

POPULATION DIVISION

Have We Reached the Top? Educational Attainment Projections of the U.S. Population

by
Jennifer Cheeseman Day
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Jennifer Cheeseman Day
and **Kurt J. Bauman**

Population Division
U.S. Census Bureau
Washington, DC 20233-8800

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This paper reports the results of research and analysis undertaken by Census Bureau Staff. It has undergone a more limited review than official Census Bureau publications. This report is released to inform interested parties of research and to encourage discussion.

Abstract

There is growing concern that educational levels in the U.S. population may stagnate or even decrease in coming decades. Factors contributing to this concern include a leveling of education in entering cohorts, shifts in ethnic composition and high levels of immigration. To explore these issues, we have developed projections of educational attainment for the U.S. population age 25 and above to the year 2025. We improve on past projections by providing model-based projections of educational attainment, which allows control for immigration, sex, race and ethnicity, age and questionnaire effects. Results indicate that apparent cross-cohort decline in educational attainment is due to data limitations, and that attainment is climbing in important segments of the youngest cohorts in our data. Over the next 30 years, a steady increase in educational attainment levels should be observed in the U.S. population age 25 and over.

Have We Reached the Top?

Educational Attainment Projections of the U.S. Population

There is growing concern that educational levels in the U.S. population may stagnate or even decrease in the coming decades. Factors contributing to this concern include a leveling of education levels of entering cohorts compared to those that are retiring, and growth in population numbers of ethnic groups and immigrants with traditionally lower education levels. To explore these issues, we have developed projections of educational attainment for the U.S. population age 25 and above to the year 2025. These projections are based on separate educational attainment rates by race/ethnic groups, gender, age, and nativity status. Our work has shown that it is possible to improve on past projections that relied on assumptions about future attainment patterns and provide model-based projections of educational attainment. Using two models of attainment, we find that attainment will continue to climb for nearly every segment of the population, at all levels of education.

Background

There are at least three major influences on overall educational attainment in the population that lead to concern about the possibility of lowered education levels in the workforce. The first of these is the process of cohort succession. Over the last several decades, the education level of the workforce has benefitted by the entrance of increasingly well-educated cohorts which replace retiring cohorts. However, there is evidence that this process is slowing down.

Those born in the U.S. in the first half of this century grew up during a time when

universal education was being established and levels of education were climbing. The proportion graduating from high school grew from under 40 percent (among those born at the turn of the last century) to over 80 percent (among those born around 1950). The proportion completing college went from under 10 percent to over 25 percent (Mare 1995). This growth across cohorts has been reflected in a distinct age gradient to the educational status of the population. For example, tabulations from the CPS (U.S. Census Bureau 1998) show that in 1957, only 23 percent of those 55 or over had completed 4 years of high school, while 44 percent of the prime age working population (35-54) had finished high school and 58 percent of the population 25-34 had done so. This age gradient meant that overall education levels increased as older, less-educated cohorts were replaced by younger ones.

By 1997, however, the age gradient had flattened considerably. Seventy percent of the oldest group (55 or older) had completed high school, while the youngest group and the middle group both had the same rate of high school completion — 87 percent. Trends in high school graduation are of less concern if those who graduated were going on to and completing college in increasing numbers. However, college graduation, which currently stands at 27 percent for the youngest cohort, shows the same kind of flattening of the age gradient. It appears, therefore, that educational upgrading through aging of younger, better educated cohorts may be coming to an end. Because of this country's past success in educational growth, retiring cohorts are increasingly well-educated, while those who enter productive ages have less room for growth. It would take a great deal of growth at the postsecondary level for us to sustain the educational growth that has characterized the United States for the greater part of the 20th century.

A second point of concern focuses on ethnic shifts. The ethnic composition of the U.S.

population has shifted dramatically, and those groups with lower education levels, such as Hispanics and Blacks, are becoming an increasing proportion of the population. Blacks and Hispanics are projected to grow from 24 percent to over 37 percent of the population in the period 2000 to 2050 (U.S. Census Bureau 2000). For Hispanics in particular, the growth in numbers is not matched by a growth in education levels. In fact, earlier educational projections by Kominski (1988) showed that these ethnic shifts could possibly lead to younger age groups having lower educational attainment than those who are older.

The issue of minority education has been directly tied to concerns about the quality of the American labor force (Miller 1997). It is argued that an increase in education levels of minority group members is needed to avoid economic polarization, allow for economic growth and help maintain international competitiveness. This argument requires us to examine both attainment (years of school, degrees) and achievement (test scores). Comparative research on attainment has not been given as much emphasis as work on minority achievement (Jencks 1998) and comparisons of achievement in other countries with those of the U.S. (e.g. Takahira et al. 1998). The basis for comparisons of attainment is relatively weak. Current cross-national attainment projections focus on secondary school completion (OECD 1997), which is clearly not sufficient to paint an accurate picture of overall human capital stocks, regardless of assumptions about the relationship between achievement and education.

