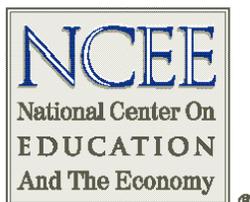


**Educational and Labor Market Outcomes for the Nation's Teens
and Young Adults Since the Publication of
*America's Choice: A Critical Assessment***

**Andrew Sum, Tim Barnicle, Ishwar Khatiwada, Joseph McLaughlin with
the assistance of Sheila Palma**

**A Paper Commissioned by the
National Center on Education and the Economy for the
*New Commission on the Skills of the American Workforce***

January 2006



**EDUCATIONAL AND LABOR MARKET OUTCOMES FOR THE NATION'S TEENS
AND YOUNG ADULTS SINCE THE PUBLICATION OF AMERICA'S CHOICE: A
CRITICAL ASSESSMENT**

**Andrew Sum, Tim Barnicle, Ishwar Khatiwada, Joseph McLaughlin
with the assistance of Sheila Palma**

January 2006

Table of Contents

Introduction	1
Overview of the Report's Findings.....	2
Trends in High School Dropout Problems in the U.S. 1989-2004	3
Comparative Performance of the U.S. on Recent High School Graduation Rates for Young Adults.....	9
Trends in the Basic Academic Proficiencies of America's Teens from 1990 to 2004.....	12
Recent Trends in Employment Outcomes for the Nation's Teens and Young Adults (20-24).....	20
Trends in Teen Summer Employment Rates, 1979-2005	27
Labor Force Underutilization Problems Among Teens During the Summer of 2004.....	32
Teen and Young Adults Employment Outcomes Across High Poverty and Non High Poverty Neighborhoods in 2000 and 2004	38
Employment Rates of Young Adults (20-24) Across High Poverty and Low Poverty Neighborhoods, 2000-2004	43
Rising Levels of Year-Round Joblessness Among the Nation's Teens, 1999-2004	45
The Rise in Year-Round Joblessness Among Teenaged Dropouts	53
Trends in the Real Weekly and Annual Earnings of Young Adult Men and Women in the U.S.	55
The Mean Weekly and Annual Earnings of Out-of-School Young Adults (16-24) by Educational Attainment, 2004.....	59
Trends in the Weekly and Annual Earnings of Young Adult Women in the U.S., 1973-2004	66

Introduction

In June 1990, the report of The Commission on the Skills of the American Workforce was published by the National Center on Education and the Economy.¹ In America's Choice: High Skills or Low Wages!, the Commission identified a series of workforce challenges facing the United States and presented a number of public policy proposals and private training decisions that could enhance future labor productivity and real wage growth of U.S. workers.

In their report, the Commission also presented a series of discussions and analyses related to the labor market preparation of the nation's youth. Concerns with the high number of youth leaving high school without a diploma were expressed.² Many of these youth faced bleak labor market prospects in the absence of interventions on their behalf, but little was done to help recover these high school dropouts and prepare them for the future labor market.³ The social costs of this neglect were believed to be quite large. The Commission proposed that a national system of Youth Centers be established to help dropouts and high school students with weak academic proficiencies upgrade their literacy and numeracy skills and their employability.

Second, the academic abilities of the nation's teens, especially in mathematics, seemed to be quite weak relative to those of youth in countries that were current or future international competitors of the U.S. An ability to maintain high wages for future U.S. workers was believed to be in jeopardy in the absence of an improved set of academic proficiencies for U.S. youth. The Commission proposed that the nation establish more rigorous academic standards for high school students that would be benchmarked to "the best in the world".⁴ Students would be tested to determine their ability to meet a Certificate of Initial Mastery. States would be assigned the responsibility for ensuring that students would be able to meet these more rigorous standards.

¹ The Commission on the Skills of the American Workforce, America's Choice: High Skills or Low Wages!, National Center on Education and the Economy, Rochester, New York, 1990.

² At several points, the report cites 20 percent or more of the students leaving high school without a regular diploma. On page 6 of the Executive Summary, it is noted that "more than 20 percent drop out of high school".

³ For a recent review of the size of the nation's school dropout problem, the demographic and socioeconomic characteristics of high school dropouts, geographic variations in dropout rates, and the underlying causes of dropout behavior, See: Gary Orfield (Editor), Dropouts in America: Confronting the Graduation Rate Crisis, Harvard Education Press, Cambridge, 2004.

⁴ For an analysis of the estimated impacts of literacy and numeracy proficiencies on the wages, earnings, and occupational status of young and older adults, See: (i) John Bishop "Achievement, Test Scores, and Relative Wages," in Workers and Their Wages: Changing Patterns in the United States, (Editor: Marvin H. Koster), The AEI Press, Washington, D.C., 1991; (ii) Andrew Sum, Literacy in the Labor Force, National Center for Education Statistics, Washington, D.C., 1999; (iii) Andrew Sum, Irwin Kirsch, and Kentaro Yamamoto, Pathways to Labor Market Success: The Literacy Proficiency of U.S. Adults, Policy Information Center, Educational Testing Service, Princeton, 2004.

Third, the Commission argued that the nation invested too little in the education and training of those youth who did not go on to enroll in four year colleges and universities. It was claimed that “America may have the worst school-to-work transition system of any advanced industrial country”.⁵ Those high school students who will provide the core segments of the nation’s front line workers received a watered down academic curriculum while in high school and obtained very little vocational or technical training. Very few of these youth received school-to-work transition services from their high schools, and most youth spent too much time between their late teens and mid-20s floundering in the labor market before settling down. To address this problem, the Commission proposed a national system of Employment and Training Boards operated at the local level that would manage the youth centers and the school-to-work transition programs. Employers would be given incentives to invest more in the training of their front line workers, and young high school graduates not going on to four year colleges would be given opportunities to attain Professional and Technical Certificates and Associate degrees certifying their skill competencies in occupational areas.

This research paper is designed to assess the nation’s progress in achieving a number of the key educational and labor market goals of the Commission on the Skills of the American Workforce. Progress or the lack thereof in reducing school dropout problems, improving the academic competencies of America’s high school students, and boosting employment and real wage opportunities for teens and young adults will be critically examined and assessed.

Overview of the Report’s Findings

The study will begin with a review of trends in the incidence of high school dropout problems among young adults in the U.S. since the publication of America’s Choice in 1990. A number of different data sources and methodologies will be used to generate estimates of the share of the nation’s young adults that leave high school without obtaining a regular high school diploma or an alternative credential, with some estimates of variations in the incidence of such problems among gender and race-ethnic groups of young adults.⁶ Comparisons of U.S. high school graduation rates with those of other OECD countries in recent years also will be made.

The analysis of school dropout problems will be followed by a review of U.S. teenagers’ performance on a number of national and international assessments in reading and math

⁵ See page 4 of the Executive Summary of the report for a discussion of this issue.

⁶ These data bases include a variety of national household surveys and state and local administrative data bases maintained by public and private high schools.

competencies over the past 15 years. Findings of the National Assessment for Educational Progress (NAEP) reading and math assessments for 13 and 17 year olds will be examined to identify progress in boosting student proficiencies in these two key areas since 1990. Findings of recent international assessments of the reading, math, and science proficiencies of 15 year olds in the U.S. and a wide variety of OECD member nations also will be presented.⁷

In America's Choice, the Commission on the Skills of the American Workforce identified a number of major shortcomings in the nation's school-to-work transition system and called for a series of educational and training reforms to improve the ability of high school graduates to move seamlessly from high school to the world-of-work. The labor market experiences of the nation's teens (16-19) and young adults (20-24 years old) over the past 15 years will be examined. Findings on employment rates, full-time employment opportunities, and year-round joblessness rates will be presented for an array of educational attainment, gender, and race-ethnic groups of teens and young adults. The steep deterioration in year-round and summer employment opportunities for teens and key subgroups of young adults since the end of the labor market boom in 2000 will be highlighted.

The final section of the paper will be devoted to an analysis of changes in the real weekly and annual earnings of key subgroups of out-of-school young adults since the late 1980s, together with comparisons back to 1973. Substantial variations in these earnings outcomes across gender, race-ethnic, and educational subgroups of young adults will be highlighted. The implications of these findings for young family formation and the economic well-being of these young families and their children will be briefly reviewed.

Trends in High School Dropout Problems in the U.S. 1989-2004

In its 1990 report America's Choice, The Commission on the Skills of the American Workforce voiced a series of concerns over the high fraction of the nation's high school students that were leaving school without obtaining a regular diploma and the limited efforts that were being made to recover these high school dropouts and invest in their education and training.⁸ The Commission proposed that the nation engage in a series of efforts to boost the academic achievement of all high school students by establishing high performance standards, awarding

⁷ OECD stands for the Organisation for Economic Cooperation and Development, which includes the U.S., Canada, Mexico, most European nations, Japan, Australia, and Turkey. The 2003 Programme for International Student Assessment (PISA) results will be used to identify the comparative performance of U.S. 15 year olds in the three proficiency areas.

⁸ See: National Center on Education and the Economy, America's Choice: High Skills or Low Wages; especially Chapters 5, 9, and 10.

students a Certificate of Initial Mastery for achieving those standards, and boosting opportunities for school leavers to achieve this Certificate through a national system of youth centers. In the report, the Commission indicated that somewhere between 20 and 25 percent of U.S. high school students were leaving school before obtaining a regular high school diploma.

How well has the nation fared in boosting high school graduation rates since the publication of America's Choice? Answers to this question tend to vary by type of survey and research methodology. Overall, we argue that the overwhelming body of empirical evidence suggests little to no progress in improving high school graduation rates over the past 15 years. There are a number of different national/state data bases that have been used by researchers to answer the question on the graduation rate.⁹ The national CPS household surveys collect monthly information on the educational attainment/school enrollment status of 16-24 year olds from a monthly sample of approximately 60,000 households.¹⁰ An analysis of findings from the 1989 and 2004 monthly CPS surveys on the educational attainment of the nation's 20-24 year olds is displayed in Table 1.

⁹ For a comprehensive review of alternative estimates of high school dropout rates in the U.S. and variations across regions, states, and demographic groups,

See: (i) Gary Orfield (Editor), Dropouts in America: Confronting the Graduation Rate Crisis, Harvard Education Press, Cambridge, 2004; (ii) Andrew Sum, Paul Harrington, et.al., The Hidden Crisis in the High School Dropout Problems of Young Adults in the U.S.: Recent Trends in Overall School Dropout Rates and Gender Differences in Dropout Behavior, Report Prepared by the Center for Labor Market Studies, Northeastern University, Boston, for The Business Roundtable, Washington, D.C., 2002; (iii) Andrew Sum, Joseph McLaughlin, Jackie Motroni, and Sheila Palma, Measuring High School Graduation and Dropout Rates in the Boston Public Schools: The Findings of Alternative Estimating Methodologies, Report Prepared for the Boston Private Industry Council, Youth Transition Funders Group, Boston, August 2005.

¹⁰ The CPS household survey is restricted to members of the civilian, non-institutional population. Inmates of institutions, such as juvenile correctional institutions, jails, and prisons, are not interviewed, nor are members of the homeless population, or members of the armed forces. The monthly CPS also misses a high fraction of 20-24 year old males, especially Black males. Only 59 percent of Black males between the ages of 20-24 were covered by the March 2005 CPS survey. The high under-coverage rate of 20-24 year old men likely biases upward the estimated share of young adult men with a high school diploma.

Table 1:
Percent of the Nation's 20-24 Year Olds in the Civilian Non-institutional
Population with a High School Diploma/GED Certificate, All and by Gender and
Selected Race-Ethnic Groups, 1989 and 2004

	(A)	(B)	(C)
Group	1989 ⁽¹⁾	2004 ⁽²⁾	Percentage Point Change
All	85.1	85.6	+0.5
Men	83.7	83.7	0
Women	86.4	87.6	+1.2
Asian	73.5	91.7	+18.2
Black, not Hispanic	82.0	82.3	+0.3
Hispanic	61.2	65.6	+4.4
White, not Hispanic	89.2	91.3	+2.1

Sources: 1989 and 2004 monthly CPS public use files, tabulations by authors.

- Notes: (1) High school graduates/GED holders defined as those who reported that they completed 12 or more years of school.
(2) High school graduates/GED holders are defined as those who reported to the CPS interviewer that they held a regular high school diploma or a GED certificate.

In 1989, 85% of the nation's 20-24 year olds reported that they had completed 12 or more years of schooling although some of those completing 12 years may not have obtained a regular diploma. Women were somewhat more likely than men (86% vs. 83%) to report having completed at least 12 years of school, and Whites were more likely to have done so than Blacks, Asians, and especially Hispanics. Only 61 of every 100 young adult Hispanics claimed to have completed 12 years of school (Table 1). Many of these young Hispanics lacking a high school diploma were immigrants.

By 2004, the same 85 percent of young adults reported that they held a regular high school diploma or a GED certificate.¹¹ There was, thus, no progress in reducing the overall incidence of high school dropout problems over this 15 year period. The only young adult group with a substantive improvement in its high school graduation rate was Asians. By 2004, their high school completion rate was statistically identical to that of White, non-Hispanics at 91% (Table 1). The CPS survey data treat GED holders the same as high school graduates with

¹¹ As noted at the bottom of Table 1, the wording of the CPS questions on educational attainment changed somewhat between 1989 and 2004. The 2004 CPS questions ask respondents reporting 12 years of schooling completed whether they have a high school diploma or a GED.

regular diplomas.¹² Our analysis of GED awards to 16-24 year olds from 1997 to 2003 indicate that between 6 and 7 percent of the nation's 20-24 year olds in 2004 likely had a GED rather than a regular diploma. This would imply that only 78 of every 100 had graduated from high school with a regular diploma, excluding inmates of institutions, the homeless, and the undercounted young adult population. Adjustments for the likely number of male dropouts among these latter three groups lead one to conclude that about 30 percent of the nation's young adult males do not leave high school with a regular diploma.¹³ Women are more likely than men to graduate with a regular diploma.

Estimates of high school graduation rates for the nation based on other methodologies indicate considerably lower graduation rates than those yielded by the monthly CPS household surveys. There are a number of alternative methodologies that have been developed by educational researchers to estimate high school graduation rates, using various sources of household survey data and administrative records from high schools to derive these estimates. Most of these approaches yield estimates of national high school graduation rates typically ranging from 67 to 70 percent, quite close to President Bush's recent estimate of the national graduation rate from public high schools.¹⁴ For example, one set of high school graduation rate estimates derived with the use of a methodology developed by one of the authors compares the annual number of self-reported new high school graduates from the October CPS surveys with the potential pool of new high school graduates based on the average number of 17-18 year olds in the nation. Our estimates of national high school graduation rates for selected years from 1990-91 to 2004 based on this methodology are displayed in Chart 1.¹⁵ The estimated graduation rates in the early 1990s were approximately 74%. They rose in the mid 1990s then fell back to the 63 to 69 percent range over the past four years, with an average of 66 percent.

¹² For those respondents who cite that they completed exactly 12 years of school, a question is asked whether they have a GED or a regular high school diploma. Nearly 900,000 16-24 year olds reported having a GED certificate in 2004. This is only part of the entire young adult population of GED holders since a number of GED holders complete at least one year of post-secondary schooling.

