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WISCONSIN STATE LEGISLATURE ...
PUBLIC HEARING - COMMITTEE RECORDS

2009-10
(session year)

Senate
(Assembly, Senate or Joint)

Committee on ... Education (SC-Ed)

COMMITTEE NOTICES ...

➢ Committee Reports ... **CR**

➢ Executive Sessions ... **ES**

➢ Public Hearings ... **PH**

INFORMATION COLLECTED BY COMMITTEE FOR AND AGAINST PROPOSAL

➢ Appointments ... **Appt** (w/Record of Comm. Proceedings)

➢ Clearinghouse Rules ... **CRule** (w/Record of Comm. Proceedings)

➢ Hearing Records ... bills and resolutions (w/Record of Comm. Proceedings)
   (**ab** = Assembly Bill)   (**ar** = Assembly Resolution)   (**ajr** = Assembly Joint Resolution)
   (**sb** = Senate Bill)   (**sr** = Senate Resolution)   (**sjr** = Senate Joint Resolution)

➢ Miscellaneous ... **Misc**

Appendix A: Technical Notes

This report presents data from two different assessment series, the NAEP long-term trend assessments and the main NAEP assessments. In most but not all cases, the two assessments used different procedures. Whenever a topic requires separate treatment of the two assessments, discussion of the long-term trend assessments, which present national results only, appears first, followed by the discussion of the main NAEP assessments, which present both national and state results. Discussion of main NAEP grade 12 assessments is omitted in this report because these assessments are conducted at the national level only.

Frameworks, development, administration, scoring, and analysis

Long-term trend

Overviews of these topics and more extensive information about other topics for the long-term trend assessments can be obtained from *NAEP 2004 Trends in Academic Progress*, available from the NAEP website http://nces. ed.gov/nationsreportcard/ltt/, which also provides links to earlier reports in the long-term trend series. (In 2004, the long-trend assessments in reading and mathematics were conducted for two different "studies": the "bridge study," which was identical to previous long-term assessments, and the "modified study," which will be used in future long-term assessments. The results for the 2004 assessment, reported in NAEP 2004 Trends in Academic Progress and in this report, were drawn from the bridge study.)

Main NAEP 2007 reading and mathematics assessments

For overviews of these topics, and for more extensive information about other topics for the 2007 main NAEP reading and mathematics assessments, consult the information available online at http://nces.ed.gov/nationsreportcard/reading/ and http://nces.ed.gov/nationsreportcard/mathematics/

Sources of the data

Long-term trend

This report presents national data from the 1978, 1982, 1986, 1990, 1992, 1996, 1999, and 2004 long-term trend mathematics assessments and the 1980, 1984, 1990, 1992, 1994,

1996, 1999, and 2004 long-term trend reading assessments for Black and White public school students ages 9 and 13. Earlier long-term trend assessment results are available, but only for both public and private school students combined.

Main NAEP

This report presents national data from the 1990, 1992, 1996, 2000, 2003, 2005, and 2007 main NAEP mathematics assessments and the 1992, 1994, 1998, 2002, 2003, 2005, and 2007 main NAEP reading assessments for Black and White public school students in the fourth and eighth grades. In 2000, the reading assessment was also administered in the fourth grade (see tables B-1 and B-3 in appendix B).

This report presents state data from the 1992, 1996, 2000, 2003, 2005, and 2007 fourth-grade main NAEP mathematics assessments and from the 1990, 1992, 1996, 2000, 2003, 2005, and 2007 eighth-grade main NAEP mathematics assessments, for public school students only. The main NAEP reading assessment was administered at the state level to fourth-grade public school students in 1992, 1994, 1998, 2002, 2003, 2005, and 2007 and to eighth-grade public school students in 1998, 2002, 2003, 2005, and 2007.

Nationally in 2007, Black students constituted 17 percent of the public school fourth-grade population (based on data from the NAEP reading assessment) while White students constituted 56 percent. Results for the eighth-grade were similar: 17 percent and 58 percent, respectively. However, percentages vary widely between states. For example, Black students constituted a majority of the fourth-grade population in two states, the District of Columbia (84 percent in mathematics and 86 percent in reading) and Mississippi (52 percent in mathematics and 51 percent in reading). In contrast, Black students constituted only 2 percent of the fourth-grade public school population in states such as Wyoming and South Dakota. Eighth-grade data show a similar pattern. In some cases, the Black or White student population is so small that valid data cannot be obtained.

NAEP sampling procedures

Long-term trend

The populations sampled for the 2004 NAEP long-term trend assessment results presented in this report consisted

of 9- and 13-year-old students enrolled in public elementary and secondary schools nationwide. Eligibility for the age 9 and age 13 samples was based on calendar year: students in the age 9 sample were 9 years old on January 1, 2004, with birth months January 1994 through December 1994, and students in the age 13 sample were 13 years old on January 1, 2004, with birth months January 1990 through December 1990.

Consistent with past national long-term trend assessments, students were selected for participation based on a stratified three-stage sampling plan. In the first stage, geographic primary sampling units (PSUs) were defined and selected. In the second stage, schools were selected within PSUs. In the third stage, eligible students were selected within schools. Stratification occurred at both the school level and the PSU level. A full description of the sampling plan is beyond the scope of this appendix; for additional details regarding the design and structure of the 2004 trend assessment samples, the reader should refer to the technical documentation section of the NAEP website (http://nces.ed.gov/nationsreportcard/ltt).

The first-stage sampling units, PSUs, were drawn from a list—a sampling frame—developed using the metropolitan area designations of the U.S. Census Bureau. Each NAEP PSU in the frame was intended to encompass one county or contiguous multiple counties, generally not crossing state boundaries, and contained a minimum number of school-aged children—10,000 to 15,000, depending on the region of the country.

All PSUs containing more than 800,000 students (17 in all) were automatically included in the sample. Sixty additional PSUs were selected in a non-random manner, taking into account region of the country, status as either metropolitan or non-metropolitan, percentages of racial/ethnic groups, income levels, education levels in the population, and percentage of renters, with adjustments made to compensate for the non-random manner of selection.

In the second stage of sampling, schools were sampled from within the selected PSUs. Schools were selected with probability proportional to a measure of size based on the estimated number of age-eligible students in the school. This in turn was estimated by applying population-level percentages of age-eligible students within each grade to estimated grade enrollments for each grade, and aggregating to an age-eligible total for the school.

In the third stage of sampling, students were sampled from within schools. Sampled schools were asked to list all students with the appropriate birth dates for each specified age sample. All eligible students up to a pre-specified maximum (128 for both ages 9 and 13) were then selected for the assessment. If a school selected for the age 9 or age 13 samples had 128 or fewer students, all age-eligible students were selected into the sample for that school. Otherwise, a sample of 128 age-eligible students was taken.

The actual student and school sample sizes obtained in the NAEP long-term trend reading assessments, as well as the school and student participation rates, are presented in table A-1. Sample sizes and participation rates for the long-term trend mathematics assessments were similar. Although sampled schools that refused to participate were replaced, school participation rates were computed based on the schools originally selected for participation in the assessments. The student participation rates represent the percentage of students assessed of those invited to be assessed, including those assessed in follow-up sessions when necessary. Response rates for public school students ages 9 and 13 met NCES reporting standards for all assessments.

Table A-1. School and student participation rates, and target student population, Long-Term Trend Reading assessment, public school students only, by age: 2004

Participation and target population	Age 9	Age 13
School participation		
Weighted school percentage	88	85
Total number of schools that participated	250	230
Student participation		
Weighted student percentage	94	92
Total number of students who participated	3,800	4,000
Target population	3,700,000	3,690,000

NOTE: The numbers of schools are rounded to the nearest ten, the numbers of students are rounded to the nearest hundred, and the numbers for target populations are rounded to the nearest ten thousand. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2004 Long-Term Trend Reading Assessments.

Main NAEP

The schools and students participating in NAEP assessments are chosen to be nationally representative. Samples of schools and students are selected from each state and from the District of Columbia and Department of Defense Education Activity (DoDEA) schools. The results from the assessed students are combined to provide accurate estimates of overall national performance and of the performance of individual states.

NCES has changed the main NAEP sampling methods over the years. From 1990 through 2000, the national sample was collected separately from the state samples. The 2002 national sample was the sum of all the state samples of the participating states, plus small samples from the few states that did not participate. In 2003, 2005, and 2007, all states participated and the national sample was the aggregate of the samples from all states, the District of Columbia, and the DoDEA schools. The main NAEP national samples in reading and mathematics since 2002 have been larger than in previous assessment years. Thus, smaller score differences between years or between types of student were found to be statistically significant than would have been detected in previous assessments.

From 1990 through 2001, NCES oversampled schools with high minority populations (Black and Hispanic) in the national sample. Beginning in 2002, this practice was discontinued because the state samples were large enough to ensure adequate coverage for these populations. Prior to 2002, NAEP results were weighted to compensate for the oversampling.

In 2003, 2005, and 2007, results were weighted to take into account the fact that states, and schools within states, represent different proportions of the overall national population. For example, since the number of students assessed in most states is roughly the same (to allow for stable state estimates and administrative efficiencies), the results for students in less populous states are assigned smaller weights than the results for students in more populous states. Sampling weights are also used to account for lower sampling rates for very small schools and are used to adjust for school and student nonresponse.

NAEP samples for reading and mathematics assessments administered from 1990 through 2007 are discussed in more detail below.

The NAEP 2007 mathematics and reading assessments were administered to fourth- and eighth-graders in all states. This report includes data for public school students for both the nation and all states. All 50 states, the District of Columbia, and the DoDEA schools met the minimum guidelines for reporting their results in 2007 for both assessments.

In order to obtain a representative sample for reporting national and state public school results in 2007, NCES sampled and assessed approximately 183,000 fourth-graders from 7,300 schools and 155,000 eighth-graders from 6,400 schools for the reading assessment and approximately 190,000 fourth-graders from 7,300 schools and 147,000 eighth-graders from 6,400 schools for the mathematics assessment.

Each selected school that participated in the assessment and each student assessed represent a portion of the population. The schools were selected out of approximately 51,000 fourth-grade and 27,000 eighth-grade public schools. The students selected from these schools represented the total population of approximately 3.4 million fourth-grade and 3.6 million eighth-grade public school students. These totals include the public schools in the 50 states and the District of Columbia.

Schools in the DoDEA school system are classified as "nonpublic" by NCES and their results are not included in the determination of NAEP national public average scale scores. These schools are not "private" because they are operated by the federal government and they are not "public" because only children of U.S. military personnel can attend them. For comparison purposes, the system is treated as a state and results are compared with the scores of the 50 states and the District of Columbia.

Table A-2 provides a summary of the 2007 national and state school and student participation rates for the reading grade 8 assessment sample. Rates for reading grade 4 and mathematics grades 4 and 8 in 2007 were similar, as

were the rates for the 2003 and 2005 assessments. Readers who want more detail should consult the 2007, 2005 and 2003 report cards, available online at http://nces.ed.gov/pubsearch/getpubcats.asp?sid=031.

Participation rates in table A-2 are presented for public schools and public school students in grade 8 reading. The school participation rate is a school-centered, weighted percentage of schools participating in the assessment. This rate is based only on the schools that were initially selected for the assessment. The numerator of this rate is the estimated number of schools represented by the initially selected schools that participated in the assessment. The denominator is the estimated number of schools represented by the initially selected schools that had eligible students enrolled.

Also presented in table A-2 are weighted student participation rates. The numerator of this rate is the estimated number of students who are represented by the students assessed (in either an initial session or a makeup session). The denominator of this rate is the estimated number of students represented by the eligible sampled students in participating schools.

The term "eligible students" used in the two preceding paragraphs refers to students who can meaningfully participate in NAEP. Students excluded from NAEP assessments on the grounds that they cannot meaningfully participate—whether students with disabilities or English language learners—are not part of the population of interest. Initially selected schools that had no eligible students enrolled are excluded from the denominator of the school participation rate because they contained no students who were part of the population of interest. For similar reasons, the denominator of the weighted student participation rate consists only of eligible sampled students.

The fourth column gives the number of public school students who were assessed in each of the jurisdictions. The final column of table A-2 gives the target populations for each jurisdiction, that is, the eighth-grade population for that jurisdiction.

The national target population per grade for all main NAEP assessments 1990–2007 ranged from about 3.25 million

to about 3.75 million. In the 1990–1996 assessments, the number of schools sampled per assessment and grade for the national sample ranged from approximately 120 to 230, while the number of students assessed ranged from approximately 5,200 to 9,900. In the 1998–2000 assessments, the number of schools sampled per assessment and grade ranged from approximately 330 to 390, while the number of students assessed ranged from approximately 6,100 to 9,000.

The state target populations for all main NAEP assessments 1990–2007 ranged from approximately 5,000 in the District of Columbia and 9,000 in sparsely populated states like Wyoming and Alaska to approximately 450,000 in California, followed by approximately 325,000 in Texas.

In the 1990–2000 state assessments, the number of schools sampled per assessment and grade ranged from approximately 30 to 150, while the number of students assessed ranged from approximately 1,000 to 5,900. In the 2003–2007 state assessments, the number of schools sampled per assessment and grade ranged from approximately 40 to 250, while the number of students assessed ranged from approximately 1,700 to 10,700.

In earlier NAEP assessments, NCES would select substitute schools that would be used to augment the original sample if a large number of schools from the sample failed to participate. School and student participation rates were given both before and after substitution. Because the No Child Left Behind Act requires states to participate in the main NAEP reading and mathematics assessments at the fourth and eighth grades in order to qualify for full Title I education funding, participation rates are very high and NCES no longer selects substitute schools for these assessments.