A third concern is immigration. Immigration has grown dramatically over the last 50 years, and many immigrants have low levels of formal education. Projections that do not separate out the native born from the foreign born can give a misleading information about trends. For example, until nativity is taken into account, Hispanics appear to be stagnating or

falling behind other groups. Among Hispanics, the percentage that completed high school increased only 15 points over the last 20 years (from 39.6 percent in 1977 to 54.7 percent in 1997). At the same time, the percentage of Blacks completing high school grew by 30 points (U.S. Census Bureau 1998). However, this apparent lack of progress by Hispanics is deceiving. Looking at native born Hispanics only, the growth in high school graduation across cohorts born from 1900 to 1970 shows a pattern of growth nearly identical to that of Blacks (Mare 1995; Bean and Tienda 1987).

The fourth and final concern is the timing of school completion. Educational attainment has ceased to be fixed in early adulthood, especially among members of ethnic and racial minorities. Delays in completing education may create lower human capital levels in the younger portion of the workforce and may contribute to other trends such as job instability and delayed marriage. Evidence from enrollment patterns suggests that age at completion of schooling is higher for Blacks and Hispanics than it is for Whites (U.S. Census Bureau 1997). The enrollment rate of Blacks and Hispanics in their 30s is more than half again as high as the rate among Whites when compared to the enrollment rate of each group in their 20s. The delayed completion of education may be reflected in lower education levels in younger age groups.

Projections of educational attainment levels by age, gender, race/ethnicity and nativity provide a starting point for examining all these issues. They provide a way to more closely visualize the likely effects of current trends on the characteristics of the workforce of the future, and can be used to project alternative scenarios based on possible deviations from current trends, such as changes in college enrollment levels, ethnic composition, and immigration.

Structure of projections

The predominant approach to making educational projections is the cohort component method, which is the method adopted here. Our focus is on 5 educational attainment levels: less than high school, high school graduate, some college (including two-year degrees), college graduate, and advanced degree.¹ Group-specific rates of completion for each of these attainment levels are developed for four ethnic/racial groups (Hispanic, non-Hispanic White, non-Hispanic Black, and non-Hispanic Asians and Pacific Islander), and for cells defined by gender, 5-year age groups, and nativity. These rates are then be applied to the projected population to produce estimates of the educational level of the adult population as current and future educational cohorts move through ages 25 and beyond.

For the population base, we use the Census Bureau's most recent population projections (U.S. Census Bureau 2000). These projections disaggregate the population by age, gender, race/ethnicity and nativity. We develop rates of educational attainment from Current Population Survey (CPS) data.² The basis for projections is a model of educational continuation ratios derived from a table of educational attainment by age group, gender and race/ethnicity from four years of March CPS data: 1983, 1988, 1993 and 1998. Up until 1998, separate data by nativity was not available, so educational differences by nativity can only be estimated in cross-sectional form. The overall form of the model will be explained below.

¹ Due to problems in obtaining stable and credible projections at the advanced degree level, only the divisions between the first four education levels are considered in this paper.

² Data from the previous year's March CPS are added to data from each year in order to increase cell size for education estimates of relatively small groups.

Educational upgrading across cohorts

Table 1 shows educational attainment levels at four points in time (1983, 1988, 1993 and 1998) for white men and women born between 1893 and 1972. To accentuate the focus on cohorts, table 1 is arranged differently than other tables of this type. Each row of the table refers to a birth cohort (rather than age group) and cohort educational attainment patterns are listed across the table. Those born in 1953-1957, for example, were 26-30 in 1983; 31-35 in 1988; 36-40 in 1993 and 41-45 in 1998. The percentage of white males from this cohort who said they didn't finish high school was 10.7, 10.6, 7.9 and 7.8 for each year respectively.

Past attempts to make educational comparisons across cohorts have often used cross-sectional data. The rationale for this practice is that after the age of 30, few people change their education levels, making it attractive to assume that education levels are stable after that point. Table 1 shows how dangerous that assumption can be. For example, if we were to compare the college completion rates of males from the youngest four cohorts based on data from 1998, we would conclude these rates were stagnant. The percentages were 30.4, 29.5, 30.4 and 30.4 for the 1953-57 cohort through the 1968-72 cohort. By contrast, if we based our measures on surveys taken at the same age for each cohort, we would conclude that rates have grown. In this case, the rates are 26.3, 25.7, 27.2 and 30.4 for the four cohorts. The data support the latter approach.

Projection models

To develop the insights available from table 1 and to make predictions into the future, it is necessary to produce a model that represents the observed patterns. This, in turn, requires that

there be enough stability in underlying trends to support models with a reasonable level of fit to the data while permitting extrapolation into the future.

Our choice for modeling educational attainment is the “continuation ratio” model. It models the odds of completing each level of education conditional on having completed the next lower level. That is,

$$\text{Prob}(Y > y \mid Y > y-1) = f(\text{cohort, gender, ethnicity, immigration}),$$

where $f()$ is the inverse logit function. In words, the model calculates the probability of completing the next highest education level, given completion of the preceding level. For example completion of college is modeled only for those who have attended some college. An advantage of this approach is the ability to model separate effects of variables at different transitions. Additionally, the parameter estimates from this model are not affected by the level of educational attainment at a given point in time, making it ideal for modeling longitudinal changes in education (Mare 1981). For purposes of presentation, the continuation ratios are converted to overall percentages completing each level of education, as these percentages are easier to interpret and more useful for projections. The independent variables are age, race/ethnicity, gender and year. In order to better represent cohort processes, age was recoded to reflect year of birth, rather than age at the time of survey. A dummy variable for each of the youngest two age groups was included, along with a linear term to reflect changes in educational attainment as people age. A dummy variable was introduced to capture the effects of questionnaire changes in 1992. A number of interactions between ethnicity, gender, nativity,

cohort, and transition were modeled, resulting in a model that tracks observed trends fairly closely.