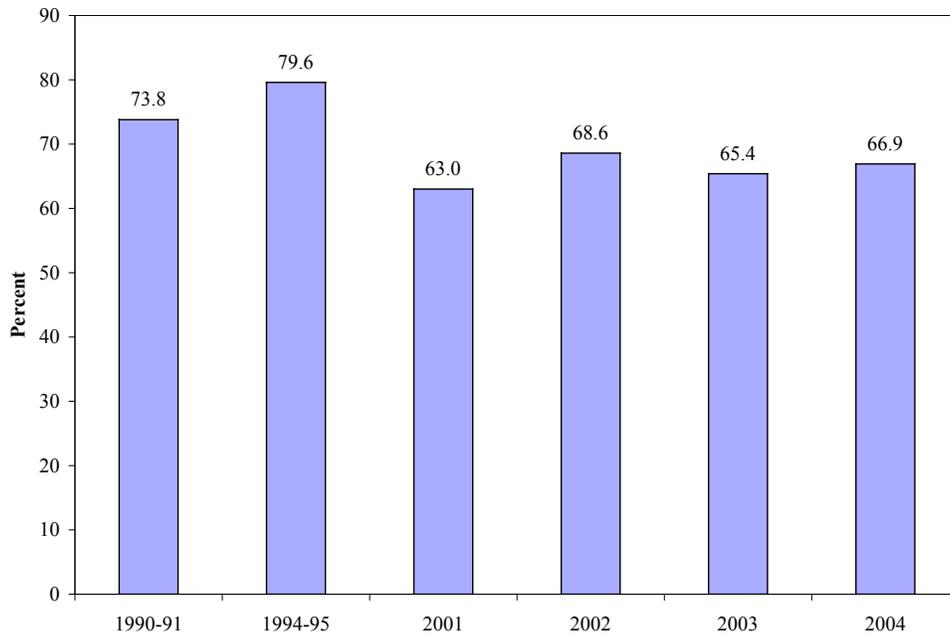
¹³ For a discussion of the methodologies and assumptions used to generate this set of estimates for male dropouts, See: Andrew Sum, Ishwar Khatiwada, Joseph McLaughlin, et.al., Estimating the Number of High School Dropouts...

¹⁴ See: The White House, "President Discusses No Child Left Behind and High School Initiatives," White House, web site, January 14, 2005.

¹⁵ For a review of the design of the October CPS supplement and the findings on new high school graduates from the Class of 2003,

See: U.S. Bureau of Labor Statistics, College Enrollment and Work Activity of 2003 High School Graduates, Washington, D.C., April 27, 2004.

Chart 1:
Estimates of High School Graduation Rates for the U.S., Selected Years 1990 – 2004,
Based on the October CPS Survey, High School Graduate Counts
(in %)



A second methodology for estimating the national high school graduation rate based on procedures originally developed by the U.S. Department of Education compares administrative data on the actual, annual count of high school diplomas awarded by public and private high schools to the average number of 17 to 18 year olds in the nation.¹⁶ Estimates of national high school graduation rates based on this methodology ranged from 73% in the early 1990s to 68 to 70 percent at the end of the decade to 72% for the 2001 – 2002 school year (Table 2). This methodology also reveals no progress in improving high school graduation rates over the past 12 years.

¹⁶ The U.S. Department of Education has produced a similar historical series on high school graduation rates using 17 year olds as the denominator for the formula.
See: U.S. Department of Education, Digest of Education Statistics, 2001, “Table 10,” Washington, D.C., 2002.

Table 2:
Trends in High School Graduation Rates in the U.S., Selected School Years,
1989-90 to 2001-02 Based on Official Counts of Diploma Award

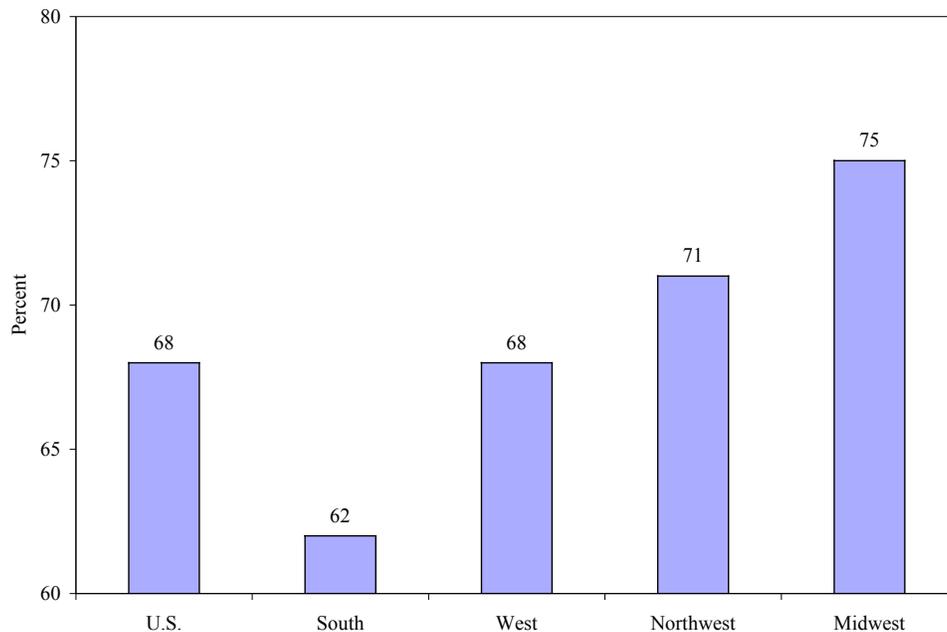
U.S.	H.S. Graduates			17 & 18 Years Old Pop. Avg.	Graduation Rate
	Total	Public	Private		
1989-90	2,589,000	2,320,000	269,000	3,519,220	73.6
1991-92	2,478,000	2,226,000	252,000	3,393,758	73.0
1994-95	2,520,000	2,274,000	246,000	3,582,878	70.3
1996-97	2,611,988	2,358,403	253,585	3,812,662	68.5
1998-99	2,758,655	2,485,630	273,025	3,946,150	69.9
2000-2001	2,847,729	2,568,956	278,773	4,027,892	70.7
2001-2002	2,921,593	2,635,277	286,316	4,056,149	72.0

Source: National Center for Education Statistics, Digest on Education Statistics, 2004; U.S. Census Bureau, Annual Times Series of State Population Estimates by Single Year of Age and Sex, 1990-1999.

A third methodology based on administrative data on public high school enrollments and graduation counts over a two year period is known as the Cumulative Promotion Index (CPI), developed by educational researchers at The Urban Institute in Washington, D.C.¹⁷ A recent application of this methodology by Christopher Swanson of the Urban Institute yielded a 2001 graduation rate for the nation’s public high schools of only 68.0% (Chart 2). These public high school graduation rates from the Class of 2001 ranged across the four geographic regions from a low of 62 percent in the South to a high of nearly 75 percent in the Midwest. Across individual states, these estimated public high school graduation rates varied from lows of 51 to 55 percent in Florida, Georgia, Nevada and South Carolina to highs of 78 percent and above in Idaho, Iowa, Minnesota, New Jersey, North Dakota, South Dakota, Utah, Vermont and Wisconsin. There were very large race-ethnic differences in estimated four-year high school graduation rates. The estimated 2001 graduation rates for Black (50%) and Hispanic students (53%) were well below those of Whites (75%) and Asians (77%).

¹⁷ For a more detailed discussion of the CPI estimating methodology, See: Christopher B. Swanson, “Sketching a Portrait of Public High School Graduation: Who Graduates? Who Doesn’t?,” in Dropouts in America: Confronting the Graduation Rate Crisis, Harvard Education Press, Cambridge, 2004, pp. 13-40.

Chart 2:
Class of 2001 Public High School Graduation Rates for
the Nation and the Four Geographic Regions



Source: Christopher B. Swanson in Dropouts in America.

Each of the above three methodologies for estimating national high school graduation rates yielded graduation rate estimates in the 65 to 72 percent range in recent years. In a presentation to a group of Virginia high school students and teachers in January of the past year, President Bush remarked that only 68 percent of the nation's public high school students starting the ninth grade in recent years would obtain a regular high school diploma.¹⁸ The failure of the remaining one-third of the nation's public high school students to receive a diploma constitutes a true educational and economic crisis. As revealed in a following set of analyses of the labor market situation of the nation's young adult dropouts, the future economic outlook for this group is extremely bleak. This will have dire economic and social consequences for the next generation of adults.

Comparative Performance of the U.S. on Recent High School Graduation Rates for Young Adults

A number of international comparisons of high school graduation rates for teens and older adults are available from data compiled by the Organisation for Economic Co-operation

¹⁸ See: Office of the Press Secretary, "President Discusses No Child Left Behind and High School Initiatives," White House News, January 12, 2005

and Development (OECD). For the year 2000, estimates of upper secondary graduation rates for youth of “normal graduation age” are available for 13 OECD countries, including the U.S.¹⁹ The high school graduation rates for these thirteen countries ranged from a low of 58% in Greece to highs of 90 to 97 percent in Poland, Germany, Japan, and Hungary. The U.S. graduation rate was only 74 percent, tied with Ireland for 10th place (Table 3). The U.S. graduation rate was 20 or more percentage points below the two international leaders (Japan and Hungary).

Table 3:
Rankings of 13 OECD Countries on the Upper Secondary Graduation Rate in 2000

	(A)	(B)
Country	Rank	Graduation Rate (in %)
Hungary	1	97
Japan	2	94
Germany	3	91
Poland	4	90
U.S.	10	74
Ireland	10	74
Iceland	12	67
Greece	13	58

A more recent update of these upper secondary graduation rates has been provided by OECD on its website for 21 OECD countries for calendar year 2003.²⁰ The graduation rates for these 21 countries ranged from lows of 36 percent in Mexico and 41 percent in Turkey to highs of 90 percent or more in Germany, Greece, Ireland, Japan, Norway, and Switzerland.²¹ The U.S. upper secondary graduation rate for 2003 was estimated to be 73 percent, ranking the U.S. 16th out of these 21 countries. Again, the U.S. was far from being an international leader in the high school graduation rate for its recent school leavers. The U.S. performance on this key educational performance indicator was 20 to 24 percentage points behind the three OECD leaders.

¹⁹ The official measure is the ratio of the “number of high school graduates to the size of the population at normal graduation age”. For the U.S., this age is 18 and was in the 18-19 range for most other OECD countries being compared.

²⁰ The definition of the upper secondary graduation rate for 2003 was the same as that used in the 2000 analysis.

²¹ These data appeared in the OECD publication Education at a Glance, OECD Indicators, 2005, “Table A2-1,” website version. Greece’s graduation rate changed by an extraordinarily large 38 percentage points over this three year period, suggesting some error in the reported 2000 graduation rate.

OECD also provides estimates of the share of older adults who completed an upper secondary education in a fairly wide array of OECD nations. Findings for U.S. adults in the following four age groups and their rankings among 30 OECD countries are displayed in Table 4.

- 55-64
- 45-54
- 35-44
- 25-34

Among the two oldest groups (i.e., those 55-64 and 45-54 years of age), the U.S. ranked first among these 30 OECD nations, and our lead was quite substantial over the average country. For example, among 55-64 year olds, the estimated high school graduation rate (including GEDs and other alternative diplomas) was 83% for the U.S., which was 34 percentage points above the 30 country mean graduation rate of only 49 percent (Table 4). The U.S. ranked first for this age group and for those persons 45-54 years old. When we come to the 35-44 age group, the U.S. continues to outperform most of its OECD counterparts but its ranking drops to 6th place.²² As we move to the 25-34 year old group, the U.S. ranking declines to 9th place. While estimates of graduation rates are not available for those persons 18-24 years of age, findings on upper secondary graduation rates for those 18 for the past three to four years suggest strongly that the U.S. would not rank in the upper half of the distribution today among these 30 countries. All of our lead in the high school graduation rate among those 25 and older was attributable to the superior educational attainment of our oldest adults, i.e., those 45-64. The U.S. is no longer the international leader among younger adults, especially those under 25. Identical results were found by one of the authors in an international analysis of adult literacy proficiencies based on the IALS assessments. The U.S. was an international leader in the literacy proficiencies of its 45-64 year old adults, but ranked in the bottom half of the literacy, document, and quantitative proficiency distribution for those young adults under 25.²³ Our nation is also characterized by a very high degree of inequality in the adult literacy distribution, a factor which contributes to a high degree of inequality in both educational and labor market outcomes in the U.S.²⁴ The twin problems of literacy mediocrity and inequality need to be systematically addressed in the near

²² The upper secondary graduation rate for the U.S. includes adults who obtained a GED certificate or another type of alternative diploma. Fewer than 75 percent of younger adults obtain a regular high school diploma. Another 10 percent obtain a GED or alternative diploma.

²³ For a review of the international evidence on U.S. literacy performance by age group, See: Andrew Sum, Irwin Kirsch, and Robert Taggart, The Twin Challenges of Mediocrity and Inequality...

²⁴ For a comprehensive review of the statistical links between adult literacy proficiencies and their educational and labor market outcomes,

See: Andrew Sum, Literacy in the Labor Force, National Center for Education Statistics, Washington, D.C., 1999.

future if the nation is to improve its comparative international position in educational and literacy outcomes and achieve greater equality in the distribution of jobs, earnings, incomes, and wealth.

Table 4:
U.S. Ranking Among 30 OECD Countries, Including Itself on the Percent of
The Adult Population in Selected Age Groups With at Least an Upper Secondary
Education, Including GED Certificates, 2000

	(A)	(B)	(C)	(D)
	55-64	45-54	35-44	25-34
	Year Olds	Year Olds	Year Olds	Year Olds
U.S. Rate	83%	89%	89%	88%
30 Country Mean	49%	60%	68%	74%
U.S. – 30 Country Mean	+34	+29	+21	+14
U.S. Rank Among 30 Countries	1 st	1 st	6 th	9 th

Source: OECD, Education at a Glance, OECD Indicators, 2002.

Trends in the Basic Academic Proficiencies of America’s Teens from 1990 to 2004

Given the concerns that were expressed by The Commission on the Skills of the American Workforce over the basic academic proficiencies of America’s youth, especially those who will not complete any substantive post-secondary education, we have tracked the progress of America’s teens in boosting their reading and math proficiencies since the publication of America’s Choice. We also have compared our students’ performance on a recent series of international reading, math, and science assessments conducted by the Organisation for Economic Cooperation and Development (OECD) with those of other countries across the world.

The most widely-cited measures of U.S. students’ performance on reading, writing, and math assessments are those generated by the National Assessment of Educational Progress (NAEP), which is administered by the National Center for Education Statistics.²⁵ The national NAEP assessments are conducted every two years with a testing of a representative sample of students in ages 9, 13, and 17. The NCES also uses the test scores to compare the performance of different demographic and socioeconomic subgroups over time with a Long Term Trend Analysis that is available for the reading and math assessments since the 1970s.²⁶ In this section,

²⁵ For a review of the purposes, design, and key findings from the NAEP 2000 Mathematics assessment, See: U.S. Department of Education, National Center for Education Statistics, The Nation’s Report Card, Mathematics 2000, Washington, D.C., 2001.

²⁶ The long-term trend results for math and reading for 9, 13, and 17 year olds are available from the 1970s on the NCES web site.

key findings on trends in mean scale scores in reading and math for the nation’s 13 and 17 year olds are presented and analyzed. The scores of individuals on these national assessments can range from 0 to 500.²⁷

Trends in the mean scale scores of the nation’s 13 and 17 year olds on the reading assessment between 1990 and 2004 are displayed in Table 5. Among the nation’s 13 year olds, mean scores on the reading assessment were basically flat over this 14 year period. The mean score on the 2004 Bridge assessment was only two points higher than the 1990 score, a difference that was not statistically significant. Among 17 year olds, mean scores on the reading assessment drifted modestly downward over this 14 year period, falling from 290 in 1990 to 288 by the middle of the decade and to 285 in 2004. The five point decline in mean performance on the reading assessment among 17 year olds between 1990 and 2004 was large enough to be classified as statistically significant at the .01 level. Thus, over the past 15 years, the nation’s teens have achieved no progress in improving their average reading proficiencies and in some cases (17 year olds) their performance actually deteriorated.²⁸

Table 5:
Trends in the Average (Mean) Scale Scores of 13 and 17 Year Olds
In the U.S. on the NAEP Reading Assessment, Selected Years 1990 to 2004

	(A)	(B)	(C)	(D)	(E)	(F)
Age Group	1990	1994	1999	2004 Bridge	Change 1990-2004	Sig. of Change
13 Year Olds	257	258	259	259	+2	Not Significant
17 Year Olds	290	288	288	285	-5	.01

The academic proficiencies of U.S. adults and teens have been found to be characterized by a relatively high degree of inequality, with especially large gaps between the top and bottom of the distribution.²⁹ The distributions of the test scores of the nation’s 17 year olds on the NAEP reading assessments in 1990 and 2004 were examined to identify whether test performance had significantly changed along the distribution over this 14 year period. Was there any evidence of

See: nces.ed.gov/nationsreportcard/ltr/results/2004.

