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**Educational Attainment, Non-English Language Usage, and Ability to Communicate in
English in 30 Massachusetts Cities/Towns**

Prepared by the University of Massachusetts at Boston
Cultural Competence Technical Assistance Team*

June 1998

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Introduction

Data regarding an individual's ability, or the ability of members of a household to speak English, primary language spoken at home, educational attainment, and the level of literacy proficiency should be taken into consideration when designing and implementing policies regarding health care initiatives and the publication of health care information. This report highlights data collected from three sources: 1) The National Adult Literacy Survey; 2) The 1990 Federal Census; and 3) The Massachusetts Institute for Social and Economic Research. The first source of information used was a 1992 survey administered by Educational Testing Service for the United States Department of Education's National Center for Education Statistics. The survey was conducted on a nationally representative sample of nearly 27,000 adults age 16 and older who were asked to perform a variety of literacy tasks and to answer questions about themselves, including whether they or anyone in their family had received Aid to Families with Dependent Children (AFDC) or food stamps in the preceding year. The questions provided a foundation for comparison of the prose, document, and quantitative literacy skills of adults who received welfare assistance in comparison with the literacy skills of the adult population as a whole.¹

The second source of information was the 1990 Federal Census. The 1990 Federal Census asks questions about individuals' ability to speak English, the primary language spoken at home other than English, and educational attainment. The answers to these questions can help to inform health care policy makers about the linguistic diversity of their communities, in which languages programs should be targeted, and the readability requirements for health care information. The census data used in this report, which highlights educational attainment, are for individuals age 25 and older and are stratified by race and ethnicity. The racial/ethnic categories analyzed in this report include White, Black, Asian and Hispanic.

The third source of information was from the Massachusetts Institute for Social and Economic Research which provided data for the 30 selected Massachusetts cities and town for which analysis was done regarding educational attainment level.

Findings of the National Adult Literacy Survey

The answers to the literacy tasks and questions were collapsed into a scale of proficiency levels ranging from one to five with one being the lowest literacy level. For example, those individuals performing at level one have difficulty in interpreting instructions from an appliance warranty, locating an intersection on a street map, identifying and entering background information on an application for a Social Security card, or calculating the total costs of a purchase from an order form. Using the scale of one to five, one significant finding revealed that about half the welfare beneficiaries performed at level one. This information is especially relevant to Medicaid since statistics from June, 1997, indicate that 93% of Massachusetts' Division of Medical Assistance

¹ Literacy and Dependency: The Literacy Skills of Welfare Recipients in the United States. Educational Testing Service: Princeton, N.J., 1992.

(D.M.A.) beneficiaries who are categorized as families were on AFDC.² Other findings from the survey include reading limitations and reading levels of both welfare and non-welfare populations. One particular important finding shows that 50% of the United States population reads at no higher than a 4th or 5th grade level, and that 90 million U.S. adults fell into reading levels categorized as "very low" or "low" ability to read. The report further states that, on average, 50% of the adult population reads three to five grade levels below his/her highest attained grade of school.³

Educational Attainment in Massachusetts

This report highlights two categories of educational attainment for those individuals, age 25 and older, who have less than a 9th grade education (Table 1), as well as those with less than a high school diploma (Table 2). Massachusetts population totals are also presented along with a breakdown of 30 selected Massachusetts cities/towns by total population and by race/ethnicity. These are not mutually exclusive categories, thus the category of "less than a high school diploma" also includes those who have "less than a 9th grade education." Correspondingly, graphs have been constructed which show the percentage of the total Massachusetts' population which has less than a 9th grade education (Graph 1), and less than a high school diploma (Graph 2). The statistics are further analyzed for the 30 selected Massachusetts cities/towns by totals and race/ethnicity with corresponding graphs for both categories (Graphs 3-7: less than a 9th grade education, and Graphs 8-12: less than a high school diploma). Graph 1 shows that more than 7% of the total White population in Massachusetts has less than a 9th grade education, as compared to 10% for Blacks, nearly 17% for Asians, and close to 28% for Hispanics. Graph 2 shows that almost 19% of the White population does not have a high school diploma as compared to 26% for Asian and Pacific Islanders, 30% for Blacks, and 48% for Hispanics. These figures, along with the information about linguistic isolation (please refer to English Language Proficiency of Multi-Lingual Populations and Linguistic Isolation, Section 5) and languages spoken at home, can be used to answer the questions as to how information about Medicaid, health care and health care campaigns should be disseminated (video, radio, or reading level for print) as well as in which languages.

Educational Attainment: Less than a 9th Grade Education

The knowledge that the literacy and communication skills of the group with less than a 9th grade education is especially low deserves attention when designing materials used to facilitate Mass Health enrollee information about plan benefits, and patient education about disease. Table 1 provides a comprehensive snapshot of all 30 cities/towns broken down by race/ ethnicity, as well

² One Day Enrollment Snapshot, June 15, 1997. Massachusetts Division of Medical Assistance, Member Services Division.

³ Literacy and Dependency: The Literacy Skills of Welfare Recipients in the United States. Educational Testing Service: Princeton, N.J., 1992.

as by totals. Referring to Graph 3, entitled "Total population with Less than a 9th Grade Education," those cities/towns which have 10% or more of the total population with less than a 9th grade education, rank ordered, include New Bedford (31%), Lawrence (21%), Chelsea (17%), Lowell (17%), Holyoke (15%), Fitchburg (13.5%), Springfield (12%), Somerville (11%), Leominster (10.5%), Boston (10%) and Lynn (10%).

Racial and Ethnic Comparisons

There is wide and uneven dispersion in the percentage of cities/towns which have 10% or more of their total population with less than a 9th grade education by race/ethnicity. Identifying the particular cities/towns from the original list of 30 cities/towns may help D.M.A. to develop health care initiatives, materials and promotions.

- Nine cities/towns had Black populations where 10% or more had less than a 9th grade education. These nine rank ordered cities/towns include Lawrence, Holyoke, New Bedford, Chelsea, Somerville, Fitchburg, Boston, Springfield, and Cambridge.
- Ten cities/towns had White populations where 10% or more had less than a 9th grade education. These ten rank ordered cities/towns include New Bedford, Lawrence, Lowell, Chelsea, Fitchburg, Holyoke, Somerville, Leominster, Worcester, and Springfield.
- Eighteen cities/towns had Asian and Pacific Islander populations where 10% or more had less than a 9th grade education. These eighteen rank ordered cities/towns include Lynn, Revere, Lowell, Holyoke, Fitchburg, Lawrence, Boston, Chelsea, Worcester, Brockton, Springfield, Everett, Quincy, Malden Randolph, New Bedford, Brookline, and Leominster.
- Twenty-one cities/towns had Hispanic populations where 10% or more had less than a 9th grade education. These twenty-one rank ordered cities/towns include New Bedford, Chelsea, Holyoke, Lynn, Springfield, Lawrence, Lowell, Worcester, Somerville, Boston, Fitchburg, Leominster, Framingham, Waltham, Brockton, Malden, Cambridge, Burlington, Everett, Quincy, and Revere.

A closer look reveals that there are seven cities/towns where every racial/ethnic group has poor educational status. This group includes the cities/towns of New Bedford, Lawrence, Lowell, Chelsea, Fitchburg, Holyoke, and Springfield. There are only two cities/towns where 15% or more of the White population has less than a 9th grade education. There are four cities/towns where 15% or more of the Black population has less than a 9th grade education. Dramatically higher are the numbers of communities represented by the Asian and Pacific Islander and Hispanic populations. There are sixteen cities/towns where 15% or more of the Asian and Pacific Islander population has less than a 9th grade education. There are twenty-one cities/towns where 15% or more of the Hispanic population has less than a 9th grade education.