In order to ensure unbiased samples, NCES and the National Assessment Governing Board, which establishes policy for NAEP, set minimums for the school participation rate before substitution of replacement schools for any sample. From 1990 through 2002, the standard for the state assessments required that the weighted school participation rate before substitution of replacement schools

Table A-2. School and student participation rates, and target student population, grade 8 reading assessment, public school students only, by state or jurisdiction: 2007

Jurisdiction	School participation		Student participation		
	Weighted school percentage	Total number of schools that participated	Weighted student percentage	Total number of students who participated	Target population
Nation (public)	100	6,410	92	154,700	3,558,000
Alabama	100	120	93	2,800	56,000
Alaska	99	110	91	2,600	9,000
Arizona	100	130	90	2,800	73,000
Arkansas	100	120	93	2,500	34,000
California	100	310	92	8,600	477,000
Colorado	98	120	92	2,800	57,000
Connecticut	97	100	92	2,700	42,000
Delaware	100	50	93	2,800	10,000
District of Columbia	100	50	88	1,800	5,000
DoDEA[1]	98	60	94	1,700	5,000
Florida	100	160	91	4,100	193,000
Georgia	100	120	93	3,500	120,000
Hawaii	100	70	91	2,800	13,000
Idaho	99	110	93	2,900	20,000
Illinois	100	200	93	4,000	150,000
Indiana	100	110	92	2,700	80,000
Iowa	100	130	93	2,800	36,000
Kansas	100	150	94	2,800	34,000
Kentucky	100	110	93	2,600	46,000
Louisiana	100	110	92	2,400	47,000
Maine	98	130	93	2,700	15,000
Maryland	100	110	90	2,700	64,000
Massachusetts	100	140	93	3,600	70,000
Michigan	100	120	91	2,600	119,000
Minnesota	99	140	92	3,000	62,000
Mississippi	100	110	93	2,700	36,000
Missouri	100	130	92	2,900	70,000
Montana	98	170	92	2,600	11,000
Nebraska	100	120	94	2,700	21,000
Nevada	100	70	88	2,600	28,000
New Hampshire	98	90	92	2,900	16,000
New Jersey	97	110	92	2,800	104,000
New Mexico	100	110	89	2,600	25,000
New York	100	160	90	3,800	206,000
North Carolina	100	150	91	4,300	104,000
North Dakota	98	190	95	2,200	8,000
Ohio	100	190	92	3,500	135,000
Oklahoma	100	150	92	2,600	42,000
Oregon	100	110	92	2,700	39,000
Pennsylvania	100	110	92	2,800	140,000
Rhode Island	100	60	92	2,800	12,000
South Carolina	100	110	94	2,700	52,000
South Dakota	99	140	95	2,800	10,000
Tennessee	100	120	92	2,800	74,000
Texas	100	220	92	7,100	294,000
Utah	100	100	91	2,800	36,000
Vermont	100	120	93	2,000	7,000
Virginia	100	110	93	2,800	91,000
Washington	100	130	91	3,000	78,000
West Virginia	100	120	92	2,900	21,000
Wisconsin	98	130	92	2,700	62,000
Wyoming	100	80	92	2,000	7,000

[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: The numbers of schools are rounded to the nearest ten, the numbers of students are rounded to the nearest hundred, and the target population is rounded to the nearest thousand. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Reading Assessment.

be 70 percent or higher. Beginning in 2003, the standard was raised to 85 percent. All data presented in this report are based on samples meeting the standards in effect at the time of the assessment.

Since 1990, the national weighted public school participation rate before substitution for the grade 4 and 8 reading and mathematics assessments has ranged from 76 percent to 100 percent. Prior to 2003, a few states did not meet the 70 percent standard. From 1990 through 2002, the weighted public school participation rate before substitution for states whose results are reported here ranged from 70 percent to 100 percent.

For more information on all the NAEP assessments referenced in this report, consult the individual reports devoted to them, available from the NCES website at http://nces.ed.gov/pubsearch/getpubcats.asp?sid=031.

Understanding NAEP reporting groups

NAEP results are provided for groups of students defined by shared characteristics—race/ethnicity, eligibility for free/reduced-price school lunch, and gender, for example.

Based on participation rate criteria, results are reported for groups only when sufficient numbers of students and adequate school representation are present. The minimum requirement is a total of at least 62 students in a particular group, assessed in at least five different locations. However, the data for all students, regardless of whether their group was reported separately, were included in computing over-all national results. Definitions of the student groups discussed in this report follow.

Race/ethnicity

Long-term trend

In long-term trend NAEP, data about student race/ethnicity is based on the assessment administrator's observation. Self-reported race/ethnicity data has been collected since 1984, and school records-based race/ethnicity data has been collected starting in 2004, but all long-term trend results are reported based on observed race/ethnicity.

Main NAEP

In all main NAEP assessments, data about student race/ethnicity are collected from two sources: school records and student self-reports. In this report, the race/ethnicity variable has been based on the race reported by the school for all assessment years. In the rare cases when school recorded information is missing, student-reported data are used to determine race/ethnicity.

Schools sampled for NAEP are asked to provide lists of all students in the target grade(s) along with basic demographic information, including race/ethnicity. Students are categorized into one of five mutually exclusive racial/ethnic categories plus "other." Administration schedules—also referred to as student rosters—are created that include the list of sampled students along with their basic demographic information. These data are checked and updated during data collection. This race/ethnicity information is available for all sampled students: those that participated and those that were absent or excluded.

All students who take a NAEP assessment complete a section of general student background questions, including questions about their race/ethnicity. Separate questions are asked about students' Hispanic ethnic background and about students' race. This race/ethnicity information is available just for students who participated in the assessment and not for those who were absent or excluded. See http://nces.ed.gov/nationsreportcard/bgquest.asp for more information.

The mutually exclusive racial/ethnic categories are White (non-Hispanic), Black (non-Hispanic), Hispanic, Asian/Pacific Islander, American Indian (including Alaska Native), and Unclassified. Unclassified students are those whose school-reported race was "other," or "unavailable," or was missing, or who self-reported more than one race category (i.e., "multi-racial") or none. Hispanic students may be of any race. Only results for White (non-Hispanic) and Black (non-Hispanic) students are contained in this report. Information based on student self-reported race/ethnicity is available on the NAEP Data Explorer (http://nces.ed.gov/nationsreportcard/nde).

Eligibility for free/reduced-price school lunch

Long-term trend
The long-term trend assessments do not report results based on school lunch eligibility.

Main NAEP
As part of the Department of Agriculture's National School Lunch Program, schools can receive cash subsidies and donated commodities in return for offering free or reduced-price lunches to eligible children. Based on available school records, students were classified as currently eligible for either free lunch or reduced-price lunch, or not eligible. Eligibility for the program is determined by a student's family income in relation to the federally established poverty level. Free lunch qualification is set at 130 percent of the poverty level or below, and reduced-price lunch qualification is set at between 130 and 185 percent of the poverty level. (For the period July 1, 2006, through June 30, 2007, for a family of four, 130 percent of the poverty level was $26,000, and 185 percent was $37,000. See http://www.fns.usda.gov/cnd/lunch for more information.) The classification applies only to the school year when the assessment was administered and is not based on eligibility in previous years. If school records were not available, the student was classified as "Information not available." If the school did not participate in the program, all students in that school were classified as "Information not available." As a result of improvements in the quality of the data on students' eligibility for NSLP, the percentage of students for whom information was not available has decreased in comparison to the percentages reported prior to the 2003 assessment. Therefore, trend comparisons are only made back to 2003 in this report.

Gender
Both long-term trend and NAEP assessments identify students as male or female based on school records.

Inclusion and exclusion

Long-term trend
Some students selected for participation in the NAEP long-term trend assessments were identified as English language learners (ELL) or students with disabilities (SD). In all previous long-term trend assessments, if it was decided that a student classified as SD or ELL could not meaningfully participate in the NAEP assessment for which he or she was selected, the student was, according to NAEP guidelines, excluded from the assessment.

For each student selected to participate in NAEP who was identified as either SD or ELL, a member of the school staff most knowledgeable about the student completed an SD/ELL questionnaire. Students with disabilities were excluded from the assessment if an individualized education program (IEP) team or equivalent group determined that the student could not participate in assessments such as NAEP; if the student's cognitive functioning was so severely impaired that the student could not participate; or if the student's IEP required that the student be tested with an accommodation or adaptation not permitted or available in NAEP, and the student could not demonstrate his/her knowledge of the assessment subject area without that accommodation or adaptation. A student who was identified as ELL and who was a native speaker of a language other than English was excluded if the student had received instruction in the assessment's subject area (e.g., reading or mathematics) primarily in English for less than three school years, including the current year, or if the student could not demonstrate his or her knowledge of reading or mathematics in English without an accommodation or adaptation.

Prior to 2004, NAEP long-term trend assessments did not allow accommodations for SD or ELL students. In that year, two versions of the long-term trend assessment were given, the "bridge" (unmodified) version, which did not allow accommodations, and the "modified" version, which

did. In 2004, results were only reported for the bridge assessment and all results from the 2004 Long-Trend Assessment appearing in this report are drawn from the bridge assessment. However, table A-3 presents exclusion rates for both versions of the 2004 assessment in order to give all the available information on the 2004 exclusion rates for Black and White students.

In the 2004 bridge assessment, and in all prior administrations of the long-term trend assessment, student race/ethnicity was determined by NCES contractor staff administering the assessment in the individual classrooms. These staff never met the excluded students, so no records of the race/ethnicity of excluded students were kept.

In contrast, the 2004 modified assessment determined student race/ethnicity by using school records, which did provide information on the race/ethnicity of excluded students. Exclusion data from the 2004 modified assessment are provided here to provide information on 2004 exclusion rates for Black and White students, even though this report does not include student achievement data drawn from the modified assessment.

Table A-3. National Long-Term Trend mathematics and reading exclusion rates as percentages of the total sample, by age, type of assessment and race/ethnicity: 2004

	Age 9		Age 13	
	Bridge	Modified	Bridge	Modified
Mathematics				
Total	8	3	9	3
White	†	2	†	3
Black	†	4	†	4
Reading				
Total	9	6	9	5
White	†	4	†	5
Black	†	4	†	6

† Not applicable
NOTE: The 2004 bridge assessment, and all previous administrations of the long-term trend assessment, did not obtain information on the race/ethnicity of excluded students.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2004 Long-Term Trend Mathematics and Reading Assessments.

Main NAEP

The NAEP program has always endeavored to assess all students selected as a part of its sampling process. In all NAEP schools, accommodations will be provided as necessary for students with disabilities (SD) and/or English language learners (ELL) or limited English proficient (LEP) students. (ELL is the term used since the NAEP 2005 reports; LEP was used before 2005.) The accommodations are available to students whose Individualized Education Program (IEP) specifically requires them. Because some ELL students do not have an IEP, decisions about accommodations for these students are typically made by knowledgeable school staff.

The NAEP program has established procedures to include as many SD and ELL students as possible in the assessments. School staff make the decisions about whether to include such a student in a NAEP assessment, and which testing accommodations, if any, they should receive. The NAEP program furnishes tools to assist school personnel in making those decisions.

A sampling procedure is used to select students at each grade being tested. Students are selected on a random basis, without regard to SD or ELL status. Once the students are selected, the schools identify which have SD or ELL status. School staff who are familiar with these students are asked a series of questions to help them decide whether each student should participate in the assessment and whether the student needs accommodations.

Inclusion in NAEP of an SD or ELL student is encouraged if that student (a) participated in the regular state academic assessment in the subject being tested, and (b) if that student can participate in NAEP with the accommodations NAEP allows. Even if the student did not participate in the regular state assessment, or if he/she needs accommodations NAEP does not allow, school staff are asked whether that student could participate in NAEP with the allowable accommodations.

History of NAEP Inclusion Policy Although NAEP has always endeavored to assess as high a proportion of

sampled students as is possible, prior to 1996 NAEP did not allow accommodations for SD or ELL students. This resulted in exclusion of some students who could not meaningfully participate in the assessment without accommodations.

The passage of the Individuals with Disabilities Education Act (IDEA), as amended in 1997, led states and districts to identify increasing numbers of students as requiring accommodations in assessments in order to fairly and accurately show their abilities. It was important for NAEP to be as consistent as possible with testing practices in most states and districts while maintaining the ability to compare more recent NAEP results to those from 1990, 1992, and 1994, when accommodations were not allowed. (Accommodations were not allowed in NAEP state assessments until 1996.)

Before the 2005 assessment (when the selection process was detailed in a series of questions), guidelines were specified by NAEP. A student identified on the Administration Schedule as having a disability (SD), that is, a student with an Individualized Education Program (IEP) or equivalent classification, should be included in the NAEP assessment unless:

■ The IEP team or equivalent group had determined that the student could not participate in assessments such as NAEP, or

■ The student's cognitive functioning was so severely impaired that he or she could not participate, or

■ The student's IEP required that the student be tested with an accommodation that NAEP did not permit, and the student could not demonstrate his or her knowledge of the subject without that accommodation.

A student who was identified as LEP or ELL and who was a native speaker of a language other than English should be included in the NAEP assessment unless:

■ The student had received reading or mathematics instruction primarily in English for less than 3 school years including the current year, and

■ The student could not demonstrate his or her knowledge of the subject in English even with an accommodation permitted by NAEP.

The phrase "less than 3 school years including the current year" meant 0, 1, or 2 school years. Therefore, the guidelines below were used:

■ Include without any accommodation all LEP or ELL students who had received instruction in the subject primarily in English for 3 years or more and those who were in their third year;

■ Include without any accommodation all other such students who could demonstrate their knowledge of the subject without an accommodation;

■ Include and provide accommodations permitted by NAEP to other such students who can demonstrate their knowledge of the subject only with those accommodations; and

■ Exclude LEP or ELL students only if they could not demonstrate their knowledge of the subject even with an accommodation permitted by NAEP.

The percentages of students excluded from NAEP may vary from one state to another, as well as across years. National exclusion rates for Black and White SD and/or ELL students in 2007 may be found in table A-4. The "total" rates include all students, not just those who are Black or White. For information on state exclusion rates, see table A-5. For more information on Main NAEP inclusion and exclusion, go to http://nces.ed.gov/nationsreportcard/about/inclusion.asp

Table A-4. National mathematics and reading exclusion rates as percentages of the total sample, public schools only, by grade and race/ethnicity: 2007

Grade and race/ethnicity	Mathematics	Reading
Grade 4		
Total	3	6
White	2	4
Black	4	7
Grade 8		
Total	4	6
White	4	4
Black	6	7

NOTE: "Total" exclusion percentages are for all public school students, not just Black and White.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics and Reading Assessments.