²⁷ Standard deviations on these assessments vary across age groups, type of assessment, and years of test administration. The standard deviations of reading scores for 12th graders ranged from 33 to 38 points in the 1990s and in 2002.

²⁸ There has been some recent progress in improving the reading proficiencies of the nation’s 9 year olds. From 1988 to 1999, mean reading scores for 9 year olds were basically unchanged. In 2004, the mean scores on the reading assessment for 9 year olds rose to 219, a gain of 10 points from 1990 that was statistically significant at the .01 level.

²⁹ See: Andrew Sum, Irwin Kirsch, and Robert Taggart, The Twin Challenges of Mediocrity and Inequality: Literacy in the U.S. from An International Perspective, Policy Information Center, Educational Testing Service, Princeton, 2002.

reduced inequality? Findings in Table 6 reveal that the reading test scores of the nation’s 17 year olds declined all along the distribution between 1990 and 2004. The decline, however, was greatest among those at the 10th percentile (tenth lowest). The gap between the reading test scores of those at the 10th and 90th percentiles rose from 106 to 111 points over this time period. The degree of inequality between the best and worst performers on the reading assessment, thus, widened over the past 14 years.

Table 6:
Changes in the Scale Scores of the Nation’s 17 Year Olds on
the NAEP Reading Assessments Between 1990 and 2004 at Selected
Percentiles of the Test Score Distribution

	(A)	(B)	(C)	(D)
Percentile of Distribution	1990	2004	Change	Sig. of Change
10	237	227	-10	.05
25	263	258	-5	.05
50	291	287	-4	.05
90	343	338	-5	Not Sig.
90 – 10	106	111	+5	

Many educational and labor market analysts, including one of the authors of this paper, have cited the academic achievement gaps between Blacks and Whites as a major obstacle to reducing racial disparities in economic and educational outcomes.³⁰ In the spring of 2000 in an address to a high school audience in Little Rock, Arkansas, then Presidential candidate George W. Bush noted that:

“Our common ground is found in our common schools. And we must make those schools worthy of all our children. This, I believe, is the next advance in the cause of equality, the next frontier of civil rights.”³¹

After declining considerably between 1971 and 1984, the gaps between the mean reading scores of White and Black 17 year olds have failed to decline over the past two decades. In 1990, there was a 30 point difference between the mean reading scores of White and Black 17 years

³⁰ Gaps in basic academic skills between Black and White males have been found to be an important contributor to the racial earnings gap.

See: (i) William R. Johnson and Derek Neal, “Basic Skills and the Black-White Earnings Gap,” in *The Black-White Test Gap*, Brookings Institution Press, Washington, D.C., 1998; (ii) Neal W. Fogg, “An Economic Analysis of Labor Market Outcomes Among Young Adult Men in the U.S., 1967-1992,” Unpublished Ph.D. Dissertation, Department of Economics, Northeastern University, Boston, 1996.

³¹ See: Frank Bruni, “Bush Takes Education Ideas to Scene of Integration Battle,” *The New York Times*, March 25, 2000, p. A-5.

olds (Table 7). In 2004, the gap was basically unchanged at 29 points. This White-Black gap in mean reading test scores in 2004 was equal to approximately .8 standard deviations. An identically sized gap existed between the mean reading scores of White and Hispanic 17 year olds in 2004. Both these gaps should be viewed as troubling by the nation's and state's educational policymakers.

Table 7:
Trends in the Mean Scale Scores of Black and White 17 Year Olds
on the NAEP Reading and Math Assessments, 1990 to 2004

	(A)	(B)	(C)
Group/Assessment	1990	2004	Change, 1990 – 2004
Reading			
Black	267	264	-3
White	297	293	-4
White – Black	+30	+29	-1
Math			
Black	289	285	-4
White	309	313	+4
White – Black	+20	+28	+8

Performance of the nation's 13 and 17 year olds on the NAEP math assessments over the 1990-2004 period is displayed in Table 8. On the positive side, the 13 year olds made steady progress in boosting their mean math scores over this time period, with the mean score increasing from 270 in 1990 to 281 in 2004, a gain of 11 points which was statistically significant at the point .01 level. Among the nation's 17 year olds, however, mean test scores on the math assessment were basically flat over this 14 year period. The mean score of 307 on the 2004 math assessment was one point lower than the mean score on the 1999 assessment and only two points higher than the mean score on the 1990 math assessment, but none of these differences were statistically significant. Thus, the average 17 year old made no significant progress in improving math proficiencies since the publication of America's Choice.

Table 8:
Trends in the Mean Scale Scores of 13 and 17 Year Olds in
the U.S. on the NAEP Math Assessment, Selected Years 1990 to 2004

(A)	(B)	(C)	(D)	(E)	(F)
			2004	Change	Sig. of

Age Group	1990	1994	1999	Bridge	1990-2004	Change
13 Year Olds	270	274	276	281	+11	.01
17 Year Olds	305	306	308	307	+2	Not Significant

To determine whether any improvements in the math performance of 17 year olds occurred along the distribution, we reviewed the math test performance of 17 year olds at five different points along the test distribution, including the 10th, 50th, and 90th percentiles (Table 9). There were no significant gains in test score performance among 17 year olds in the middle (50th percentile) or upper end of the distribution; however, there were some modest, statistically significant gains (5 points) among 17 year olds at the lower end of the distribution. The size of the test score gap between the 90th and 10th percentiles narrowed by 5 percentage points over this period. The absence of any significant gains in the upper half of the math test score distribution should be viewed as troubling since it is from this segment of the test distribution, particularly the upper quartile, from which recruits for future scientific, engineering, computer science, and technical occupations will be drawn.

Table 9:
Trends in Math Scores of 17 Year Olds on the NAEP
Math Assessment at Various Points Along the Test Distribution, 1990 to 2004

	(A)	(B)	(C)	(D)
Percentile	1990	2004	Change	Sig. Level Of Change
10	264	269	+5	Sig. .05
25	282	287	+5	Sig. .01
50	305	307	+2	Not Sig.
75	327	328	+1	Not Sig.
90	345	345	0	Not Sig.
90 – 10	81	76	-5	

Trends in the mean math scores of Black and White 17 year olds over the 1990-2004 period are displayed in the bottom half of Table 7. At the time of the 1990 NAEP assessment, the gap between the mean math scores of Blacks and Whites was 20 points, or approximately .6 standard deviations.³² Between 1990 and 2004, the mean math score of Black 17 year olds declined by 4 points while the mean score of White 17 year olds increased by 4 points. As a consequence, the Black-white gap in mean math scores widened from 20 to 28 points. The latter difference was equivalent to .8 standard deviations, the exact same size as that prevailing for the difference between the mean reading scores of White and Black 17 year olds during the same year. Again, there was a large 24 point gap between the mean math scores of White and Hispanic 17 year olds in 2004, a difference of approximately .7 standard deviations.

In America's Choice, the Commission on the Skills of the American Workforce argued that the nation provided little investment in its front line workers, including both general education and training once on the job. As the report noted,

“We do not expect much from them in school. We give them few skills and little training. And we let them sink or swim when they try to get into the workforce.”³³

The Commission also presented a chart on an international comparison of the algebra skills of the nation's 17 year olds, showing that we ranked last among the 12 primarily industrialized countries in the comparison. The comparatively weak international performance of

³² The estimated standard deviation on the 2000 math assessment for the nation's 17 year olds was 35 points.

³³ See: National Center on Education and the Economy, America's Choice: High Skills or Low Wages!, pp. 43-44.

America's high school students raised serious question about our ability to compete internationally in the future, particularly on a high wage, high productivity trajectory.³⁴

Over the past decade, there have been a number of different international assessments of the literacy, math and science proficiencies of teenagers and adults. These assessments include the International Adult Literacy Surveys (IALS),³⁵ the OECD's Programme for International Student Assessment (PISA), and the international Association for the Evaluation of Educational Achievement surveys of Trends in International Mathematics and Sciences (TIMSS). In the section below, we will concentrate on findings from the 2003 PISA survey, which tested the knowledge of 15 year old students in mathematics, reading, and science in 30 OECD countries.³⁶

Findings of U.S. students' performance on the combined math, reading and science PISA assessments for 2003 are displayed in Table 10. The scores on each assessment could range from 0 to 800. The tests were scaled so that the average score would be 500. On the combined math scale, the mean score of U.S. 15 year olds was 483, which was 17 points below the OECD national average score of 500, a difference that was statistically significant at the .01 level.³⁷ The mean score of the U.S. ranked only 24th highest among the 29 OECD countries for whom data were available.³⁸ U.S. students' mean performance on the math assessment was significantly below that of 20 countries, statistically the same as that of 3 countries, and only significantly above that of 5 OECD countries. Clearly, the U.S. was a below average performer on the math assessment, despite the fact that our nation spent more per student than nearly every other country on educating its high school students.³⁹

³⁴ Ibid., p. 48

³⁵ For a review of the objectives and design features of the International Adult Literacy Survey (IALS), See: Organization for Economic Co-operation and Development and Statistics Canada, Literacy in the Information Age: Findings of the International Adult Literacy Survey, Ottawa, Canada, 2000. For a review of the design features and findings from the TIMSS science report for 2003,

See: International Association for the Evaluation of Educational Achievement, TIMSS 2003 International Science Report, TIMSS and PIRLS International Study Center, Lynch School of Education, Boston College, Boston, 2004.

³⁶ The 2003 PISA survey also covered students in 11 partner countries. Findings of the 2003 PISA Assessment were presented in the following publication: Organisation for Economic Cooperation and Development, Learning for Tomorrow's World: First Results from PISA 2003, Paris, 2004. The findings from the 2000 PISA assessment appeared in the following publication: Organisation for Economic Cooperation and Development, Knowledge and Skills for Life: First Results from PISA 2000, OECD, Paris, 2001.

³⁷ The combined math score was based on performance in four subtests of mathematical knowledge. The OECD national average is derived by weighting the mean scores for each OECD nation equally.

³⁸ The mean scores of students from the United Kingdom were not identified separately in this report.

³⁹ For a comparison of U.S. educational expenditures on primary and secondary school students with those of other OECD countries,

See: Herbert J. Walberg, Spending More While Learning Less: U.S. School Productivity in International Perspective, Thomas B. Fordham Foundation, July 1998.

Table 10:
Performance of U.S. 15 Year Olds on the 2003 PISA Math,
Reading, and Science Assessments in Comparison to All OECD Nations

Score	Math	Reading	Science
U.S. Mean Score	483	495	491
OECD National Average	500	494	500
U.S. – OECD	-17	+1	-9
Sig. of Difference	.01	Not Significant	.01
U.S. Rank Among 29 OECD Countries			
Overall Rank	24 th	15 th	20 th
U.S. score significantly below this number of countries	20	8	13
U.S. score same as this number of countries	3	11	11
U.S. score significantly above this number of countries	5	9	4

On the reading scale, the mean score of U.S. students was 495, which was statistically identical to the OECD national average of 494 (Table 10). The U.S. rank among the 29 OECD countries was 15th, right in the middle of the distribution. The mean U.S. score was significantly below that of 8 countries, statistically the same as that of 11 other countries, and significantly higher than that of 9 countries. Of those 9 countries, only 2 were relatively high income countries in Western Europe (Italy and Spain). The other seven included Mexico, Turkey, Greece, and several former Communist countries in Eastern Europe. The U.S. performance on the reading assessment could best be described as mediocre.

On the science test, the mean score of U.S. 15 year olds was 491, which was 9 points below the OECD national average of 500. This 9 point difference was large enough to be classified as statistically significant (Table 10). Our nation’s rank among the 29 OECD nations was only 20th. The U.S. mean science score was significantly below that of 13 countries, statistically the same as that of 11 countries, and significantly higher than that of only 4 countries (Denmark, Mexico, Portugal, and Turkey). The size of the mean test score gap between the U.S. and that of the two OECD leaders on the science assessment (Finland and Japan) was quite large at 57 to 58 points, or .55 standard deviations. The U.S. was, thus, quite distant from being an international leader in science and mathematics, a main national educational goal established at the outset of the 1990s decade.⁴⁰

⁴⁰ For a review of national educational goals,

Recent Trends in Employment Outcomes for the Nation's Teens and Young Adults (20-24)

In America's Choice, the labor market difficulties of many young adults who did not complete any post-secondary schooling were identified by the Commission. Renewed efforts to bolster the school-to-work transition of high school graduates were recommended, including subsidized employment when jobs were unavailable to youth at the local level. Early work experience for youth is an important form of human capital investment that raises the future wages and employability of workers. Such work experience can instill youth with employer valued soft skills, such as attendance and punctuality, interpersonal skills, customer relations, team work, and occupational skills that are best learned in a workplace setting. A substantial and growing body of literature on the early labor market experiences of young adults over the past thirty years indicates quite consistently that employment during the high school years can generate a diverse number of favorable short-term and long-term positive impacts on their employability, wages, and earnings.⁴¹ These labor market impacts tend to be larger for those high school graduates who do not go on to complete any substantive amount of post-secondary education.⁴²

Despite these positive influences of early work experience, there are some skeptics, including a number of educators, sociologists, and other adolescent development analysts, who raise concerns about potential adverse educational consequences of in-school employment. Since all students face constraints on the use of their time, hours devoted to paid employment may come at the expense of formal school course-work, outside reading, and other school related activities, potentially resulting in lower grades, course failures, and even dropping out of school. However, a growing number of studies on this issue have found that moderate work activities (under 20 hours per week) during the school year typically tend to have no substantive adverse effects on the academic performance, school attendance, or educational aspirations of high school students. In fact, employed students working a moderate number of hours per week

See: National Education Goals Panel, The National Education Goals Report: Building A Nation of Learners, U.S. Government Printing Office, Washington, D.C., 1994.

⁴¹ For review of the empirical evidence on the economic value of early work experience, see: Andrew Sum, Neeta Fogg, and Garth Mangum, Confronting the Youth Demographic Challenge: The Labor Market Prospects of Out-of-School Young Adults, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 2000.

⁴² See: (i) Christopher J. Ruhm, The Effects of High School Work Experience on Future Economic Attainment, Employment Policies Institute, Washington, D.C., May 1994; (ii) Christopher J. Ruhm, Is High School Employment Consumption or Investment?, Research Paper, University of North Carolina, Greensboro, December 1994; (iii) Christopher J. Ruhm, "The Extent and Consequences of High School Employment", Journal of Labor Research, Summer 1995, pp. 293-303.

(under 20) often seem to fare better academically than their non-employed peers on a variety of school performance measures, including school dropout rates.⁴³

Given the economic benefits of early labor market experience, how have the nation's teens and young adults fared in obtaining employment during recent years? The following section of the paper examines the employment rates of teens and young adults in recent years using findings from the monthly Current Population Surveys, the household surveys used by the U.S. Bureau of Labor Statistics to estimate the size of the resident labor force, the employed, and the unemployed as well as the monthly unemployment rate.

The employment rates of the nation's teens and young adults with no post-secondary degree tend to be more cyclically sensitive than those of their older peers. Their employment rates typically decline at above average rate during recessions and periods of limited job growth and rise at above average rates during those time periods characterized by strong job growth and declining unemployment. Thus, it is not surprising to find that teens and young adults experienced the biggest drops in their E/P ratios between 2000 and 2002, but what is somewhat surprising is their failure to benefit to any substantial degree from the national job recovery that began in the late summer of 2003.