Two forms of the model were produced. In one model, a series of dummy variables were used to fit the baseline educational continuation rate for each of the four educational transitions for each cohort. Sex, race/ethnicity, nativity and age were represented parametrically. To project educational attainment for cohorts that had not completed their schooling, it was assumed that the average rate of educational attainment for the last four cohorts of the reference group (White males born 1953 to 1972) would continue unchanged into the future, while other groups continued to advance or decline relative to this flat projection. In the second model, the baseline trend in educational continuation at each level was modeled as a linear function of cohort. In order to accommodate a pronounced curvature in the historical series, the line was allowed to take on a different slope for the cohorts following the birth year 1948. Because the first approach (using dummy variables) produced lower estimates of educational attainment overall, it is referred to as the “low” projection. The model using linear trend parameters produced the “high” projection.

Figure 1 shows college attendance rates of white males by cohort as projected by the two models. The dots in each of the two graphs are observed transition rates for each 5-year cohort; the model-based projections of cohort educational continuation rates are represented by lines. The “low” model fits a dummy for each 5-year cohort, as was just discussed, resulting in a close mapping of cohort-to-cohort fluctuations in educational transitions. The attainment of young cohorts that have not completed their education is a simple continuation of recent levels. Note that the observed level of college attendance for white males in the cohort born in 1973 is already

higher than that predicted by this model. That is because recent cohorts have generally shown an upturn in educational attainment, especially at the college level. As a result, the “low” model turns out to be more conservative than simply projecting current rates forward for most groups being projected here.

The “high” model, by contrast, does not fit small shifts in the data, but is able to provide projections to future cohorts based on continuation of current trends — in this case a straight line effect of cohort. Note that this projection line goes higher than the observed point for the 1973 cohort. In fact, comparison of the “high” and “low” models shows that most of the difference in projections for younger cohorts have to do with the starting level (1973 cohort) rather than the slope of changes for subsequent cohorts.

Results

Table 2 shows our projections of educational attainment of the 25 and over population to 2028. The overall education levels increase by either the “low” or the “high” projections. High school completion is slated to increase by 4 to 7 percentage points, college attendance (some college or higher) by 7 to 12 percentage points and college graduation by 4 to 5 percentage points. Nearly all groups show increases in educational attainment levels from 2003 to 2028. (The only exceptions are males at the bachelor’s degree level, where slight declines are predicted for some non-White groups.) The largest increases are observed among native females. At the “some college” or higher level, there will be a 10 to 15 point increase by the “low” projection and a 17 to 22 percent increase by the “high” projection. Completion of high school and bachelor’s level education will increase by 5 to 15 percent for native females.

By contrast to females, males show lower educational growth by both models. The greatest growth in education by native males is among Black and Hispanic males at the high school level, where growth is in the range of 5 to 15 percentage points.

The high projection shows a greater increase in attainment at the “some college” or higher level among natives than among the foreign-born. Otherwise, foreign-born are expected to gain more in education than natives, overall, by both projections. As with natives, the growth in education by the foreign-born seems mostly driven by increases among females -- especially Asian females who are expected to increase their rate of completion at all three levels by 6 to 16 percentage points.

These results need to be taken cautiously, however. Certain projections produce rates of attainment that seem somewhat unreasonable, given past experience. According to the “high” projection, overall high school completion rates for natives will be nearly 94 percent. It will be over 95 percent for Whites and Asians. The assumption underlying this model is that past trends can carry forward without interruption. However, if there is a residual group for whom high school completion is especially difficult these trends may not come about. Also, if there is expansion of policies implementing graduation standards and discouraging social promotion, the portion of students who find themselves unable to complete high school may increase.

The increases in educational attainment observed in Table 2 are the result of two basic processes -- mortality of older cohorts and the educational attainment of younger ones. One reason for the observed increases is that the process of cohort succession is still powerful enough to drive trends upward. Even if younger cohorts do not advance greatly in attainment (as assumed in the “low” model) the process of cohort succession is apparently powerful enough to

overcome any downgrading due to shifts in population composition.

The projections for younger cohorts are shown in Table 3. Both the “low” and “high” models predict increasing attainment at the level of “some college” or higher. The “low” projection shows a slight decline in high school completion for the native population. Much of the difference between the two projections is determined by the starting point.³ The effect of these predictions are shown more clearly in Figure 2 and Figure 3. In Figure 2, historic trends in high school completion of people age 30-34 in each decade from 1940 to 1998 are compared to projected trends based on the two models. There is considerable uncertainty about the direction of high school completion reflected in this figure. Although the “high” projection shows a continuing upward trend, the “low” projection shows that the flattened profile of high school completion over the past two decades may be a peak from which we will descend in the future.

Figure 3 shows college completion rates. At first this figure appears to show even more uncertainty than did the previous one. Appearances are deceiving due to the change in vertical scale, which makes the differences appear larger than they are relative to Figure 2. More important, nearly all the difference between the two projections is due to differences in starting points, which is entirely due to assumptions discussed above. Under both projections, the trends are upward. The conclusion from Figure 3 is that even if we assume that college completion rates fall from their current levels, the long term trend points to increased college completion.