Table A-5. Mathematics and reading exclusion rates as percentages of the total sample, public schools only, by grade, race/ethnicity and jurisdiction: 2007

Jurisdiction	Percentage of students with a disability and/or English language learner, excluded In 2007							
	Grade 4 Mathematics		Grade 8 Mathematics		Grade 4 Reading		Grade 8 Reading	
	White	Black	White	Black	White	Black	White	Black
Nation (public)	2	4	3	6	4	7	4	7
Alabama	1	2	2	4	3	3	3	4
Alaska	1	2	4	6	3	3	2	2
Arizona	2	4	2	4	3	4	3	6
Arkansas	2	5	2	3	5	8	4	7
California	1	3	1	3	2	5	2	4
Colorado	2	4	1	2	2	7	2	4
Connecticut	1	1	1	1	2	3	2	4
Delaware	4	6	5	8	9	13	5	8
District of Columbia	2	5	‡	10	6	12	‡	13
DoDEA	1	1	2	1	4	5	2	3
Florida	1	4	2	3	4	6	3	5
Georgia	2	3	4	5	7	8	6	7
Hawaii	1	1	1	‡	3	1	2	0
Idaho	1	‡	1	‡	3	‡	3	‡
Illinois	3	5	4	10	5	6	4	6
Indiana	2	4	5	9	3	5	4	8
Iowa	1	2	2	6	3	13	4	15
Kansas	2	6	4	4	4	8	4	7
Kentucky	3	3	7	5	7	10	8	7
Louisiana	1	3	2	4	3	5	2	4
Maine	3	4	5	‡	6	‡	5	‡
Maryland	2	5	6	9	5	10	4	10
Massachusetts	4	6	8	12	5	9	6	10
Michigan	3	4	4	7	4	6	5	9
Minnesota	2	3	2	3	3	9	3	10
Mississippi	1	1	1	3	2	3	2	4
Missouri	3	4	5	6	4	4	3	4
Montana	2	‡	3	‡	4	‡	4	‡
Nebraska	2	5	2	3	4	8	3	2
Nevada	2	6	3	4	5	7	3	9
New Hampshire	2	8	3	13	4	13	3	‡
New Jersey	1	4	2	6	5	8	4	10
New Mexico	2	4	2	3	6	9	4	11
New York	2	2	4	4	5	5	5	4
North Carolina	1	3	1	3	1	3	2	3
North Dakota	4	‡	5	‡	7	34	8	‡
Ohio	4	8	6	12	7	12	8	10
Oklahoma	5	4	8	11	6	7	6	10
Oregon	2	5	3	5	4	7	2	5
Pennsylvania	2	3	3	4	4	6	4	8
Rhode Island	1	4	2	5	3	4	3	6
South Carolina	1	2	4	7	4	4	5	7
South Dakota	1	1	2	‡	5	17	5	‡
Tennessee	5	7	6	7	9	12	7	8
Texas	5	6	4	7	6	8	4	8
Utah	2	‡	2	‡	5	‡	4	‡
Vermont	2	‡	4	‡	6	29	5	‡
Virginia	4	6	4	9	7	9	6	9
Washington	2	3	2	7	4	6	3	10
West Virginia	1	1	2	5	2	1	2	4
Wisconsin	2	4	3	9	3	8	5	12
Wyoming	1	‡	2	‡	3	‡	3	‡

‡ Reporting standards not met.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics and Reading Assessments.

Accommodations

Long-term trend

The long-term trend results presented in this report are drawn from assessments that did not permit accommodations for students with disabilities (SD) and English language learners (ELL). Future long-term trend assessments will allow such accommodations.

Main NAEP

From 1990 through 1994 for the nation—and through 1996 for the states—main NAEP assessments did not allow accommodations for either SD or ELL students. Since then, accommodations have been permitted for those SD and ELL students who need accommodations in order to participate, unless the accommodation would change the nature of what is being tested.

To accomplish this goal, students who receive accommodations in their state's assessments are offered the same accommodations on NAEP, except where an accommodation would change the nature of what is being tested. For example, passages and questions in the reading test are not permitted to be read aloud to the student, because that accommodation would make it a test of listening instead of a test of reading. Similarly, reading passages and questions cannot be presented in a language other than English.

It should be noted that students assessed with accommodations typically received some combination of accommodations. For example, students assessed in small groups (as compared with standard NAEP sessions of about 30 students) usually received extended time. In one-on-one administrations, students often received assistance in recording answers (e.g., use of a scribe or computer) and were afforded extra time.

The most common accommodations are small-group administration, extended time, one-on-one administration, the use of a scribe or computer, and the use of a bilingual book (mathematics only). See http://nces.ed.gov/nationsreportcard/tdw/instruments/accomm.asp for more details on NAEP accommodations. For state accommodation rates for SD and ELL students in 2007 see

the Technical Notes sections of *The Nation's Report Card: Mathematics 2007* at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2007494 and *The Nation's Report Card: Reading 2007* at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2007496.

Drawing inferences from the results

The reported statistics for both long-term trend and main NAEP are estimates and are therefore subject to a measure of uncertainty. There are two sources of such uncertainty. First, NAEP uses a sample of students rather than testing all students. Second, all assessments have some amount of uncertainty related to the fact that they cannot ask all questions that might be asked in a content area. The magnitude of this uncertainty is reflected in the standard error of each of the estimates. When the percentages or average scale scores of certain groups are compared, the estimated standard error should be taken into account. Therefore, the comparisons are based on statistical tests that consider the estimated standard errors of the statistics being compared and the magnitude of the difference between the averages or percentages.

Standard errors for the NAEP scores and percentages presented in this report for both assessments are available on the NAEP website (http://nces.ed.gov/nationsreportcard/naepdata).

The differences between statistics—such as comparisons of two groups of students' average scale scores—that are discussed in this report are determined by using standard errors. Comparisons are based on statistical tests that consider both the size of the differences and the standard errors of the two statistics being compared. Estimates based on smaller groups are likely to have relatively large standard errors. As a consequence, a numerical difference that seems large may not be statistically significant.

Furthermore, differences of the same magnitude may or may not be statistically significant, depending upon the size of the standard errors of the statistics. For example, a 3-point change in the gap between Black and White fourth-graders nationwide may be significant, while a

3-point change in the gap between Black and White fourth-graders in Kansas may not be. The differences described in this report have been determined to be statistically significant at the .05 level with appropriate adjustments for part-to-whole and multiple comparisons.[1]

In the tables and figures of this report, the symbol (*) is used to indicate that a score or percentage is significantly different from another. In addition, any difference between scores or percentages that is identified as higher, lower, larger, smaller, narrower, or wider in this report, including within-group differences not marked in tables and figures, meets the requirements for statistical significance.

Weighting and variance estimation

In both long-term trend and main NAEP a complex sample design was used to select the students who were assessed. The properties of a sample selected through such a design could be very different from those of a simple random sample, in which every student in the target population has an equal chance of selection and in which the observations from different sampled students can be considered to be statistically independent of one another. Therefore, the properties of the sample for the data collection design were taken into account during the analysis of the assessment data.

One way that the properties of the sample design were addressed was by using sampling weights to account for the fact that the probabilities of selection were not identical for all students. All population and subpopulation characteristics based on the assessment data were estimated using sampling weights. These weights included adjustments for school and student nonresponse.

Not only must appropriate estimates of population characteristics be derived, but appropriate measures of the degree of uncertainty must be obtained for those statistics. Two components of uncertainty are accounted for in the variability of statistics based on student ability: (1) the uncertainty due to sampling only a relatively small number of students,

and (2) the uncertainty due to sampling only a relatively small number of cognitive questions. The first component accounts for the variability associated with the estimated percentages of students who had certain background characteristics or who answered a certain cognitive question correctly.

Because NAEP uses complex sampling procedures, conventional formulas for estimating sampling variability that assume simple random sampling are inappropriate. NAEP uses a jackknife replication procedure to estimate standard errors. The jackknife standard error provides a reasonable measure of uncertainty for any student information that can be observed without error. However, because each student typically responds to only a few questions within a content area, the scale score for any single student would be imprecise. In this case, NAEP's marginal estimation methodology can be used to describe the performance of groups and subgroups of students. The estimate of the variance of the students' posterior scale score distributions (which reflect the imprecision due to lack of measurement accuracy) is computed. This component of variability is then included in the standard errors of NAEP scale scores.[2]

Analyzing group differences in averages and percentages

In both long-term trend and main NAEP, statistical tests determine whether, based on the data from the groups in the sample, there is strong enough evidence to conclude that the averages or percentages are actually different for those groups in the population. If the evidence is strong (i.e., the difference is statistically significant), the report describes the group averages or percentages as being different (e.g., one group performed higher or lower than another group), regardless of whether the sample averages or percentages appear to be approximately the same. The reader is cautioned to rely on the results of the statistical tests rather than on the apparent magnitude of the difference between sample averages or percentages when

[1] Benjamini, Y., and Hochberg, Y. (1995). Controlling the False Discovery Rate: A Practical and Powerful Approach to Multiple Testing. *Journal of the Royal Statistical Society,* Series B, no. 1, 289-300.

[2] For further detail, see Johnson, E.G., and Rust, K.F. (1992). Population Inferences and Variance Estimation for NAEP Data. *Journal of Educational Statistics,* (17)2, 175-190.

determining whether the sample differences are likely to represent actual differences among the groups in the population.

To determine whether a real difference exists between the average scale scores (or percentages of a certain attribute) for two groups in the population, one needs to obtain an estimate of the degree of uncertainty associated with the difference between the averages (or percentages) of these groups for the sample. This estimate of the degree of uncertainty, called the "standard error of the difference" between the groups, is obtained by taking the square of each group's standard error, summing the squared standard errors, and taking the square root of that sum.

$$SE_{A-B} = \sqrt{(SE_A^2 + SE_B^2)}$$

The standard error of the difference can be used, just like the standard error for an individual group average or percentage, to help determine whether differences among groups in the population are real. The difference between the averages or percentages of the two groups plus or minus 1.96 standard errors of the difference represents an approximately 95 percent confidence interval. If the resulting interval includes zero, there is insufficient evidence to claim a real difference between the groups in the population. If the interval does not contain zero, the difference between the groups is statistically significant at the .05 level.

The following example of comparing groups addresses the problem of determining whether the average mathematics scale score of group A is higher than that of group B. The sample estimates of the average scale scores and estimated standard errors are as follows:

Group	Average scale score	Standard error
A	218	0.9
B	216	1.1

The difference between the estimates of the average scale scores of groups A and B is 2 points (218 – 216). The standard error of this difference is

$$\sqrt{(0.9^2 + 1.1^2)} = 1.4$$

Thus, an approximately 95 percent confidence interval for

this difference is plus or minus 1.96 standard errors of the difference:

$$2 \pm 1.96 \times 1.4$$
$$2 \pm 2.7$$
$$(-0.7, 4.7)$$

The value zero is within the confidence interval; therefore, there is insufficient evidence to conclude that group A's performance is statistically different from group B.

The procedure above is appropriate to use when it is reasonable to assume that the groups being compared have been independently sampled for the assessment.

Such an assumption is clearly warranted when comparing results for one state with another. This is the approach used for NAEP reports when comparisons involving independent groups are made. The assumption of independence is violated to some degree when comparing group results for the nation or a particular state (e.g., comparing national 2007 results for Black and White students), since these samples of students have been drawn from the same schools.

When the groups being compared do not share students (as is the case, for example, of comparing Black and White students), the impact of this violation of the independence assumption on the outcome of the statistical tests is assumed to be small, and NAEP, by convention, has, for computational convenience, routinely applied the procedures described above to those cases as well.

When making comparisons of results for groups that share a considerable proportion of students in common, it is not appropriate to ignore such dependencies. In such cases, NAEP has used procedures appropriate to comparing dependent groups. When the dependence in group results is due to the overlap in samples (e.g., when a subgroup is being compared to a total group), a simple modification of the usual standard error of the difference formula can be used. The formula for such cases is

$$SE_{Total-Subgroup}^2 = \sqrt{(SE_{Total}^2 + SE_{Subgroup}^2 - 2pSE_{Subgroup}^2)}$$

where p is the proportion of the total group contained in the subgroup. This formula was used for this report when a state was compared to the aggregate for the nation.

Conducting multiple tests

The procedures used to determine whether group differences in the long-term trend and main NAEP samples represent actual differences among the groups in the population and the certainty ascribed to intervals (e.g., a 95 percent confidence interval) are based on statistical theory that assumes that only one confidence interval or test of statistical significance is being performed. However, there are times when many different groups are being compared (i.e., multiple sets of confidence intervals are being analyzed).

For multiple comparisons, statistical theory indicates that the certainty associated with the entire set of comparisons is less than that attributable to each individual comparison from the set. To hold the significance level for the set of comparisons at a particular level (e.g., .05), the standard methods must be adjusted by multiple comparison procedures.[3] The procedure used by NAEP is the Benjamini-Hochberg False Discovery Rate (FDR) procedure.[4]

Unlike other multiple comparison procedures that control the family-wise error rate (i.e., the probability of making even one false rejection in the set of comparisons), the FDR procedure controls the expected proportion of falsely rejected hypotheses. Furthermore, the FDR procedure used in NAEP is considered appropriately less conservative than family-wise procedures for large families of compari-

sons.[5] Therefore, the FDR procedure is more suitable for multiple comparisons in NAEP than are other procedures.

Statistical comparisons of NAEP scores from different assessment years are made using a multiple comparison procedure. However, in figures 9, 11, 21, and 23, comparisons of the size of the Black-White achievement gap for each state to the national gap are made using pairwise comparisons, where each state is compared to the nation one at a time. For this reason, the results shown in these four figures may not correspond to results obtained from the NAEP Online Data Tool, which currently does not permit pairwise comparisons for this type of gap analysis.

Cautions in interpretation

It is possible to examine NAEP performance results for groups of students defined by various background factors measured by NAEP, such as race. However, a relationship that exists between achievement and another variable does not reveal its underlying cause, which may be influenced by a number of other variables. Similarly, the assessments do not reflect the influence of unmeasured variables. The results are most useful when they are considered in combination with other knowledge about the student population and the educational system, such as trends in instruction, changes in the school-age population, and societal demands and expectations.

[3] Miller, R.G. (1981). *Simultaneous Statistical Inference* (2nd ed.). New York: Springer-Verlang.

[4] Benjamini, Y., and Hochberg, Y. (1995), op. cit.

[5] Williams, V.S.L., Jones, L.V., and Tukey, J.W. (1994, December) *Controlling Error in Multiple Comparisons with Special Attention to the National Assessment of Educational Progress.* Research Triangle Park, NC: National Institute of Statistical Sciences.

Appendix B: Supplemental Tables

Table B-1. Administration of NAEP national and state mathematics assessments, by grade: Various years, 1990–2007

Grade	1990 National	1990 State	1992 National	1992 State	1994 National	1994 State	1996 National	1996 State	1998 National	1998 State	2000 National	2000 State	2002 National	2002 State	2003 National	2003 State	2005 National	2005 State	2007 National	2007 State
4th grade	✓		✓	✓			✓	✓			✓	✓			✓	✓	✓	✓	✓	✓
8th grade	✓	✓	✓	✓			✓	✓			✓	✓			✓	✓	✓	✓	✓	✓

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress, Various years, 1990–2007 Mathematics Assessments.