Over the entire 2000-2004 period, teens and young adults fared the worst in the nation's labor markets as measured by changes in their employment rates. The employment to population ratio of teens declined substantially from 45.2% in 2000 to a historical low of 36.4% in 2004 (Table 1). The nation has not seen any improvement in the employment situation of teens in the past two years despite renewed job growth. There was a historically unique age twist in employment rates between 2000 and 2004.⁴⁴ For example, members of all age subgroups of the population under age fifty-five had E/P ratios in 2004 that were below those of 2000, with the size of those employment rate declines being the largest for the nation's youngest workers, i.e., those under 30 (Table 11 and Chart 3). The size of the E/P ratio decline was highest for the nation's teens (8.3 percentage points) and for 20-24 year old youth (4.3 percentage points). In

⁴³See: (i) See: Paul E. Barton, Earning and Learning, Educational Testing Service, Princeton, March 1989; (ii) Marta Tienda and Avner Ahituv, "Ethnic Differences in School Departure: Does Youth Employment Promote or Undermine Educational Attainment?", in Of Heart and Mind, (Editors: Garth Mangum and Stephen Mangum), W.E. Upjohn Institute for Employment Research, Kalamazoo, 1996, pp.93-110. (iii) David Post and Svet-Ling Pong, "Employment During Middle School: The Effects on Academic Achievement in the U.S. and Abroad", in Educational Evaluation and Policy Analysis, Volume 22, Number 3, Fall 2000, PP 273-298. Post and Pong find that the 10th grade math and science test scores of boys and girls who did moderate work in high school (under 10 hours) were significantly higher than those of their peers who did not work at all but were significantly lower (though only a modest impact) for those youth who worked more than 20 hours per week in the 10th grade.

⁴⁴ See: Andrew Sum, Ishwar Khatiwada with Sheila Palma, "The Age Twist in Employment Rates, 2000-2004", Challenge, July-August 2005, Vol. 48, No. 4, ME Sharpe Publications, New York.

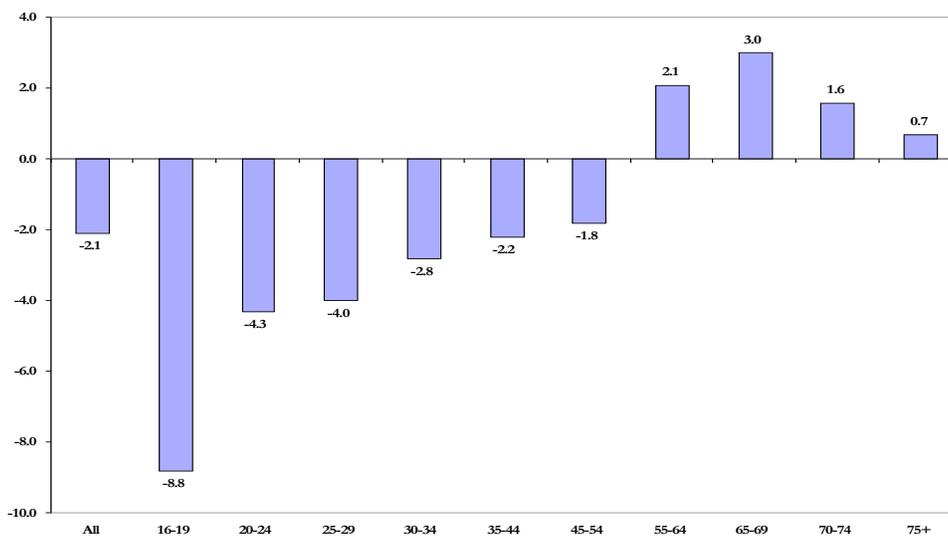
sharp contrast, the nation's older workers (i.e., those 55 and older) were more likely to be working in 2004 than they were in 2000. The gains in E/P ratios for older workers ranged from 1 to 3 percentage points between 2000-2004. The magnitude of this “age twist” in employment rates over the past four years was quite large and historically unique.

Table 11:
Changes in the Employment/Population Ratios of Age
Subgroups of the Working-Age Population of the U.S., 2000-2004
 (Annual Averages in %)

Age Group	2000	2004	Percentage Point Change
All 16+	64.4	62.3	-2.1
16-19	45.2	36.4	-8.8
20-24	72.2	67.9	-4.3
25-29	81.0	77.0	-4.0
30-34	82.0	79.2	-2.8
35-44	82.2	80.0	-2.2
45-54	80.5	78.7	-1.8
55-64	57.8	59.9	2.1
65-69	23.7	26.7	3.0
70-74	13.1	14.7	1.6
75-79	5.2	5.9	0.7

Source: U.S Bureau of Labor Statistics, web site.

Chart 3:
Changes in the E/P Ratios of Age Subgroups of the Working-Age
Population in the United States, 2000-2004
 (Numbers in Percentage Points)

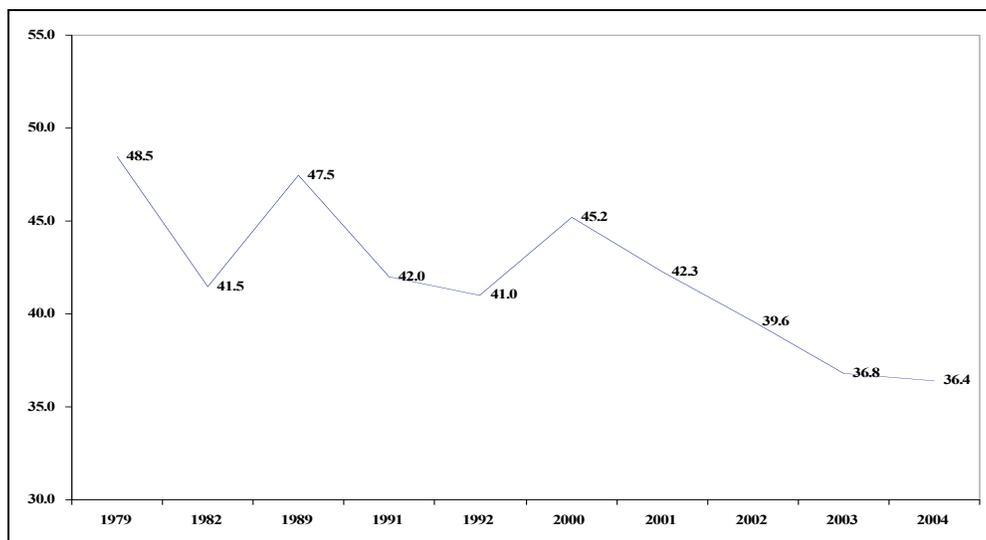


Source: U.S. Bureau of Labor Statistics, web site (www.bls.gov).

Analysis of longer term trends in the employment to population ratios of teens provides evidence of our earlier assertion that the employment rate of teens is quite cyclically sensitive. For example, the E/P ratio of teens in 1979, a cyclical peak year, was 48.5% (Chart 2). The E/P ratio declined to 41.5% during the severe national recession in 1982 but again rose to 47.5% in 1989 when the national economy was again at a cyclical peak. In the recession of the early 1990s, the E/P ratio of teens declined to 41% in 1992, but then began to rise strongly and steadily after the jobs recovery picked up in 1993, reaching 45.2% during the labor market boom year of 2000. The teen employment rate in 2000, however, did not recover its previous cyclical peak value in 1989.

Following the onset of the 2001 recession and the jobless recovery of 2002, the number of employed teens declined sharply, pushing the E/P ratio down to 39.6% in 2002, to 36.8% in 2003, and only 36.4% in 2004. The 36.4% E/P ratio of teens in 2004 was the lowest in the 57-year period for which national teen employment data exist (Chart 4).⁴⁵

Chart 4:
Trends in E/P Ratios of 16-19 Year Olds in the U.S., Selected Years, 1979-2004



What factors might have depressed the teen labor market in recent years? There were a number of factors at work. First, limited overall wage and salary job growth for the 2000-2004 period was a key factor. Teen employment opportunities expand most rapidly when there is strong and steady payroll employment growth. Second, teens faced growing competition from

⁴⁵ The CPS historical teen employment series begins in 1948.

older adults and from young college graduates who could not find work in the college labor market. These adults were squeezing some teens out of the labor market. Another factor of equal concern is the displacement of native born teens by new immigrants, whose numbers in the labor force have been very high in recent years.⁴⁶ Fourth, an increasing number of the nation's teens have been attending high school or college in recent years. Between 2000 and 2004, the percent of 16-19 year olds who were enrolled in school during an average month increased from 72.9 to 76.5 percent. Some analysts have thus dismissed concerns over the steep drop in teen employment rates, citing increased school enrollment. Previous national research has revealed, however, that teens are more likely to stay in school when labor market conditions are depressed. Yet, the employment rates of both teens enrolled in school and those out-of-school have declined sharply in recent years.

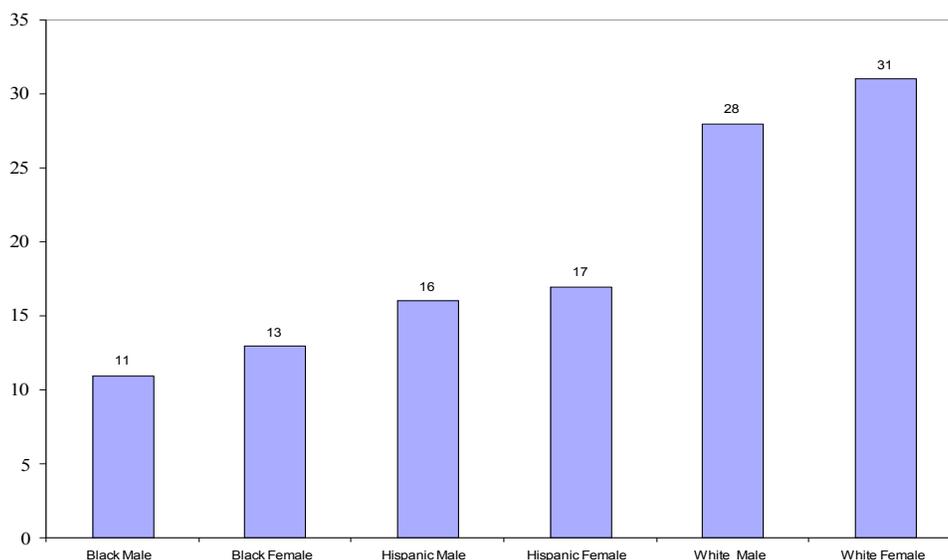
The employment rates of teenaged high school students have dropped precipitously over the past four years. In 2000, nearly 34 of every 100 high school students were employed on a typical month (Table 12 and Chart 5). By 2002, this employment rate had declined to 28%, and it would fall further to under 26% in 2004. Every major demographic group of high school students faced steep declines in their E/P ratios over this four-year period. Male high school students saw their E/P ratio fall by nine-percentage points over this four-year period while women experienced a 7-percentage point drop in their E/P ratio. Male high school students face more direct competition than women from young immigrants for work. The employment rates of teenaged high school students also declined sharply for youth in each of six gender/race-ethnic groups, however, the declines were larger for Black and White high school students than for Hispanics. In 2004, the E/P ratios of high school students varied considerably across gender and race-ethnic groups, ranging from a low of 11% for Black males to a high of 31% for White women (Table 12). Only 1 of 9 Black male high school students were employed during calendar year 2004, a near 50% reduction from their employment rate in 2000. The steep deterioration in employment opportunities for Black males reduces their high school graduation rates, exacerbates their difficulties in finding employment upon high school graduation, and strengthens the attraction of illegal economic activities, subjecting them to higher rates of arrests and criminal convictions.

⁴⁶ See: Ishwar Khatiwada, Andrew Sum and Tim Barnicle, New Foreign Immigrant Workers and the Labor Market in the U.S.: The Contributions of New Immigrant Workers to Labor Force and Employment Growth and Their Impacts on Native Born Workers, 2000 to 2004, Center for Labor Market Studies, Northeastern University and National Center on Education and the Economy, Washington, D.C., 2005.

Table 12:
Trends in the Employment Rates of the Nation's 16-19 Year Old
High School Students by Gender and Race-Ethnic Group, 2000-2004
 (Numbers in Percent, Annual Averages)

Group of High School Students				Percentage Point Change		
	2000	2002	2004	2000-2002	2002-2004	2000-2004
All	33.9	28.3	25.7	-5.6	-2.6	-8.2
Men	33.2	26.5	24.3	-6.7	-2.2	-8.9
Women	34.6	30.3	27.2	-4.3	-3.1	-7.4
Black	20.4	15.5	12.3	-4.9	-3.2	-8.1
Men	20.9	15.4	11.2	-5.5	-4.2	-9.7
Women	19.9	15.7	13.5	-4.2	-2.2	-6.4
Hispanic	20.8	18.8	16.6	-2.0	-2.2	-4.2
Men	21.1	18.5	16.2	-2.6	-2.3	-4.9
Women	20.8	19.1	17.1	-1.7	-2.0	-3.7
White	37.6	31.7	29.2	-5.9	-2.5	-8.4
Men	36.6	29.5	27.8	-7.1	-1.7	-8.8
Women	38.7	34.0	30.7	-4.7	-3.3	-8.0

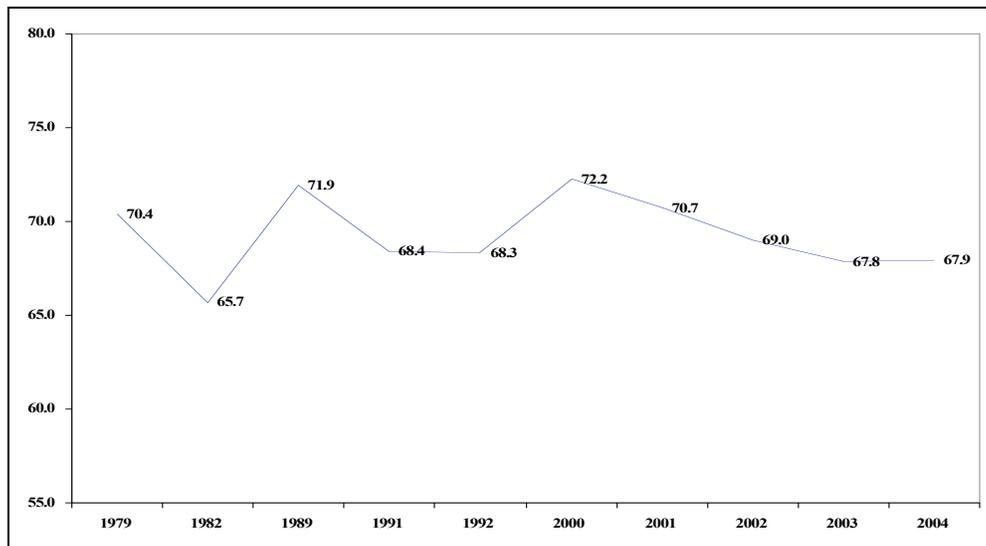
Chart 5:
The 2004 Employment Rates of 16-19 Year Old High School
Students by Their Gender and Race-Ethnic Group, U.S.
 (Annual Averages, in Percent)



Similar to findings on the E/P ratios of teens, the E/P ratio of 20-24 year olds also tends to be cyclically sensitive, rising at above average rate during labor market booms and declining

at above average rates during economic recessions. (Chart 6). The E/P ratio of the nation's 20-24 year olds was the highest during the labor market boom year of 2000, when it reached 72.2%, four percentage-points higher than its value in the recessionary and jobless recovery years of 1991-92. Since 2000, the E/P ratio of 20-24 year olds has declined sharply and did not improve in 2004 despite renewed job growth.

Chart 6:
Trends in the Employment/Population Ratios of 20-24 Year Old
Youth in the U.S., Selected Years, 1979-2004



Source: U.S. Bureau of Labor Statistics, web site.