Educational Attainment: 0 Years to 12th Grade (Not a High School Diploma)

This category is especially important since the percentages reflect an aggregate level of educational attainment for those individuals who have not completed high school for each city/town. Table 2 provides a comprehensive snapshot of all 30 cities/towns broken down by race/ ethnicity, as well as by totals. Although this group may have minimum literacy skills, they still lack both the basic reading and science skills to adequately understand issues regarding patient education, health management and compliance factors associated with treatment strategies, the etiology of diseases, and their modes of transmissions. Referring to Graph 8 entitled "Total Population with Less than High School Diploma," the percentages for this category range from a low of 6% for Lexington to a high of 50% for New Bedford. The top 10 cities/towns, rank ordered are New Bedford (50%), Lawrence (43%), Chelsea (37%), Lowell (34%), Holyoke (32%), Fitchburg (31%), Springfield (30%), Worcester (27%), Everett (27%), and Lynn (27%). If one were to include the cities/towns with rates above 20%, seventeen out of the thirty cities/towns would fall into that category. Graphs 9-12 specifically show the percentages of the population in the 30 cities/towns with less than a high school diploma for the White, Black, Asian and Pacific Islander and Hispanic populations, respectively.

English Language Proficiency of Multi-Lingual Populations and Linguistic Isolation

Two other important indicators collected by the 1990 Federal Census and the Massachusetts Institute for Social and Economic Research which may shed light for policy decision makers are how well certain populations speak English, and those households which are categorized as linguistically isolated. According to the 1990 census questionnaire, a sample of respondents were asked to check "yes" if the respondent sometimes or always speaks a language other than English at home, but not if a foreign language was spoken only at school or if speaking were limited to a few expressions or slang.⁴ Respondents were instructed to print the name of the non-English language spoken at home. The respondents who reported that they spoke a language other than English at home were asked to self-report their ability to speak English into one of the following four categories: "very well," "well," "not well," and "not well at all." Persons who reported that they spoke a language other than English at home, but whose ability to speak English was not reported, were assigned the English-language ability of a randomly selected person of the same age, Spanish origin or race group living in the same or nearby area, nativity, year of entry, and language group.⁵ Referring to Table 3, entitled "English Language Proficiency of Multi-Lingual Populations in Representative Cities and Towns, 1990," the same 30 cities/towns are analyzed for residents' ability to either "speak English very well/well," or "speak English not well/not well at all," and the number of linguistically isolated households. Table 4 entitled "State-Wide English Language Proficiency of Multi-Lingual Populations, 1990 Decennial Census," provides a profile

⁴ 1990 Federal Decennial Census of Population and Housing, Summary Tape File 3. United States Bureau of the Census: Washington, D. C.

⁵ Ibid.

of state-wide figures for the above mentioned categories by Spanish speaking, Asian/Pacific Islander Language Speaking, and Other Language Speaking Residents, as well as the number of linguistically isolated households.

1. Primary Language Other than English Spoken at Home

Data collected about household primary languages spoken at home other than English were used to create Table 5, entitled "Primary Language Other than English Spoken at Home for 30 Selected Massachusetts Cities/Towns." Languages are rank ordered by calculating those residents speaking a language other than English at home which totals 10% or greater of the total population for each of the 30 cities/towns. Spanish was the language most often spoken at home for fifteen of the cities/towns. For five cities/towns, Italian was the primary language spoken at home, followed by Chinese for four cities/towns. The number two language other than English spoken at home was French/French Creole for ten cities/towns followed by Spanish and Italian for seven and four cities/towns, respectively. The third most frequently spoken language at home, other than English, was Italian for seven cities/towns, followed by French/French Creole, and Spanish, for six and four cities/towns, respectively.

2. Spanish Speaking Respondents

Identifying those cities/towns which have residents who speak English "not well," or "not well at all," may also help health care policy makers target cities/towns where populations particularly need health care initiatives disseminated in materials other than English and which may have a higher need for interpreter services. The top ten cities/towns where Spanish speaking residents age 18 to 64 speak English "not well," and "not well at all," rank ordered are: Boston, Lawrence, Springfield, Worcester, Holyoke, Chelsea, Lynn, Lowell, Somerville and New Bedford. Correspondingly these same ten cities/towns are where between 28% and 43 % of the Hispanic population has less than a 9th grade education and between 19% and 33% of the Hispanic population has a 9th to 12th grade education (not a high school diploma.) The top ten communities in terms of the number of linguistically isolated households for Spanish speaking respondents are represented by the exact same cities/towns for those who speak English "not well," and "not well at all."

3. Asian and Pacific Islander Language Speaking Respondents

The top ten cities/towns where Asian and Pacific Islander Language speaking residents age 18 to 64 speak English "not well," and "not well at all," rank ordered are: Boston, Lowell, Quincy, Lynn, Worcester, Cambridge, Malden, Brookline, Chelsea, and Somerville. With the exception of Cambridge and Somerville, these same cities/towns are located where between 13% and 46% of the Asian population has less than a 9th grade education. Although Revere ranked number eleven for Asian and Pacific Islander residents who speak English "not well," and "not well at all," the percentage of its residents with less than a 9th grade education is 39%, close to the highest city, Lynn, which totals 46%. Also, with the exception of Cambridge and Somerville, the above

mentioned cities/towns are where between 10% and 23% of the Asian and Pacific Islanders have a 9th to 12th grade education (not a high school diploma.)

4. Other Language Speaking Residents

The 1990 Census also asks about residents age 18 to 64 who speak other languages. The top ten cities/towns where residents speak English "not well," and "not well at all," rank ordered, are: Boston, New Bedford, Somerville, Cambridge, Brockton, Lowell, Springfield, Framingham, Lynn and Revere. In terms of linguistically isolated households, the top ten cities/towns are all of those previously listed with only two exceptions. Worcester's number of households displaced Framingham for the number eight place and Lawrence replaced Revere for the number ten ranking.

5. Linguistic Isolation

Linguistic isolation is defined by the Census as a household in which no person age 14 years or older speaks only English, or no person age 14 and older who speaks a language other than English also speaks English "very well." In other words, it is the number of households in which all of the members age 14 and older do not speak English, or if they speak English, no one speaks it "very well." This constitutes all those households which have no English proficiency or have no speaker who speaks English "very well." It should be noted that although the category of "very well" and "well" have been combined in the 1980 and the 1990 census reports, other surveys suggest that there is a major difference between those individuals who report speaking English "very well," and all others.⁶ Tables 3 and 4 provide the number of linguistically isolated households both state-wide and for individual cities/towns, as well as the numbers of residents who speak English "not well," and "not well at all," categorized by Spanish Speaking, Asian/Pacific Islander Language Speaking and Other Language Speaking residents. Understanding which communities have large numbers of linguistically isolated households and residents who speak English "not well," and "not well at all" may help to inform policymakers in the decision making process regarding the implementation of health care initiatives to linguistically diverse populations.

Conclusion

The findings of the 1990 Federal Census concerning educational attainment, non-English languages spoken, and language ability in English help to give health care policy makers information to use in outreach, consumer education and medical care delivery. Such information can: 1) inform the production of materials that will be most effective (i.e. use of audio/video versus printed material); 2) suggest the literacy level of written material to be developed; 3) identify the predominant languages used by consumers in certain geographical areas; and 4) indicate the need for interpreter services for health care delivery.

The 1995 population estimates for Massachusetts indicate that Black, Hispanic and Asian

⁶ Ibid.

populations are growing at a faster rate than the White population. Table 6 demonstrates this demographic trend. Other demographic data collected in Massachusetts also show that over one-third of Boston's Black population is foreign born, i.e., Haitian, Caribbean, African; therefore, literacy and language barriers to health care services are likely to exist in all major non-White groups in the state. While literacy and language data more recent than the 1990 Census are not available, the demographic trends suggest that the current literacy and language status in the Commonwealth will represent even greater challenges to health services organizations, government, the education system, and other service providers than reflected in the data reported in this paper.