Table B-2. Average national mathematics scale scores for all public school students at grades 4 and 8, by gender and eligibility for the National School Lunch Program: Various years, 1990–2007

	1990*	1992*	1996	2000	2003	2005	2007
All students							
Grade 4	212*	219*	222*	224*	234*	237*	239
Grade 8	262*	267*	269*	272*	276*	278*	280
Student Gender							
Grade 4							
Male	212*	220*	222*	225*	235*	238*	240
Female	211*	218*	222*	223*	233*	236*	238
Grade 8							
Male	262*	266*	270*	273*	277*	278*	281
Female	261*	267*	268*	271*	275*	277*	279
Student Eligibility for National School Lunch Program							
Grade 4							
Not eligible	—	—	‡	‡	244*	248*	249
Reduced-price lunch	—	—	‡	‡	230*	234*	236
Free lunch	—	—	‡	‡	220*	224*	226
Grade 8							
Not eligible	—	—	‡	‡	287*	288*	291
Reduced-price lunch	—	—	‡	‡	269*	270*	274
Free lunch	—	—	‡	‡	256*	260*	263

* Accommodations were not permitted for this assessment.
— Not available. Data were not collected prior to 1996.
‡ Reporting standards not met. Lunch eligibility data are not being reported in 1996 and 2000 because of the high percentage of students for whom information was not available.
* Significantly different (p<.05) from 2007.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), Various years, 1990–2007 Mathematics Assessments.

Table B-3. Administration of NAEP national and state reading assessments, by grade: Various years, 1992–2007

Grade	1992 National	1992 State	1994 National	1994 State	1996 National	1996 State	1998 National	1998 State	2000 National	2000 State	2002 National	2002 State	2003 National	2003 State	2005 National	2005 State	2007 National	2007 State
4th grade	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
8th grade	✓		✓				✓	✓			✓	✓	✓	✓	✓	✓	✓	✓

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress, Various years, 1992–2007 Reading Assessments.

Table B-4. Average national reading scale scores for all public school students at grades 4 and 8, by gender and eligibility for the National School Lunch Program: Various years, 1992–2007

	1992[n]	1994[n]	1998	2000	2002	2003	2005	2007
All students								
Grade 4	215*	212*	213*	211*	217*	216*	217*	220
Grade 8	258*	257*	261	—	263*	261	260*	261
Student Gender								
Grade 4								
Male	211*	207*	210*	206*	214*	213*	214*	216
Female	219*	218*	215*	217*	220*	220*	220*	223
Grade 8								
Male	251*	250*	253*	—	258*	256	255*	256
Female	264	265	268*	—	267*	267	266	266
Student Eligibility for National School Lunch Program								
Grade 4								
Not eligible	—	—	‡	‡	‡	229*	230*	232
Reduced-price lunch	—	—	‡	‡	‡	211*	212*	215
Free lunch	—	—	‡	‡	‡	199*	201*	203
Grade 8								
Not eligible	—	—	‡	—	‡	271	270*	271
Reduced-price lunch	—	—	‡	—	‡	256	254	255
Free lunch	—	—	‡	—	‡	243*	245	246

[n] Accommodations were not permitted for this assessment.
— Not available. Data were not collected prior to 1996 or at grade 8 in 2000.
‡ Reporting standards not met. Lunch eligibility data are not being reported in 1998, 2000 and 2002 because of the high percentage of students for whom information was not available.
* Significantly different (p<.05) from 2007.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), Various years, 1992–2007 Reading Assessments.

Acknowledgments

The High Cost of High School Dropouts
What the Nation Pays for Inadequate High Schools

Every school day, almost seven thousand students become dropouts. Annually, that adds up to about 1.2 million students who will not graduate from high school with their peers as scheduled. Lacking a high school diploma, these individuals will be far more likely than graduates to spend their lives periodically unemployed, on government assistance, or cycling in and out of the prison system.

Most high school dropouts see the result of their decision to leave school most clearly in the slimness of their wallets. The average annual income for a high school dropout in 2005 was $17,299, compared to $26,933 for a high school graduate, a difference of $9,634 (U.S. Bureau of the Census, 2006). The impact on the country's economy is less visible, but it is nevertheless staggering.

If the nation's secondary schools improved sufficiently to graduate all of their students, rather than the 70 percent of students who are currently graduated annually (Editorial Projects in Education, 2008), the payoff would be significant. **For instance, if the students who dropped out of the Class of 2008 had graduated, the nation's economy would have benefited from an additional $319 billion in income over their lifetimes.**

Everyone benefits from increased graduation rates. The graduates themselves, on average, will earn higher wages and enjoy more comfortable and secure lifestyles. At the same time, the nation benefits from their increased purchasing power, collects higher tax receipts, and sees higher levels of worker productivity.

Who Makes the Money?
2005 Average Income by Educational Attainment
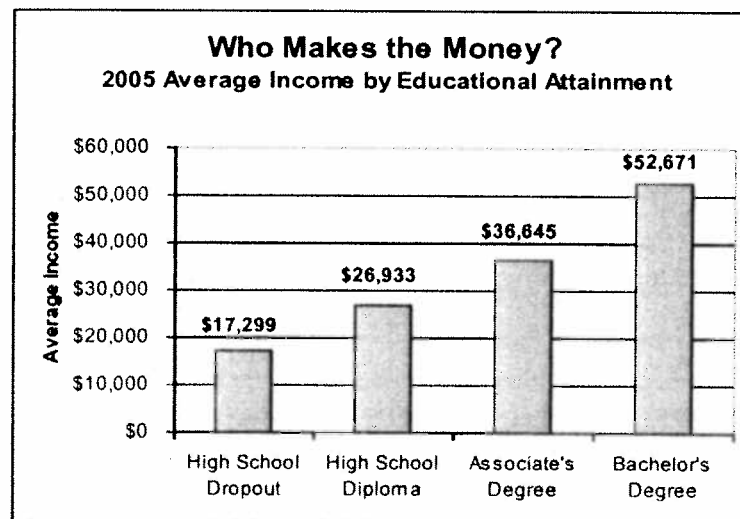
Source: U.S. Bureau of the Census, 2006

Students Who Learn More Earn More

Research by Cecilia Rouse, professor of economics and public affairs at Princeton University, shows that each dropout, over his or her lifetime, costs the nation approximately $260,000 (Rouse, 2005). Unless high schools are able to graduate their students at higher rates, more than 12 million

students will drop out during the course of the next decade. The result will be a loss to the nation of *$3 trillion.*

The calculations on page 4 show the monetary benefits each state could accrue over the lifetimes of just one year's dropouts if those students could be converted to graduates. The numbers vary from state to state, of course: Vermont (at the low end) would see its economy increase by $439 million; Mississippi (near the middle) would add $3.98 billion to its economy, and California's economy (at the high end) would accrue an additional $42 billion over the lifetime of each graduating class. These figures are conservative, and do not take into account the added economic growth generated from each new dollar put into the economy.

More Graduates Benefit Society

Obviously, dropouts are a drain on the economies of each state and the nation. Lower local, state, and national tax revenues are perhaps the most obvious consequence of higher dropout rates; even when dropouts are employed, they earn significantly lower wages than graduates. State and local economies suffer further when they have less-educated populaces, as they find it more difficult to attract new business investment. Simultaneously, these entities must spend more on social programs when their populations have lower educational levels.

The nation's economy and competitive standing also suffers when there are high dropout rates. Among developed countries, the United States ranks eighteenth in high school graduation rates and fifteenth in college graduation rates (Organisation for Economic Co-Operation and Development, 2007). Dropouts represent a tremendous waste of human potential and productivity, and reduce the nation's ability to compete in an increasingly global economy.

High school graduates, on the other hand, provide both economic and social benefits to society. In addition to earning higher wages, which results in attendant benefits to local, state, and national economic conditions, high school graduates live longer (Muennig, 2005), are less likely to be teen parents (Haveman et al., 2001), and are more likely to raise healthier, better-educated children. In fact, children of parents who graduate from high school are themselves far more likely to graduate from high school than are children of parents without a high school degree (Wolfe & Haveman, 2002). High school graduates are also less likely to commit crimes (Raphael, 2004), rely on government health care (Muennig, 2005), or use other public services such as food stamps or

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Who Doesn't Graduate?

- Only about 58 percent of Hispanic students and 55 percent of black students will graduate on time with a regular diploma, compared to 81 percent of Asian students and 78 percent of white students (EPE, 2008).

- Among all races and ethnicities, females graduate at a higher rate than their male peers—75 percent versus 68 percent (EPE, 2008).

- Graduation rates are significantly lower in districts with higher percentages of students who are eligible for free or reduced-price lunches (a measure of poverty) (Swanson, 2004).

- High school students living in low-income families drop out of school at six times the rate of their peers from high-income families (U.S. Department of Education, National Center for Education Statistics, 2004).

- The lowest-achieving 25 percent of students are twenty times more likely to drop out of high school than students in the highest achievement quartile (Carnevale, 2001).

housing assistance (Garfinkel et al., 2005). Additionally, high school graduates engage in civic activity, including voting and volunteering in their communities, at higher levels (Junn, 2005).

Reducing Dropouts by Improving High Schools

To increase the number of students who graduate from high school, the nation's secondary schools must be dramatically improved. Although the investments made in the early grades are beginning to pay off, with higher fourth-grade reading scores and a reduction in the achievement gap between white and minority students (U.S. Department of Education, 2005), too many of America's high schools are still serving their students poorly.

In a recent survey of high school dropouts, respondents indicated that they felt alienated at school and that no one even noticed if they failed to show up for class. High school dropouts also complained that school did not reflect real-world challenges. More than half of respondents said that the major reason for dropping out of high school was that they felt their classes were uninteresting and irrelevant (Bridgeland & di Iulio, 2006). Others leave because they are not doing well academically; only about 30 percent of high school students read proficiently, which generally means that as the material in their textbooks becomes increasingly challenging, they drop ever further behind.

How Much Does a High School Dropout Cost?

Researchers have started to examine various annual and lifetime costs associated with high school dropouts.

- The United States could save between $7.9 and $10.8 billion annually by improving educational attainment among all recipients of Temporary Assistance to Needy Families, food stamps, and housing assistance (Garfinkel et al., 2005).

- A high school dropout contributes about $60,000 less in taxes over a lifetime (Rouse, 2005).

- If the male graduation rate were increased by only 5 percent, the nation would see an annual savings of $4.9 billion in crime-related costs (Alliance for Excellent Education, 2006b).

- America could save more than $17 billion in Medicaid and expenditures for health care for the uninsured by graduating all students (Alliance for Excellent Education, 2006a).

Whatever the causes, the nation can no longer afford to have a third of its students leaving school without a diploma. High schools must be improved to give all students the excellent education that will prepare them for college or work, and to be productive members of society.

For more information about the state of America's high schools, and to find out what individuals and organizations can do to support effective reform at the local, state, and federal levels, visit the Alliance for Excellent Education's website at www.all4ed.org.

Estimated Additional Lifetime Income If High School Dropouts Graduated With Their Class in 2007-2008[1]

States	Estimated Graduation Rate (2004-2005)	Projected Number of Nongraduates for the Class of 2008	Total Lifetime Additional Income if Dropouts Graduated
Alabama	61.3%	24,065	$6,496,220,362
Alaska	67.6%	3,865	$1,004,974,141
Arizona	73.3%	19,852	$5,161,504,766
Arkansas	73.2%	10,260	$2,667,523,066
California	70.7%	181,916	$42,098,698,750
Colorado	74.2%	16,640	$4,326,288,281
Connecticut	78.1%	9,764	$2,538,616,133
Delaware	60.1%	4,271	$1,110,566,133
District of Columbia	57.0%	1,937	$503,556,609
Florida	60.8%	97,499	$25,349,857,813
Georgia	58.1%	59,510	$15,472,691,406
Hawaii	67.4%	5,536	$1,439,394,404
Idaho	76.0%	4,954	$1,288,128,105
Illinois	76.7%	41,068	$10,677,615,000
Indiana	73.6%	22,920	$5,959,132,969
Iowa	82.8%	7,033	$1,828,505,479
Kansas	74.2%	10,043	$2,611,071,328
Kentucky	71.5%	16,160	$4,201,578,164
Louisiana	54.7%	26,520	$6,895,070,504
Maine	77.2%	3,814	$991,749,688
Maryland	73.6%	21,490	$5,587,513,750
Massachusetts	74.7%	16,298	$4,237,514,023
Michigan	70.5%	45,308	$11,779,231,953
Minnesota	78.1%	15,105	$3,927,296,445
Mississippi	61.0%	15,322	$3,983,658,301
Missouri	76.5%	18,337	$4,767,669,258
Montana	75.7%	3,191	$829,565,073
Nebraska	79.6%	5,131	$1,334,017,090
Nevada	45.4%	19,685	$5,118,578,867
New Hampshire	77.1%	4,244	$1,103,382,363
New Jersey	83.3%	18,474	$4,803,197,852
New Mexico	54.1%	13,837	$3,597,594,863
New York	68.0%	83,905	$21,815,389,375
North Carolina	67.0%	41,362	$10,754,181,953
North Dakota	79.2%	1,771	$460,427,595
Ohio	75.9%	37,857	$9,842,903,281
Oklahoma	70.8%	14,611	$3,798,885,391
Oregon	70.4%	13,486	$3,506,271,133
Pennsylvania	80.4%	30,578	$7,950,162,188
Rhode Island	71.1%	3,675	$955,476,958
South Carolina	55.6%	28,478	$7,404,274,414
South Dakota	75.6%	2,511	$652,894,849
Tennessee	65.4%	27,982	$7,275,246,367
Texas	68.5%	118,091	$30,703,733,125
Utah	78.6%	7,985	$2,076,173,760
Vermont	80.2%	1,689	$439,057,671
Virginia	72.9%	29,195	$7,590,623,828
Washington	68.8%	28,001	$7,280,254,414
West Virginia	72.8%	6,530	$1,697,729,668
Wisconsin	80.5%	14,864	$3,864,550,625
Wyoming	74.2%	1,861	$483,876,885
United States	70.6%	1,229,277	$319,611,922,500

[1] The Alliance for Excellent Education determined the average additional lifetime income if one class of dropouts were to graduate by multiplying the projected number of students who failed to graduate with their class in 2008 (Editorial Projects in Education, 2008) by the $260,000 estimated lifetime earnings difference between a high school dropout and a high school graduate (Rouse, 2005). National totals are not the sum of the state totals for methodological reasons.

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The Consequences of Dropping Out of High School

Joblessness and Jailing for High School Dropouts and the High Cost for Taxpayers

22% Daily Jailing Rate for Young Black Men Who Drop Out of High School

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Introduction

The economic, social, and moral case for addressing the nation's existing high school dropout problems was made in a report titled <u>Left Behind in America: The Nation's Dropout Crisis</u>.[1] This report called upon the U.S. Congress and the Obama Administration to enact legislation to support programs at the local and state level to re-enroll existing high school dropouts to enable them to improve their academic achievement skills, obtain their high school diplomas or their equivalents, and bolster their employability through work experience and training. The nation's young dropouts experience a wide array of labor market, earnings, social and income problems that exacerbate their ability to transition to careers and stable marriages from their mid-20s onward. This new research paper was prepared to outline the employment, earnings, incarceration, teen and young adult parenting experiences and family incomes of the nation's young adult high school dropouts and their better educated peers in 2006 to 2008.

