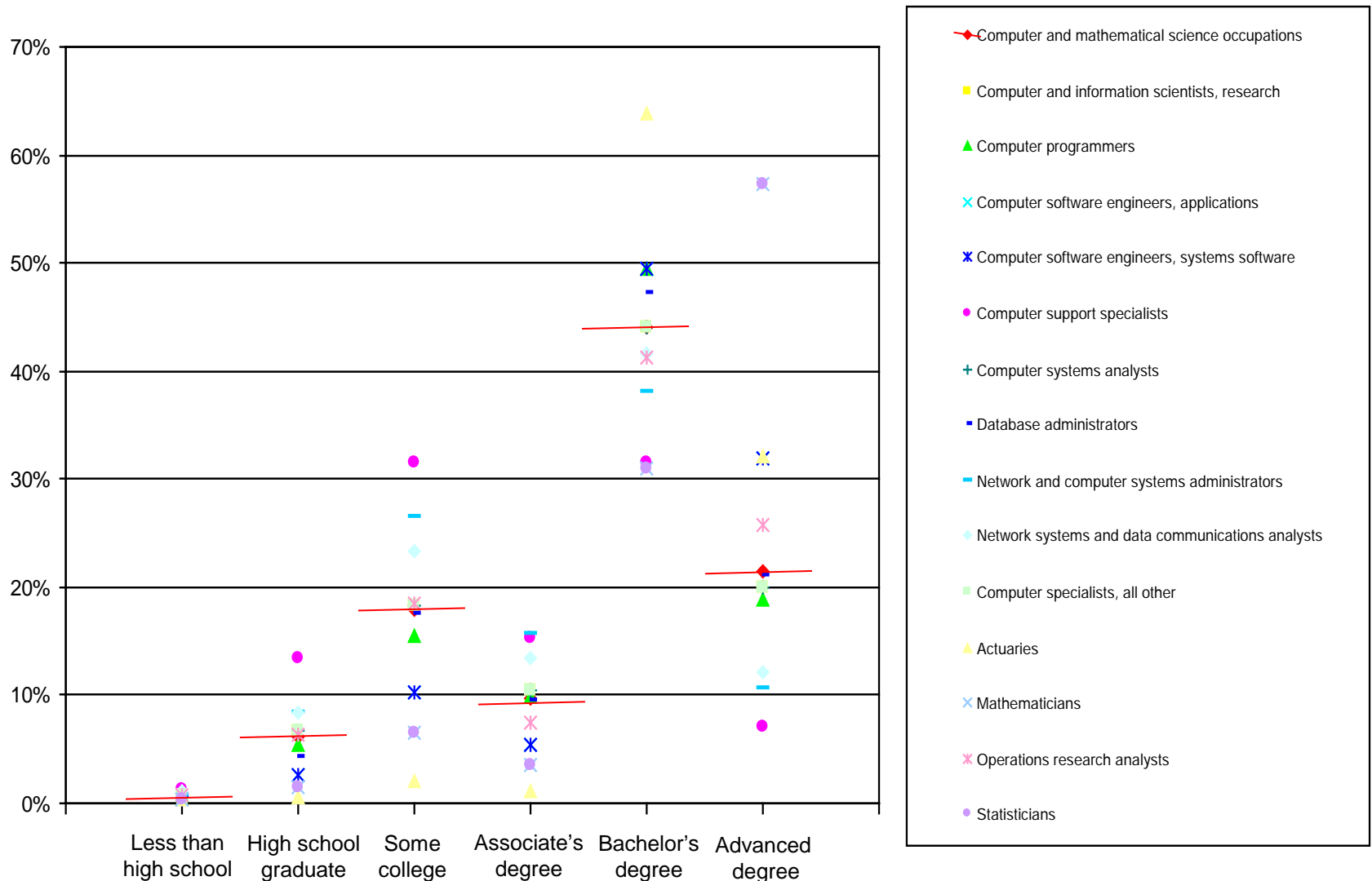
Business and financial operations



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.c Education distribution of workers by occupation

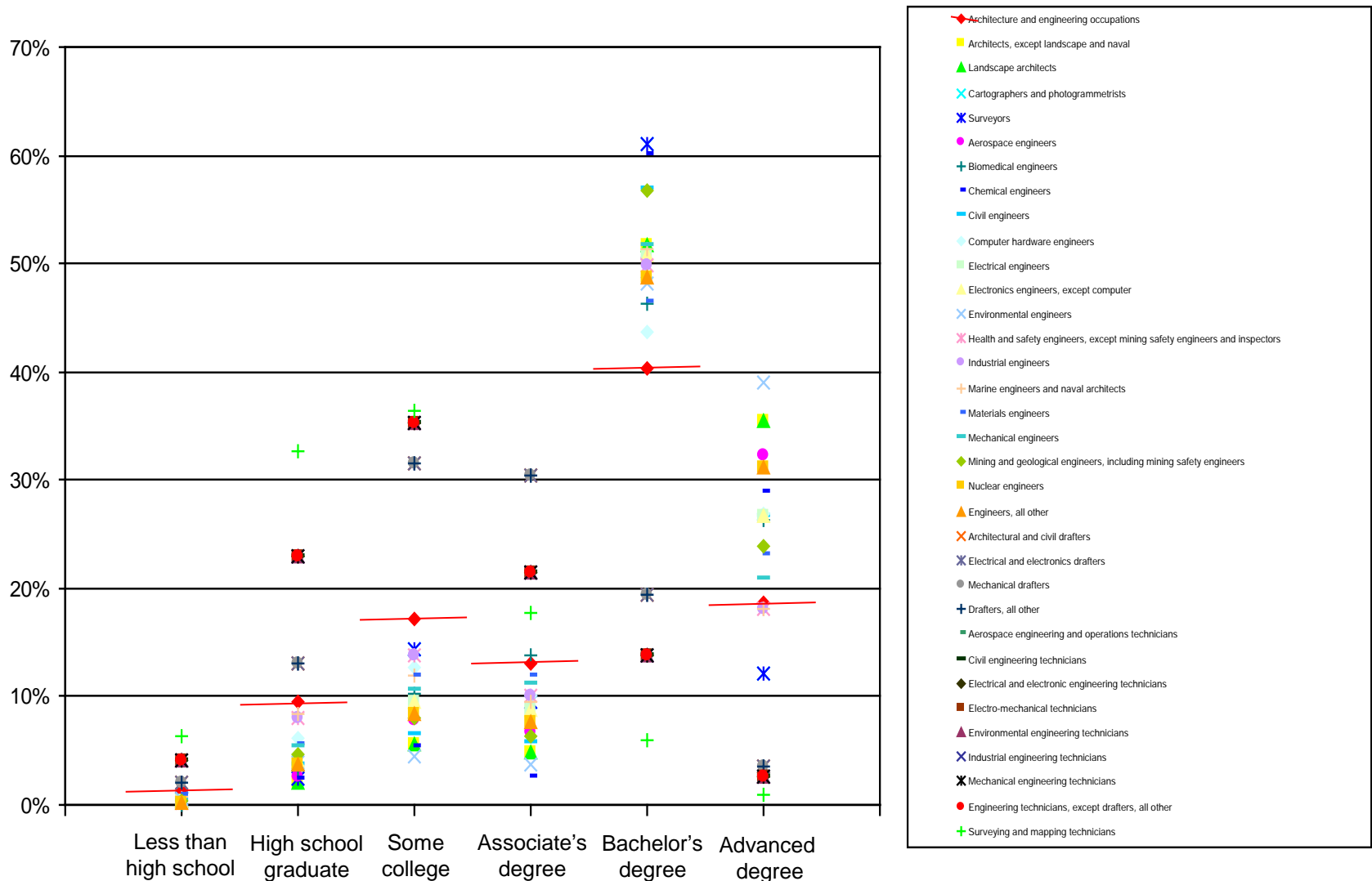
Computer and mathematical science



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.d Education distribution of workers by occupation