Table 1
Percentage of Residents with Less Than a 9th Grade Education for 30 Select Massachusetts
Cities/Towns by Race/Ethnicity

City/Town	Total	White	Black	Asian	Hispanic
Amherst	2.44	2.51	2.02	1.53	8.55
Arlington	4.32	4.37	3.61	3.6	1.72
Belmont	3.19	3.26	0	1.57	3.09
Boston	10.34	7.45	11.32	26.57	28.3
Brockton	7.74	6.36	8.85	23.58	24.23
Brookline	3.05	2.05	8.84	12.97	9.25
Burlington	3.76	3.76	4.43	.76	16.17
Cambridge	7.09	6.61	9.93	3.49	17.3
Chelmsford	2.53	2.53	0	3.3	4.85
Chelsea	16.9	13.1	16.18	25.93	39.45
Everett	9.36	9.3	1.58	22.32	16.15
Fitchburg	13.49	12.76	12.79	30.52	28.27
Framingham	5.0	4.45	5.14	3.62	26.67
Holyoke	14.8	11.13	21.73	33.99	35.49
Lawrence	21.36	17.62	32.42	28.43	33.27
Leominster	10.47	10.01	7.76	12.97	27.9
Lexington	2.13	1.94	3.89	5.2	4.47
Lowell	16.6	14.4	9.38	34.97	31.23
Lynn	10.02	8.37	6.51	45.56	33.53
Malden	7.2	6.36	7.48	21.77	18.84
New Bedford	31.05	31.64	17.48	16.46	43.28
Newton	3.72	3.54	5.68	6.62	9.27
Quincy	5.52	4.47	7.74	21.77	11.68
Randolph	4.51	3.8	3.56	17	7.85

Table 1
Percentage of Residents with Less than a 9th Grade Education for 30 Select Massachusetts
Cities/Towns by Race/Ethnicity

City/Town	Total	White	Black	Asian	Hispanic
Revere	9.31	8.36	8.86	38.53	10.54
Shrewsbury	3.94	3.96	5.23	1.36	1.72
Somerville	11.08	10.82	13.83	7.18	29.73
Springfield	11.76	9.77	10.09	23.5	33.53
Waltham	8.94	8.98	7.06	7.18	25.69
Worcester	10.96	9.88	8.9	25.12	30.89

Table 2
Percentage of Residents without a High School Diploma for 30 Select Massachusetts
Cities/Towns by Race/Ethnicity

City/Town	Total	White	Black	Asian	Hispanic
Amherst	6.34	6.14	6.98	6.03	18.12
Arlington	11.48	11.81	3.61	4.95	1.72
Belmont	8.36	8.55	0	3.31	14.20
Boston	24.3	18.53	33.3	38.07	47.66
Brockton	25.62	23.33	31.83	43.25	48.03
Brookline	5.52	17.28	17.82	22.87	6.82
Burlington	13.06	13.44	13.92	1.97	25.63
Cambridge	15.65	14.25	25.93	7.99	33.94
Chelmsford	9.77	9.91	0	5.91	4.85
Chelsea	36.79	32.48	35.65	48.45	62.17
Everett	27.07	27.20	14.78	46.78	16.15
Fitchburg	31.18	29.87	27.08	45.33	59.44
Framingham	13.91	12.94	22.10	8.72	44.73
Holyoke	32.20	26.57	44.23	44.33	62.63
Lawrence	43.01	36.54	62.29	48.23	63.52
Leominster	24.83	24.07	15.73	26.69	61.71
Lexington	6.04	5.66	18.29	9.95	4.41
Lowell	34.21	31.60	30.75	50.58	62.03
Lynn	26.81	24.74	29.67	58.75	52.98
Malden	22.12	21.72	17.02	33.71	25.28
New Bedford	50.34	50.39	41.78	35.97	68.23
Newton	8.34	8.08	9.41	13.32	9.27
Quincy	17.25	16.09	18.58	36.20	17.07
Randolph	15.28	14.58	11.44	29.82	24.75

Table 2
 Percentage of Residents without a High School Diploma for 30 Select Massachusetts
 Cities/Towns by Race/Ethnicity

City/Town	Total	White	Black	Asian	Hispanic
Revere	26.15	25.35	14.94	52.53	31.87
Shrewsbury	12.84	13.13	5.23	2.53	19.37
Somerville	24.82	24.86	24.78	13.74	50.21
Springfield	30.39	26.54	33.80	32.41	60.22
Waltham	21.02	21.04	19.57	16.04	46.54
Worcester	27.09	25.43	33.41	34.76	56.72

TABLE 3
English Language Proficiency of Multi-Lingual Populations in Representative Cities & Towns, 1990*

City/Town	Spanish Speaking Residents Aged 18-64			Asian or Pacific Islander Language Speaking Residents Aged 18-64			Other Language Speaking Residents Aged 18-64		
	Speak English "very well / well"	Speak English "not well" / "not well at all"	Linguistically Isolated (# of Households)	Speak English "very well / well"	Speak English "not well" / "not well at all"	Linguistically Isolated (# of Households)	Speak English "very well / well"	Speak English "not well" / "not well at all"	Linguistically Isolated (# of Households)
Amherst	1225	149	128	1540	234	304	1589	59	59
Arlington	313	57	56	489	129	160	2781	182	284
Belmont	237	15	5	382	71	68	1720	144	164
Boston	26213	11415	6838	11777	6112	4197	36115	7057	7345
Brockton	1938	582	383	557	272	110	5070	1344	1031
Brookline	1200	218	111	2049	547	445	3766	335	598
Burlington	140	22	18	290	38	40	1147	102	103
Cambridge	3083	703	509	4359	599	640	8528	1502	1247
Chelmsford	217	9	0	381	20	70	1013	48	92
Chelsea	3040	2080	935	378	428	212	818	193	288

*Source : 1990, Federal Decennial Census, Population and Housing Summary, Massachusetts Institute for Social and Economic Research

TABLE 3
English Language Proficiency of Multi-Lingual Populations in Representative Cities & Towns, 1990*

City/Town	Spanish Speaking Residents Aged 18-64			Asian or Pacific Islander Language Speaking Residents Aged 18-64			Other Language Speaking Residents Aged 18-64		
	Speak English "very well / well"	Speak English "not well" / "not well at all"	Linguistically Isolated (# of Households)	Speak English "very well / well"	Speak English "not well" / "not well at all"	Linguistically Isolated (# of Households)	Speak English "very well / well"	Speak English "not well" / "not well at all"	Linguistically Isolated (# of Households)
Everett	447	161	108	302	78	86	2099	364	458
Fitchburg	1284	359	329	271	191	109	1477	124	301
Framingham	2306	733	392	613	123	128	2672	891	448
Holyoke	3915	2095	1316	82	67	7	1313	127	332
Lawrence	9263	5752	3214	350	282	170	2986	457	799
Leominster	1085	720	732	236	81	72	1772	112	175
Lexington	211	0	14	692	95	120	1190	48	88
Lowell	3256	1434	1012	3499	1874	1225	7377	1242	1196
Lynn	2549	1470	829	904	770	366	3523	502	702
Malden	827	305	136	1047	572	217	2829	368	432

*Source : 1990, Federal Decennial Census, Population and Housing Summary, Massachusetts Institute for Social and Economic Research

TABLE 3
English Language Proficiency of Multi-Lingual Populations in Representative Cities & Towns, 1990*

City/Town	Spanish Speaking Residents Aged 18-64			Asian or Pacific Islander Language Speaking Residents Aged 18-64			Other Language Speaking Residents Aged 18-64		
	Speak English "very well / well"	Speak English "not well" / "not well at all"	Linguistically Isolated (# of Households)	Speak English "very well / well"	Speak English "not well" / "not well at all"	Linguistically Isolated (# of Households)	Speak English "very well / well"	Speak English "not well" / "not well at all"	Linguistically Isolated (# of Households)
New Bedford	1689	993	683	95	49	42	13368	5727	3829
Newton	1127	126	55	1526	387	154	4743	276	529
Quincy	845	184	140	2056	1439	658	2480	206	319
Randolph	283	54	28	593	347	139	1318	85	165
Revere	705	287	51	391	371	220	2337	494	368
Shrewsbury	172	6	0	272	26	25	832	55	56
Somerville	1792	1118	369	1152	388	186	7218	2108	1471
Springfield	9481	4211	2620	429	223	121	5327	1067	1311
Waltham	1475	712	311	636	126	157	4226	506	522
Worcester	6183	3554	1557	1689	693	431	7554	830	1621

*Source : 1990, Federal Decennial Census, Population and Housing Summary, Massachusetts Institute for Social and Economic Research

Table 4
State-Wide English Language Proficiency of Multi-Lingual Populations, 1990 Decennial Census

	Ability to Speak English " Very Well/Well"	Ability to Speak English "Not Well/Not Well at All"	Linguistically Isolated (# of Households)
Spanish Speaking Residents Aged 18-64	113,858 (72%)	44,949 (28%)	45,411 (28%)
Asian/Pacific Islander Language Speaking Residents Aged 18-64	53,015 (73%)	19,438 (27%)	26,285 (37%)
Other Language Speaking Residents Aged 18-64	328,613 (88%)	46,113 (12%)	48,646 (16%)