We also examined the E/P ratios of out-of-school 16-24 year old youth by their educational attainment level in both 2000 and 2004 (Table 13). The employability of youth and their completed years of formal schooling are strongly and positively associated. Youth without high school diplomas have fared very poorly in the labor markets of recent years. The E/P ratios of 16-24 year old out-of-school youth in 2004 ranged from a low of 52% among those lacking a high school diploma to high of 87% among those with a Bachelor's or higher degree. Between 2000 and 2004, the employment rates of out-of-school 16-24 year olds declined sharply by four to five percentage points for those lacking a Bachelor's degree while they fell by only 1 percentage point for Bachelor degree recipients and increased among young adults with a Master's or higher degree. Young college graduates, however, have not escaped labor market problems in recent years. Fewer young college graduates have been able to obtain college labor market jobs, and their real wages and annual earnings have declined accordingly due to rising

mal-employment. These young college graduates also take jobs that displace their peers with lower levels of schooling.

Table 13:
E/P Ratios of Out-of-School 16-24 Year Old Youth in the
U.S., Total and by Level of Educational Attainment, 2000-2004

	2000	2004	Change
All	73.1	69.2	-3.9
<12 or 12, no Diploma	56.2	51.8	-4.4
High School Diploma or Equivalent	75.9	70.6	-5.2
1-3 Years of College	83.8	78.8	-5.0
Bachelor's Degree	88.7	87.4	-1.3
Master's Degree or Higher	79.7	86.9	7.2

Trends in Teen Summer Employment Rates, 1979-2005

The summer months traditionally have provided many of the nation's teenagers an opportunity to gain an initial foothold in the labor market. The youth labor force (16-19) expands fairly substantially during the June-August period as high school and college students search for work during the summer school breaks. The nation's employers have typically expanded their hiring of teens during the summer months, and national, state, and local governments often provided funds for the hiring of teens in government agencies and non-profit organizations during the summer.⁴⁷ For some youth, these summer jobs became the springboard for part-time employment during the school year and allowed for higher levels of year-round employment.

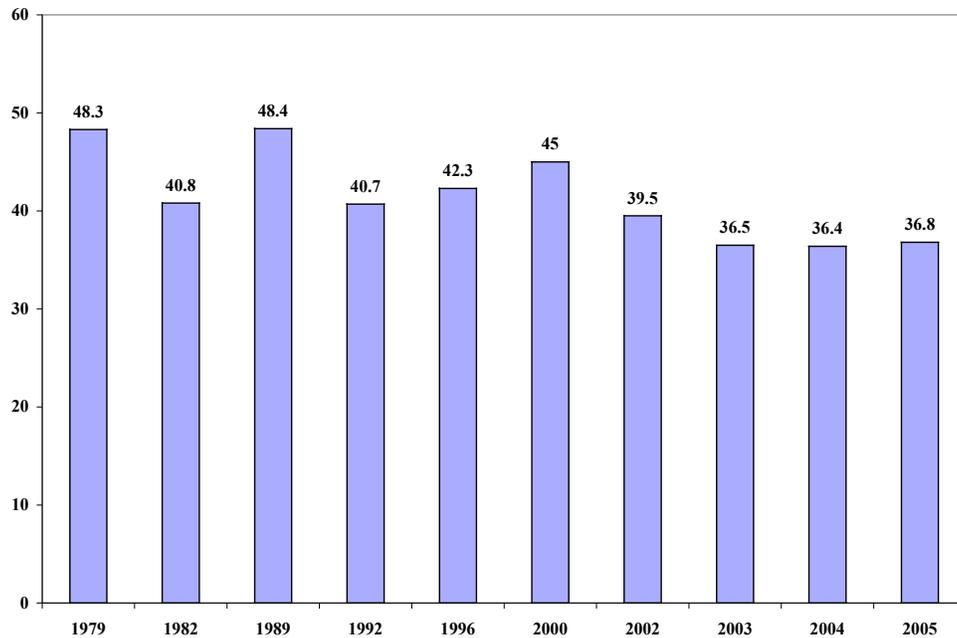
The summer job market for the nation's teens has also been highly cyclically sensitive. Those time periods characterized by strong job growth in the private sector and declining aggregate unemployment rates help push up teen summer job opportunities while recessions and jobless recoveries sharply reduce teen summer job prospects. The summer employment experiences of the nation's teens over the past two decades clearly bear this out. Between 1979, a period of strong job growth and expanded job opportunities for the nation's teens under the YEDPA programs, and 1982, a period of severe recession, the teen summer employment rate fell by about 8 percentage points. Following the end of the severe national recession in 1982, the

⁴⁷ Prior to the passage of the Workforce Investment Act in 1998, the U.S. Congress had provided the U.S. Department of Labor with a separate budget allocation to fund summer jobs programs for primarily economically disadvantaged youth. As WIA replaced the JTPA system in 2000, the use of monies for summer youth employment programs by state and local workforce boards became optional. Summer employment opportunities were substantially reduced.

teen summer employment rate (seasonally adjusted) rose fairly steadily and strongly during the economic boom years of the mid to late 1980s, rising from slightly below 41% in 1982 to a high of 48.4% in 1989 (Chart 7). The summer of 1989 would represent the highwater mark for teen summer employment for the remainder of the century. During the national economic recession of 1990-91 and the weak jobs recovery period of 1991-92, the summer teen employment rate fell by nearly 8 percentage points, declining to just below 41% in the summer of 1992. Strong and steady national job growth from 1992 to 2000 helped boost the teen employment rate back to 45% by the summer of 2000, but it did not recover its 1989 cyclical peak rate of 48%. Job opportunities improved sharply for teens, but the high growth of the teen population during this time period held down the increase in the teen E/P ratio.

The summer job market for the nation's teens has deteriorated substantially over the past five years. From 2000 to 2003, the teen summer employment rate fell steadily, and the teen employment rate has not improved in the past two summers despite a resurgence in overall job growth across the nation (Chart 7). The teen summer employment rate has remained in the 36.5 to 36.8 percent range over the past three summers, marking the lowest teen summer employment rates in post-World War II history. The summer 2004 employment rate for teens was nearly 9 percentage points below the summer 2000 employment rate and 12 percentage points below the summer employment rate in 1989, the peak year of the 1980s economic boom (Chart 7). Teens were more adversely affected than any other demographic group by the recession of 2001 and the largely jobless recovery of 2001-2003, and they have been unable to benefit from the national jobs recovery that has been taking place since the early fall of 2003.

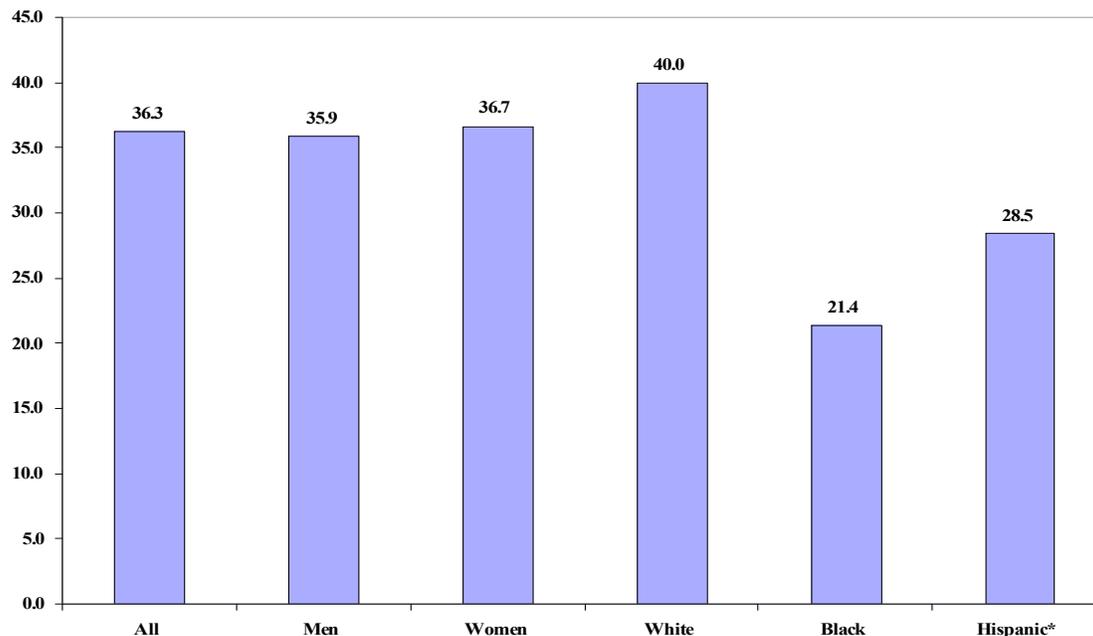
Chart 7:
Trends in Summer Employment Rates of 16-19 Year Olds in the
U.S., Selected Years 1979 to 2005
 (Seasonally Adjusted, in %)



Who Worked During the Summer of 2004? Variations in Teen Employment Rates by Gender and Race/Ethnic Group

Employment rates for the nation’s teens often tend to differ quite widely across demographic and socioeconomic subgroups. The summer 2004 employment rates of the nation’s teens varied substantially across gender and race-ethnic groups. The seasonally adjusted employment rates of male and female teens were 35.9% and 36.7%, respectively, during this past summer (Chart 8). Male teens have fared very poorly in the job market over the past five years. The summer 2004 male teen employment rate was the lowest ever recorded, falling more than 20 percentage points below its value in the late 1970’s when 60 out of every 100 male teens worked. Across race/ethnic groups, there was a substantial difference in the employment rates of White and Black teens. The summer 2004 employment rate for White teens was 40.0%, which was nearly double the employment rate for Black teens (21.4%). Only slightly more than one of every five Black teenagers worked on an average month during the summer of 2004. Over the past three summers, Black teens have experienced their lowest employment rates since the severe recessionary years of the early 1980s.

Chart 8:
Employment/Population Ratios of 16-19 Year Olds by Gender and Race-Ethnic Group in the U.S., Summer 2004 (Seasonally Adjusted)



*The data for Hispanic teens are not seasonally adjusted.

Variations in Teen Summer Employment by Household Income Group in 2004

Teen employment rates also have been found to vary systematically by their household income position. Contrary to the expectations of neoclassical labor supply theory, poor youth are typically characterized by the lowest employment rates while middle and upper middle income youth tend to work at the highest rates. The monthly CPS household surveys collect data on the estimated pre-tax, annual money incomes of the households in which teens resided.⁴⁸ The CPS reported data on the household incomes of teens were used by the authors to assign each teen respondent into one of the following six household income categories:

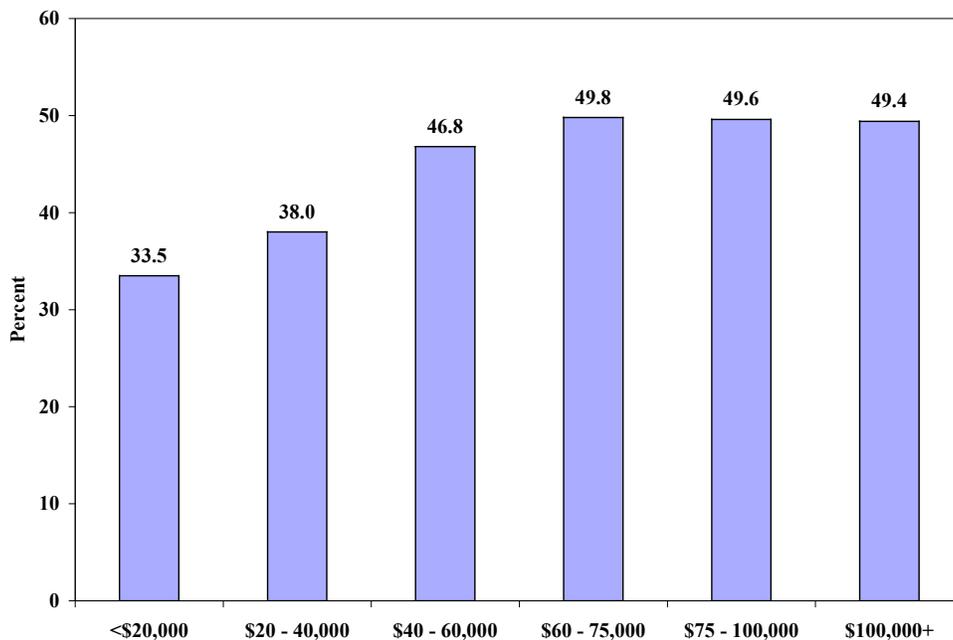
- Under \$20,000
- \$20,000-\$39,999
- \$40,000-\$59,999
- \$60,000-\$74,999
- \$75,000-\$99,999
- \$100,000 or higher

Estimates of the summer 2004 employment rates of the nation's teens in each of these six household income groups are displayed in Chart 9. The summer employment rates of the

⁴⁸ Household income data were available on the CPS public use files for approximately 83 percent of teens during the June-August period of 2004.

nation's teens rose with their household incomes until incomes over \$75,000 were reached after which they fluctuated over a very narrow range. Only one-third of the nation's teens living in households with incomes under \$20,000 were employed on average in the summer of 2004 versus 38 percent of those living in households with incomes between \$20 and \$40 thousand, and just under 50 percent of those residing in families with incomes over \$60,000.

Chart 9:
Summer 2004 Employment Rates of the Nation's 16-19 Year Olds by Household Income
 (in %)



The summer employment rates of teens in each of our four race-ethnic groups typically rose with household income up to a certain point and then leveled off or declined at the highest income levels. In each race-ethnic group, teens in the lowest income group (those with household incomes under \$20,000) were the least likely to be employed. For example, among Black teens, summer 2004 employment rates rose from a low of 22 percent among those with a household income under \$20,000 to 34 percent among those with incomes between \$40 and \$60 thousand before declining modestly to the 30 to 31 percent range among those residing in households with incomes over \$60,000. In all cases, however, White teens in each household income group were more likely to be working than their Asian, Black, or Hispanic teen counterparts, with frequently large race-ethnic gaps among teens in the lower income categories. Low income Asian, Black, and Hispanic teens were employed at rates only one-fourth to two-thirds as high as those of their White, non Hispanic counterparts. The relative size of the gap in teen employment rates between

those in the lowest (low income Asian) and highest income cells (Whites with incomes above \$40,000) was approximately five to one.

Table 14:
Summer 2004 Employment Rates of Teens by
Household Income and Selected Race-Ethnic Group, U.S.
(in %, Not Seasonally Adjusted)

	(A)	(B)	(C)	(D)
Household Income	Asian	Black, not Hispanic	Hispanic	White, not Hispanic
Under 20,000	11.8	22.0	30.0	45.2
20,000 – 39,999	31.5	26.8	31.4	45.8
40,000 – 59,999	20.0	33.8	39.1	53.4
60,000 – 74,999	33.1	31.1	46.7	53.4
75,000 – 99,999	32.4	29.9	48.0	52.1
100,000+	21.8	30.2	30.7	54.1
All	24.3	27.0	34.4	51.0

Source: June-August 2004 CPS public use files, tabulations by authors

Labor Force Underutilization Problems Among Teens During the Summer of 2004

The steep decline in the employment rate of the nation’s teens over the past four summers has been quite extraordinary and has affected teens in all major demographic and socioeconomic subgroups and nearly all geographic areas. The surprising finding is the absence of any improvements in the summer teen employment rate over the past two summers despite strong national wage and salary job growth, which in the past would have boosted the demand for teen workers. Increased job competition from immigrants, older workers (55 and older), and young college students and graduates unable to obtain employment in the college labor market has reduced teen employment prospects to a considerable degree. Over the past few years, a number of television, newspaper and magazine stories have questioned whether teens really want to work during the summer.⁴⁹ To determine whether a growing lack of interest in work was a key factor underlying the drop in the summer teen E/P ratio, we analyzed the monthly CPS public use files for the June to August 2004 surveys to estimate the number of teens who were classified as unemployed, underemployed, or members of the so-called “labor force reserve”.