Young high school dropouts confront a number of labor market problems in their late teens and early 20s.[2] They are less likely to be active labor force participants than their better educated peers, and they frequently experience considerably higher unemployment rates when they do seek work. As a consequence, they are much less likely to be employed than their better educated peers across the nation, and gaps typically widen as national labor markets deteriorate such as during the current recession. The employment rates of the nation's 16-24 year old, out-of-school youth by their educational attainment in 2008 are displayed in Chart 1. These estimated employment rates are annual averages. Slightly less than 46 percent of the nation's young high school dropouts were employed on average during 2008. This implies an average joblessness rate during 2008 of 54% for the nation for young high school dropouts. Their employment rate was 22 percentage points below that of high school graduates, 33 percentage points below that of young adults who had completed 1-3 years of post-secondary schooling, and 41 percentage points below that of their peers who held a four year college degree. Young high

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[1] See: Center for Labor Market Studies, Northeastern University and the Chicago Alternative Schools Network, <u>Left Behind in America: The Nation's Dropout Crisis</u>, Boston, Massachusetts and Chicago, Illinois, April 2009.

[2] For earlier analysis of the labor market, income, and social problems of young and older high school dropouts at the national and state levels, see: (i) Andrew Sum, Neeta Fogg, and Garth Mangum, <u>Confronting the Youth Demographic Challenge: The Labor Market Prospects of Out-of-School Youth</u>, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 2000; (ii) Andrew Sum, Ishwar Khatiwada, Joseph McLaughlin, et. al., <u>The Labor Market, Income, Social, Civic, Health, and Fiscal Consequences of Dropping Out of High School: Findings for Michigan Adults in the 21st Century</u>, Report Prepared for the C.S. Mott Foundation, Flint, Michigan, 2008.

school dropouts were only about one-half as likely to be working as those youth holding a bachelor's or higher degree in 2008.

Chart 1:
Employment Rates of 16-24 Year Old Out-of-School Youth in the U.S. By Educational Attainment, 2008 (Annual Averages in %)
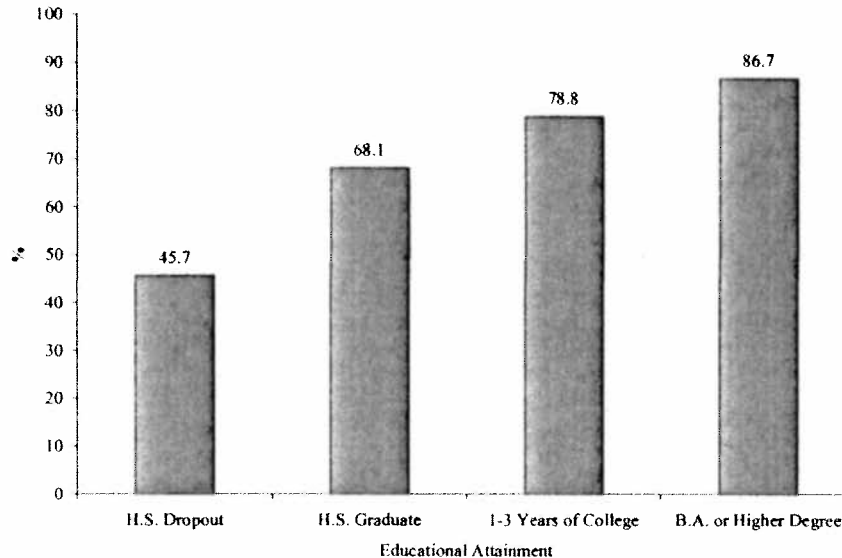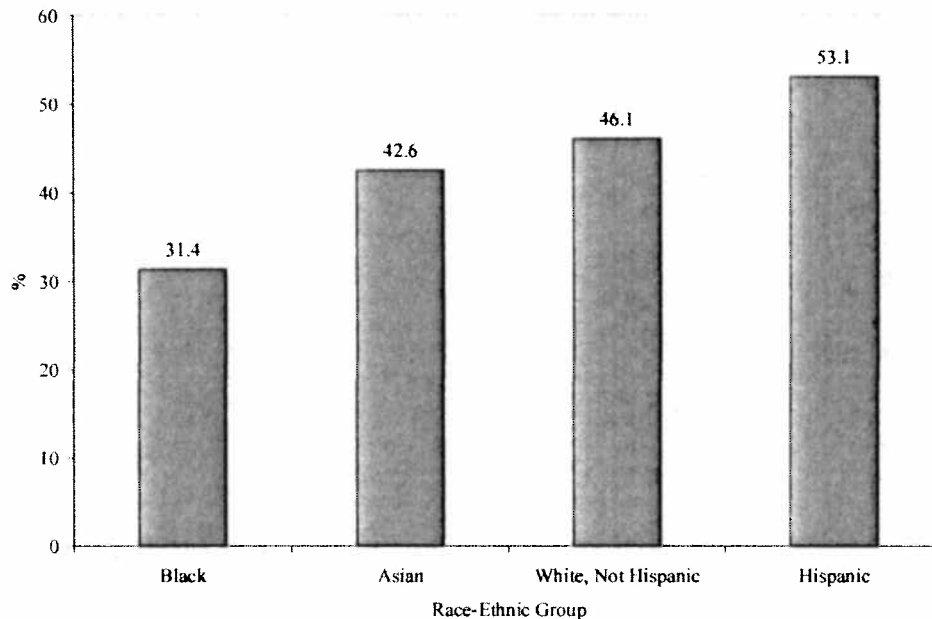

Source: January-December 2008 CPS Surveys, tabulations by authors.

The employment rates of the nation's young high school dropouts varied across gender, race-ethnic, and household income groups. Black dropouts were the least likely to be employed (31%) followed by Asians (43%), Whites (46%), and Hispanics (53%) (Chart 2). This implies a jobless rate for Blacks of 69 % followed by Asians at 57 %, Whites at 54 % and Hispanics at 47 %. The above average employment rates of Hispanic dropouts primarily reflect the sharply higher employment rates of young Hispanic immigrants, many of whom were undocumented immigrants. Earlier national research has shown that higher levels of new immigration in a state tend to significantly reduce the employment rates of the nation's teens and young adults, especially males, non-college educated youth, and native born Black and Hispanic males with limited post-secondary schooling.[3]

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[3] See: Andrew Sum, Paul Harrington, and Ishwar Khatiwada, The Labor Market and Educational Progress of America's Young Adults Since the Publication of America's Choice, Report Prepared for the New Commission on the Skills of America's Workforce, Washington, D.C., 2006.
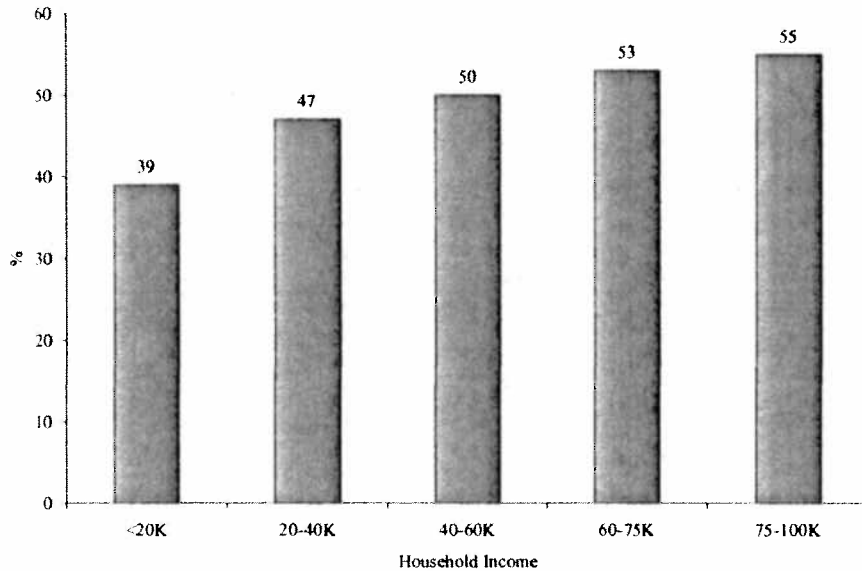
Employment Rates of 16-24 Year Old High School Dropouts in the U.S., By Race-Ethnic Group, 2008 (in %)

Source: January-December 2008 CPS Surveys, tabulations by authors.

The employment rates of young high school dropouts as well as teenagers and 20-24 year olds in general also vary with the annual incomes of the families in which they live. Young high school dropouts living in low income families (annual income under $20,000) were least likely (38%) to be employed in 2008. As their family incomes increased, they were more likely to be working, with their employment rates ranging from 47% for those in families with incomes between $20,000 and $40,000 to a high of 55% for those residing in families with incomes between $75,000 and $100,000.

Chart 3:
Percent of 16-24 Year Old High School Dropouts in the U.S. Who Were Employed in 2008 By Their Household Income (in $1,000)

Source: January-December 2008 CPS Surveys, tabulations by authors.

The below average monthly employment rates of the nation's young high school dropouts do not simply reflect a higher turnover rate of dropouts from the ranks of the employed during the year and more frequent part year employment. Young dropouts also contain a disproportionate share of individuals who were jobless throughout the entire calendar year. The March 2008 CPS work experience and income supplement to the standard March CPS survey collected information on the employment experiences and annual earnings from employment (wages and salaries plus self-employment income) of all sample household members 16 and older. We analyzed the work experience data for all 16-24 year olds to identify the percent of youth who worked at some time in calendar year 2007. The findings revealed that only 60 percent of the nation's 16-24 year old dropouts worked at some point during the year (Table 1). This implies a year-round joblessness rate of 40% among these young high school dropouts. Among their better educated peers, those with some paid employment ranged from just under 80% among high school graduates to highs of 88 to 89 percent among those completing at least some post-secondary schooling.

Table 1:
Percent of Out-of-School 16-24 Year Olds Who Worked At Some Point in 2007 and
Their 2007 Mean Annual Earnings* by Educational Attainment, U.S.

Educational Attainment	(A) Percent Who Worked	(B) Mean Annual Earnings*
High School Dropout	60.4	$8,358
High School Graduate	79.0	$14,601
1-3 Years of College	87.7	$18,283
Bachelor's or Higher Degree	89.4	$24,797
All	78.4	$15,149

Note: (*) Mean annual earnings include those with no paid work experience during the year.
Source: March 2008 CPS Supplement, public use files, tabulations by authors.

As a result of their high levels of joblessness and low weekly earnings while employed, the mean annual earnings of the nation's young dropouts in 2007 were only $8,358 well below the average of $15,149 for all young adults (Table 1, Column B). High school graduates with no years of post-secondary schooling achieved mean earnings of somewhat over $14,600 while those with a bachelor's degree obtained mean earnings of approximately $24,800, three times as high as that of young high school dropouts. Over the past few decades, the mean cumulative earnings of male high school dropouts over their working life from ages 18-64 have declined considerably, reducing their marriage rates, home ownership rates, and their fiscal contributions to federal, state, and local governments.

Educational Attainment and Teen and Young Adult Parenting

Teen and young adult women parenting tend to be negatively correlated with their levels of formal schooling, educational expectations, and academic achievement. The findings of the 2006 and 2007 American Community Surveys were used to estimate the percent of young women ages 16-24 who were mothers at the time of the survey; i.e., had given birth to one or more children. Overall, 13.5% of the 18.6 million women ages 16-24 were mothers. The share of women who were mothers varied quite considerably across educational attainment/ school enrollment groups, ranging from a low of 3.5% among high school students, to 6% among Bachelor's degree holders, to just less than 30% among high school graduates to a high of nearly 38% among those women who lacked a high school diploma (Chart 4). Young female dropouts

were six times as likely to have given birth as their peers who were college students or four year college graduates.

Chart 4:
Percent of 16-24 Year Old Women in the U.S. Who Were Mothers By Educational Attainment/
School Enrollment Status, 2006-2007 Averages
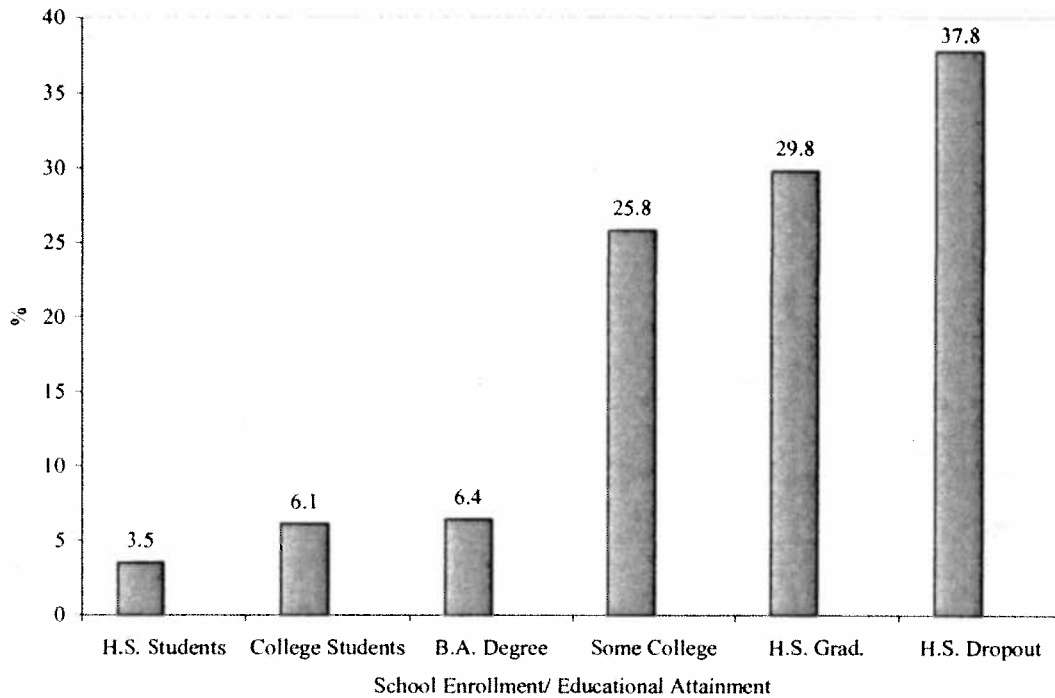
Source: 2006-2007 American Community Surveys, public use files, tabulations by authors.

Of those young women who had become mothers, 60 percent were not married at the time of the ACS surveys. Mothers who were dropouts had a very similar incidence of single parenting . Multiplying the share of young women who were mothers by the fraction who were unmarried yields estimates of the fraction of women who were single mothers at the time of the 2006-2007 American Community Surveys. Overall, 8 percent of the nation's 16-24 year old women were single mothers in 2006-2007. The share of these women who were single mothers varied from lows of 2 to 3 percent among high school students and Bachelor's degree holders to highs of 17 percent among high school graduates and just under 23 percent among high school dropouts (Chart 5). Young high school dropouts were nearly 9 times as likely to have become single mothers as their counterparts with bachelor degrees. A very high share of these young

unwed mothers lacking high school diplomas were poor/ near poor and dependent on government assistance and in-kind transfers to support themselves and their children.