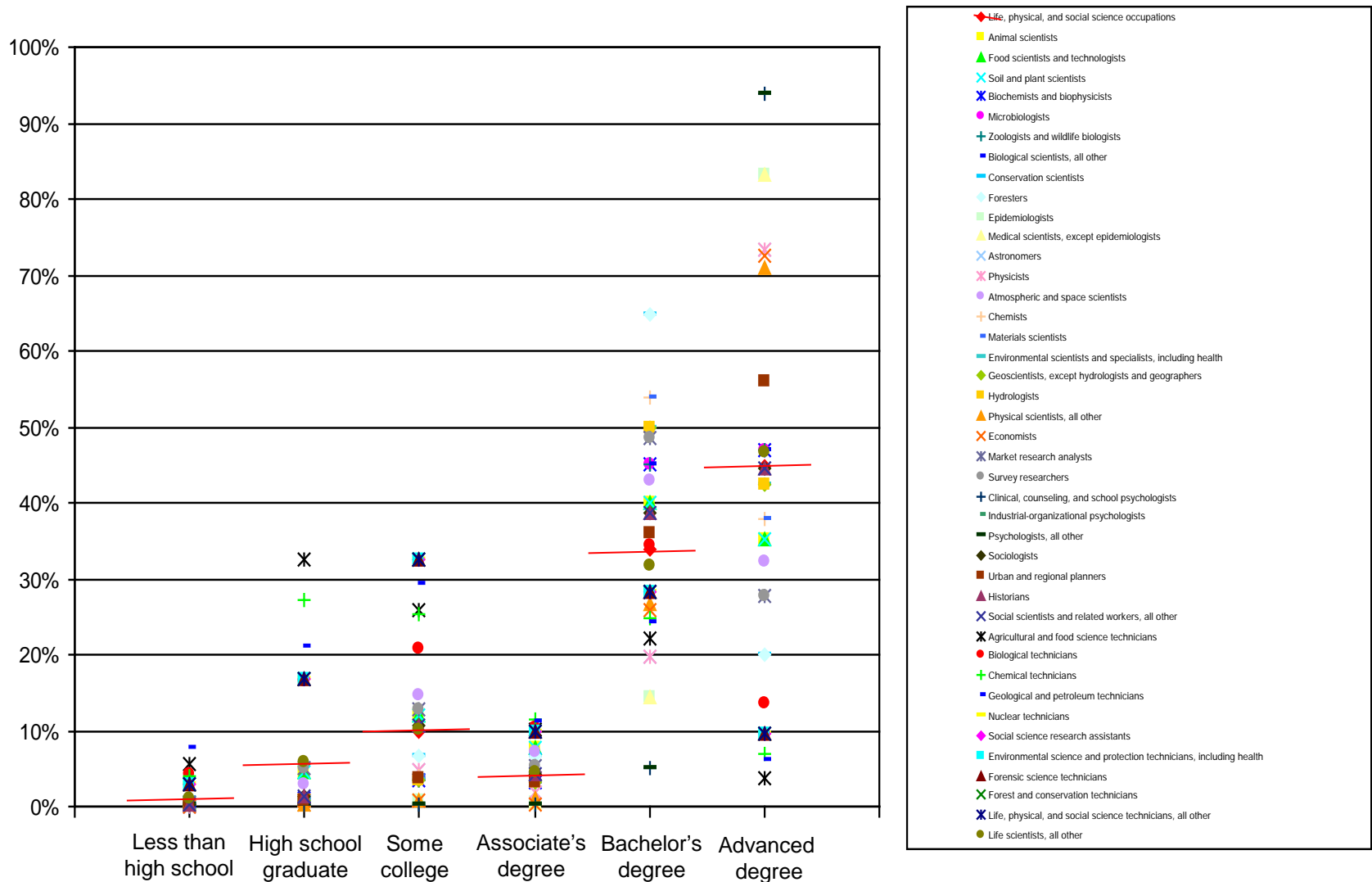
Architecture and engineering



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.e Education distribution of workers by occupation

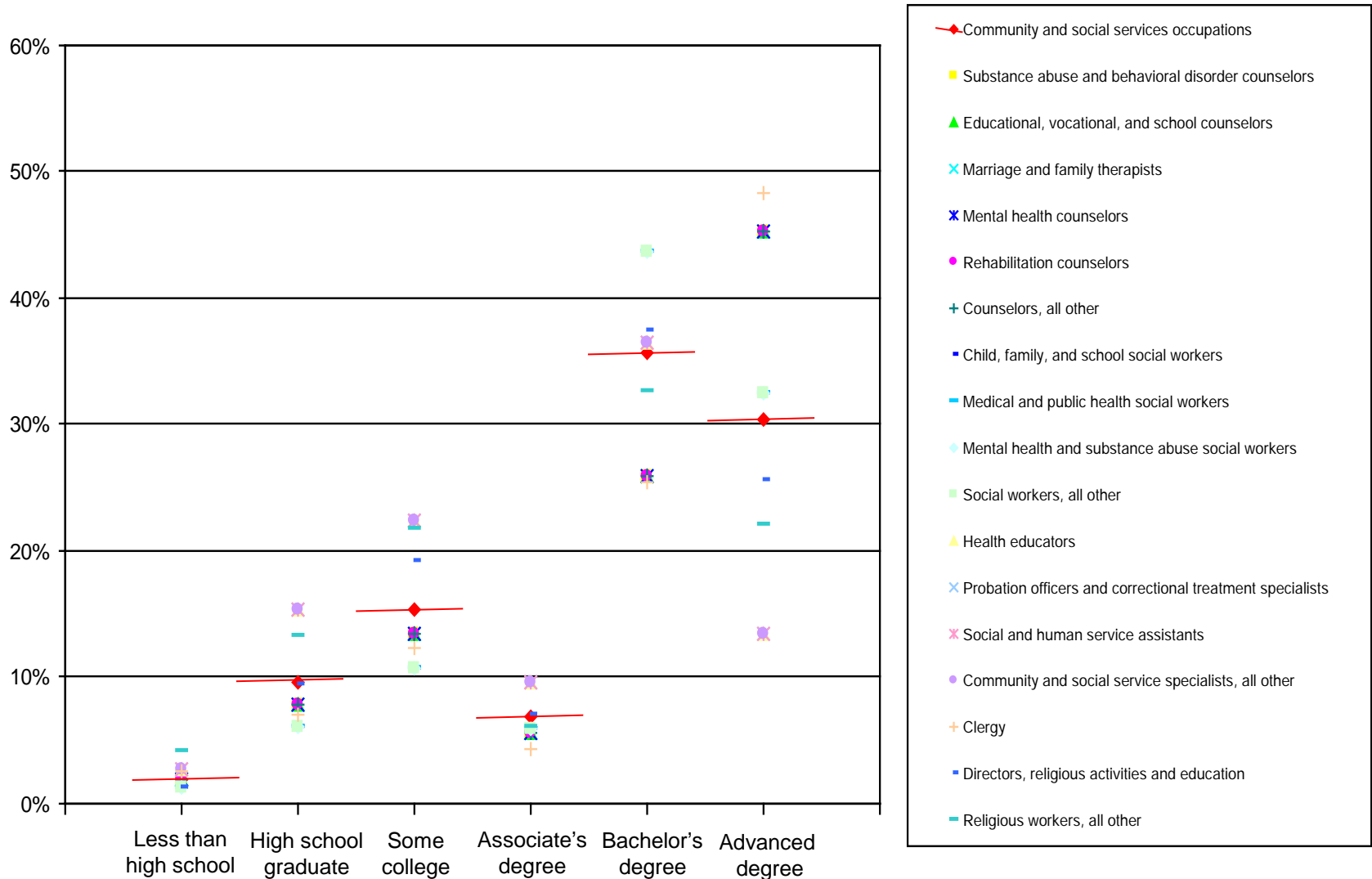
Life, physical, and social science



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.f Education distribution of workers by occupation

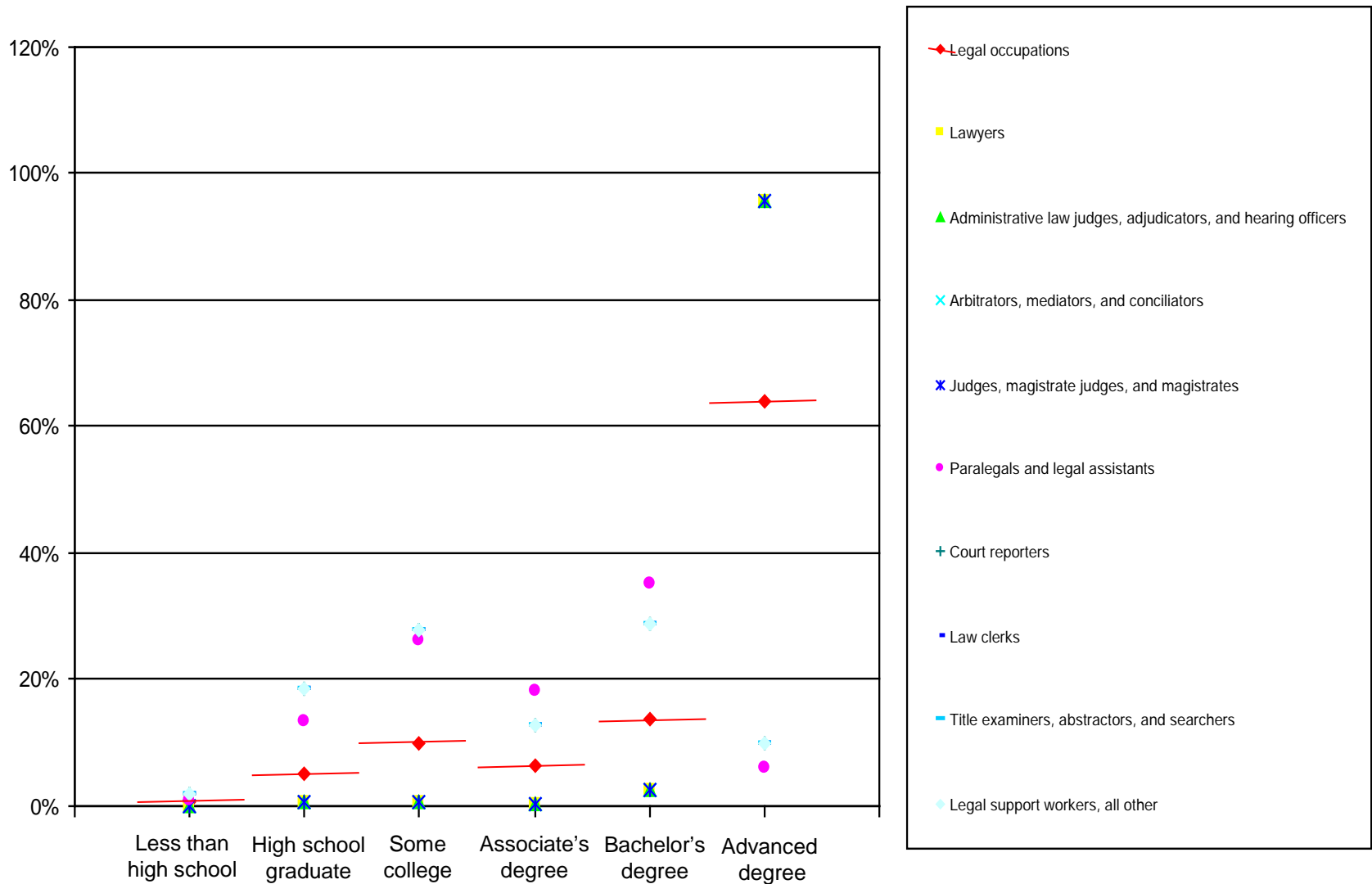
Community and social service



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.g Education distribution of workers by occupation