Table 5
Primary Languages Other than English Spoken at Home for 30 Select
Massachusetts Cities/Towns*

City/Town	Primary Languages Spoken at Home				
Lynn	1. Spanish	2. Greek	3. Mon-Khmer	4. French/ French Creole	
Malden	1. Italian	2. Spanish	3. Chinese		
New Bedford	1. Portuguese	2. Spanish	3. French/ French Creole		
Newton	1. Italian	2. Chinese	3. Spanish		
Quincy	1. Chinese	2. Italian	3. Spanish		
Randolph	1. Chinese	2. French/ French Creole	3. Spanish		
Revere	1. Italian	2. Spanish	3. Mon-Khmer		
Shrewsbury	1. French/ French Creole	2. Italian	3. Spanish	4. Indic	
Somerville	1. Portuguese	2. Spanish	3. Italian	4. French/ French Creole	
Springfield	1. Spanish	2. French/ French Creole	3. Italian	4. Polish	5. Portuguese

*Source: 1990 Federal Decennial Census, Population and Housing Summary

Table 5
Primary Languages Other than English Spoken at Home for 30 Select
Massachusetts Cities/Towns*

City/Town	Primary Languages Spoken at Home				
Chelsea	1. Spanish	2. Vietnamese	3. Italian		
Everett	1. Italian	2. Spanish	3. French/ French Creole		
Fitchburg	1. Spanish	2. French/ French Creole	3. Italian		
Framingham	1. Spanish	2. Portuguese	3. French/ French Creole		
Holyoke	1. Spanish	2. Polish	3. French/ French Creole		
Lawrence	1. Spanish	2. French/ French Creole	3. Italian		
Leominster	1. Spanish	2. French/ French Creole	3. Italian		
Lexington	1. Chinese	2. Spanish	3. Other Indo- European	4. French/ French Creole	
Lowell	1. Spanish	2. French/ French Creole	3. Mon-Khmer	4. Portuguese	5. Greek

*Source: 1990 Federal Decennial Census, Population and Housing Summary

Table 5
Primary Languages Other than English Spoken at Home for 30 Select
Massachusetts Cities/Towns*

City/Town	Primary Languages Spoken at Home				
Amherst	1. Spanish	2. Chinese	3. French/ French Creole		
Arlington	1. Greek	2. Italian	3. Portuguese		
Belmont	1. Other Indo- European	2. Italian	3. Greek		
Boston	1. Spanish	2. French/ French Creole	3. Chinese	4. Italian	5. Portuguese
	6. Other Indo- European	7. Vietnamese	8. Greek	9. Russian	10. Arabic
Brockton	1. Spanish	2. Portuguese	3. French/ French Creole		
Brookline	1. Chinese	2. Spanish	3. Russian		
Burlington	1. Italian	2. Indic	3. Chinese	4. Spanish	
Cambridge	1. Spanish	2. French/ French Creole	3. Portuguese	4. Chinese	5. Italian
	6. Korean				

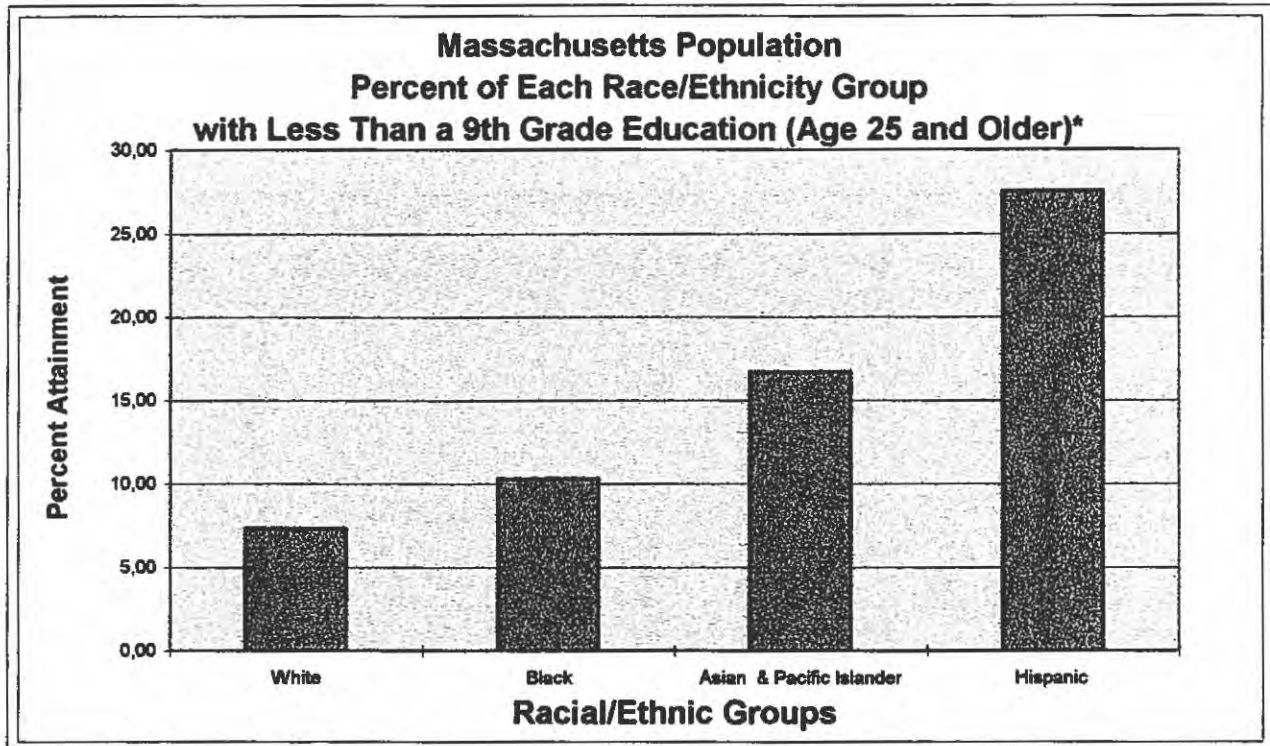
*Source: 1990 Federal Decennial Census, Population and Housing Summary

Table 6
Change in Massachusetts Population
1990 Decennial Census Compared to 1995 MISER Estimates*

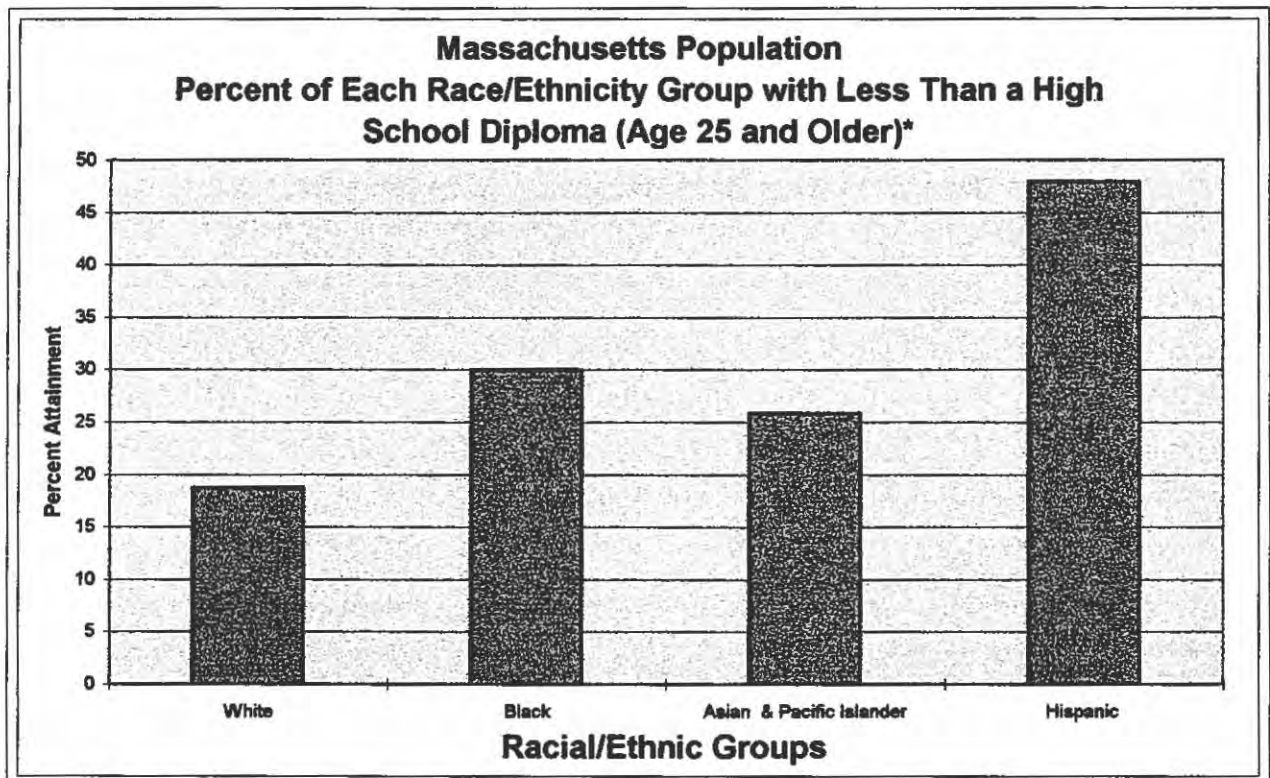
Group	1990 Population	1995 Population	Percentage Change 90-95
White	5,280,292	5,270,301	- .2
African American	274,464	340,852	+24.2
Asian/Native American	143,392	182,481	+27.2
Latino	287,549	344,068	+19.7
Total	6,016,425	6,173,702	+2.6