Chart 5:
Percent of 16-24 Year Old Women in the U.S. Who Were Single Mothers By Educational Attainment/ School Enrollment Status, 2006-2007
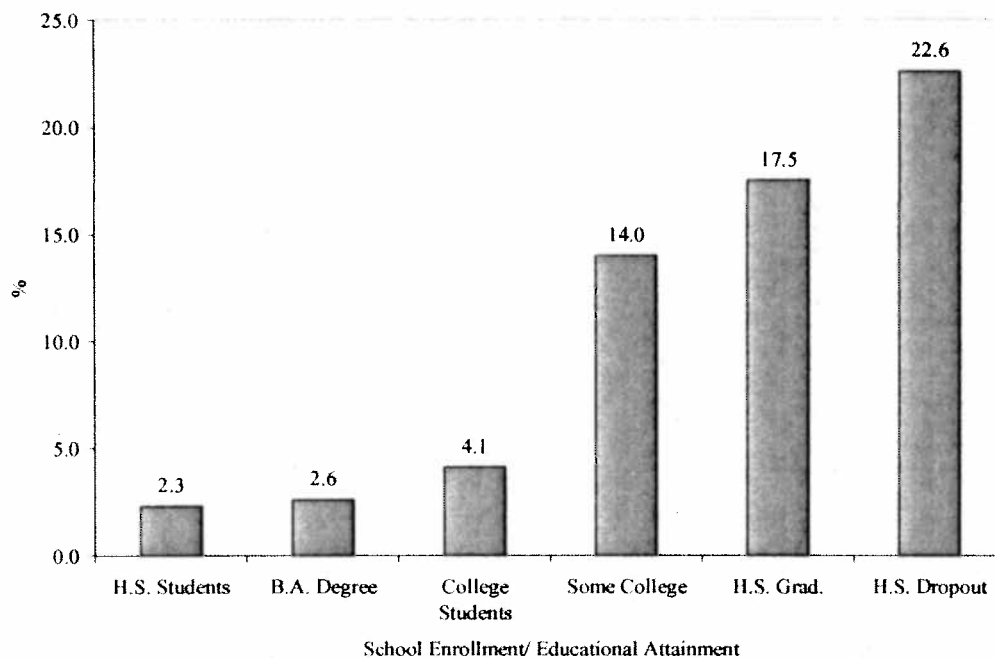
Source: 2006-2007 American Community Surveys, public use files, tabulations by authors.

The Incarceration Rates of 16-24 Year Old Dropouts in the U.S. and Those of Their Better Educated Peers

During the past two decades, there has been explosive growth in the number of adults who were inmates of the nation's correctional institutions (local, state, and federal prisons and jails).[4] In 2008, approximately one in one-hundred U.S. adults were housed in such correctional institutions, a substantial share of whom were young (under 30) and male.[5] Since 2006, the American Community Surveys have conducted interviews with residents of group quarters,

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[4] See: (i) Bruce Western, Punishment and Inequality in America, Russell Sage Foundation, New York, 2006; (ii) Devah Pager, Marked: Race, Crime, and Finding Work in an Era of Mass Incarceration, The University of Chicago Press, Chicago, 2007.
[5] See: Pew Center for Research on the States, One in 100, Washington, D.C., 2008.

including correctional institutions. Data from the 2006 and 2007 ACS surveys were analyzed to identify the number of 16-24 year olds across the nation in selected educational attainment groups who were institutionalized.[6]

During the 2006-2007 time period, 1.4% of the nation's 16-24 year olds (men and women combined) were institutionalized of whom nearly 93% were residing in correctional facilities (jails, prisons, juvenile detention centers). The share of these young adults who were institutionalized varied widely across educational attainment/ schooling groups with high school dropouts being the most likely to be incarcerated. Only 1 in 1,000 bachelor degree holders were institutionalized versus .7% of out-of-school adults who completed 1-3 years of post-secondary schooling, 1.0% of high school graduates, and 6.3% of high school dropouts lacking a GED certificate. The incidence of institutionalization problems among young high school dropouts was more than 63 times higher than among young four year college graduates.

Chart 6
Percent of the Nation's 16-24 Year Olds Who Were Institutionalized in 2006-2007 By School Enrollment/ Educational Attainment Group

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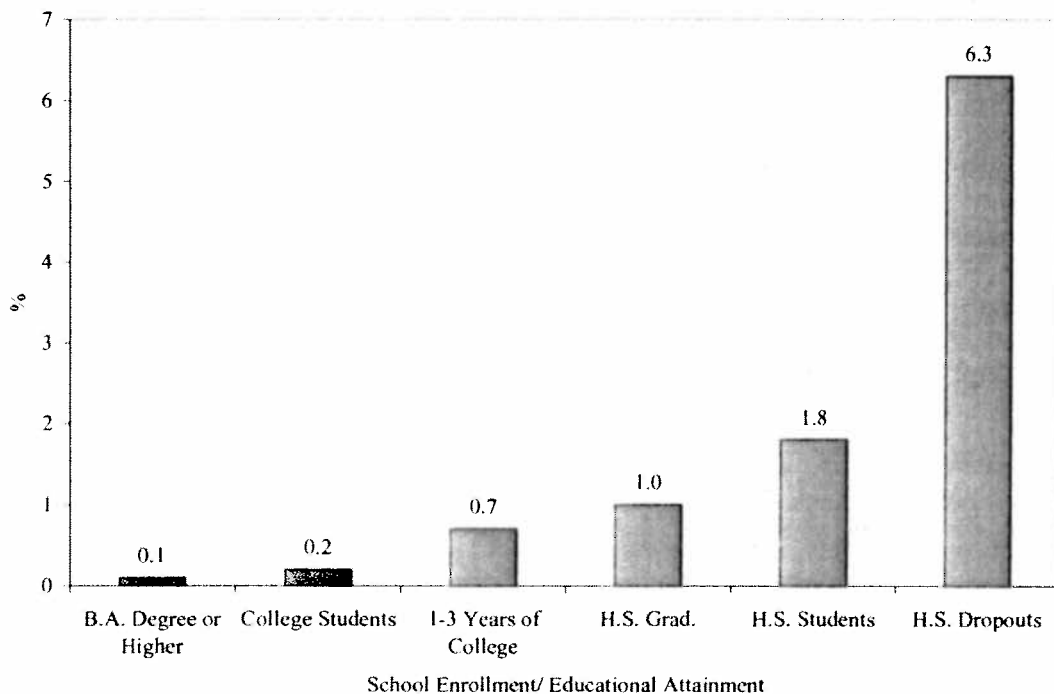
[6] The U.S. Census Bureau does not identify the specific type of institution in which an individual was housed at the time of the ACS survey. A small fraction of institutionalized young adults were living in long term healthcare facilities (nursing homes, mental hospitals), but the vast majority (93%) were residing in adult correctional institutions and juvenile detention facilities.

Approximately 90 percent of the inmates of correctional institutions were males in recent years. Given the high degree of concentration of imprisonment problems among males, we conducted a separate analysis of the incarceration rates of young males by their school enrollment/ educational attainment status (Chart 7). Here again, the incarceration rates of these young males are found to vary considerably with their educational attainment. <u>Nearly 1 of every 10 young male high school dropouts was institutionalized on a given day in 2006-2007 versus fewer than 1 of 33 high school graduates</u>, 1 of 100 of those out-of-school young men who completed 1-3 years of post-secondary schooling, and only 1 of 500 men who held a bachelor's or higher degree.

<u>Chart 7:</u>
<u>Percent of 16-24 Year Old Males in the U.S. Who Were Institutionalized in 2006-2007 By Selected School Enrollment/ Educational Attainment Group</u>

School Enrollment/ Educational Attainment Group
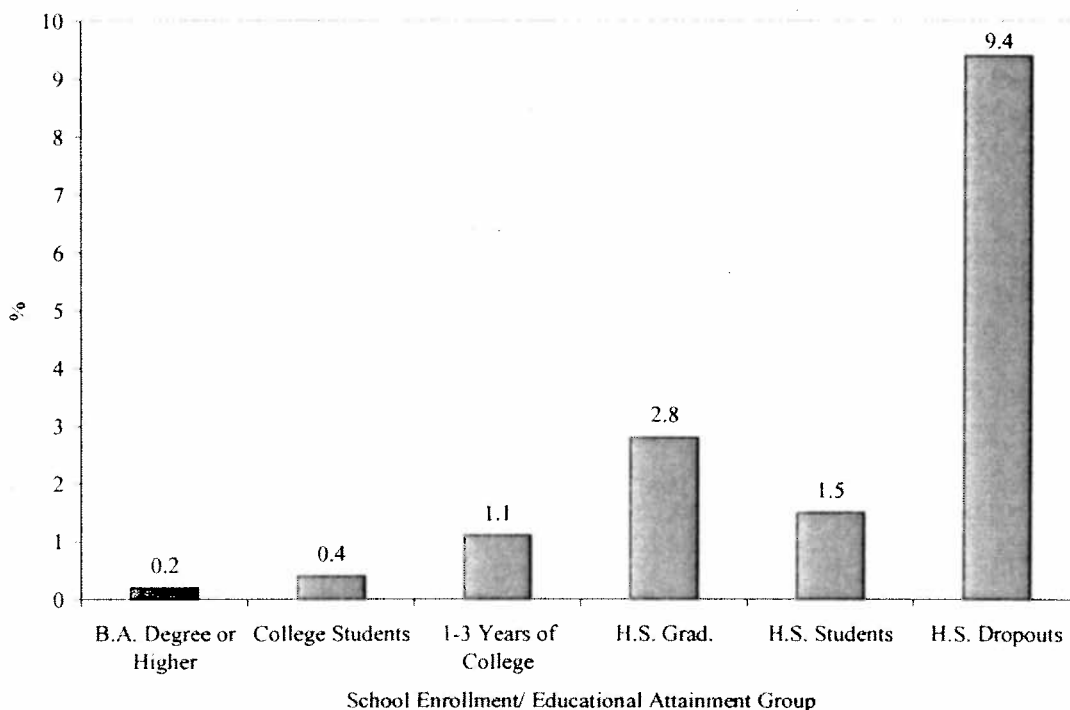
For men in each race-ethnic group, incarceration rates were highest among high school dropouts. Among the nation's male high school dropouts, however, institutionalization rates were considerably higher among young Black men than they were among members of the other

three major race-ethnic groups. Approximately 23 of every 100 young Black male adults were institutionalized versus only 6 to 7 of every 100 Asians, Hispanics, and Whites (Chart 8).

Chart 8:
Percent of 16-24 Year Old Male High School Dropouts in the U.S. Who Were Incarcerated in Juvenile Homes, Jails, and Prisons in 2006-2007 by Race-Ethnic Group
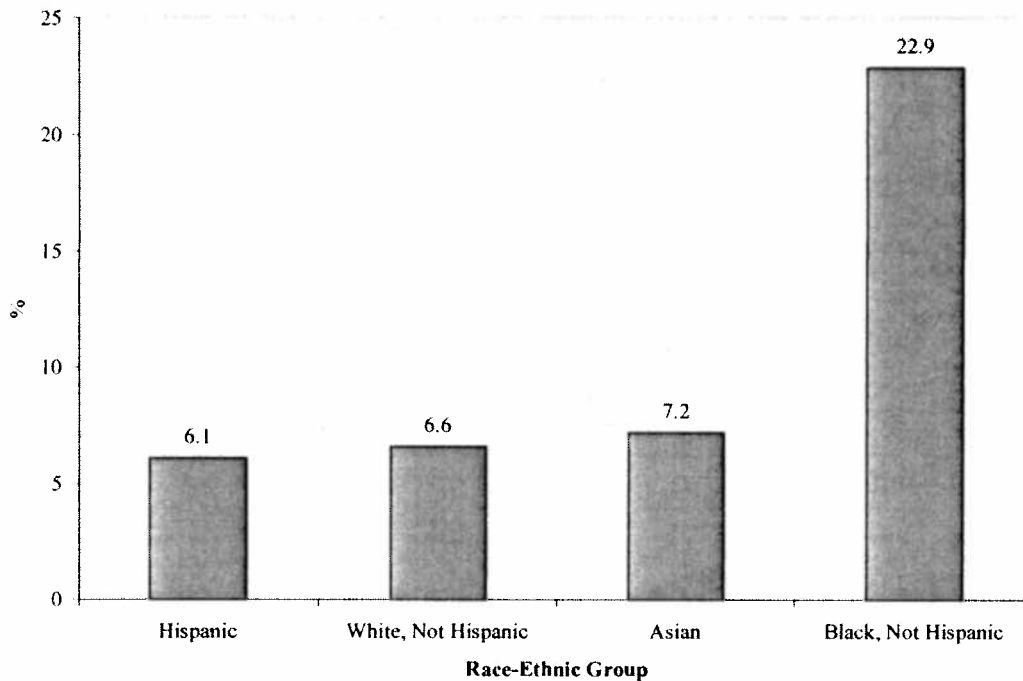
In every race-ethnic group, young male dropouts were overwhelmingly more likely to be incarcerated than their peers who graduated from a four year college or university. For all young males, high school dropouts were 47 times more likely to be incarcerated than their similar aged peers who held a four year college degree. The relative odds were very substantial among Blacks (38*), Whites (66*), and Asians (72*) (Table 2). In remarks to a 2006 Chicago conference on high school dropout problems in Illinois, then State Senate President Emil Jones noted that "Dropping out of high school was an apprenticeship for prison." Those remarks, unfortunately, describe the actual situation for the nation's young minority men with a high degree of accuracy. Given the severe labor market difficulties faced by many young male dropouts, ex-offenders with limited formal schooling and academic proficiencies run the highest risk of becoming recidivists and imposing large incarceration, probation, and parole costs on the rest of society.

Table 2:
The Incidence of Incarceration Rates Among 16-24 Year Old Male High School Dropouts and
Those With a Bachelor's or Higher Degree By Race-Ethnic Group

	(A) H.S. Dropouts	(B) B.A. Degree	(C) H.S. Dropouts/ B.A. Degree
All	9.4	0.2	47*
Asian	7.2	0.1	72*
Black	22.9	0.6	38*
Hispanic	6.1	0.9	7*
White	6.6	0.1	66*

The Income Inadequacy Problems of the Families of the Nation's Young Dropouts

A relatively high fraction of the nation's young high school dropouts were raised as adolescents in families that frequently experienced severe income inadequacy problems. Given the limited earnings potential of many young high school dropouts, comparatively few of them have the economic resources to form independent households, including young mothers. Many young dropouts remain living at home with their parents or other relatives in families with limited annual incomes.[7] In 2006-2007, one of every five of the nation's young adults was residing in families that were classified as either poor or near poor (under 125% of the federal government's official poverty income thresholds). The incidence of these severe income inadequacy problems was highest by far among young high school dropouts, with nearly 37 of every 100 dropouts living in poor/ near poor families. The incidence of such poverty/ near poverty problems declined steadily with the level of formal schooling of the out-of-school young adults. The incidence of such problems was 22% among high school graduates not enrolled in college, 16% for those completing 1-3 years of post-secondary schooling, and only 10% for those with a bachelor's or higher degree.