³ Of the 9 point difference in high school predictions in 2028, 3.5 points are due to difference in 2003. At some college, around half the 2028 difference is there in 2003. At college completion nearly all the difference (7 points of a 7.6 point difference) is there in 2003.

Immigration

The evidence presented so far has shown that foreign born population is growing in educational attainment relative to the rest of the population. At the same time, however, the overall education levels of the foreign born are much lower than those of the native population. The net effect of immigration, therefore, is uncertain. One way to assess the impact of future immigration is to compare alternative educational projections under the assumption of continued immigration and under the assumption of zero immigration. The results of this exercise are shown in Table 4. Here again we see a contrast between the “low” model and the “high” model. Under the former model, the zero immigration forecast shows higher educational attainment at all levels. Under the “high” model, it is the standard forecast that shows higher education levels. To be on the safe side, then, it is best to say that the direction of change is indeterminate.

At the high school level, we believe immigration will probably make a negative impact. The reasoning is as follows. The “low” projection shows the greatest advantage for the zero immigration scenario at the high school level, while the “high” projection shows an advantage for the standard scenario that is around half the size. At the same time, the high school projections of the “high” model are probably a bit higher than we would reasonably expect, giving us a bit more trust in the “low” projections.⁴

At the “some college” or higher levels, it is difficult to choose one projection over the other. Thus we prefer to maintain a noncommittal stance. The net impact of immigration is

⁴ In addition to the very high completion rates (above 95%) projected in the “high” model of high school, the growth in high school completion is mainly driven by large expected increases in high school completion by foreign-born Hispanics. These are also less plausible than the “low” predictions.

simply too difficult to forecast precisely.

Conclusion

We have developed a comprehensive set of educational projections based on two alternative scenarios that can form the basis for understanding educational trends as they emerge in the coming century. It is clear from these projections that the educational advance of the U.S. population will continue into the first part of the new century. To answer the question posed in the title, we have not reached the top. Educational attainment of the population 25 and over will increase well into the foreseeable future.

Cohort succession rate remains powerful enough to raise overall education levels. Even when education is projected not to grow among younger cohorts, overall educational attainment rises. It is true that we don't have direct evidence on future educational growth among cohorts yet to complete their education. If younger cohorts were to get less education, our projections may be overly optimistic. However, assuming stability in the policy environment, there is little reason to believe that a downward shift in education is at hand. There has been a marked upturn in college enrollment and completion among the youngest cohorts observed here. It is observed, moreover, among nearly all the race and sex subgroups we have examined. Our "low" projection assumes this upturn will disappear, but it is doubtful that it will become a significant downturn.

The fact that all ethnic groups are increasing their education levels indicates that changes in ethnic composition do not suppress educational growth to the extent some observers have feared. Immigration has an indeterminate impact on educational attainment. A shift to a "zero immigration" scenario may raise high school completion rates by a few percentage points. The

effect on college completion is less certain. However, continued immigration will probably have an impact of only a few percentage points either way. The contrast between currently high native educational attainment levels and low levels among the foreign-born paints an exaggerated picture of the differences involved.

Our near-term educational future does not seem to depend on differences between Whites and less-educated minority groups, nor to differences between natives and less-educated foreign-born groups. The greatest contrast is that between high-educational-growth females and low-educational-growth males. Any policy designed to address educational growth needs to be flexible enough to address the particular challenges facing various groups. It is our hope that these projections can serve as a jumping-off point for more detailed explorations of the various mechanisms that encourage or discourage educational growth, and help avoid the necessity of speculating about our educational future.

References.

Bean, Frank. D. and Marta Tienda. 1987. *The Hispanic Population of the United States*. New York: Russell Sage Foundation.

Gerald, Debra E. and William J. Hussar. 1997. *Projections of Education Statistics to 2008*. NCES 98-016. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Jencks, Christopher and Meredith Phillips. 1998. *The Black-White Test Score Gap*.

Kominski, Robert. 1988. "Current and Potential Race-Sex Differences in the U.S. Educational Structure." Presented at the annual meeting of the Population Association of America.

Miller, L. Scott. 1997. *An American Imperative : Accelerating Minority Educational Advancement*. (Reprint edition.) New Haven, Conn: Yale Univ Press.

Mare, Robert. 1981. "Change and Stability in Educational Stratification." *American Sociological Review*. 46:72-87.

Mare, Robert. 1995. "Changes in Educational Attainment and School Enrollment." In Farley, R. (ed.) *State of the Union: America in the 1990s*. Volume one: Economic trends. New York: Russell Sage Foundation. Pp. 155-214.

OECD. 1997. *Education at a Glance: OECD Indicators 1997*. Paris: Organisation for Economic Co-operation and Development, Center for Educational Research and Innovation.

Takahira, Sayuri, Patrick Gonzales, Mary Frase and Laura Hersch Salganik. 1998. *Pursuing Excellence: A study of U.S. Twelfth-Grade Mathematics and Science Achievement in International Context*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

UNESCO. 1978. *Towards a Methodology for Projecting Rates of Literacy and Educational Attainment*. Geneva: United Nations Educational, Scientific and Cultural Organization, Division of Statistics on Education.