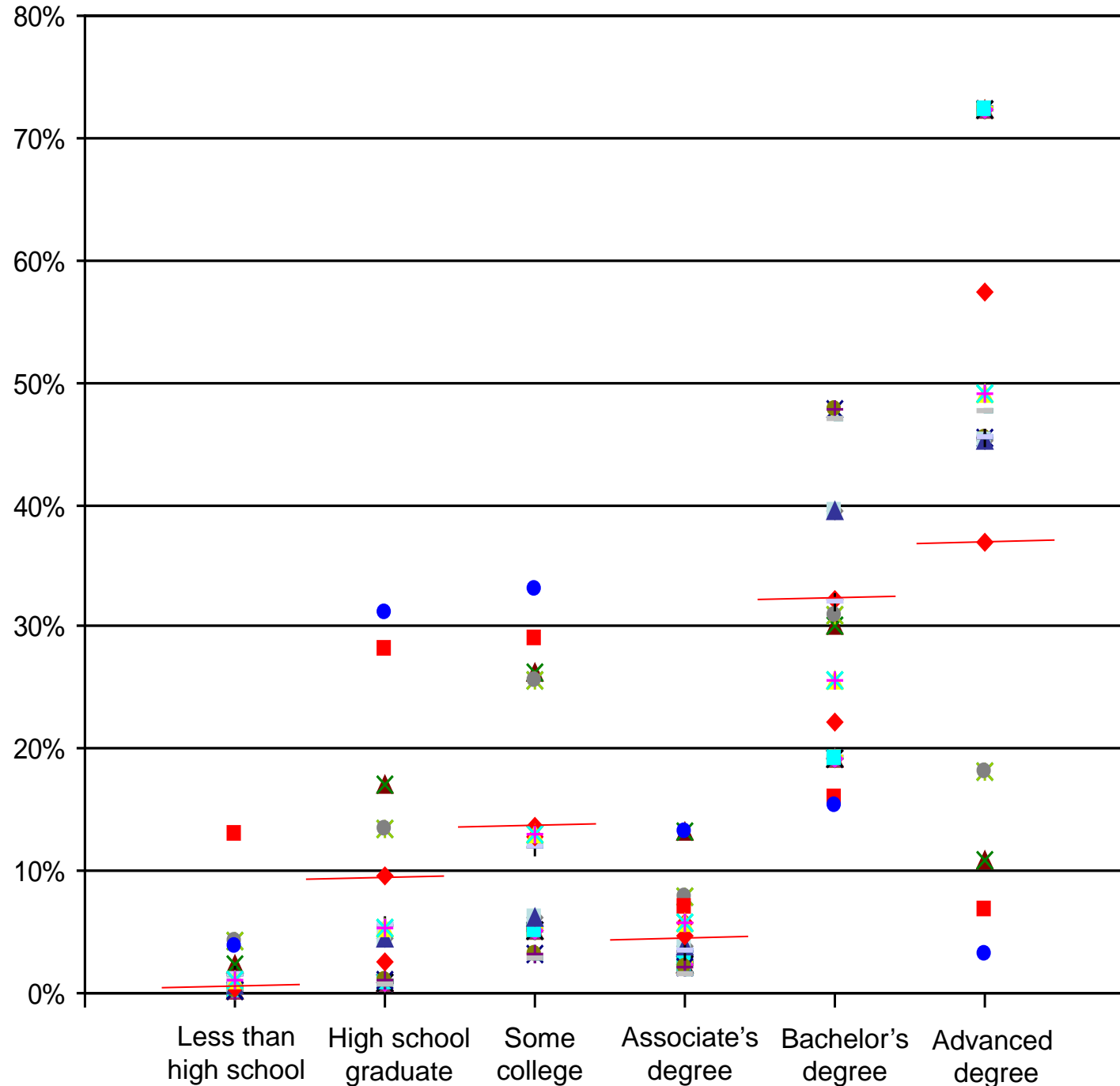
Legal



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.h Education distribution of workers by occupation

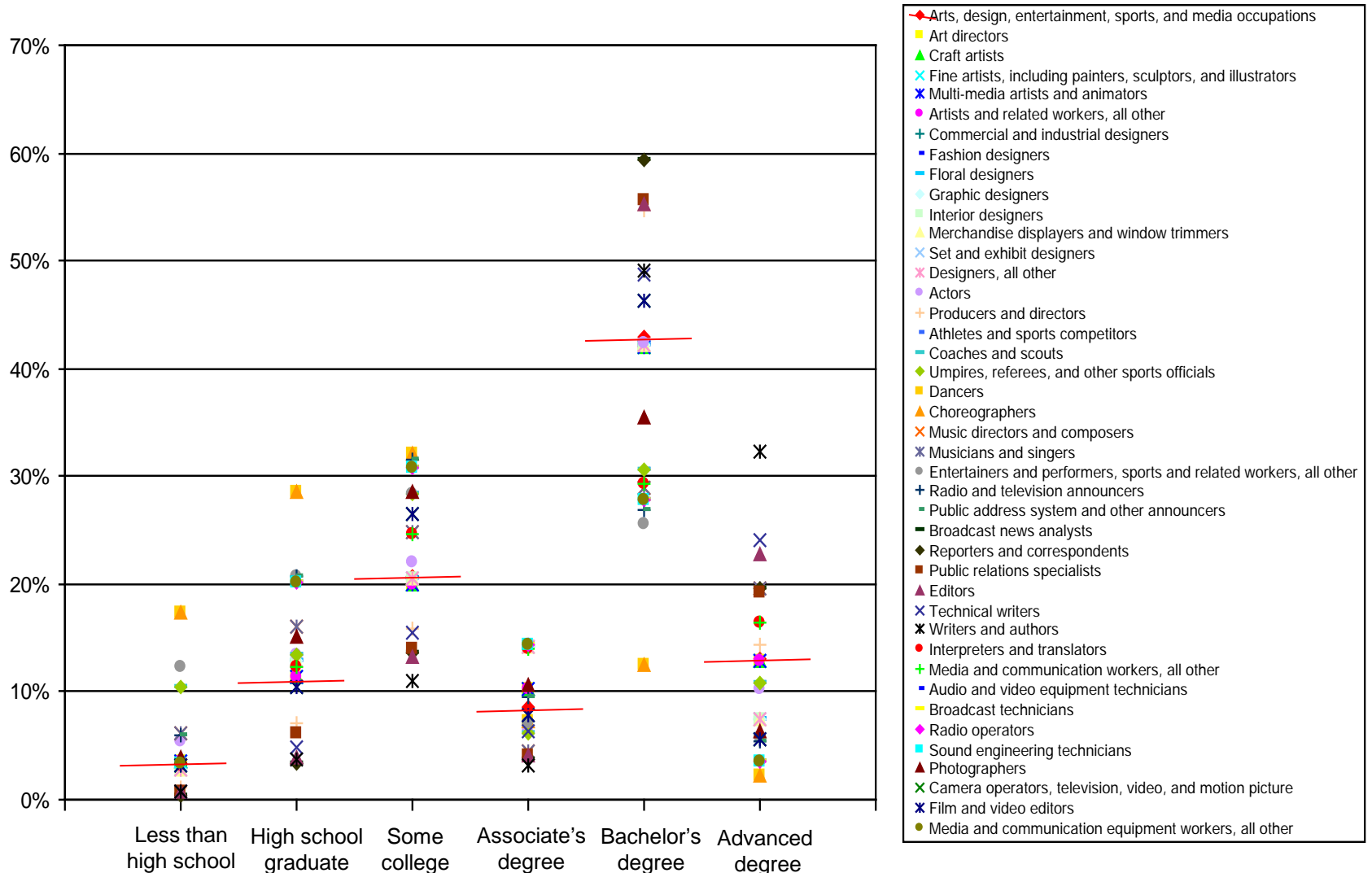
Education, training, and library



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.i Education distribution of workers by occupation

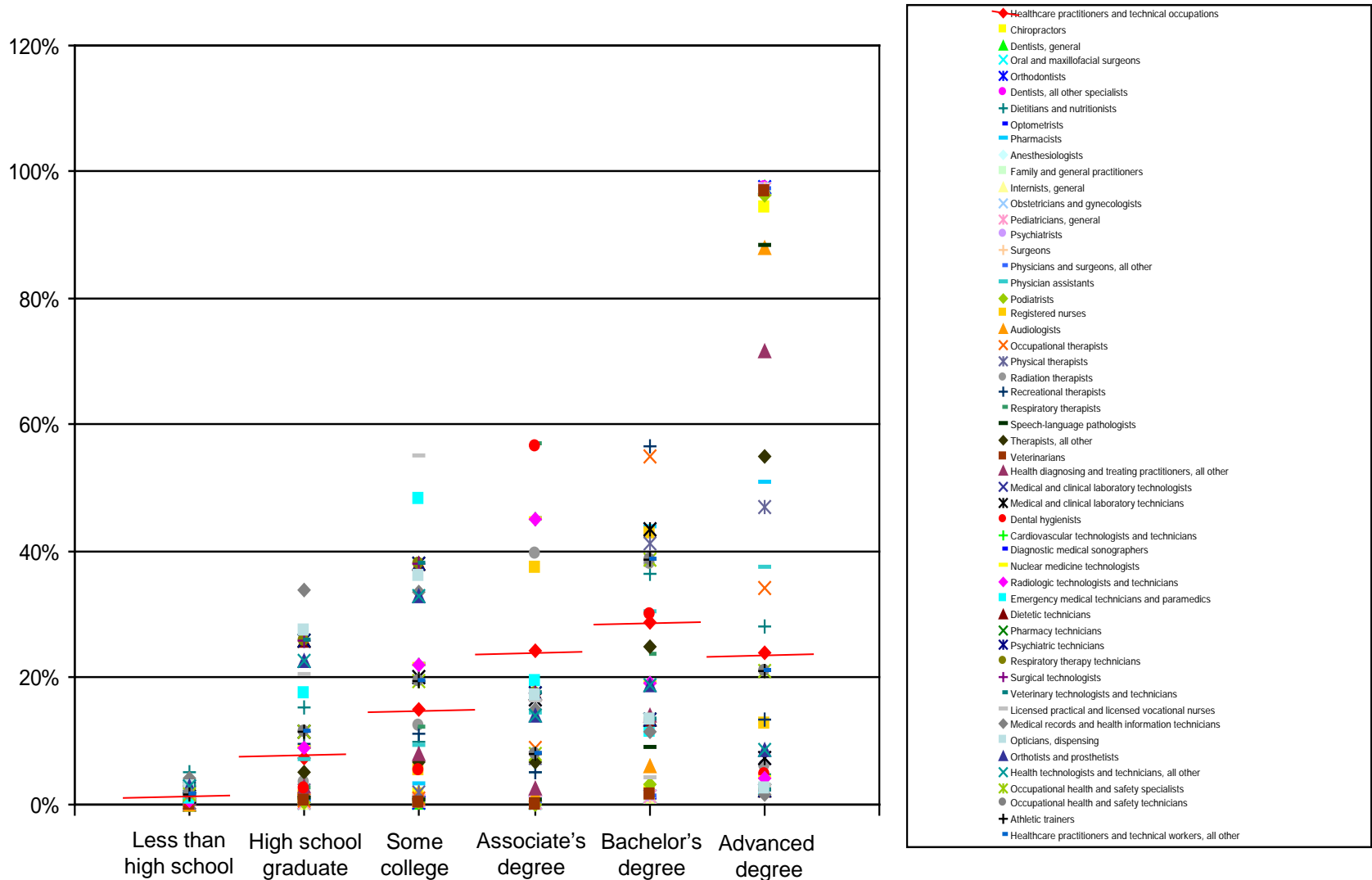
Arts, design, entertainment, sports, and media