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[7] Many single mothers escape the most severe income inadequacy problems by remaining at home with their parents. If they had formed their own households, more of them would have been classified as poor or near poor on the basis of their own incomes.

Chart 9:
Percent of the Nation's 16-24 Year Olds in 2006-2007 Who Were Members of Poor/ Near Poor Families By Educational Attainment/ School Enrollment Status
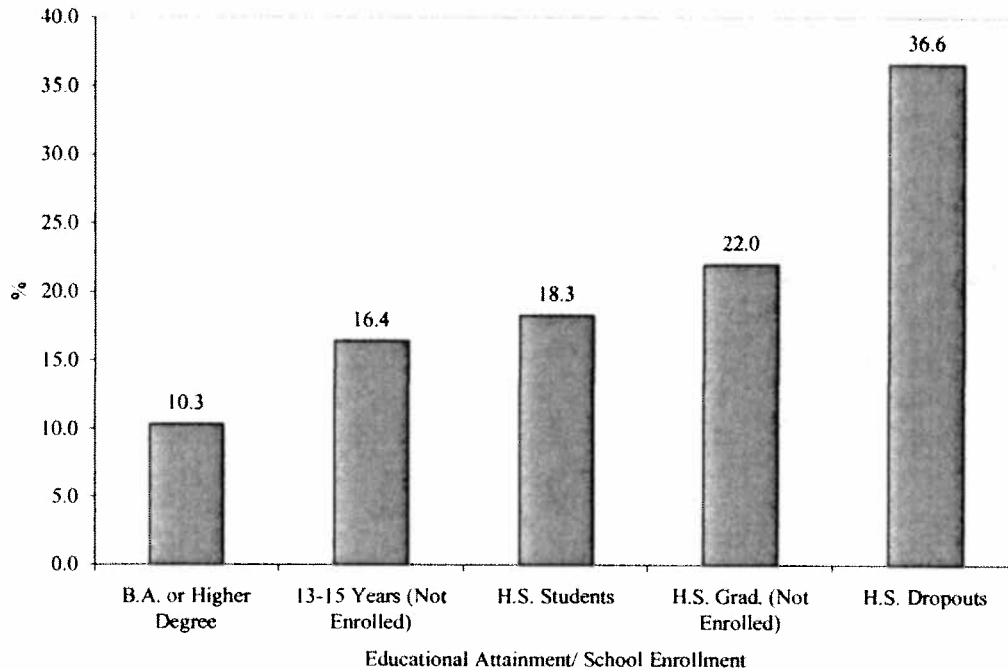

The nation's young high school dropouts in 2006-2007 were nearly four times as likely as their peers with a bachelor's or higher academic degree to be living in a family with an annual money income below 125% of the poverty line. Many of these families were dependent on cash income transfers and in-kind benefits from federal and state government (food stamps, rental subsidies, Medicaid benefits, federal and state EITC credits) to support themselves.

A number of poverty and welfare reform researchers in recent years have used higher income standards to define inadequacy, including 200% of the federal government's official poverty line.[8] Families with annual incomes under 200% of the official poverty income threshold are classified as low income. During calendar years 2006-2007, approximately 35 percent of all 16-24 year olds across the nation were living in low income families. Again, high school dropouts were the most likely to experience such low income problems. Fifty-eight percent of young dropouts were living in low income families over the above two year period versus 41% of out-of-school high school graduates, 33% of those with 1-3 years of college, and only 21% of

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[8] For a review of alternative income criteria for defining inadequacy, see: Garth Mangum, Stephen Mangum, and Andrew Sum, The Persistence of Poverty in the United States, Johns Hopkins University Press, Baltimore, 2003.

those with a bachelor's or higher degree (Chart 10). The lower incomes of the families in which dropouts reside make it more difficult for them to finance future levels of schooling and training in institutions off the job, thereby reducing their future gains in human capital with adverse effects on their future earnings and incomes. High school dropouts, when employed, are the least likely to receive formal training from their employers.[9]

Chart 10:
Percent of the Nation's 16-24 Year Olds in 2006-2007 Who Were Members of Low Income Families By Educational Attainment/ School Enrollment Status

Educational Attainment/ School Enrollment Status
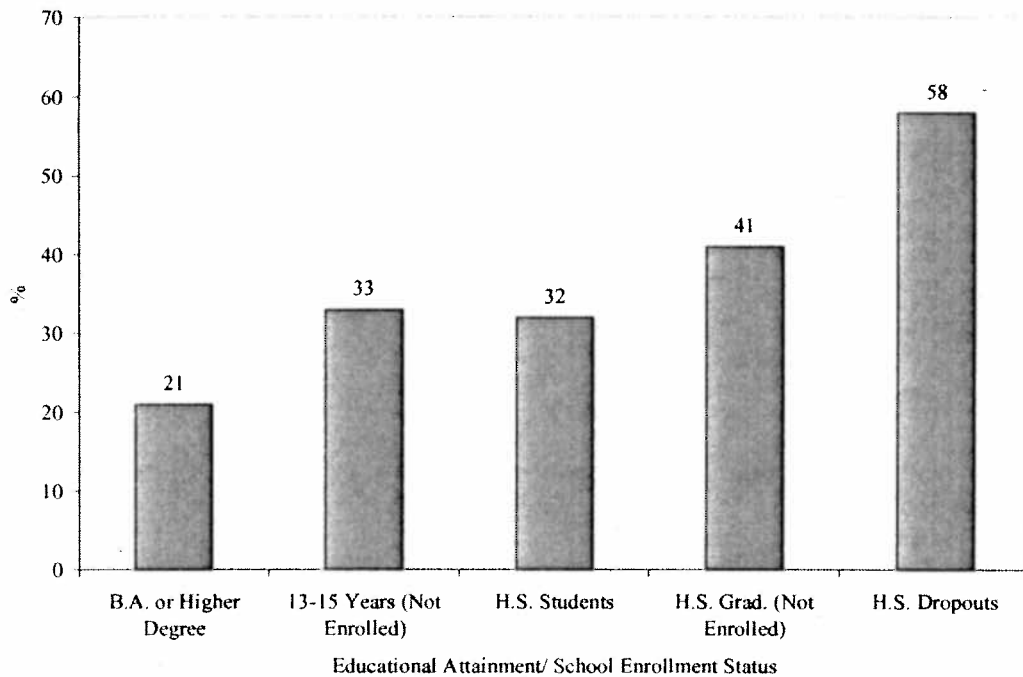
[9] See: Jia Zhao, The Training Experiences of Young Adults in the U.S., Who Gets Trained and Why Does it Matter?, Masters Thesis, Department of Economics, Northeastern University, Boston, 2008.

The Lifetime Net Fiscal Contributions of Adults 18 to 64 Years Old, U.S., 2007

Over their working lives, the average high school dropout will have a <u>negative net fiscal contribution</u> to society of nearly -$5,200 while the average high school graduate generates a positive lifetime net fiscal contribution of $287,000. <u>The average high school dropout will cost taxpayers over $292,000 in lower tax revenues, higher cash and in-kind transfer costs, and imposed incarceration costs relative to an average high school graduate.</u> Adult dropouts in the U.S. in recent years have been a major fiscal burden to the rest of society. Given the current and projected deficits of the federal government, the fiscal burden of supporting dropouts and their families is no longer sustainable.

<u>Table 3:</u>
<u>The Lifetime Net Fiscal Contributions of Adults 18-64 Years Old By</u>
<u>Educational Attainment, U.S., 2007</u>

Educational Attainment	(A) Annual Federal, State, and Local Tax Payments	(B) Annual Cash and In-Kind Transfers Plus Imposed Incarceration Costs	(C) Lifetime Net Fiscal Impact
<12 or 12, No H.S. Diploma	6,087	6,197	-5,191
H.S. Diploma/GED	9,938	3,551	287,384
Some College	13,244	2,508	461,661
Bachelor Degree	20,580	1,236	793,079
Master's or Higher Degree	29,876	1,061	1,094,945
Total	14,239	2,934	531,328

Summary and Conclusions

This research paper has identified a series of employment, earnings, income, and social difficulties faced by the nation's young adults lacking regular high school diplomas or their equivalent. These social and incarceration problems of young dropouts are quite severe among all gender and race-ethnic groups but are frequently more severe among men and Blacks. For many dropouts, these labor market and earnings problems will persist over their entire working lives, and for men they have intensified over the past few decades, with steep declines in their lifetime earnings and incomes and attendant adverse consequences on their marriage behavior.

Similar to the lyrics of a recent country western song, many male high school dropouts "don't make it here anymore."[10]

In his first speech to the U.S. Congress, President Obama noted that by leaving high school without a diploma dropouts not only quit on themselves but "it is quitting on your country..."[11] It is fair to add that our country's labor markets also have quit on them, failing to provide the employment and real earnings opportunities to male dropouts it once did especially in the Golden Era from 1947-1973. There is an overwhelming national economic and social justice need to prevent existing high school students from dropping out without earning a diploma and to encourage the re-enrollment and eventual graduation of those dropouts who have already left the school system. In the absence of concerted efforts to bolster their academic achievement, their formal schooling, their occupational skills, and their cumulative work experience, their immediate and long term labor market prospects are likely to be quite bleak in the U.S. economy even after the end of the current economic recession, which for many of these youth has turned into a labor market depression.

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[10] See the song by James McMurtry, "We Can't Make It Here Anymore," 2004.
[11] President Obama, "Address to Joint Session of Congress, February 24, 2009,"Available at: www.whitehouse.gov.

Halving the Number of Dropouts in Milwaukee and Surrounding Areas

In the Milwaukee metropolitan area, **6,485 students dropped out** from the Class of 2008. These high school dropouts did so at a great cost not only to themselves but also to their communities. Reducing the number of dropouts by 50 percent for just this single high school class would result in tremendous economic benefits to the Milwaukee region. The following are three examples of the economic impact that these 3,243 new graduates would have on Milwaukee and its surrounding area:

1. *Increased Wages.* By earning their diplomas—and in many cases, continuing their education—these new high school graduates would together earn nearly **$41 million** in additional wages over the course of an average year compared to their likely earnings without a diploma.

2. *Increased Human Capital.* After earning their high school diplomas, many new graduates would not stop there. An estimated **64 percent** of these students are projected to continue their education after high school, some earning as high as a PhD or other professional degree.

3. *Additional Tax Revenue.* As these new graduates' incomes grow, local tax revenues will also increase. Annual state and local property, income, and sales tax revenue would grow by nearly **$7 million** during the average year as the result of increased spending and higher salaries.

Estimating the Economic Impact of Fewer Dropouts

The economic model used to predict these economic benefits was developed by the Alliance for Excellent Education (the Alliance) with the generous support of State Farm® and in partnership with Economic Modeling Specialists, Inc. The model is based on graduation rates calculated by Editorial Projects in Education and projects the economic benefits for U.S. Census-defined metropolitan statistical areas (MSA), which consist of a central urban area and the surrounding geographic area that has strong social and economic ties to that city.

The MSA that includes Milwaukee also includes four counties in Wisconsin. The ninety-eight high schools located within this region have an average graduation rate of 71.4 percent. Twenty-three of these are considered dropout factories, i.e., schools where fewer than 60 percent of freshman progress to their senior year on time.

Stay tuned: The Alliance has calculated economic benefits for forty-five MSAs that encompass the fifty largest cities in the county. In January, the Alliance will release additional projected benefits of reducing dropout rates in these forty-five metro areas, including **spending and investment, job and economy growth**, and **home and auto sales**.

To obtain results for additional MSAs, learn more about this project, or read technical notes about the numbers presented above, visit http://www.all4ed.org/publication_material/EconMSA.

Brown University

DEPARTMENT OF

Education

News

Associated Press article cites Professor Kenneth Wong's research on mayoral control in relationship to Education Secretary Duncan's support for mayoral control in big cities

AP Associated Press

School chief: Mayors need control of urban schools

By LIBBY QUAID – 6 days ago

WASHINGTON (AP) — Education Secretary Arne Duncan said Tuesday that mayors should take control of big-city school districts where academic performance is suffering.

Duncan said mayoral control provides the strong leadership and stability needed to overhaul urban schools.

Mayors run the schools in fewer than a dozen big cities; only seven have full control over management and operations. That includes Chicago, where Duncan headed the school system until joining the Obama administration.

Speaking at a forum with mayors and superintendents, Duncan promised to help more mayors take over.

"At the end of my tenure, if only seven mayors are in control, I think I will have failed," Duncan said.

He offered to do whatever he can to make the case. "I'll come to your cities," Duncan said. "I'll meet with your editorial boards. I'll talk with your business communities. I will be there."

Urban school superintendents generally last three years or less, Duncan noted. He acknowledged Baltimore schools chief Andres Alonso, asking how many superintendents the city had in the past 10 years. The answer was seven.

"And you wonder why school systems are struggling," Duncan said. "What business would run that way?"

After the forum, Duncan told The Associated Press that urban schools need someone who is accountable to voters and driving all of a city's resources behind children.

"Part of the reason urban education has struggled historically is you haven't had that leadership from the top," he said.

"That lack of stability, that lack of leadership is a huge part of the reason you don't see sustained progress and growth," Duncan said.

It is unusual for a Cabinet secretary to weigh in on local matters. Yet Duncan has been emphatic on the subject, calling for mayoral takeover of Detroit public schools and for New York lawmakers to renew the law giving Mayor Michael Bloomberg control over his city's schools.

Duncan said it's impossible to have a great city without great schools that provide a skilled work force to bring and keep jobs.

"Given how far every city has to go until every child receives a high-quality education, we need to push on this very, very hard," Duncan said. "And given the fact so few cities have mayoral control, that's a huge impediment that hasn't been talked about enough."

In Detroit on Tuesday, mayoral candidate and professional basketball Hall-of-Famer Dave Bing endorsed a mayoral takeover of the school system. Bing is challenging Mayor Ken Cockrel Jr. to finish the term of Kwame Kilpatrick, who stepped down last year amid criminal cases. Cockrel has said he is open to the idea, but not until the city gets its finances under control.

Duncan's position could make for an awkward exchange later this week — he plans to speak Saturday in San Diego to the National School Boards Association, which represents local school boards that control districts across the country and opposes mayoral control.