*Sources: 1990 Federal Decennial Census
Massachusetts Institute for Social and Economic Research

Graph # 1



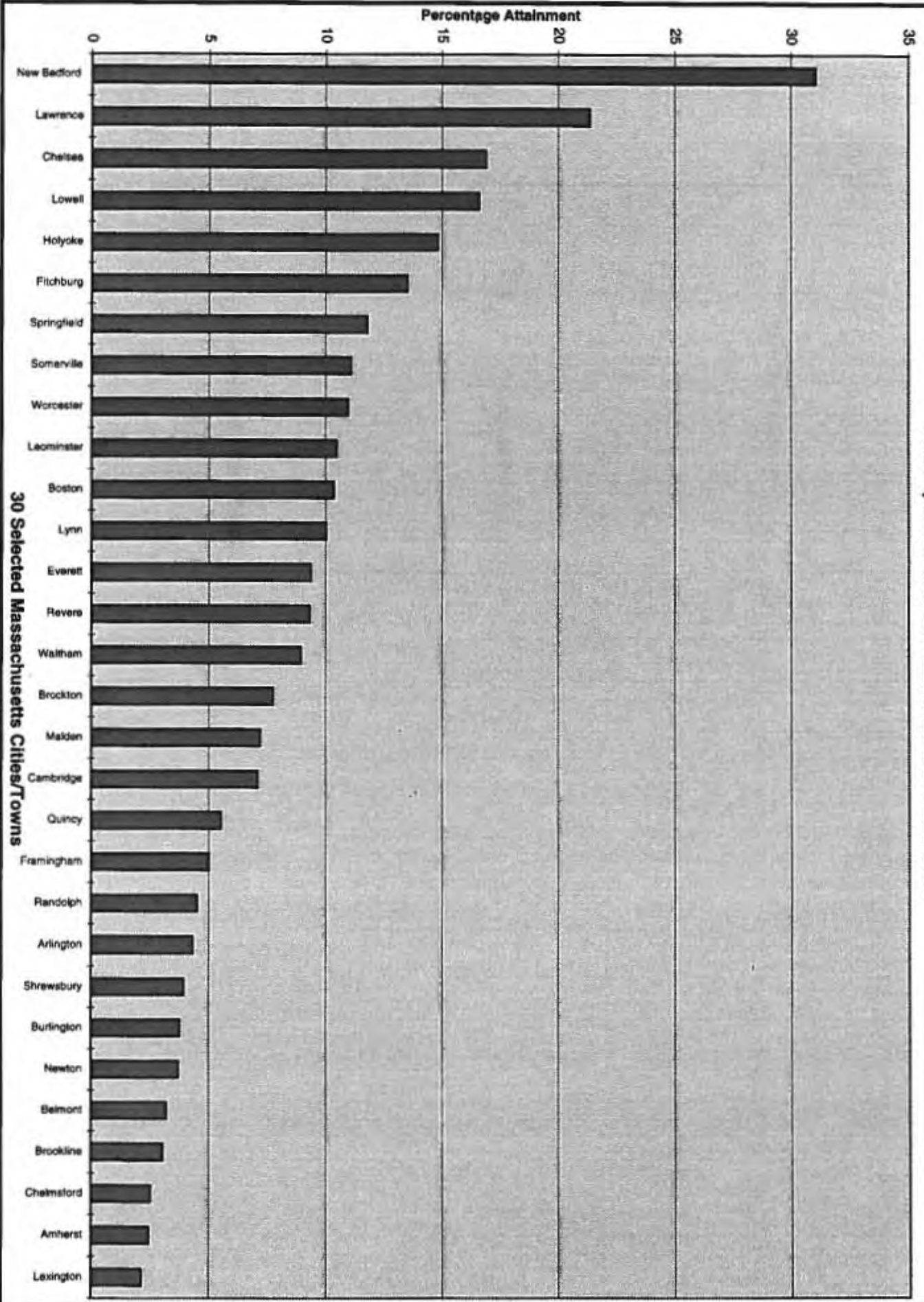
Graph # 2



*Source: 1990 Federal Decennial Census, Population and Housing Summary: Massachusetts Institute for Social and Economic Research