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.j Education distribution of workers by occupation

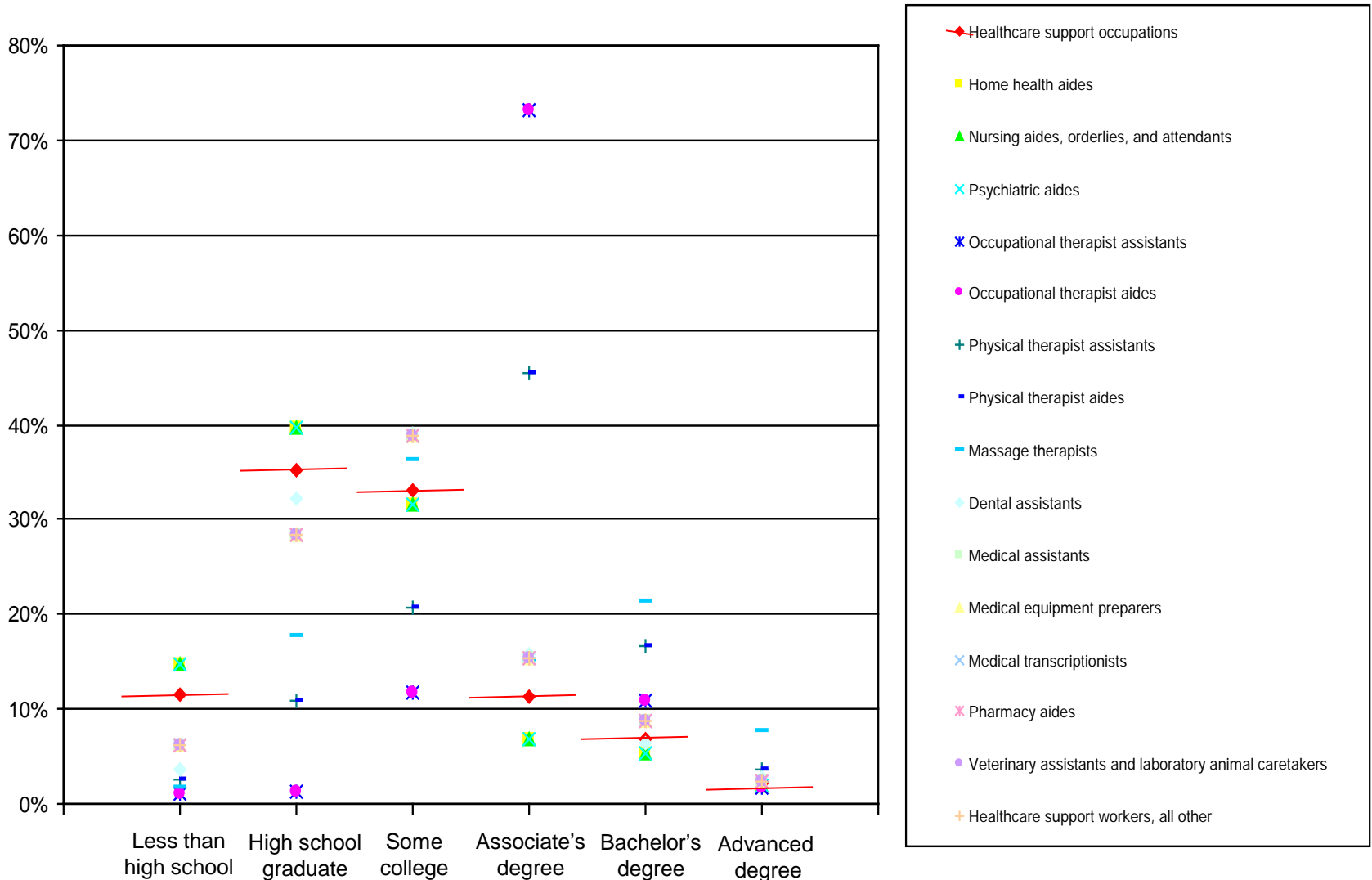
Healthcare practitioners and technical



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.k Education distribution of workers by occupation

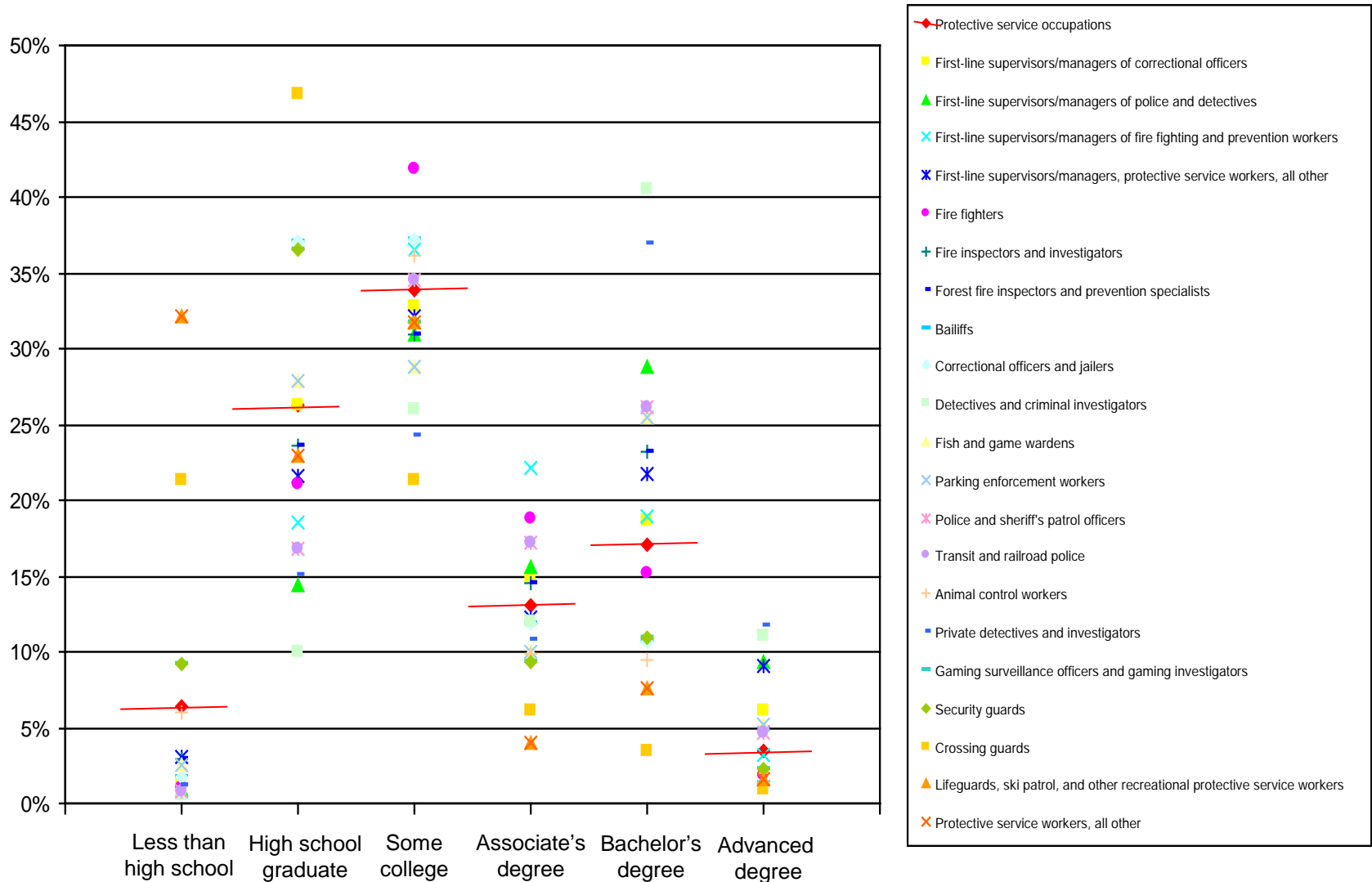
Healthcare support



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.I Education distribution of workers by occupation