Association official Michael Resnick said local school boards are the backbone of community representation in schools.

"Education is too important to fall onto the already lengthy list of functions that mayors are managing," Resnick said.

Duncan responded later: "What's more important than educating a city's children? What could be more important than that?" he told the AP.

Mayoral control is worth considering in about 400 of the biggest school districts, said Kenneth Wong, a Brown University professor who studies the issue. Those districts enroll about a third of the nation's 50 million school children.

"I think the time has come; there has been enough research suggesting it is a promising strategy," Wong said.

"The way I look at it is, we are talking about real accountability," Wong said. "A lot of urban school systems are playing this game of blaming one another — the superintendent blames the school board; the school board blames the union.

"With the mayor in charge, there ultimately is one single official held accountable every four years, whether they're doing a good job or not," Wong said.

Associated Press Writer Corey Williams in Detroit contributed to this report.

There's a crisis in America's high schools.
We're working to make every child a graduate.

About The Crisis

Students
Adolescent Literacy
Graduation Rates
College Access
21st Century
Preparedness
English Language
Learners
Students of Color and
the Achievement Gap

Teachers
Recruitment and
Retention

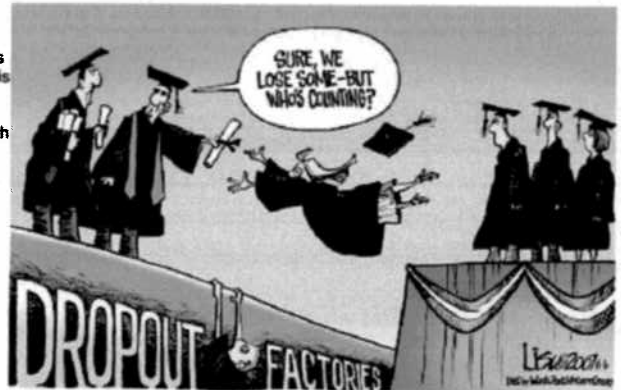**Schools**
Dropout Factories
Graduation Rates and
Data
State & Local Information
Federal Support

Impact on American Society
Economic Analysis
International Competition

Home > > Promoting Power

SHARE

High Schools In The United States: How Does Your Local High School Measure Up?

What is Promoting Power?

Promoting power compares the number of 12th grade students in a school to the number of 9th graders three years earlier. It is designed to estimate the proportion of high school students who make it to their senior year. For example, if a school's promoting power is 80 percent it means that the number of 12th graders is 80 percent of the number of 9th graders three years before. If a school does not have a 9th grade, the indicator is calculated as the ratio of 12th to 10th graders instead. It is *not* a graduation rate because it does not measure how many students received diplomas.

Class of 2007 Promoting Power =

# of students in grade twelve in the 2006-07 school year
# of students in grade nine in the 2003-04 school year

The promoting power indicator was originally developed by a team of researchers lead by Robert Balfanz and Nettie Legters, then of Johns Hopkins University. Detailed information and analysis can be found at the Everyone Graduates Center: http://www.every1graduates.org/index.html.

Why Is Promoting Power Used?

There is currently no graduation rate calculation that is used for every school in the country-the way graduation rates are computed differs by state, rendering apples to oranges comparisons. However, by drawing on a national database, promoting power can be used to consistently approximate how many students are making it to graduation on time for schools across the country. This indicator allows researchers to identify schools, districts, and regions that may be struggling to graduate their students. Although it is only an estimate of graduation rates, and one that can be affected by other factors (see "data limitations" below), having a low promoting power should serve as a "check engine" light for a school.

Review the frequently asked questions about promoting power to learn more.

To determine the promoting power for high schools in a specific state or congressional district, use the search tools below.

NOTE: Conservative reporting: 3-yr average vs 1-yr. promoting power

In order to mitigate data anomalies that might particularly affect one year of promoting power (such as a neighboring school closing), researchers also calculate a 3-year promoting power average. The Alliance reports this average to give a clearer picture of promoting power in a school over time, and average out some of the enrollment changes that may occur from year to year. When data for all three years was not available, the three-year average represents data for only one or two years. In some cases, the three-year average includes data that was suppressed for a particular year because the promoting power fell outside of the normal range of 15 to 115 percent.

Search by State:
-- Select a State --

[Go]

Search by State or Congressional District:
-- Select a State --
(If you do not know your congressional district, visit http://www.house.gov/ and enter your zip code in the box provided).

-- Select a District --

[Go]

Search by Zip Code:

(The zip code search will only retrieve high schools with the exact zip code as the one you enter. If you do not see any schools after you enter a zip code, search by state name and then click on "high school" to sort by high school name.)

[Go]

Download

Zip	State	County	High School	Congressional District	3-Year Average	2007	2006	2005
53110	WI	MILWAUKEE	CUDAHY HIGH	04	77.40	77.90	77.60	76.80
53172	WI	MILWAUKEE	SOUTH MILWAUKEE HIGH	04	88.20	85.00	88.20	91.40
53202	WI	MILWAUKEE	TENOR HIGH SCHOOL	04	N/A	N/A	N/A	N/A
53204	WI	MILWAUKEE	ADV LANG & ACAD STUDIES (ALAS)	04	62.30	62.30	N/A	N/A

53204	WI	MILWAUKEE EL PUENTE HIGH	04	54.10	69.20	24.20	68.80
53204	WI	MILWAUKEE SOUTH DIVISION HIGH	04	48.10	43.30	38.10	62.90
53204	WI	MILWAUKEE BRADLEY TECH & TRADE HI	04	40.80	41.10	40.00	41.40
53205	WI	MILWAUKEE SHALOM HIGH	04	36.50	26.80	30.60	52.00
53205	WI	MILWAUKEE METROPOLITAN HIGH	04	40.10	36.10	35.30	48.90
53207	WI	MILWAUKEE BAY VIEW HIGH	04	38.60	37.00	33.60	45.20
53207	WI	MILWAUKEE WISCONSIN CAREER ACADEMY	04	41.30	51.80	38.70	33.30
53208	WI	MILWAUKEE SPOTTED EAGLE HIGH (MAAIC)	04	56.90	63.40	33.30	74.10
53209	WI	MILWAUKEE MAASAI INSTITUTE	04	N/A	N/A	N/A	N/A
53209	WI	MILWAUKEE CUSTER HIGH	04	35.60	35.30	36.70	34.90
53209	WI	MILWAUKEE ASSATA	04	58.90	59.10	67.70	50.00
53209	WI	MILWAUKEE HR ACAD/GLOBAL AWARENESS HS	04	38.50	25.00	35.10	55.30
53209	WI	MILWAUKEE KING HIGH	04	81.10	79.90	83.60	79.90
53210	WI	MILWAUKEE WH SCH OF LAW-ED-PUB SERV	04	N/A	N/A	N/A	N/A
53210	WI	MILWAUKEE WH SCH OF INFO TECHNOLOGY	04	N/A	N/A	N/A	N/A
53210	WI	MILWAUKEE WH SCH OF EXPEDITIONARY LRNG	04	N/A	N/A	N/A	N/A
53211	WI	MILWAUKEE RIVERSIDE HIGH	04	78.30	73.90	81.30	79.60
53212	WI	MILWAUKEE THE ALLIANCE SCHOOL	04	N/A	N/A	N/A	N/A
53215	WI	MILWAUKEE VERITAS HIGH	04	61.70	69.20	73.50	42.30
53215	WI	MILWAUKEE PULASKI HIGH	04	36.90	38.60	35.20	36.80
53215	WI	MILWAUKEE GRANDVIEW ALTERNATIVE HI PART	04	40.00	53.10	26.50	40.30
53215	WI	MILWAUKEE WINGS ACADEMY	04	89.30	N/A	50.00	N/A
53216	WI	MILWAUKEE MARSHALL HIGH	04	26.60	24.50	23.40	31.80
53216	WI	MILWAUKEE MILWAUKEE SPECTRUM SCHOOL	04	35.80	47.40	40.70	19.20
53216	WI	MILWAUKEE CORNERSTONE ACHIEV ACAD	04	84.10	64.00	104.20	84.20
53218	WI	MILWAUKEE MADISON HIGH	04	38.50	36.50	39.10	40.00
53220	WI	MILWAUKEE HAMILTON HIGH	04	56.50	49.80	60.20	59.40
53221	WI	MILWAUKEE WI CONSRV LIFELONG LEARNING	04	72.00	79.30	68.30	68.30
53221	WI	MILWAUKEE PROFESSIONAL LEARNING INST	04	71.20	53.40	88.90	N/A
53222	WI	MILWAUKEE MILWAUKEE SCHOOL OF LANGUAGES	04	58.80	64.20	57.40	54.60
53223	WI	MILWAUKEE FOSTER & WILLIAMS	04	N/A	N/A	N/A	N/A
53224	WI	MILWAUKEE VINCENT HIGH	04	40.60	41.50	39.80	40.60
53233	WI	MILWAUKEE COMMUNITY HIGH SCHOOL	04	N/A	N/A	N/A	N/A
53233	WI	MILWAUKEE MILWAUKEE HI SCH OF THE ARTS	04	66.40	69.80	68.30	61.00
53233	WI	MILWAUKEE CITIES PROJECT HIGH SCHOOL	04	N/A	N/A	N/A	N/A
53235	WI	MILWAUKEE SAINT FRANCIS HIGH	04	57.30	60.00	54.20	57.60

ies NATIONAL CENTER FOR EDUCATION STATISTICS
Institute of Education Sciences

The Nation's Report Card

Mathematics 2009

TUDA Snapshot Report

Milwaukee Public Schools
Grade 8
Public Schools

Overall Results

- In 2009, the average score of eighth-grade students in Milwaukee was 251. This was lower than the average score of 271 for public school students in large cities.
- The percentage of students in Milwaukee who performed at or above the NAEP *Proficient* level was 7 percent in 2009. This percentage was smaller than that in large cities (24 percent).
- The percentage of students in Milwaukee who performed at or above the NAEP *Basic* level was 37 percent in 2009. This percentage was smaller than that in large cities (60 percent).

## Achievement-Level Percentages and Average Score Results

		Average Score
Milwaukee 2009	63 / 30 / 6/#	251
Large city (public) 2009	40* / 36* / 18* / 5*	271*
Nation (public) 2009	29* / 39* / 25* / 7*	282*

Percent below Basic | Percent at Basic, Proficient and Advanced

■ Below *Basic* □ *Basic* ▨ *Proficient* ■ *Advanced*
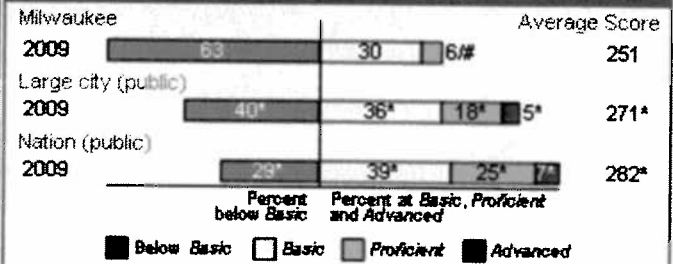
* Significantly different (*p* < .05) from Milwaukee.
# Rounds to zero.
NOTE: Detail may not sum to totals because of rounding.

Scores at Selected Percentiles

Percentile	Score
25th	231
50th	251
75th	273
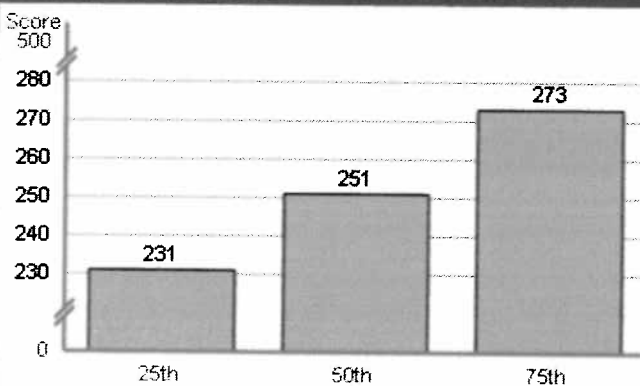
NOTE: Scores at selected percentiles on the NAEP mathematics scale indicate how well students at lower, middle, and higher levels performed.

Average Scores for District and Large Cities

	Score
Milwaukee	251
Large city (public)	271*
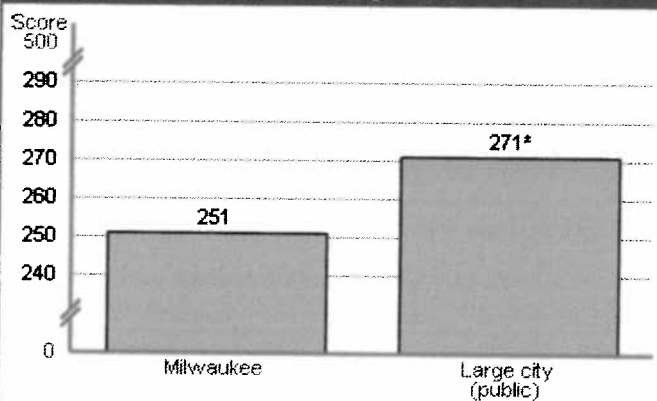
* Significantly different (*p* < .05) from Milwaukee.

Results for Student Groups in 2009

Reporting Groups	Percent of students	Avg. score	Percentages at or above Basic	Percentages at or above Proficient	Percent at Advanced
Gender					
Male 51		250	34	6	1
Female	49	253	39	8	#
Race/Ethnicity					
White 1	1	271	61	20	2
Black 62		244	28	3	#
Hispanic 2	0	256	43	8	#
Asian/Pacific Islander	4	‡	‡	‡	‡
American Indian/Alaska Native	1	‡	‡	‡	‡
National School Lunch Program					
Eligible 7	8	248	33	5	#
Not eligible	22	262	49	12	1

Rounds to zero.   ‡ Reporting standards not met.

NOTE: Detail may not sum to totals because of rounding, and because the "Information not available" category for the National School Lunch Program, which provides free/reduced-price lunches, and the "Unclassified" category for race/ethnicity are not displayed.

Score Gaps for Student Groups

- In 2009, female students in Milwaukee had an average score that was not significantly different from that of male students.
- In 2009, Black students had an average score that was 27 points lower than that of White students. This performance gap was not significantly different from that in large cities (37 points).
- In 2009, Hispanic students had an average score that was 15 points lower than that of White students. This performance gap was narrower than that in large cities (30 points).
- In 2009, students who were eligible for free/reduced-price school lunch, an indicator of low income, had an average score that was 14 points lower than that of students who were not eligible for free/reduced-price school lunch. This performance gap was narrower than that in large cities (26 points).

NOTE: Statistical comparisons are calculated on the basis of unrounded scale scores or percentages.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.