U.S. Census Bureau. 1997. "School Enrollment — Social and Economic Characteristics of Students: March 1995: Detailed tables and documentation for P20-492." Series PPL-55.

U.S. Census Bureau. 1998. "Educational Attainment in the United States: March 1997: Detailed tables and documentation for P20-505." Series PPL-87.

U.S. Census Bureau. 2000. *Population Projections of the United States by Age, Sex, Race,*

Hispanic Origin, and Nativity: 1999 to 2100. Population Projections Program, Population Division, February 14, 2000

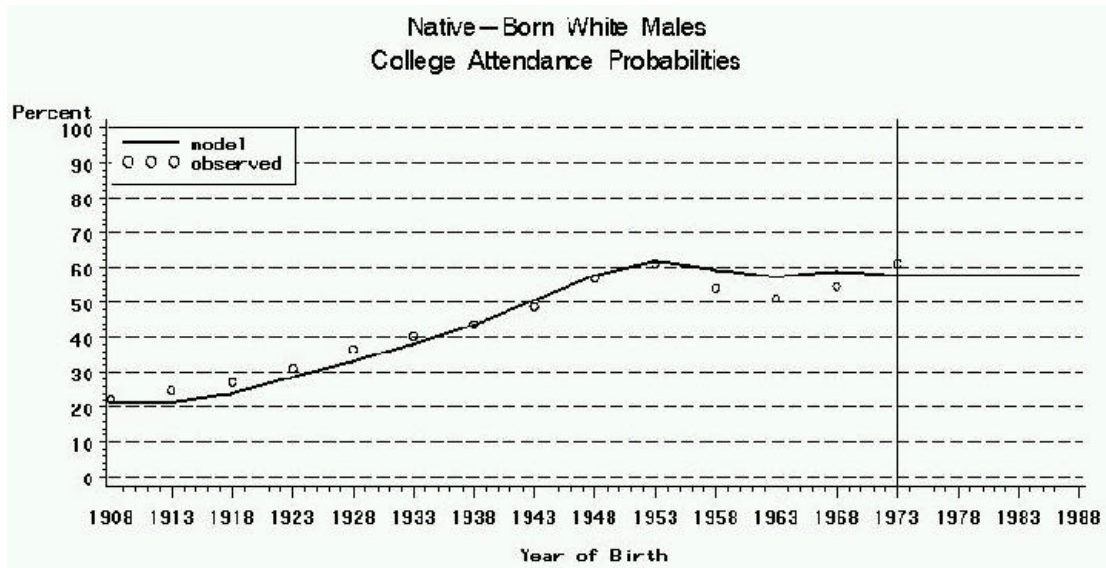
Table 1
Distribution of Education by Birth Cohort and Interview Year
White Males and Females

		White Males					White Females			
Year Born	Education Level	1983	1988	1993	1998		1983	1988	1993	1998
1968-72	Less than HS				7.5					5.4
1968-72	High School grad				31.2					27.6
1968-72	Some college				30.8					32.8
1968-72	Bachelors				24.9					27.8
1968-72	Masters or more				5.5					6.4
1963-67	Less than HS			9.4	7.9				8.2	5.9
1963-67	High School grad			36.0	35.4				35.2	31.9
1963-67	Some college			27.5	26.3				29.5	29.6
1963-67	Bachelors			22.3	22.7				22.8	24.8
1963-67	Masters or more			4.9	7.7				4.3	7.8
1958-62	Less than HS		11.6	9.8	9.0			9.1	8.0	6.6
1958-62	High School grad		39.2	37.4	35.7			41.0	36.4	35.0
1958-62	Some college		23.5	25.1	25.8			25.4	30.1	30.0
1958-62	Bachelors		18.0	20.0	20.1			17.8	19.7	20.7
1958-62	Masters or more		7.7	7.7	9.4			6.7	5.8	7.6
1953-57	Less than HS	10.7	10.6	7.9	7.8		10.7	8.1	6.9	6.3
1953-57	High School grad	37.3	37.3	35.5	33.6		40.7	40.6	35.5	34.0
1953-57	Some college	25.7	23.1	28.0	28.1		26.0	26.6	30.3	30.9
1953-57	Bachelors	16.7	17.8	18.8	20.2		15.6	16.1	19.4	20.4
1953-57	Masters or more	9.6	11.2	9.8	10.2		7.1	8.5	7.9	8.4
1948-52	Less than HS	9.4	9.0	6.9	7.5		10.1	9.0	7.3	6.4
1948-52	High School grad	30.0	32.6	29.4	28.3		38.6	38.6	35.4	35.9
1948-52	Some college	27.7	25.3	28.9	29.9		25.8	26.8	29.5	29.3
1948-52	Bachelors	18.2	17.5	21.6	20.4		15.2	14.4	17.3	17.4
1948-52	Masters or more	14.8	15.6	13.2	13.9		10.3	11.2	10.6	11.0
1943-47	Less than HS	12.4	11.0	9.0	10.8		12.2	10.6	9.3	8.9
1943-47	High School grad	31.0	30.7	31.3	28.1		43.5	41.1	38.7	38.2
1943-47	Some college	23.3	22.5	25.8	25.6		22.8	24.9	27.1	26.1
1943-47	Bachelors	15.9	17.5	17.6	19.9		11.6	12.9	15.0	16.9
1943-47	Masters or more	17.4	18.2	16.3	15.6		10.0	10.5	9.9	9.9
1938-42	Less than HS	17.4	14.7	13.1	13.3		15.9	15.4	13.0	13.0
1938-42	High School grad	35.2	35.7	35.0	35.9		44.6	44.2	43.7	41.8
1938-42	Some college	19.0	20.5	23.2	21.4		20.5	20.3	22.2	24.1
1938-42	Bachelors	13.5	12.1	14.4	16.1		11.1	10.8	12.6	13.5
1938-42	Masters or more	15.0	17.0	14.2	13.3		7.9	9.3	8.4	7.6
1933-37	Less than HS	21.1	20.7	19.5	17.7		20.1	19.6	18.7	18.8
1933-37	High School grad	36.2	35.0	34.3	35.4		48.5	49.0	44.0	45.0
1933-37	Some college	16.2	17.6	18.3	19.7		18.2	17.5	21.7	20.7
1933-37	Bachelors	13.2	13.1	15.1	14.7		7.0	8.5	9.6	10.0
1933-37	Masters or more	13.3	13.6	12.8	12.5		6.1	5.4	6.0	5.5