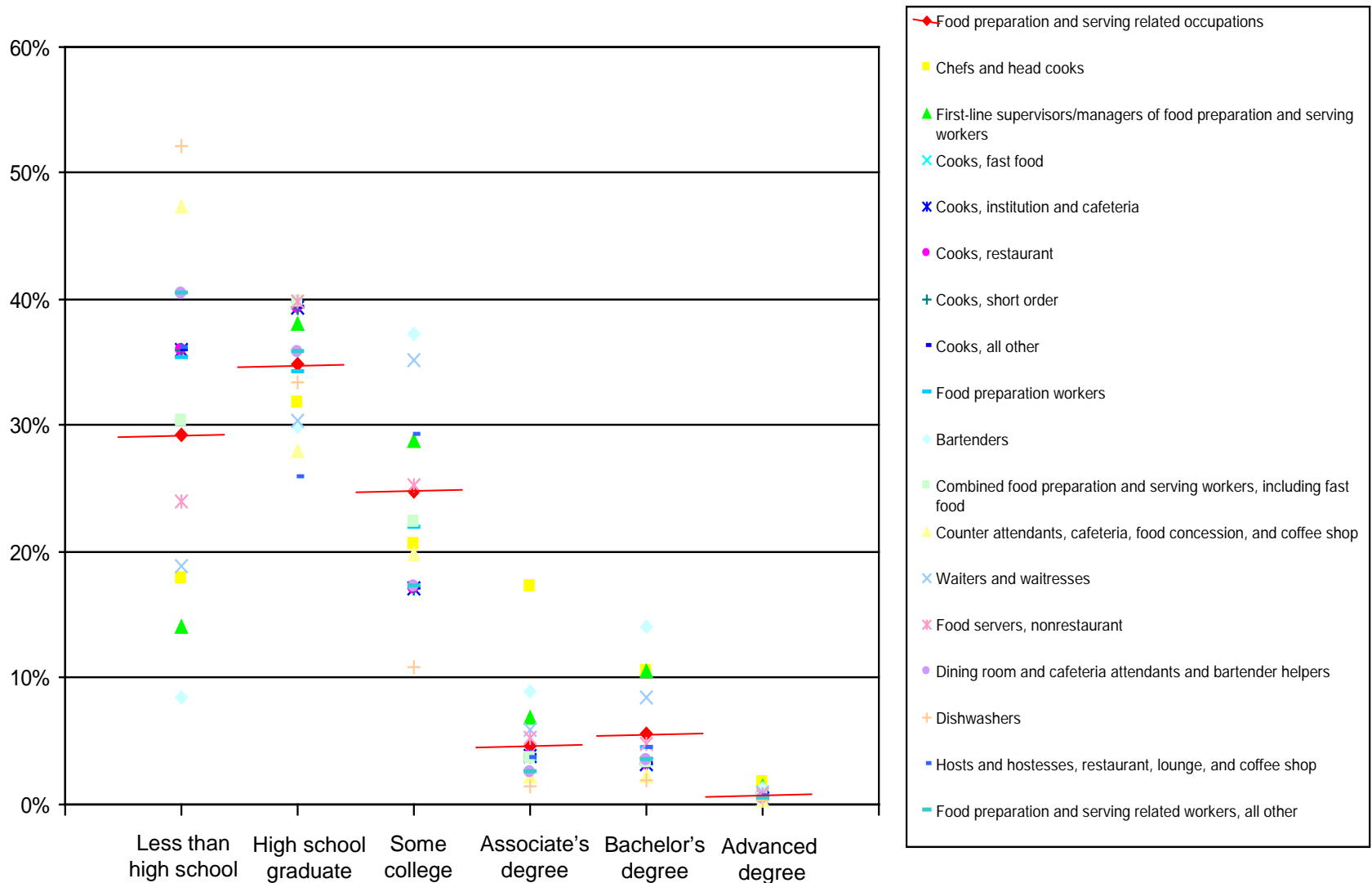
Protective service



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.m Education distribution of workers by occupation

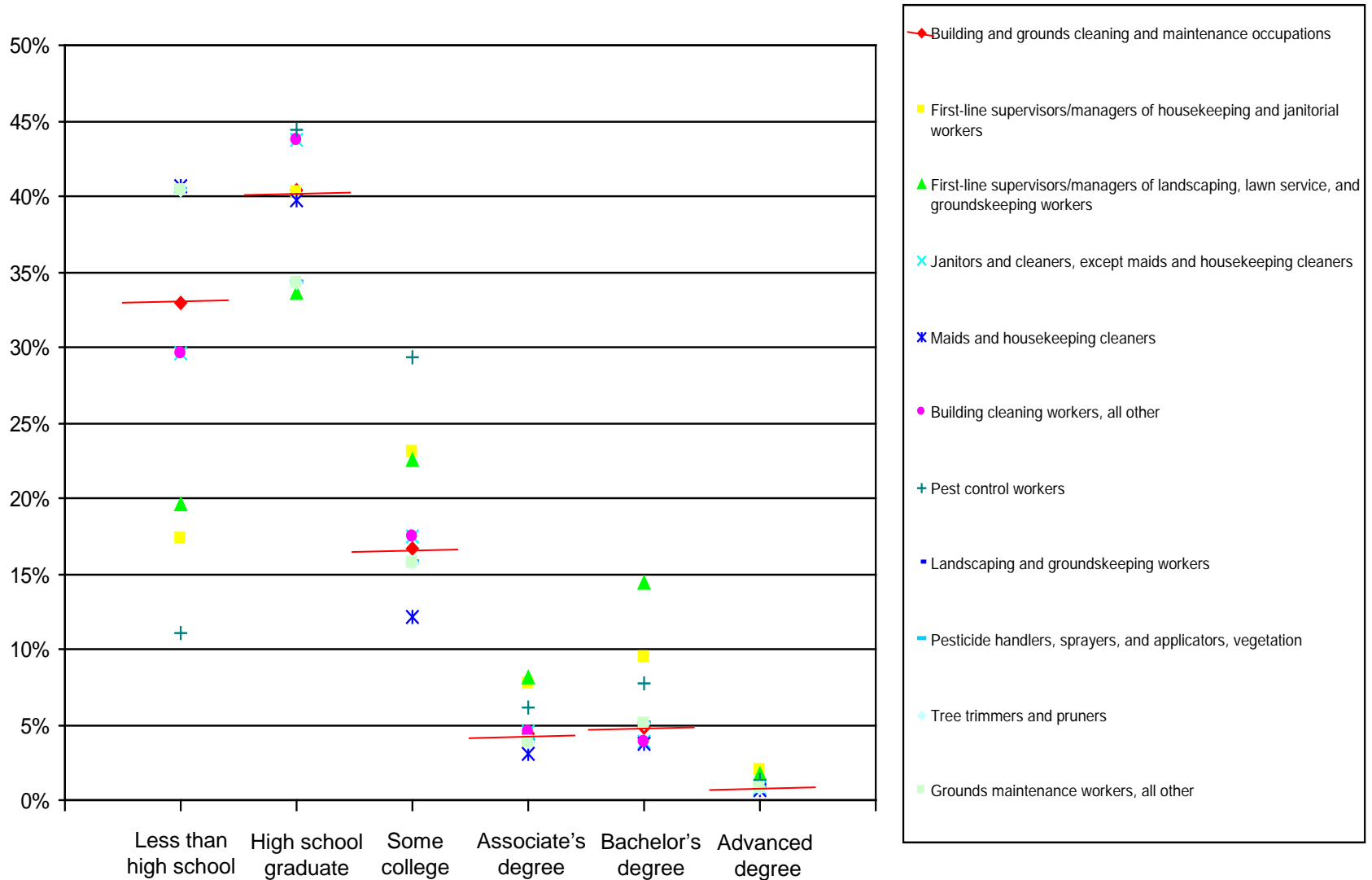
Food preparation and serving related



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.n Education distribution of workers by occupation

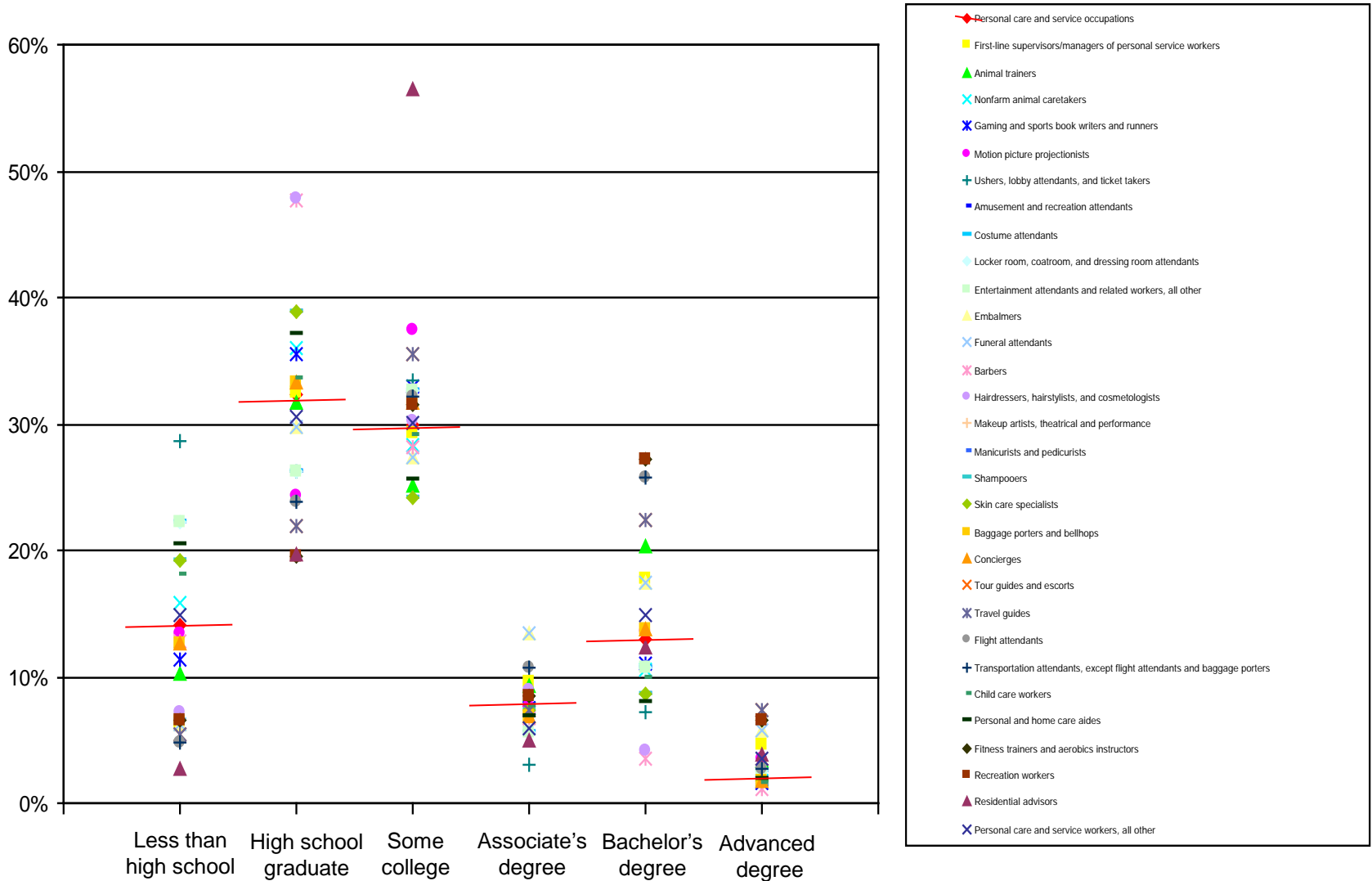
Building and grounds cleaning and maintenance