⁴⁹ See: Andrew Sum and Neeta Fogg with Ishwar Khatiwada, The Summer 2002 Employment Situation Among America’s Teens, Report prepared for the National League of Cities, Washington, D.C., August 2002.

The unemployed are those teens who were not working during the reference week of the CPS survey, but had been actively looking for work during the past four weeks and were available to take a job in the reference week.⁵⁰ The labor force reserve consists of those individuals who reported to the CPS interviewer that they wanted an immediate job even though they were not actively looking for work.⁵¹ The underemployed are those teens who were working part-time (under 35 hours per week) during the reference week of the survey but wished to be working full-time. On average, they worked only 20 to 21 hours per week. Estimates of the size of each of these three groups of unutilized and underutilized teens and their distribution by gender and race-ethnic group are displayed in Table 15. The estimates are monthly averages for the June-August 2004 period and are not seasonally adjusted.

Table 15:
Number of Teens Who Were Unemployed, Underemployed, or A Member of the Labor Force Reserve in the Summer of 2004 by Gender and Selected Race/Ethnic Group
(in 1000s, Not Seasonally Adjusted)

Gender/Race Ethnic Group	(A) Unemployed	(B) Underemployed	(C) Labor Force Reserve	(D) Total (A to C)
All	1,473	549	951	2,973
Men	774	301	548	1,623
Women	699	249	402	1,350
Asian	31	7	43	81
Black	327	54	203	584
Hispanic	246	85	151	482
White	823	384	515	1,721

Source: June-August 2004 CPS public use files, tabulations by authors.

The average monthly number of unemployed teens over the June-August period of 2004 was 1.473 million, yielding a teen unemployment rate of 17.7%, which was three and one-half times as high as the unemployment rate for the nation's adults (20+) over the same three month period. Male teens faced a slightly higher unemployment rate than female teens (18.0% vs. 17.3%). Unemployment rates of teens varied more considerably across the four race-ethnic

⁵⁰ The CPS survey is undertaken during the calendar week containing the 19th day of the month, while the reference week is the calendar week prior to the survey, i.e., the week containing the 12th day of the month.

⁵¹ This group should not be confused with the BLS definition of a discouraged worker. The discouraged are a small subset of the labor force reserve. They are individuals who have looked for work in the past 12 months, cited personal or economic discouragement as their reason for not currently looking for work, and were available to take a job at the time of the survey. Few teens in the labor force reserved are classified as discouraged workers.

groups, ranging from a low of 14% for White, non-Hispanics to a high of nearly 36% for Black teens. Unemployment rates of all major demographic groups of teens have increased over the past four years. In the summer of 2000, the unemployment rate of the nation's teens was only 13% versus the near 18% rate of unemployment during the past summer.

The labor underutilization problems of the nation's teens go far beyond the official unemployment statistics. The labor force participation behavior of teens also is cyclically sensitive, declining during periods of job loss and rising unemployment. If teens sense that jobs are not available to them, they will stop actively looking for work and no longer be counted as unemployed in the CPS survey.⁵² Yet, many of these teens would be willing to accept jobs if they were offered to them. There are a substantial number of applicants for summer jobs for which no slots are available. In conducting the CPS survey, interviewers ask each working-age household member who was neither working nor actively looking for work if they wanted a job at the time of the survey. Those persons who express an interest in immediate paid employment are counted as members of the labor force reserve.

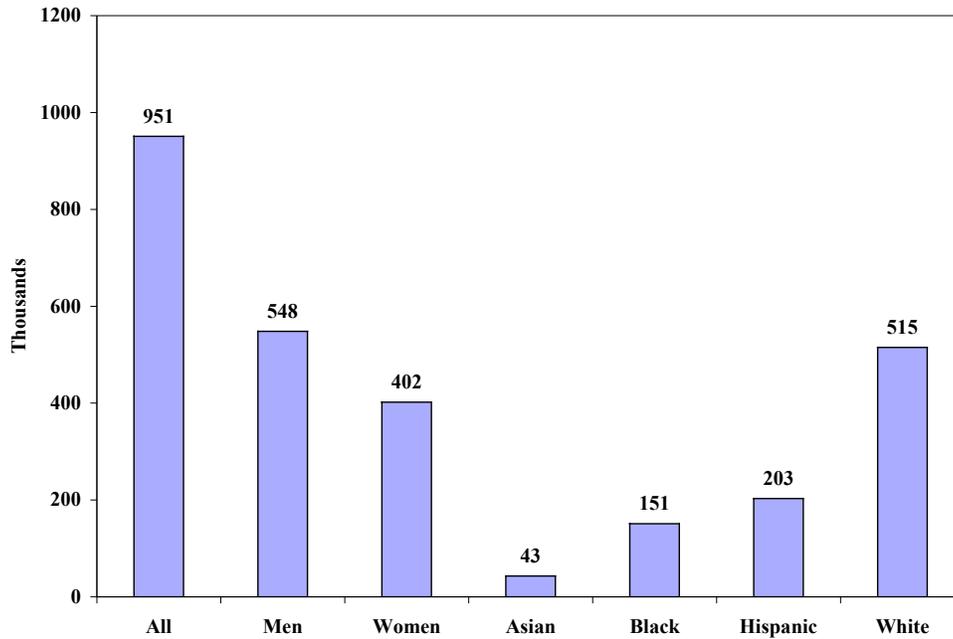
On average, during the summer of 2004, there were nearly one million teens (951,000) who were members of the labor force reserve (Table 15 and Chart 11). The official size of the teen labor force reserve, a likely conservative estimate, was quite substantial, representing 12 of every 100 teens not active in the labor force during the summer months.⁵³ This teen labor force reserve included 548,000 men and over 400,000 women. White, non-Hispanic teens accounted for 55% of the labor force reserve, but there were 151,000 Hispanic teens and 203,000 Black teens in the labor force reserve during the summer of 2004 (Chart 11). Nearly 15 of every 100 Black teens not actively participating in the civilian labor force expressed a desire for immediate employment. This estimate of the Black teen labor force reserve itself is likely to be quite conservative. Past evaluations of youth employment programs creating jobs for low income youth in central cities and rural areas have revealed that many teens, especially Blacks, will

⁵² As noted above, some active job search over the past four weeks is required for an individual to be classified as unemployed. Persons engaging in passive job search, such as reading newspaper want ads or surfing Internet job sites, do not get counted as unemployed. The CPS survey allows for proxy respondents. Adult family members, especially mothers, often respond for their teenaged children. Previous national research has shown that parents tend to understate both unemployment and employment among their teenaged children. See: Michael E. Borus (Editor), *Youth and the Labor Market*, W.E. Upjohn Institute for Employment Research, Kalamazoo, 1982.

⁵³ There were approximately 7.9 million teens who were not active in the civilian labor force during the summer of 2004.

enroll in such programs when jobs are made available to them.⁵⁴ During the past few summers, few subsidized jobs were made available by national, state, and local governments.

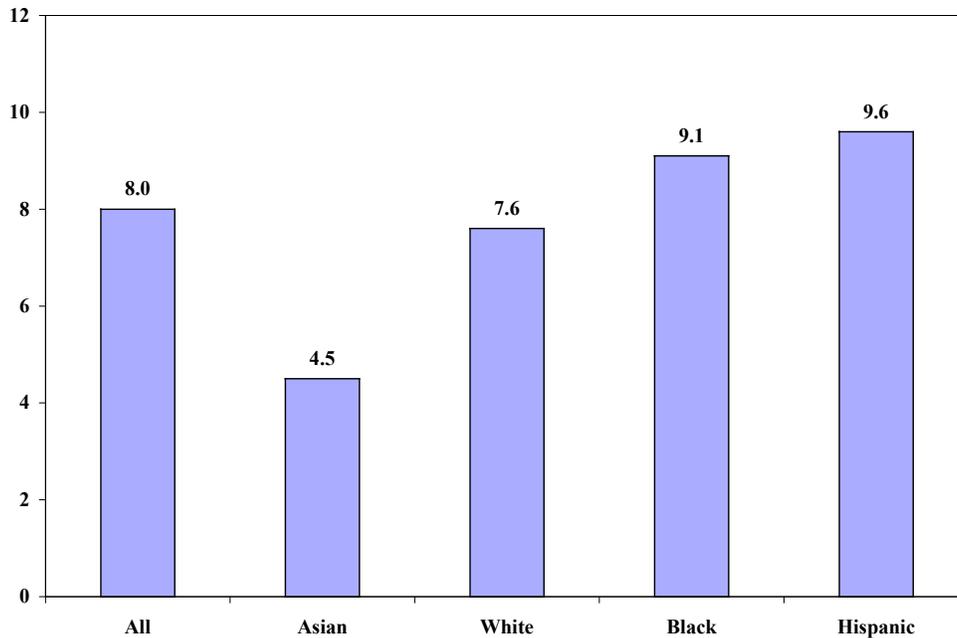
Chart 11:
Estimated Average Monthly Number of Teens Who Wanted a Job But Were Not Actively Looking for Work During the Summer of 2004 by Gender and Race-Ethnic Group (in 1000s)



The monthly CPS household survey also captures information on the actual and desired work hours of teens employed part-time. This information can be used to identify underemployed individuals, i.e., those workers who were employed part-time (less than 35 hours) for economic reasons, such as slack work in their firms, material shortages, or an inability to find a full-time job. Teens working part-time for economic reasons typically average only 21-22 hours of work per week, or only half of the average hours worked by the full-time employed. In the summer of 2004, we estimate that there were 549,000 underemployed teenagers in the U.S., representing 8 percent of all of the employed teens. Male teenagers were modestly more likely than their female peers to be underemployed in the summer of 2004 (8.5% vs. 7.4%) (Chart 12). The incidence of underemployment problems among the four major race-ethnic group varied from a low of 5 percent among Asians to highs of 9 to 10 percent among Blacks and Hispanics.

⁵⁴ See: Robert Lerman and Andrew Hahn, What Works in Youth Employment Policy? National Planning Association, Washington, D.C., 1982.

Chart 12:
Percent of All Employed Teenagers Who Were
Underemployed in the Summer of 2004, All and by Race-Ethnic Group
 (Numbers in Percent)



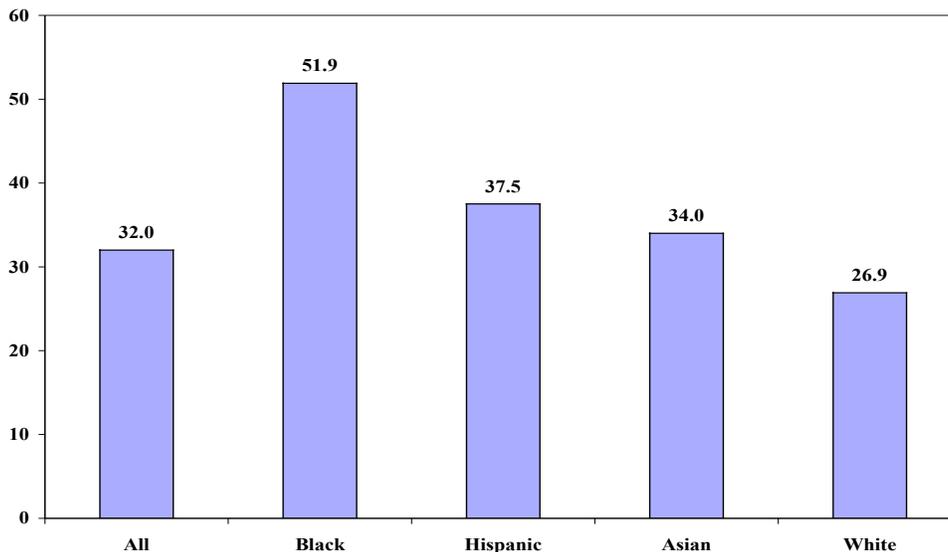
The combined pool of unutilized and underutilized teens during the summer of 2004 is equal to the sum of the unemployed, the labor force reserve, and the underemployed. On average, there were nearly 3 million teens who were unutilized or underutilized during the summer of 2004 (Table 16 and Chart 13). This substantial pool of unutilized and underutilized teens was equivalent to 32 percent of the adjusted teen civilian labor force during the summer of 2004 (Table 16). Males accounted for a majority (55%) of the unutilized pool of teen labor, but there were 1.35 million female teens who were unemployed, underemployed, or members of the labor force reserve. The incidence of labor underutilization problems during the summer of 2004 ranged from just under 27% among White, non-Hispanic teens to 38% for Hispanics and to a high of 52% for Black teens. Thus, slightly over one-half of all Black teens in the adjusted civilian labor force during the summer of 2004 were left either jobless or underemployed. Thus, the sharp drop in teen summer employment over the past four years does not appear to be attributable to a declining interest in employment among the nation's teens but rather to rising levels of joblessness including both open and hidden unemployment. Very high fractions of low income and minority teens are not only jobless during the summer months but also during the entire calendar year. Their high levels of joblessness in the teen years will exacerbate their difficulties in transitioning to the labor market in their early twenties. The dearth of summer job

opportunities for teens needs to be immediately addressed by the nation's economic policymakers.

Table 16:
Number of Teens in the Adjusted Civilian Labor Force and the Number Who Were Unutilized or Underutilized During the Summer of 2004 by Gender and Race/Ethnic Group
 (Numbers in 1000s)

Group	(A) Adjusted Civilian Labor Force	(B) Pool of Unutilized and Underutilized	(C) Percent of Labor Force Unutilized or Underutilized
All	9,292	2,973	32.0
Men	4,854	1,623	33.4
Women	4,438	1,350	30.4
Asian	238	81	34.0
Black	1,125	584	51.9
Hispanic	1,285	482	37.5
White	6,389	1,721	26.9

Chart 13:
Labor Force Underutilization Rates Among Teenagers in the U.S., by Race-Ethnic Group, Summer of 2004
 (Numbers in Percent, not Seasonally Adjusted)



Teen and Young Adults Employment Outcomes Across High Poverty and Non High Poverty Neighborhoods in 2000 and 2004

Youth employment rates in the U.S. have been found to vary quite widely across geographic areas including regions, states, cities and towns, and neighborhoods.⁵⁵ Teens living in high poverty neighborhoods (poverty rates of 20% or higher) typically experience far lower employment rates than their peers living in neighborhoods with low poverty rates (under 10 percent). During the past decade, the U.S. Department of Labor has undertaken a series of demonstration programs to boost educational and labor market outcomes for teens and young adults (19-21) living in selected central city and rural high poverty neighborhoods. Among these demonstration programs were the Kulick Youth Employment Demonstration Programs and the more recent Youth Opportunity Grant Programs (YOG).⁵⁶

Estimates of teen employment rates during calendar years 2000 and 2004 in high poverty neighborhoods and in non-high poverty neighborhoods of the nation are displayed in Table 17. The definition of a “high poverty neighborhood” underlying these employment estimates is that of a set of Census tracts with an overall poverty rate among residents of 20 percent or higher. High poverty neighborhoods can also be classified by the geographic area in which they are located: central cities, the suburban portions of metropolitan areas, and non-metropolitan areas. Non-metropolitan areas include small cities and town and rural areas.

In calendar year 2000, at the height of the labor market boom, slightly over 45 percent of the nation’s teens were employed (Table 17). Teen employment rates, however, varied considerably across neighborhoods, with 48 percent of teens in neighborhoods with poverty rates below 20 percent being employed during 2000 versus an employment rate of only 34 percent for those teens living in high poverty neighborhoods. Previous national research based on the 1990 Census revealed that the higher the poverty rate in a neighborhood, the lower was the employment rate for teens.⁵⁷ Across high poverty neighborhoods, teen employment rates in 2000 were lower in both central cities and suburbs (33%) than they were in non-metropolitan areas of the nation (38%).