Table 1 Continued										
		White Males					White Females			
Year Born	Education Level	1983	1988	1993	1998		1983	1988	1993	1998
1928-32	less than HS	25.4	25.7	23.9	22.3		22.9	24.8	22.1	21.5
1928-32	High School grad	33.5	36.0	34.0	31.6		47.9	45.9	46.5	46.1
1928-32	some college	15.3	16.5	18.2	19.3		16.0	16.5	16.9	19.0
1928-32	bachelors	13.8	11.1	13.1	14.5		8.2	7.2	9.0	8.7
1928-32	masters or more	12.0	10.7	10.8	12.3		5.1	5.5	5.5	4.6
1923-27	less than HS	32.2	32.0	29.8	27.8		28.0	27.8	25.9	24.5
1923-27	High School grad	30.8	32.2	34.0	31.9		46.6	46.0	46.4	43.2
1923-27	some college	15.4	14.8	16.0	17.8		14.4	15.8	16.5	20.4
1923-27	bachelors	10.9	11.6	12.8	13.4		6.7	6.2	7.8	8.0
1923-27	masters or more	10.7	9.4	7.5	9.1		4.4	4.2	3.4	3.9
1918-22	less than HS	35.0	33.9	30.6	27.7		32.3	30.9	30.5	29.4
1918-22	High School grad	33.7	35.2	34.4	34.9		44.2	45.6	43.6	39.0
1918-22	some college	14.1	13.9	16.9	18.9		13.6	14.6	17.2	20.1
1918-22	bachelors	9.0	9.1	10.3	10.6		6.4	5.3	6.6	9.0
1918-22	masters or more	8.2	7.9	7.8	7.9		3.5	3.6	2.1	2.5
1913-17	less than HS	41.9	43.5	37.2	32.8		41.7	38.7	39.4	35.0
1913-17	High School grad	31.8	30.2	31.7	33.6		37.6	39.3	39.3	37.8
1913-17	some college	12.6	12.9	17.1	18.4		12.2	12.5	13.6	16.4
1913-17	bachelors	7.1	7.4	8.4	9.7		5.6	5.6	5.2	6.7
1913-17	masters or more	6.6	5.9	5.6	5.5		3.0	4.0	2.6	4.1
1908-12	less than HS	51.9	46.0	47.1	46.0		46.6	46.4	47.6	45.6
1908-12	High School grad	24.2	28.3	27.4	22.6		31.3	33.4	30.7	29.7
1908-12	some college	10.1	11.3	12.4	15.4		12.5	11.3	11.9	14.0
1908-12	bachelors	7.6	7.8	7.1	8.8		6.1	5.6	7.1	7.7
1908-12	masters or more	6.2	6.6	6.1	7.2		3.5	3.4	2.8	3.0
1903-07	less than HS	56.5	56.8	55.9			55.3	51.6	48.2	
1903-07	High School grad	19.7	20.9	17.2			24.6	28.2	28.6	
1903-07	some college	10.0	8.1	11.3			11.2	10.4	13.4	
1903-07	bachelors	7.1	7.4	10.1			5.4	6.4	7.8	
1903-07	masters or more	6.7	6.9	5.5			3.5	3.4	2.0	
1898-02	less than HS	68.5	66.2				61.4	58.7		
1898-02	High School grad	15.4	17.3				21.2	22.4		
1898-02	some college	7.3	7.4				10.0	11.8		
1898-02	bachelors	5.8	3.9				5.3	4.8		
1898-02	masters or more	3.0	5.3				2.1	2.3		
1893-97	less than HS	67.2					62.6			
1893-97	High School grad	17.4					20.9			
1893-97	some college	6.2					9.7			
1893-97	bachelors	4.3					4.9			
1893-97	masters or more	4.9					1.9			