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.0 Education distribution of workers by occupation

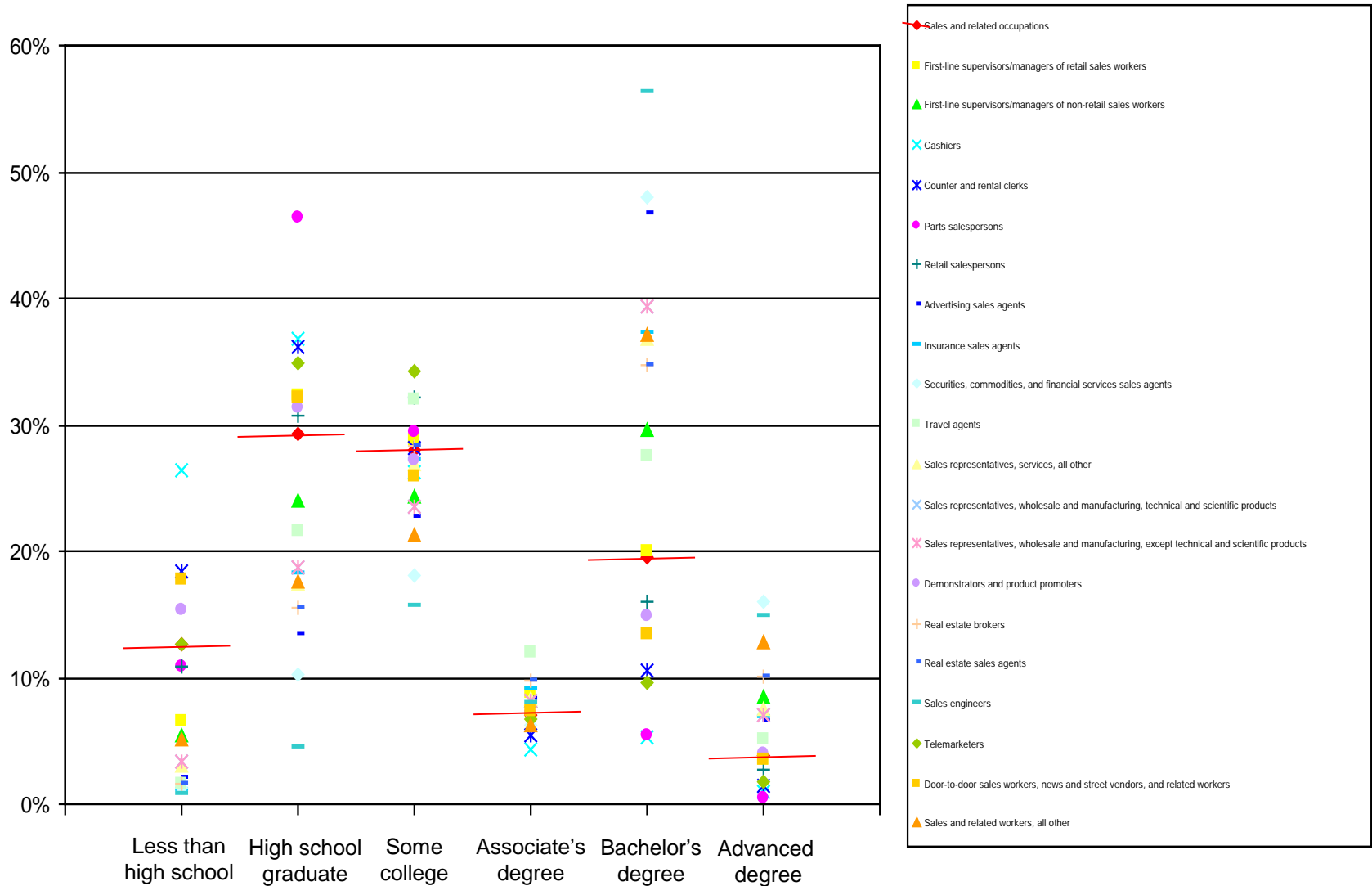
Personal care and service



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.p Education distribution of workers by occupation

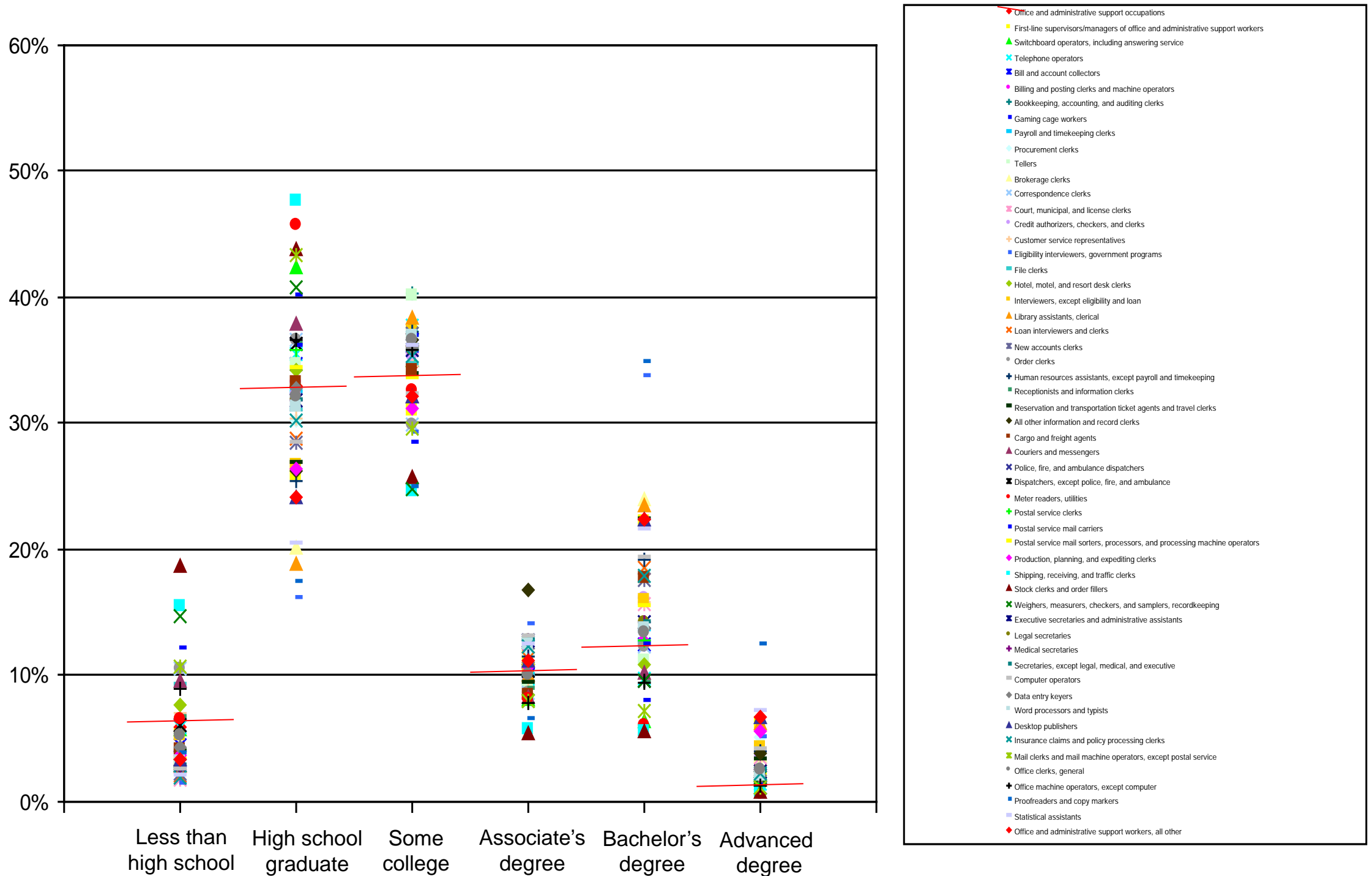
Sales and related



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.q Education distribution of workers by occupation