⁵⁵ For an earlier review of youth employment outcomes across neighborhoods based on their poverty rates, See: Andrew Sum, Neeta Fogg, and Garth Mangum, *Confronting the Youth Demographic Challenge*, especially pages 200-207.

⁵⁶ For a review of the objectives and key design features of the Kulick youth demonstration programs, See: Andrew Sum and Neeta Fogg, “Kulick Youth Opportunity Demonstration Areas,” *Making Connections: Youth Program Strategies for A Generation of Challenge*, (Editor: Marion Pines), Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 1999.

⁵⁷ See: Andrew Sum, Neeta Fogg, and Garth Mangum, *Confronting the Youth Demographic Challenge*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 2000.

Table 17:
The Employment/Population Ratios of 16-19 Year Olds in the U.S. by
High Poverty/Non-High Poverty Tracts and Their Geographic Location, 2000-2004
(in %)

Geographic Area	(A)	(B)	(C)	(D)
	2000	2004	Percentage Point Change	Percent Change
All U.S. tracts	45.4	36.4	-9.0	-20
U.S. high poverty tracts	34.4	26.1	-8.3	-24
▪ Poverty tracts in metro areas	32.9	24.9	-8.1	-25
▪ Poverty tracts in central cities	32.9	24.2	-8.7	-26
▪ Poverty tracts in suburbs	32.9	26.5	-6.4	-19
▪ Poverty tracts in non-metropolitan areas	38.1	29.4	-8.8	-23
All U.S. non-high poverty tracts	48.0	38.6	-9.4	-19

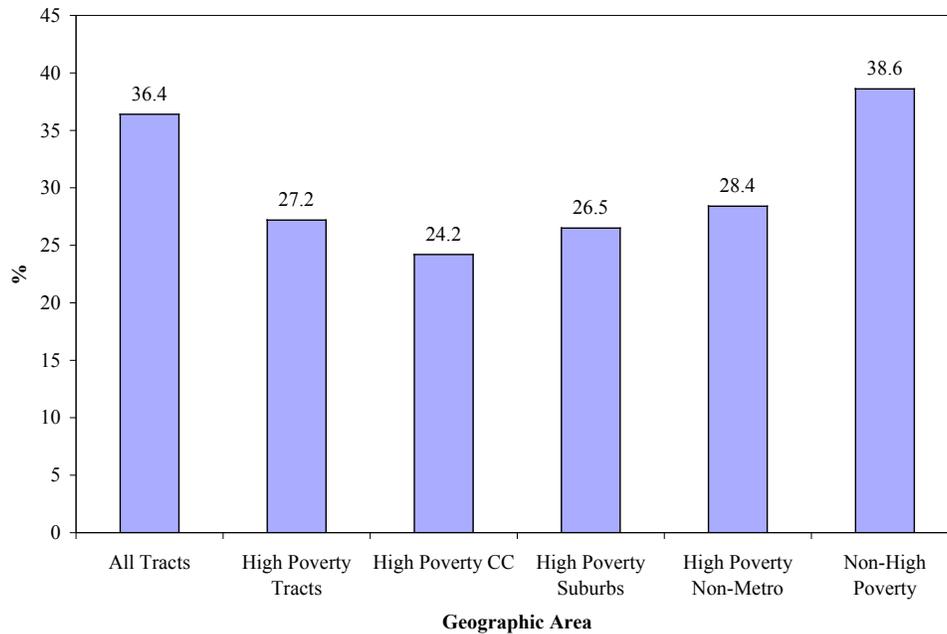
Source: Monthly CPS surveys 2000 and 2004, unpublished tabulations provided to authors by U.S. Bureau of Labor Statistics.

Between 2000 and 2004, teen employment declines were quite substantial in all geographic areas of the nation, including low poverty and high poverty neighborhoods, but the relative size of the declines were higher in the high poverty neighborhoods (24%) than they were in neighborhoods with lower poverty rates (19%). During 2004, only 26 of every 100 teens residing in high poverty neighborhoods were employed versus nearly 39 of every 100 teens in neighborhoods with poverty rates below 20% (Table 18). Across high poverty areas, employment rates of teens in 2004 ranged from a low of 24% for those living in central cities to a high of 29% for those residing in non-metropolitan high poverty neighborhoods. Within these high poverty, central city neighborhoods, employment rates tended to be even considerably lower for high school students, Blacks, and 16-17 year olds.

Similar geographic patterns of employment rates of teens prevailed among men and women during 2004. Nearly 39 percent of male teens living in low poverty neighborhoods were employed in 2004 versus only 27 percent of those in high poverty neighborhoods, a relative difference of 42% (Chart 14). Only 24% of male teens in high poverty, central city neighborhoods were working in 2004. High rates of joblessness among low-income males has been found to be significantly associated with higher school dropout rates.⁵⁸

⁵⁸ See: Marta Tienda and Avner Ahituv, "Ethnic Differences in School Departure," in Of Heart and Mind: Social Policy Essays in Honor of Sar Levitan...

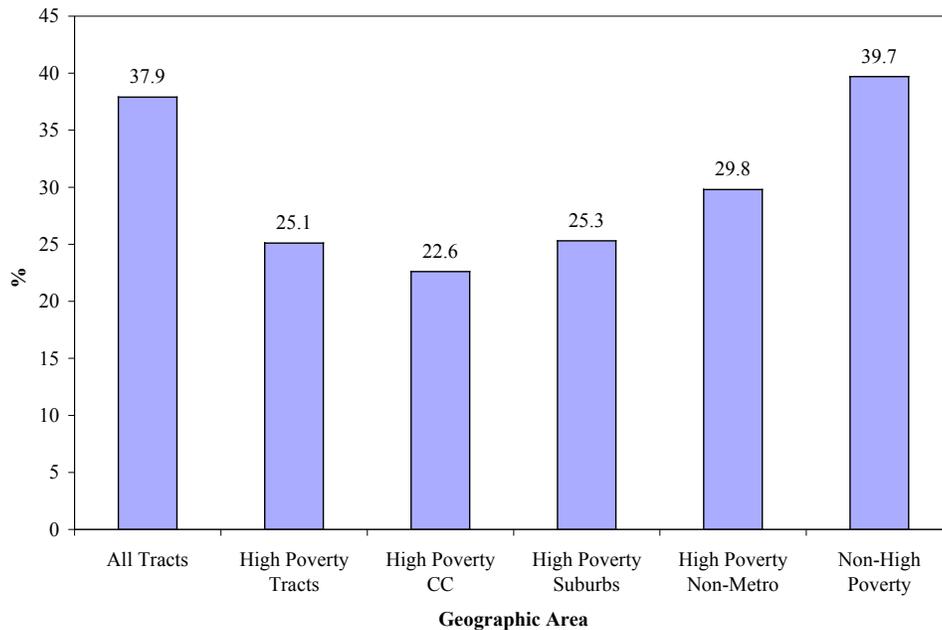
Chart 14:
E/P Ratios of 16-19 Year Old Males in the U.S. by High Poverty/
Non-High Poverty Tracts and Geographic Location, 2004
 (in %)



Among female teens, employment rates varied from a low of 23% among those residing in central city, high poverty neighborhoods to a high of just under 40 percent for their peers in non-high poverty neighborhoods. The relative size of the difference in the employment rates of the above two groups of female teens was 75% (Chart 15). Clearly, female teens living in high poverty, central city neighborhoods were considerably less likely to work than their peers in neighborhoods with lower poverty rates. National research has shown that a number of adverse social behaviors, including teenage pregnancies, are linked to the absence of job opportunities for female teens.⁵⁹

⁵⁹ See: Jonathan Gruber, Risky Behavior Among Youth: An Economic Analysis, University of Chicago Press, Chicago, 2001.

Chart 15:
E/P Ratios of 16-19 Year Old Women in the U.S. by
High Poverty/Non-High Poverty Tracts and Geographic Location, 2004



Within all high poverty neighborhoods and those located within cities, the employment rates of teens varied fairly considerably across race-ethnic groups (Chart 16). In both sets of areas, White teens were more likely to be employed than Hispanics and Blacks. For example, within all high poverty neighborhoods, in 2004, the employment rates of teens varied from a low of 19% among Black teens to 24% among Hispanics and to a high of 31% for Whites.⁶⁰ Nearly identical race-ethnic patterns prevailed in central city, high poverty neighborhoods. Taking into account both the race-ethnic characteristics of teens and their geographic locations, there were substantial differences in teen employment rates during 2004. These E/P ratios of the nation's teens ranged from a low of 13% among Black teens living in high poverty neighborhoods in non-metropolitan areas to highs of 41 percent among White youth living in areas with poverty rates below 20 percent. The relative difference in employment rates between teens in the highest and lowest employment neighborhoods was more than three to one. Clearly, there are extraordinarily large differences in teen employment rates across geographic areas/race-ethnic groups.

⁶⁰ The employment data for Whites in this chart include Hispanics.

Chart 16:
E/P Ratios of All, Black, Hispanic, and White Teens in High Poverty Neighborhoods of the U.S., All and Central City High Poverty Tracts, 2004
 (in %)

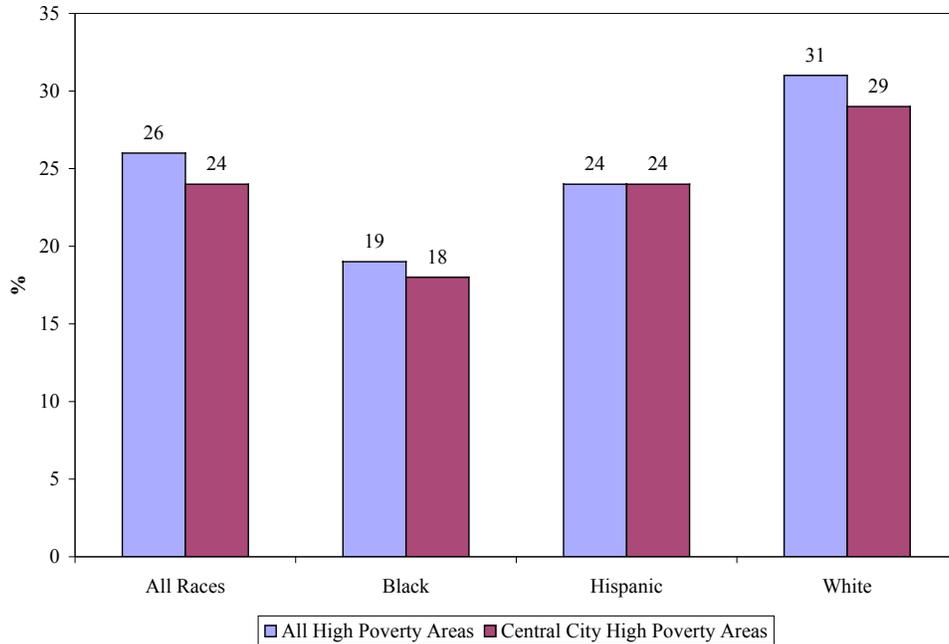
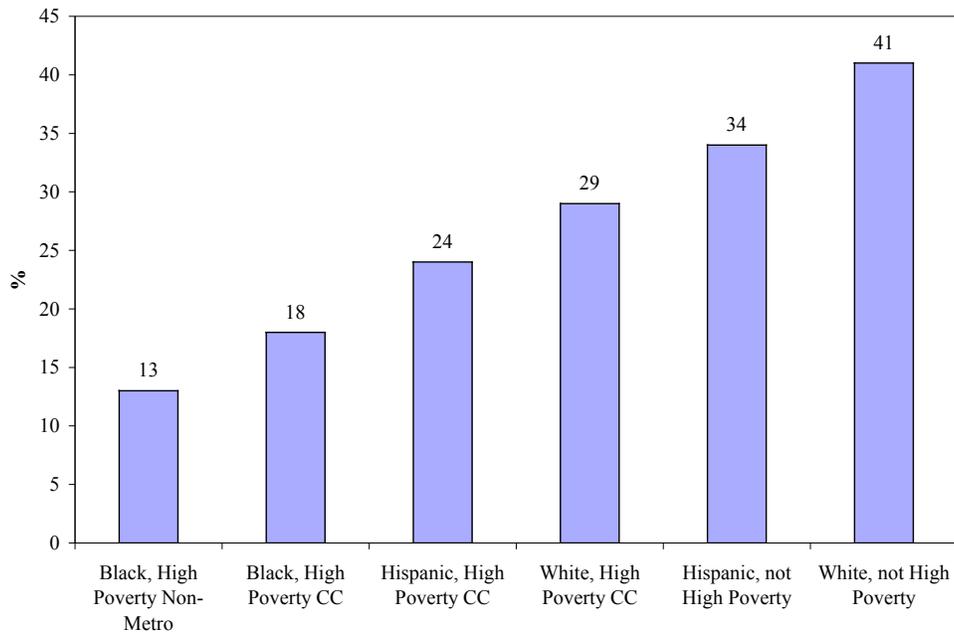


Chart 17:
E/P Ratios of Selected Subgroups of Teens in the U.S. by Race-Ethnic Group, High Poverty/Non-High Poverty Neighborhood, and Geographic Location, 2004



The movement of teens in primarily minority, single parent families in high poverty neighborhoods to neighborhoods with somewhat lower poverty rates does not appear sufficient by itself to significantly improve their schooling or employment outcomes. Findings from five to

seven year followup interviews with youth ages 15-20 in experimental and control group families in the Moving to Opportunity demonstration program funded by HUD in five cities revealed no significant differences in school enrollment/employment outcomes between the experimental and control groups.⁶¹ There were no significant differences for both gender groups of teens combined or for men and women separately.

Employment Rates of Young Adults (20-24) Across High Poverty and Low Poverty Neighborhoods, 2000-2004

Employment opportunities for 20-24 year old adults deteriorated for most demographic subgroups over the 2000-2004 period although young college graduates (those with a Bachelor's or higher degree) fared better than their less educated peers in avoiding substantial job losses over this four-year period. To identify how well young adults in various types of neighborhoods fared over this time period, we examined employment rates (E/P ratios) for young adults in selected high poverty and non-high poverty neighborhoods across the nation in 2000 and 2004 (Table 18).

Table 18:
The Employment/Population Ratios of 20-24 Year Olds in the U.S. by
High Poverty/Non-High Poverty Tracts and Their Geographic Location, 2000-2004
(Annual Averages, in %)

	(A)	(B)	(C)	(D)
Geographic Area	2000	2004	Percentage Point Change	Percent Change
All U.S. tracts	72.4	68.0	-4.5	-6
U.S. high poverty tracts	64.8	60.1	-4.8	-7
▪ Poverty tracts in metro areas	64.5	59.4	-5.1	-8
▪ Poverty tracts in central cities	64.0	58.6	-5.4	-8
▪ Poverty tracts in suburbs	66.1	61.9	-4.2	-6
▪ Poverty tracts in non-metropolitan areas	65.9	62.4	-3.5	-5
All U.S. non-poverty tracts	74.4	69.9	-4.6	-6

Source: Monthly CPS surveys 2000 and 2004, unpublished tabulations provided to authors by U.S. Bureau of Labor Statistics.

The overall employment rate for young adults in 2000 was 72.4%. The employment rates of these young adults ranged from a low of 65% in all high poverty neighborhoods to nearly 75

⁶¹ For a summary of the main impact findings of the Moving to Opportunity Demonstration, See: Jeffrey R. Kling, Jeffrey B. Liebman, and Lawrence Katz, Experimental Analysis of Neighborhood Effects, NBER Working Paper 11577, Cambridge, Massachusetts, August 2005.

percent in non-high poverty neighborhoods.⁶² Between 2000 and 2004, the employment rates of young adults fell in every major geographic area, with both adults in high poverty neighborhoods and non-high poverty neighborhoods experiencing very similar percentage point declines (4.6 to 4.8 points) in their E/P ratios over this four year period. During calendar year 2004, the E/P ratio of young adults residing in neighborhoods with poverty rates below 20% was about 10 percentage points higher than that of their peers in high poverty neighborhoods (70 percent versus 60 percent), with young adults in central city high poverty neighborhoods faring the worst.