FIGURE 1
Projections of College Attendance by Native White Males

“Low” projection



“High” projection

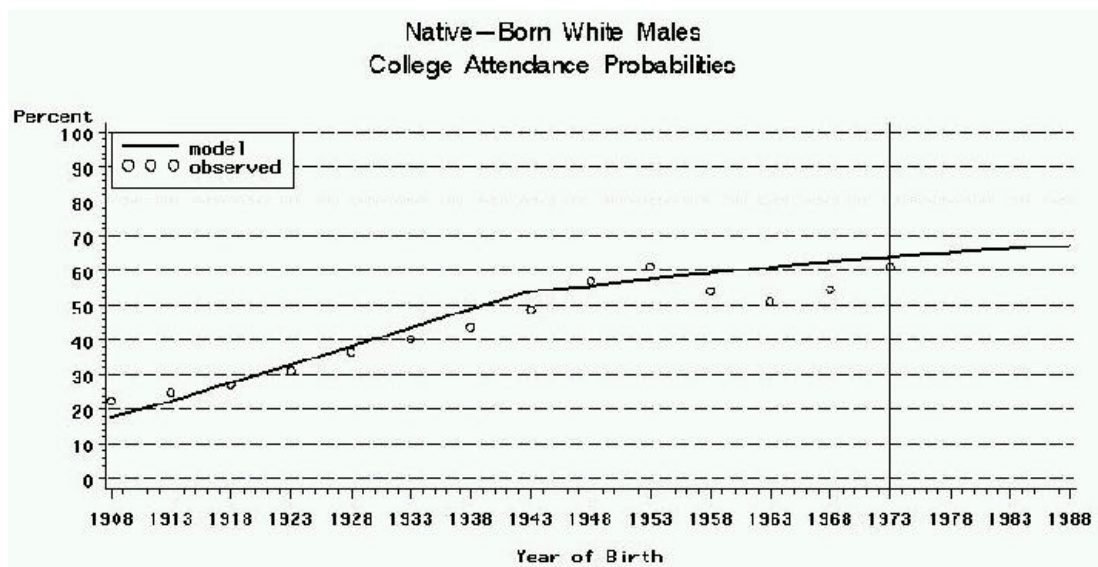


Table 2
Educational Attainment Projections to 2028, U.S. Population Age 25 and Older.

	Percent at Stated Level or Higher - 2003			Percent at Stated Level or Higher - 2028		
	High School	Post- secondary	Bach- elor's	High School	Post- secondary	Bach- elor's
“LOW” PROJECTION						
Total	83.2	48.4	23.9	87.3	55.8	27.6
Natives						
Total	85.7	49.4	23.7	90.3	57.2	27.3
White male	88.3	55.1	29.5	92.7	59.9	31.3
Black male	77.2	37.8	13.3	86.3	42.5	12.7
Hispanic male	67.1	37.9	14.8	73.0	40.9	13.6
Asian male	91.3	68.2	46.3	95.5	73.0	46.0
White female	88.0	48.5	22.1	93.6	61.0	30.3
Black female	77.7	39.2	13.6	88.1	51.7	17.4
Hispanic female	65.9	35.3	13.0	74.2	46.1	16.9
Asian female	86.9	59.7	37.4	94.0	74.9	48.8
Foreign-born						
Total	67.2	42.2	25.1	72.5	49.1	29.1
Hispanic male	46.1	25.0	11.2	49.9	25.5	10.4
Asian male	87.0	66.1	49.1	91.1	71.7	50.7
Hispanic female	44.3	21.4	8.3	50.4	25.9	10.0
Asian female	81.1	54.3	35.6	87.5	66.1	44.3
“HIGH” PROJECTION						
Total	84.0	50.9	25.6	91.0	62.8	30.8
Native-born						
Total	86.4	52.0	25.5	93.7	64.4	30.5
White male	88.7	56.2	30.1	95.0	64.1	31.8
Black male	79.5	39.6	13.1	91.8	47.5	11.6
Hispanic male	69.9	40.2	15.2	84.4	50.0	14.3
Asian male	92.3	70.5	48.3	98.3	79.6	48.4
White female	88.4	52.0	25.2	95.4	69.1	36.3
Black female	79.7	44.1	15.6	92.5	62.7	20.4
Hispanic female	69.1	40.9	15.9	85.4	62.5	23.8
Asian female	88.6	65.4	43.5	97.9	86.5	60.2
Foreign-born						
Total	68.0	44.1	26.5	77.3	54.8	32.0
Hispanic male	46.6	24.2	10.2	56.6	26.5	8.8
Asian male	87.6	67.8	49.8	93.3	75.9	50.5
Hispanic female	45.6	23.0	9.2	58.0	32.4	12.3
Asian female	82.4	59.0	40.0	90.9	74.7	51.6

Table 3
Educational Attainment Projections to 2028, U.S. Population Age 30 to 35

	Percent at Stated Level or Higher - 2003			Percent at Stated Level or Higher - 2028		
	High School	Some College	Bachelor's	High School	Some College	Bachelor's
“LOW” PROJECTION						
Total	86.1	50.8	21.7	85.8	54.7	24.6
Natives	89.6	52.4	21.6	88.6	56.1	24.4
Foreign-born	67.7	42.3	22.3	69.4	47.0	25.9
“HIGH” PROJECTION						
Total	89.6	59.2	28.7	94.8	70.2	32.2
Natives	93.0	61.2	28.9	96.8	71.7	32.0
Foreign-born	71.6	48.3	27.9	83.2	61.1	33.3