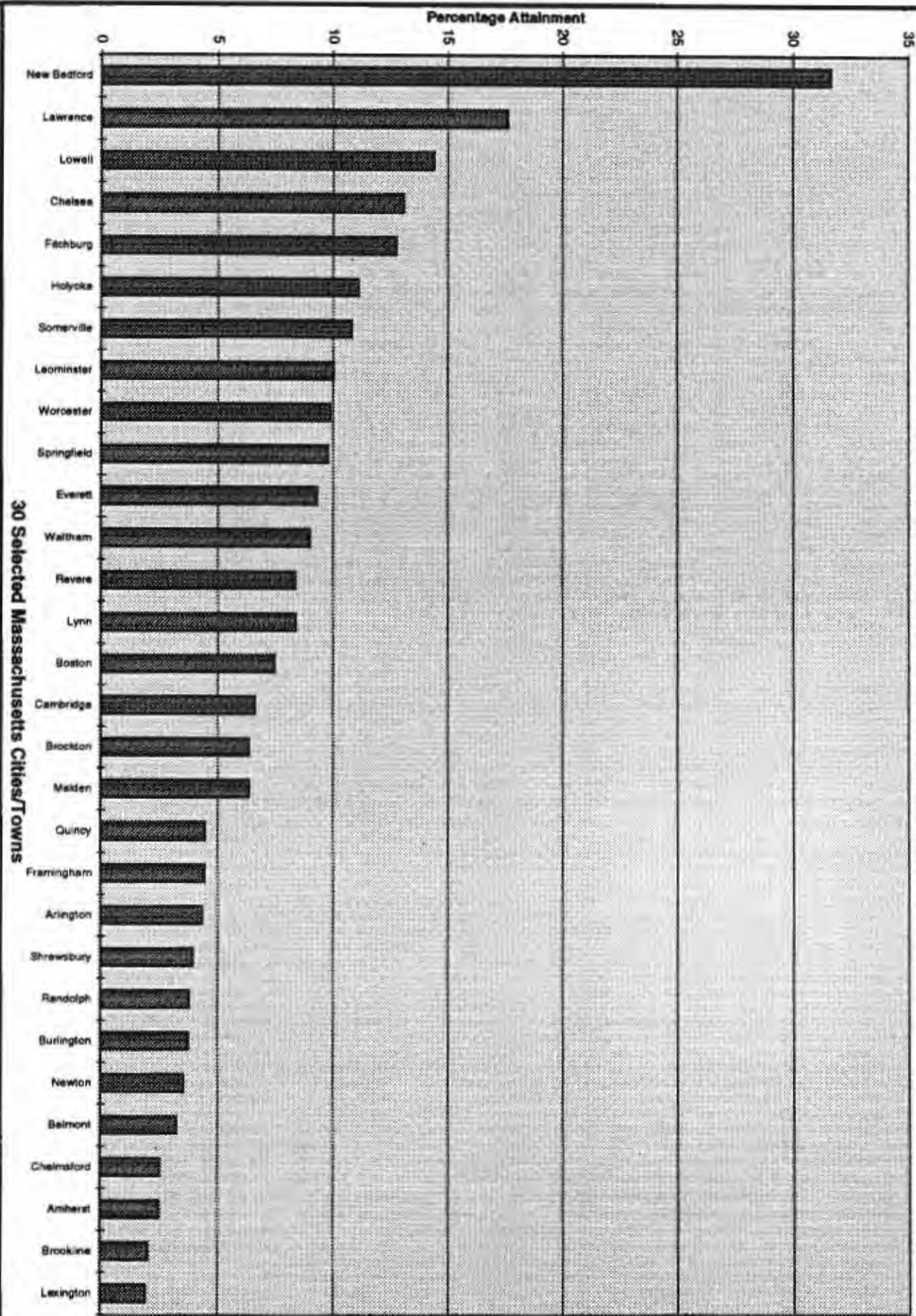
Graph 3

Total Population with Less than a 9th Grade Education



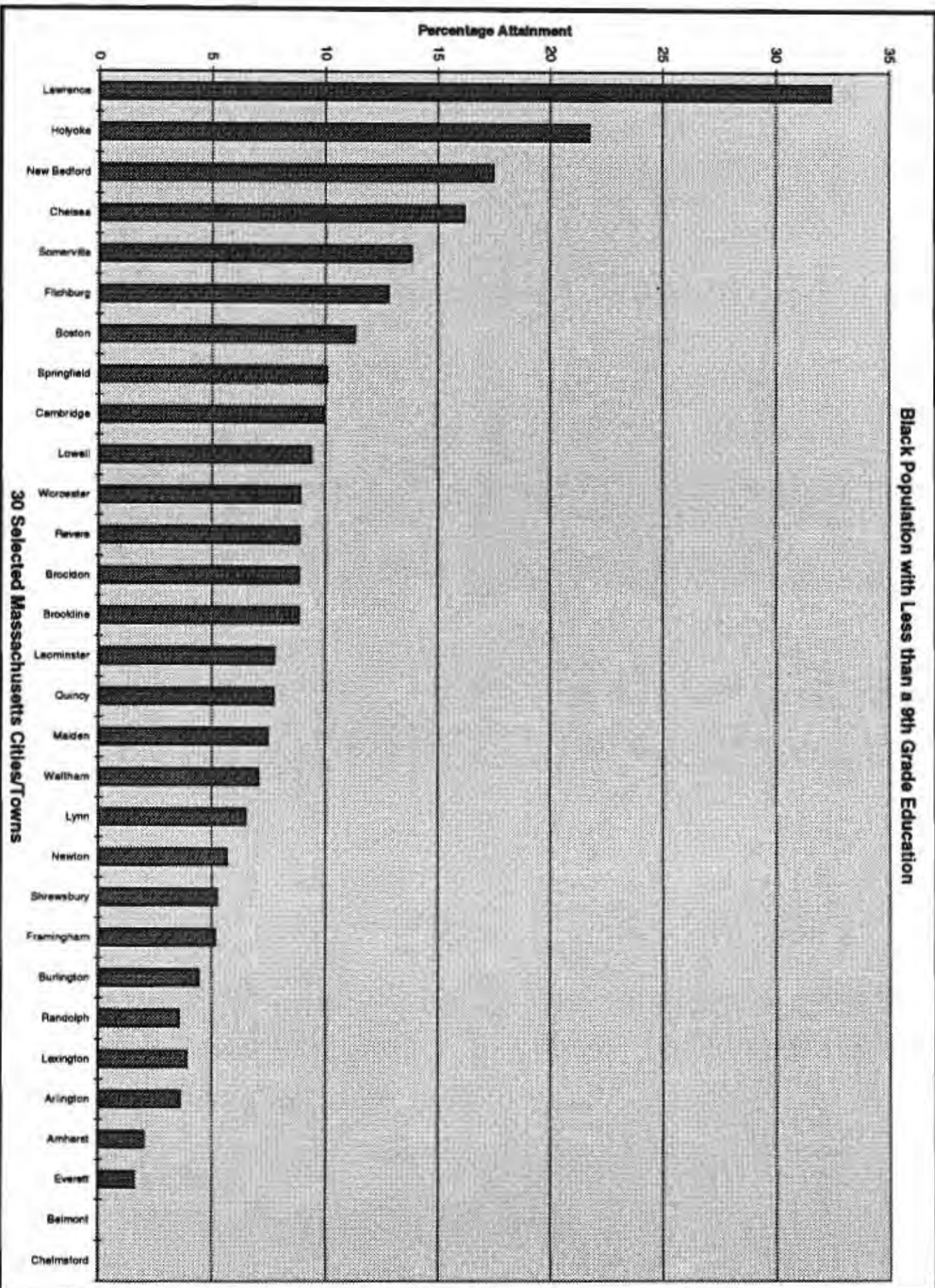
Graph 4

White Population with Less than a 9th Grade Education



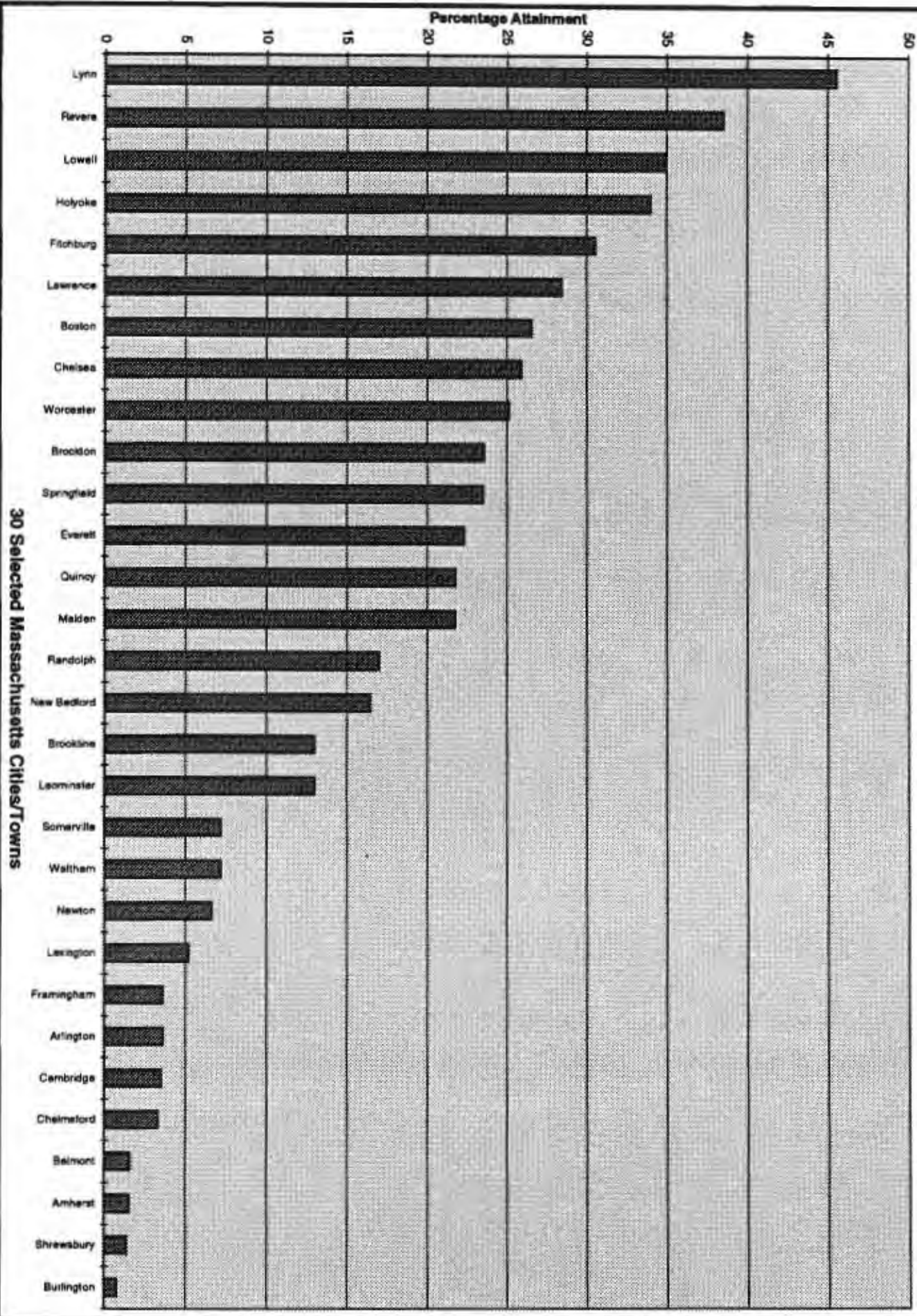
30 Selected Massachusetts Cities/Towns