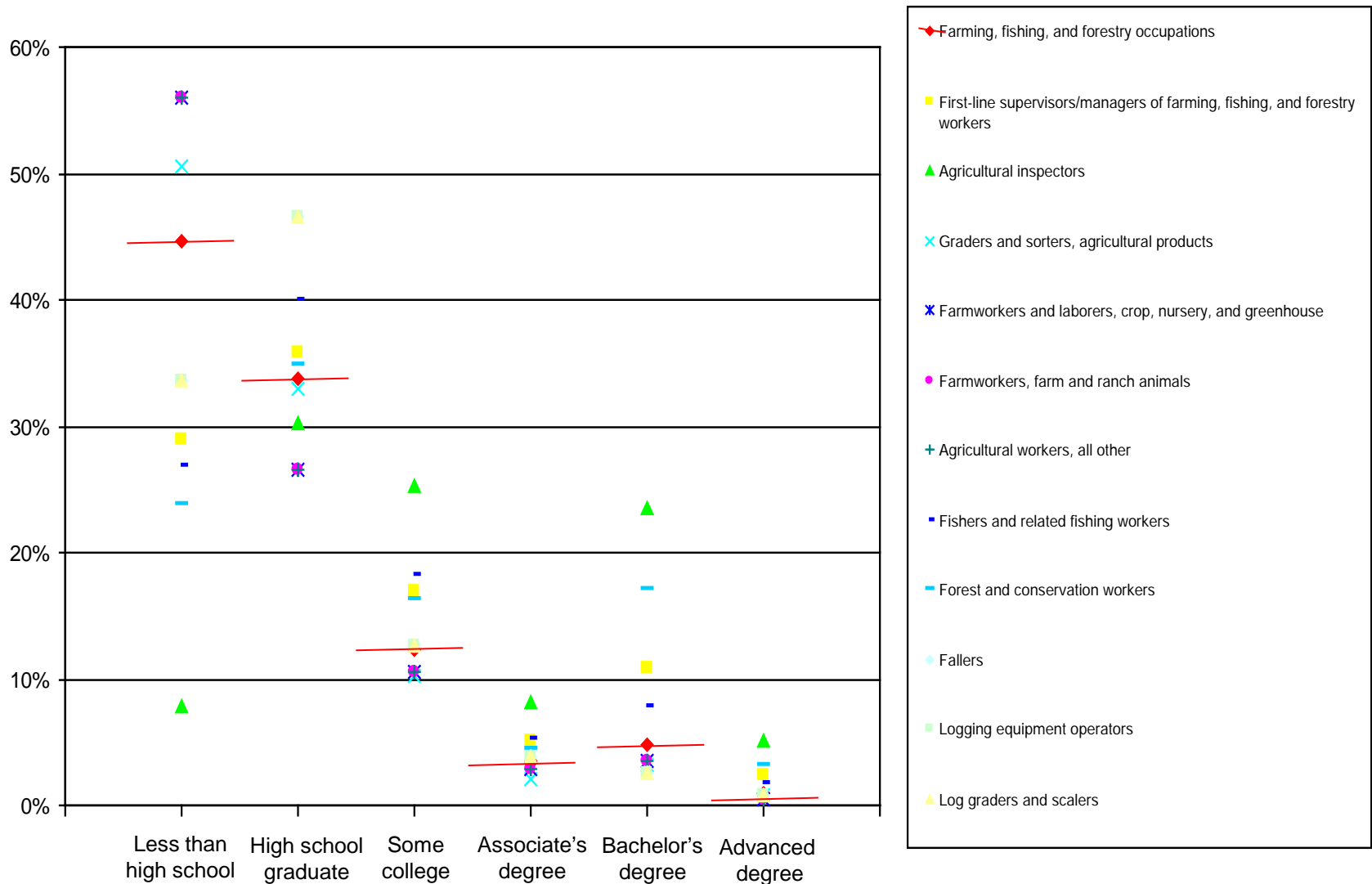
Office and administrative support



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.r Education distribution of workers by occupation

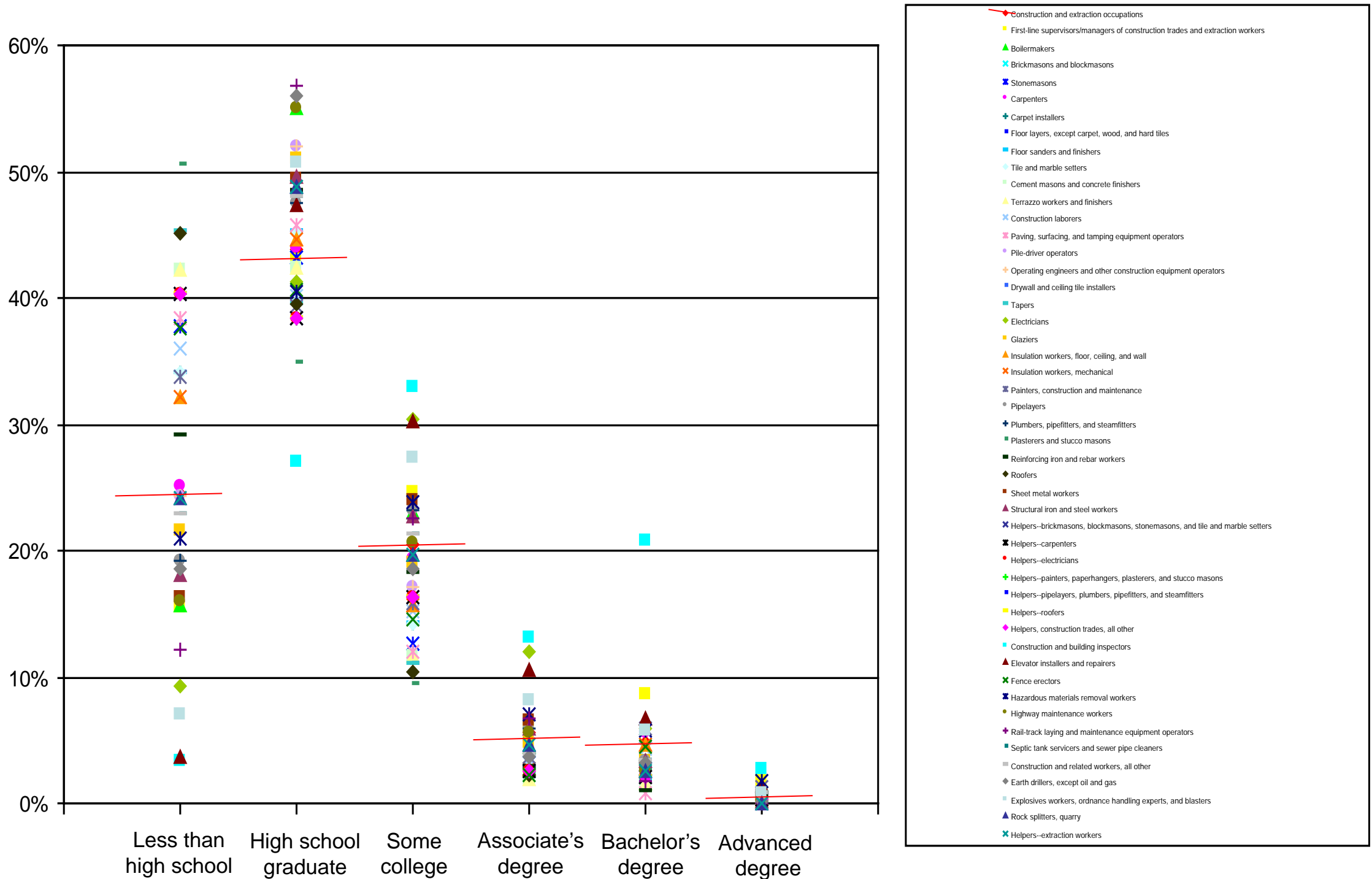
Farming, fishing, and forestry



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.s Education distribution of workers by occupation

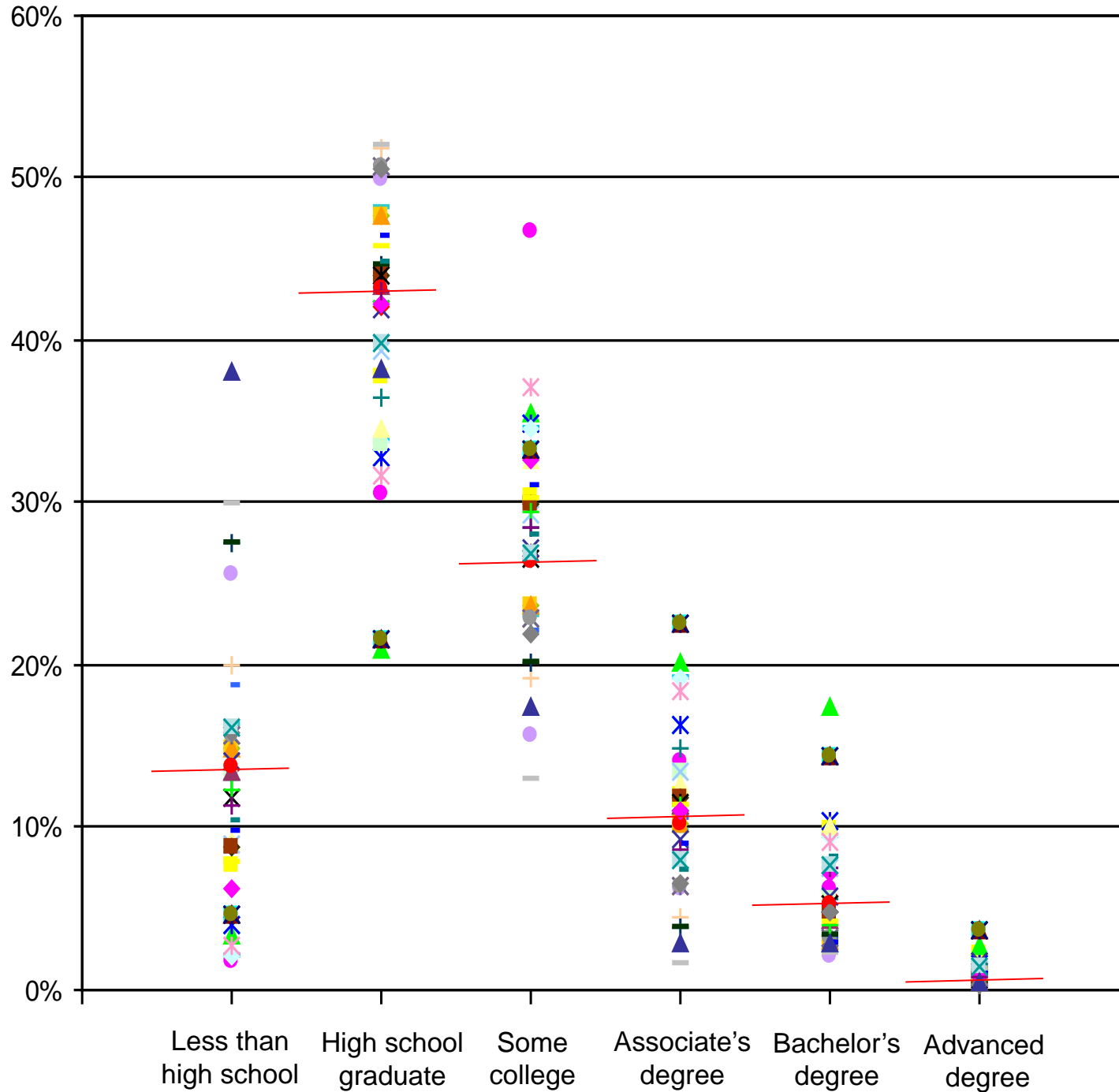
Construction and extraction



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.t Education distribution of workers by occupation