FIGURE 4

Historical & Projected Age 30-34 High School Completion 1940 to 2028

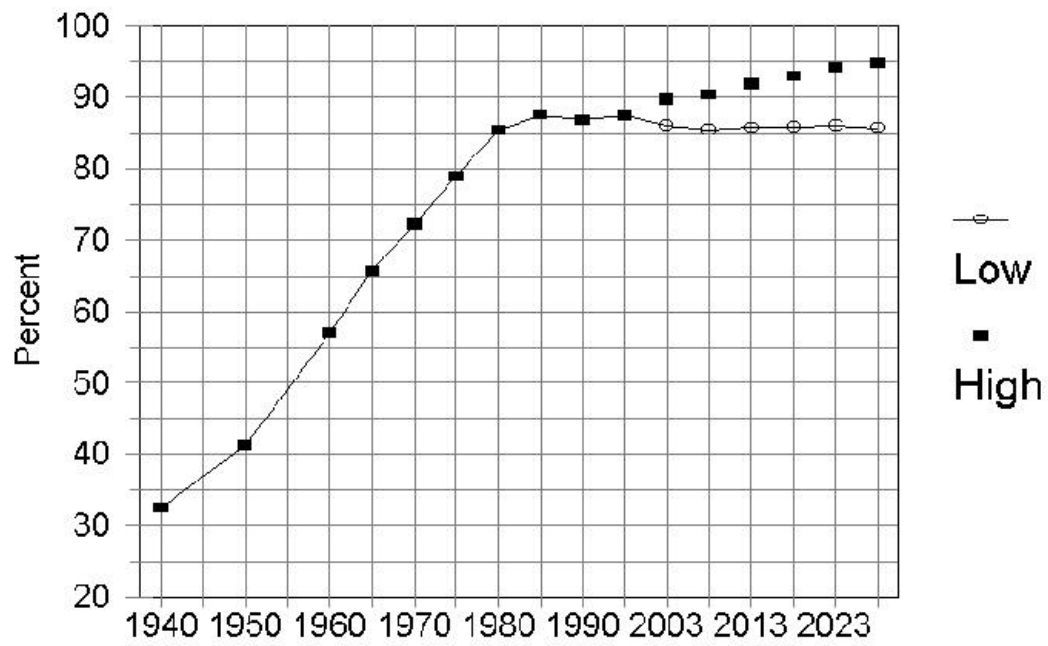


FIGURE 5

Historical & Projected Age 30-34 College Completion Rates 1940 to 2028

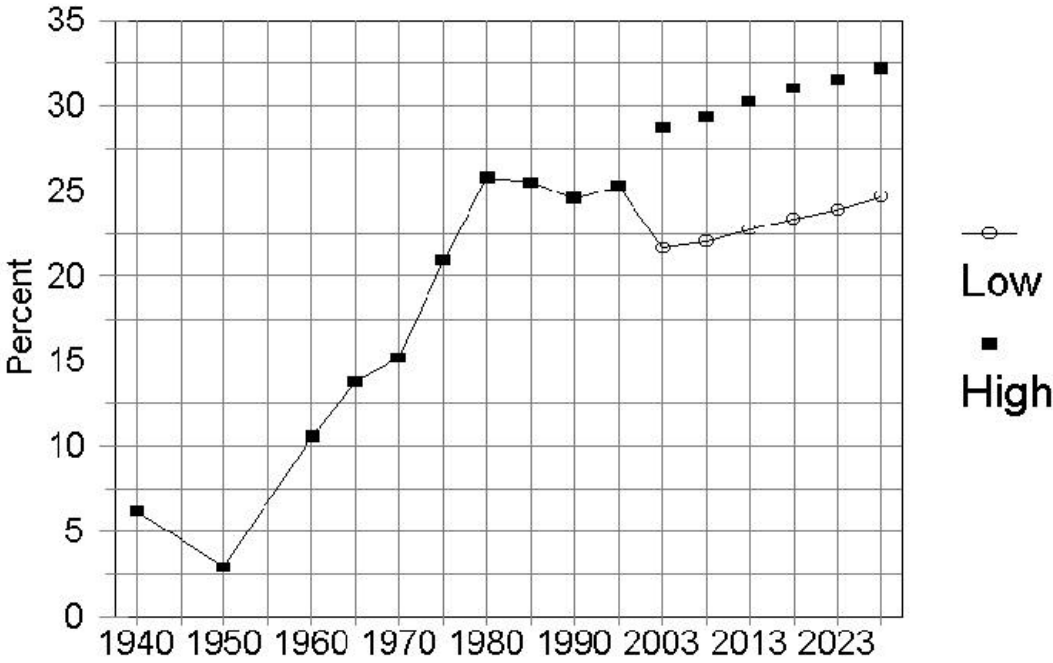


Table 4
Effect of Immigration:
Comparison of Standard and "Zero Immigration" Projections for 2028

	Projections					
	2003			2028		
“LOW” PROJECTION						
	High School	Some College	Bach- elor's	High School	Some College	Bach- elor's
Standard projection	86.1	50.8	21.7	85.8	54.7	24.6
Zero immigration	84.8	49.1	23.7	89.8	57.0	27.5
“HIGH” PROJECTION						
	High School	Some College	Bach- elor's	High School	Some College	Bach- elor's
Standard projection	89.6	59.2	28.7	94.8	70.2	32.2
Zero immigration	85.6	51.7	25.5	93.0	63.9	30.5

August 3, 2000

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