Graph 5



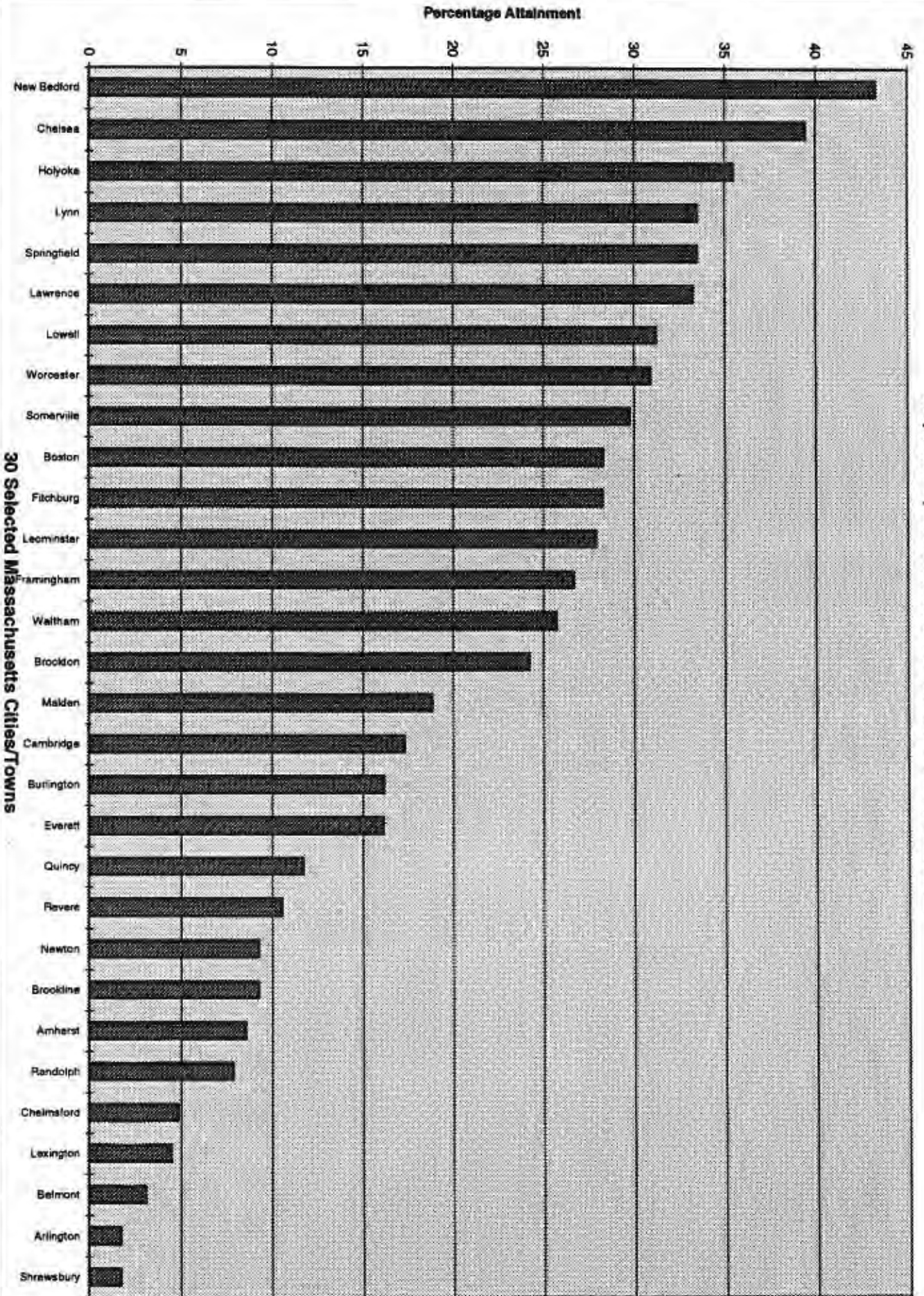
Graph 6

Asian Population with Less than a 9th Grade Education



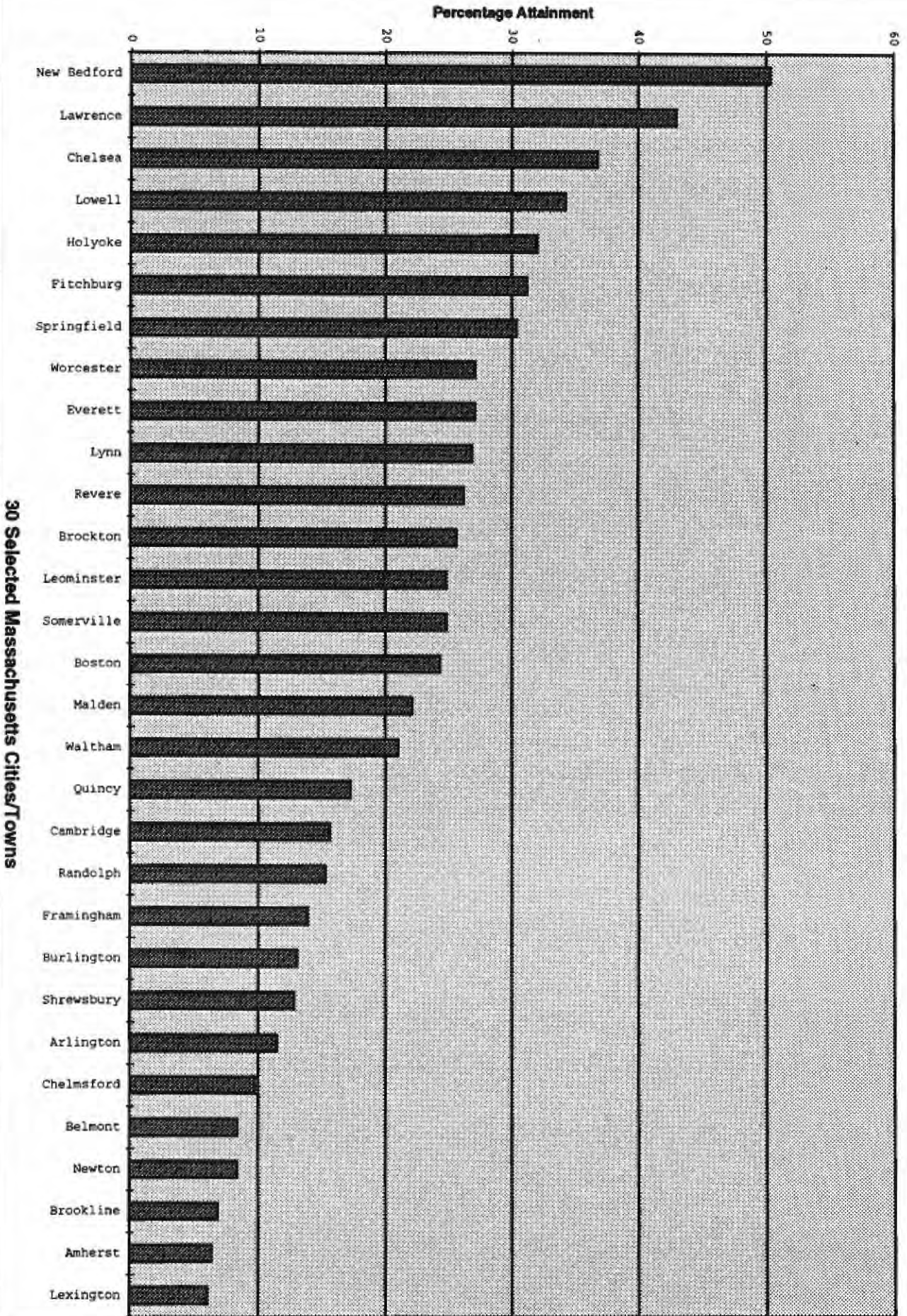
Graph 7

Hispanic Population with Less than a 9th Grade Education



Graph 8

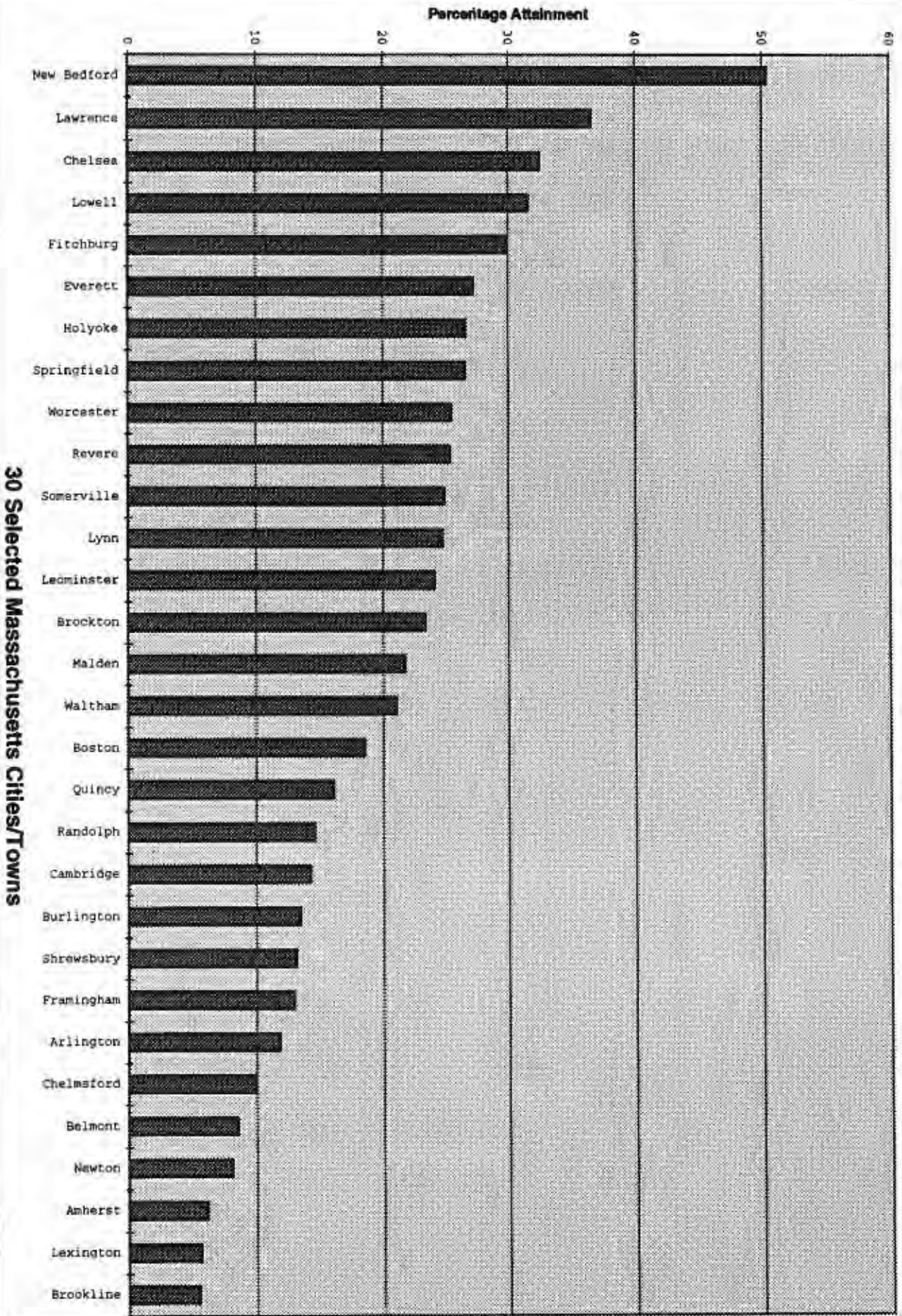