Installation, maintenance, and repair

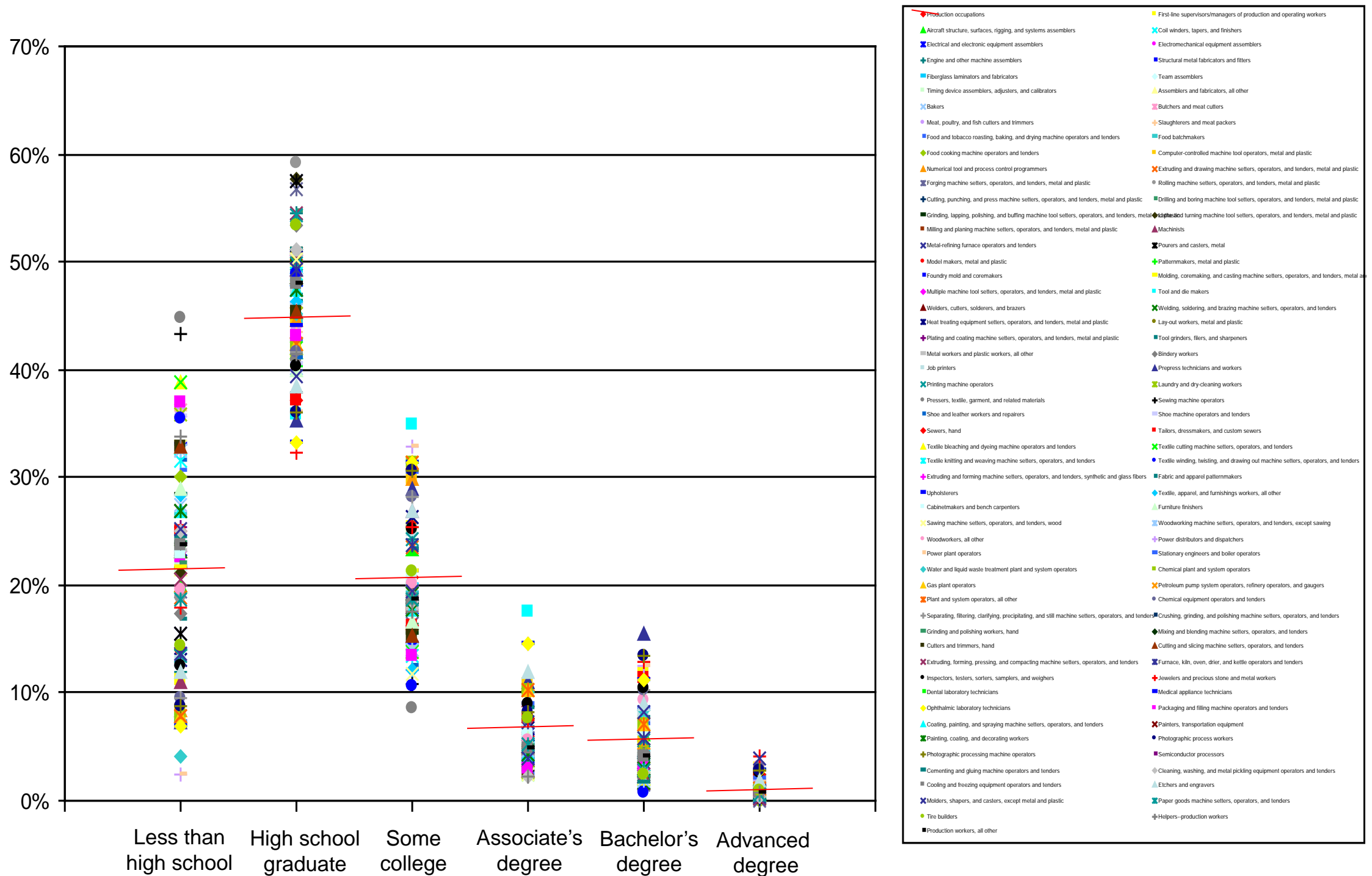


- Installation, maintenance, and repair occupations
- First-line supervisors/managers of mechanics, installers, and repairers
- Computer, automated teller, and office machine repairers
- Radio mechanics
- Telecommunications equipment installers and repairers, except line installers
- Avionics technicians
- Electric motor, power tool, and related repairers
- Electrical and electronics installers and repairers, transportation equipment
- Electrical and electronics repairers, commercial and industrial equipment
- Electrical and electronics repairers, powerhouse, substation, and relay
- Electronic equipment installers and repairers, motor vehicles
- Electronic home entertainment equipment installers and repairers
- Security and fire alarm systems installers
- Aircraft mechanics and service technicians
- Automotive body and related repairers
- Automotive glass installers and repairers
- Automotive service technicians and mechanics
- Bus and truck mechanics and diesel engine specialists
- Farm equipment mechanics
- Mobile heavy equipment mechanics, except engines
- Rail car repairers
- Motorboat mechanics
- Motorcycle mechanics
- Outdoor power equipment and other small engine mechanics
- Bicycle repairers
- Recreational vehicle service technicians
- Tire repairers and changers
- Mechanical door repairers
- Control and valve installers and repairers, except mechanical door
- Heating, air conditioning, and refrigeration mechanics and installers
- Home appliance repairers
- Industrial machinery mechanics
- Maintenance and repair workers, general
- Maintenance workers, machinery
- Millwrights
- Electrical power-line installers and repairers
- Telecommunications line installers and repairers
- Camera and photographic equipment repairers
- Medical equipment repairers
- Musical instrument repairers and tuners
- Watch repairers
- Precision instrument and equipment repairers, all other
- Coin, vending, and amusement machine servicers and repairers
- Locksmiths and safe repairers
- Manufactured building and mobile home installers
- Riggers
- Signal and track switch repairers
- Helpers--installation, maintenance, and repair workers
- Installation, maintenance, and repair workers, all other

Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.u Education distribution of workers by occupation

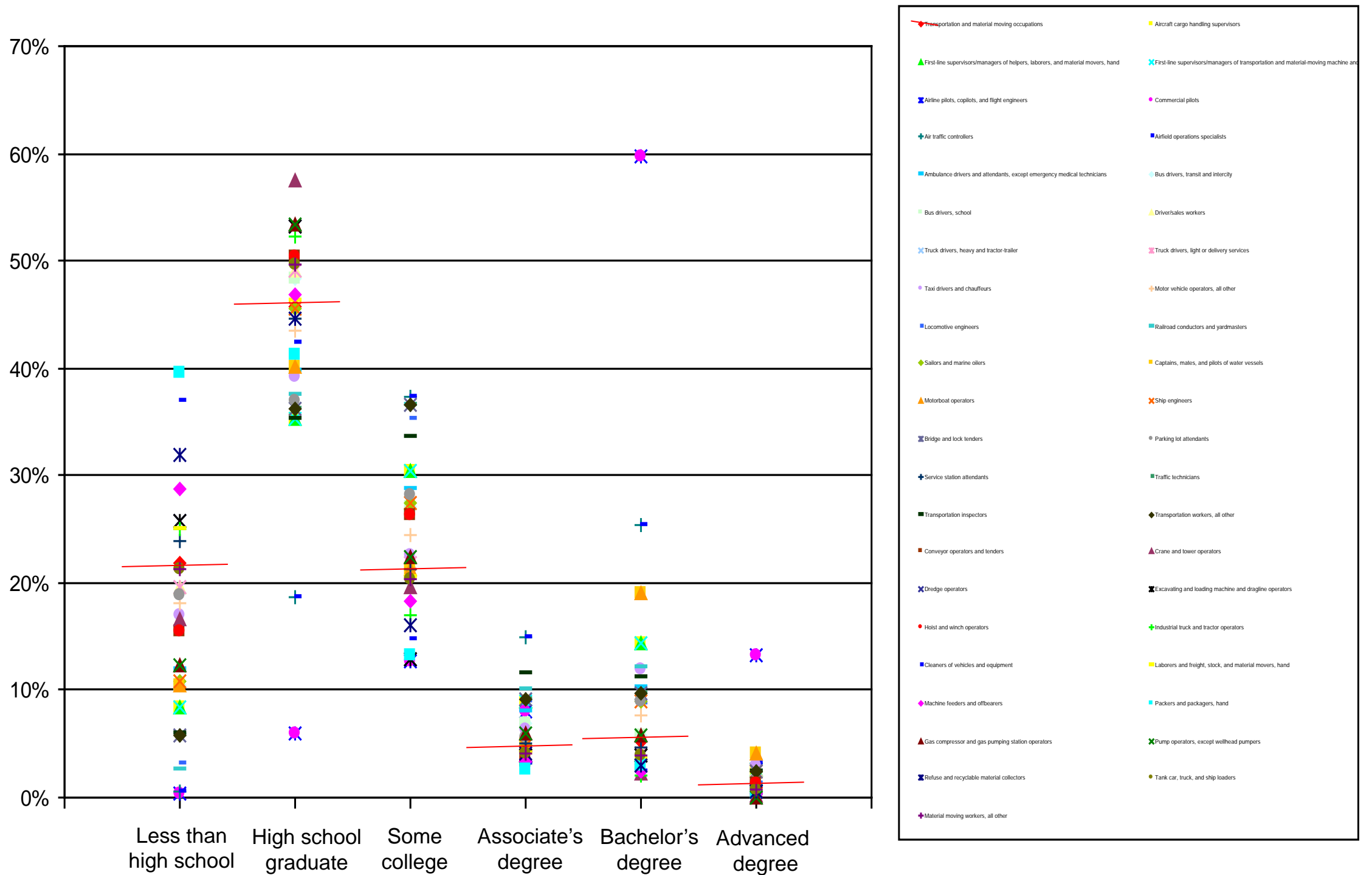
Production



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.

Figure A5.v Education distribution of workers by occupation

Transportation and material moving



Source: U.S. educational distribution calculated from the 2006-08 combined ACS and applied to BLS employment data by occupation for New England. The observations marked with lines represent the education distribution for the entire occupation.