Total Population with Less than High School Diploma



30 Selected Massachusetts Cities/Towns

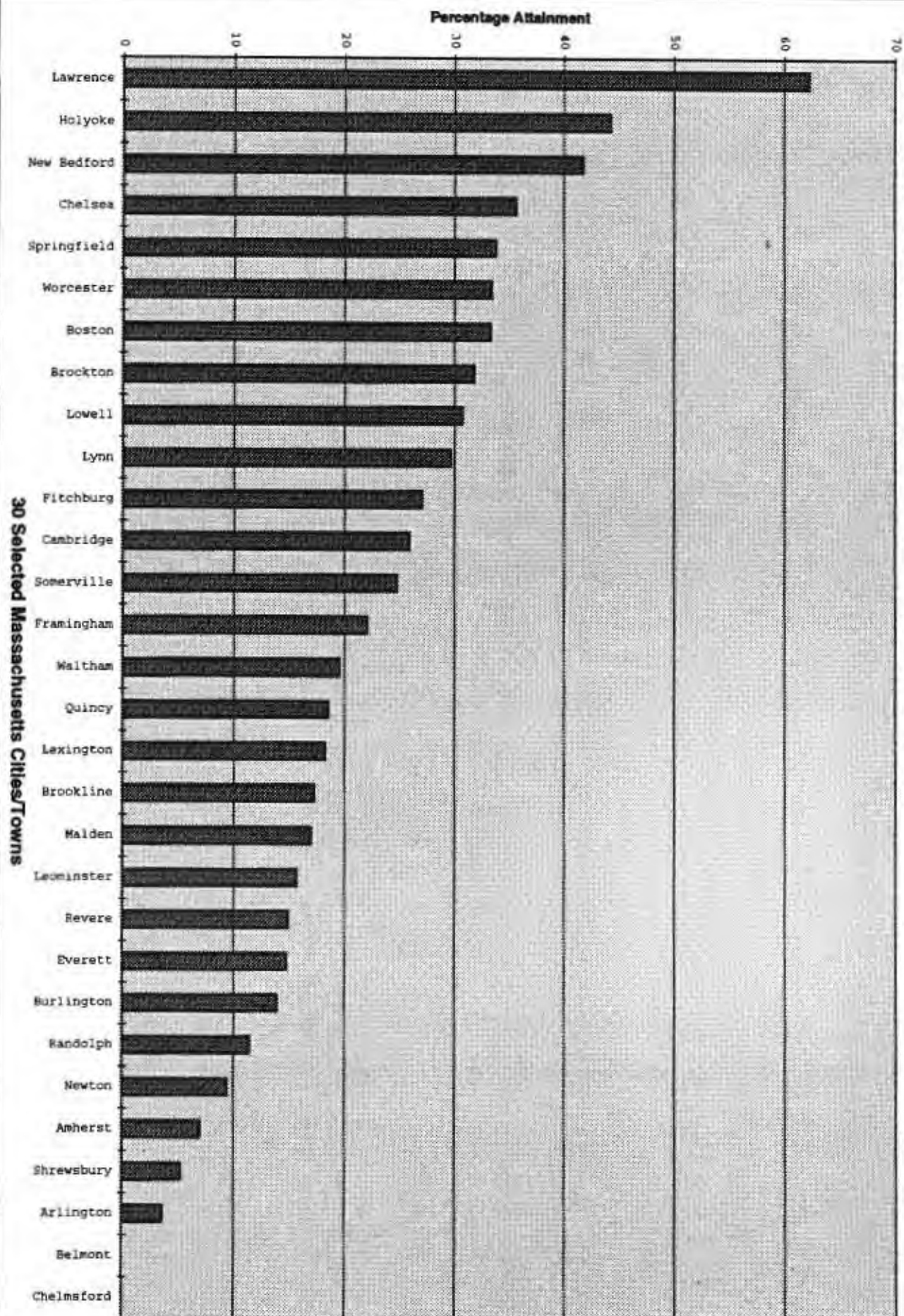
Graph 9

White Population with Less than a High School Diploma



Graph 10

Black Population with Less than a High School Diploma



30 Selected Massachusetts Cities/Towns