The employment rates of young adults residing in high poverty neighborhoods varied considerably across race-ethnic groups. In these high poverty neighborhoods, White youth (65%) were the most likely to be employed followed by Hispanic (61%) and Black youth (49%) (Table 19). Similar race-ethnic patterns in E/P ratios prevailed across all three geographic subgroups of high poverty neighborhoods in 2004. For members of each of the three race-ethnic groups, employment rates were higher among those living in lower poverty neighborhoods than in high poverty neighborhoods. Findings from the 1990 Census revealed that the E/P ratios of both teens and young adults tended to decline steadily as the poverty rates of their neighborhoods increased.

Table 19:
E/P Ratios of 20-24 Year Olds in the U.S. by Race-Ethnic Group and Type of
Poverty Neighborhoods, 2004
(Annual Averages, in %)

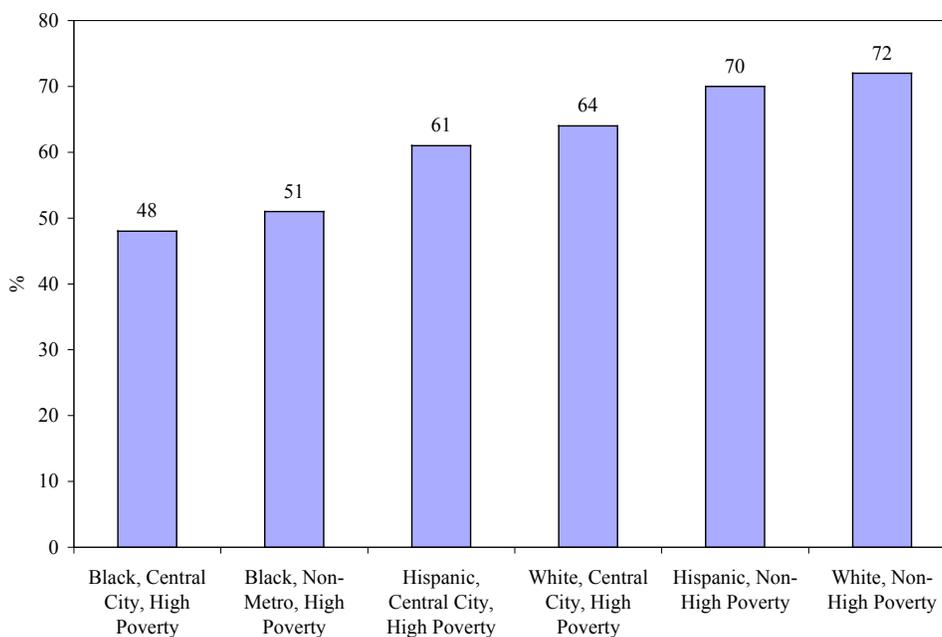
	(A)	(B)	(C)
Type of Neighborhood	Black	Hispanic	White
High poverty neighborhoods	49	61	65
▪ Central city	48	61	64
▪ Suburbs	52	60	64
▪ Non-Metro area	50	66	67
Not high poverty neighborhoods	60	71	72

Taking into account both the race-ethnic characteristics of 20-24 year olds and the geographic locations of their residences, we find very large differences in their employment rates in 2004 (Chart 20). The E/P ratios of these 20-24 year olds varied from a low of 48% for Black youth in central city, high poverty neighborhoods to 61% for Hispanics in central city, high

⁶² The cutoff point for a high poverty neighborhood was a minimum of 20 percent for all residents of that area.

poverty neighborhoods to a high of 72% for White young adults in non-high poverty neighborhoods. The relative size of the gap in employment rates between the two highest and lowest groups was a considerable 50 percent.

Chart 18:
E/P Ratios of 20-24 Year Olds in the U.S. by Selected Race/Ethnic Group,
High Poverty/Non-High Poverty Neighborhood, and Geographic Location, 2004
 (Annual Averages, in %)



Rising Levels of Year-Round Joblessness Among the Nation’s Teens, 1999-2004

Over the past four years, the annual average teen employment rate fell steadily and strongly, declining from 45 percent in 2000 to 36 percent in 2004. The 36 percent employment rate for teens in 2004 was the lowest it has been in the past 56 years since the beginning of the historical CPS teen employment series. The annual average teen employment rate can decline for several different reasons: a smaller share of the nation’s teens work at some point during the year, employed teens work for fewer weeks during the year, or some combination of the above two developments.⁶³ For example, suppose that the annual average teen employment rate fell

⁶³ From an algebraic standpoint, we can illustrate the link between the annual average E/P ratio of teens and the incidence and intensity of their employment experiences during the year in the following manner:

$$(E/P)_t = (WORK/P)_t * (\overline{WEEKS}/52)_t$$

where Work = number of teens with some paid work experience during the year

P = number of teens 16-19 in the civilian non-institutional population

\overline{WEEKS} = Mean weeks worked during the year among teens with some paid work

from 50% to 40% between two time periods. At one extreme, this result could have been produced by the following developments: (a) teens who work are employed all year (52 weeks). However, the fraction of the nation's teens who work declined from 50 to 40 percent. (b) All teens work at some time during the year; however, the mean weeks worked during the year declined from 26 weeks (50% of the time) to 20.8 weeks (40% of the time).

What employment behaviors of teens led to the steep decline in their employment rate between 2000 and 2004? Was it primarily a decline in the ability of teens to obtain any work or a reduction in their average weeks of employment? To answer this question, we analyzed the findings of the March 2000 and March 2005 CPS work experience surveys. The work experience surveys collect information on the labor force, employment, and unemployment experiences of all household members (15 and older) in the prior calendar year. The findings can be used to identify the share of teens who worked at some point in the prior calendar year and the mean weeks of paid employment among those who worked at some time during the year. Key findings of our analysis of the work experience data for calendar years 1999 and 2004 are displayed in Table 20. The estimates represent the fraction of the nation's teens with no paid employment during the previous calendar year.⁶⁴

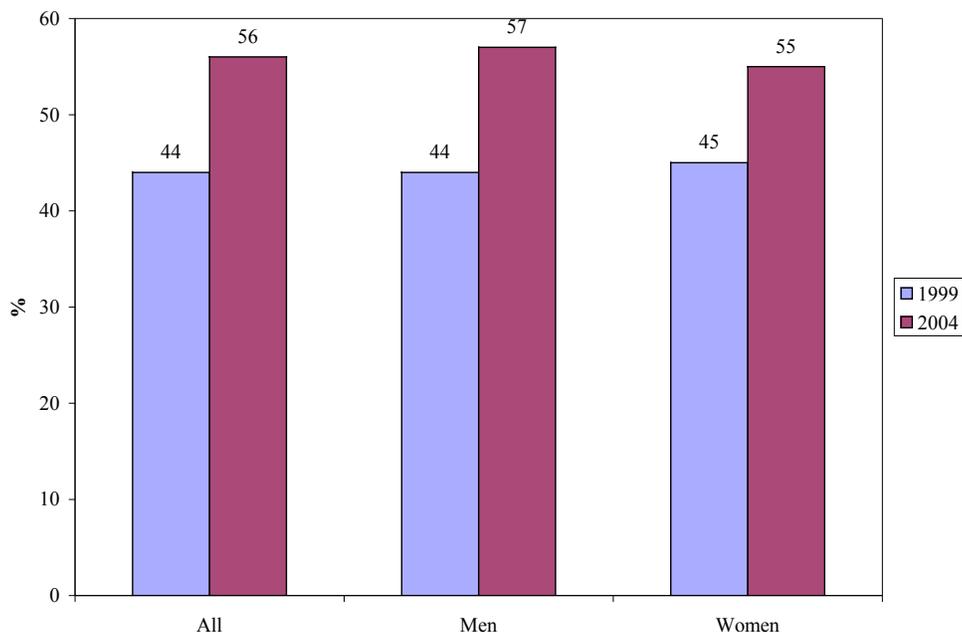
⁶⁴ The work experience information for teens is often provided by their mothers or another adult member of the household. There is some tendency for proxy respondents to under-report short spells of employment among teens, especially informal work such as babysitting and odd jobs.

Table 20:
Percent of 16-19 Year Olds With No Paid Employment at Any Time
During 1999 and 2004 by Gender, Race-Ethnic Group, and School
Enrollment/Educational Attainment Status

	(A)	(B)	(C)	(D)
Group	1999	2004	Percentage Point Change	Percent Change
All	44	56	+12	27
Gender				
Men	44	57	+13	30
Women	45	55	+10	22
Race/Ethnic Group				
Asian	63	75	+12	20
Black	60	74	+14	23
Hispanic	57	65	+8	14
White, not Hispanic	36	49	+13	36
Educational Attainment				
High School Students	54	67	+13	24
College Students	28	38	+10	36
High School Dropouts	38	53	+15	40
Not Enrolled, High School Graduate	19	26	+8	42

Source: March 2000 and March 2005 CPS public use files, tabulations by authors.

Chart 19:
Trends in Year-Round Joblessness Among the
Nation's Teens (16-19) Between 1999 and 2004, All and by Gender



Between 1999 and 2004, the fraction of the nation's teens with no reported employment during the year rose sharply from 44 percent to 56 percent, an increase of 12 percentage points or 27% (Table 20 and Chart 19). The percentage share of teens with no paid employment rose considerably in every major demographic, socioeconomic, and schooling subgroup. Rising year-round joblessness accounted for nearly all of the decline in the employment rate of teens between 2000 and 2004 (Table 20). Mean weeks of work among teens with some employment was basically unchanged between 1999 and 2004 (31.2 weeks versus 30.9 weeks). The relative sizes of the increases in “year round joblessness” were higher for men than for women, for Whites and Blacks than for Hispanics, and for high school dropouts and non-enrolled high school graduates than for high school and college students. For example, both the absolute and relative increase in year-round joblessness among males exceeded that of their female counterparts, with their relative increase being 30 percent versus 22 percent for their female peers. Male teens were more adversely affected than women by the steep decline in manufacturing payroll employment between 2000 and 2004, and they faced increasing competition from young male immigrants and older adults (55-70) over this time period. A very high fraction of the new immigrant workers since 2000 were males between the ages of 18 and 30, and they captured a very large share of all new wage and salary jobs in construction industries and in retail trade/leisure and

hospitality industries, which were major employees of teen males at the end of the labor market boom of the 1990s.

The share of teenaged high school students with no reported paid employment during the year rose sharply from 1999 to 2004, increasing from 54 to 67 percent (Table 19). During the latter year, two-thirds of teenaged high school students did not work at any time during the year. Year-round joblessness among high school students in 2004 did, however, vary quite widely across race-ethnic groups and family income groups (Charts 20 and 21). While a clear majority of high school students in each race-ethnic group reported no paid employment during the year, the fraction doing so ranged from a low of 59 percent among Whites to highs of 83 to 84 percent among Black and Asian youth. The year-round joblessness rates of high school students during 2004 also varied systematically by their family income. The lower the family income, the less likely were high school students to work. Eighty-three percent of high school students from poor families failed to obtain any type of paid employment during the year versus 75 percent of those living in families with a money income between 100 and 200 percent of the poverty line and only 58% of those residing in families with an income three or more times the poverty line for a family of their given size and age composition.⁶⁵ The positive associations between the employment rates of high school students and their family's income position tended to prevail among high school students in each major race-ethnic group. In each family income group, however, White high school students were more likely to be employed than Asians, Blacks, or Hispanics.

⁶⁵ The family poverty income thresholds of the federal government vary by the number of persons in the household and their age distribution but not by their geographic location. For an overview of the poverty income thresholds for calendar year 2004, See: U.S. Census Bureau, Money Incomes, Poverty Status, and Health Insurance Coverage: 2004, Washington, D.C., 2005.

Chart 20:
Percent of 16-19 Year Old High School Students With No Paid Employment at Any Time During 2004 by Race-Ethnic Group

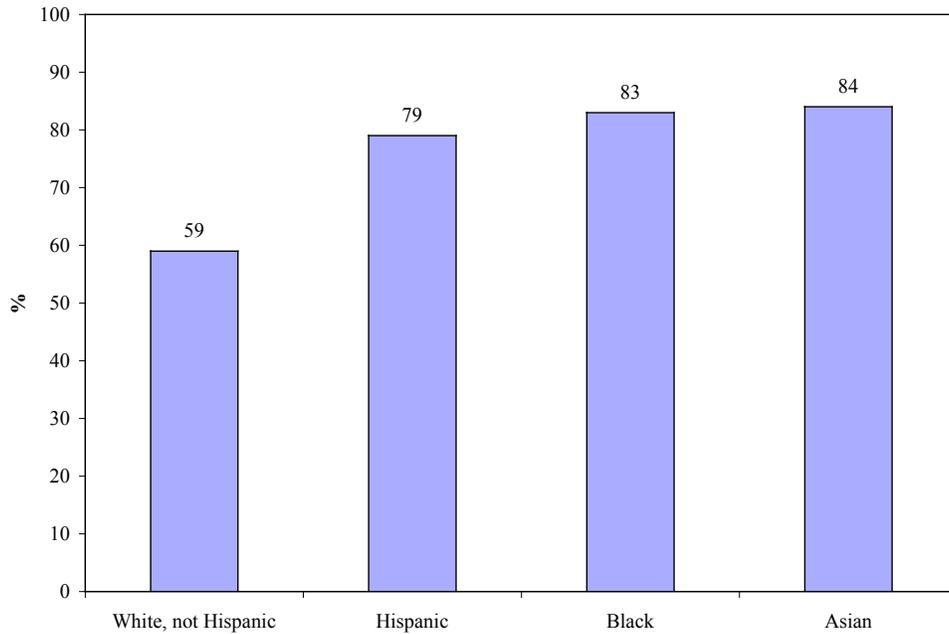
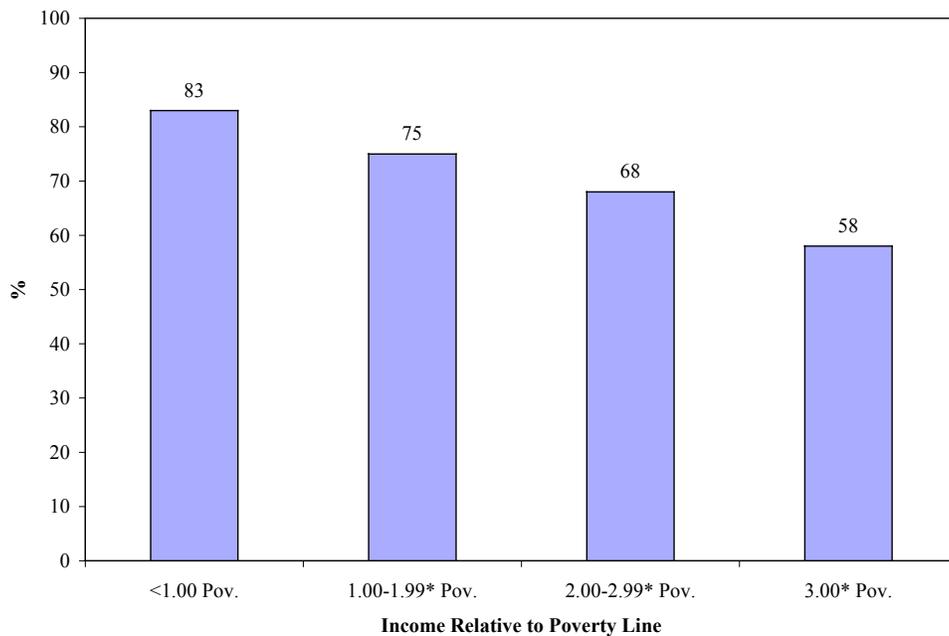


Table 21:
Percent of 16-19 Year Old High School Students With No Paid Employment at Any Time During 2004 by Family Income Relative to Poverty Line

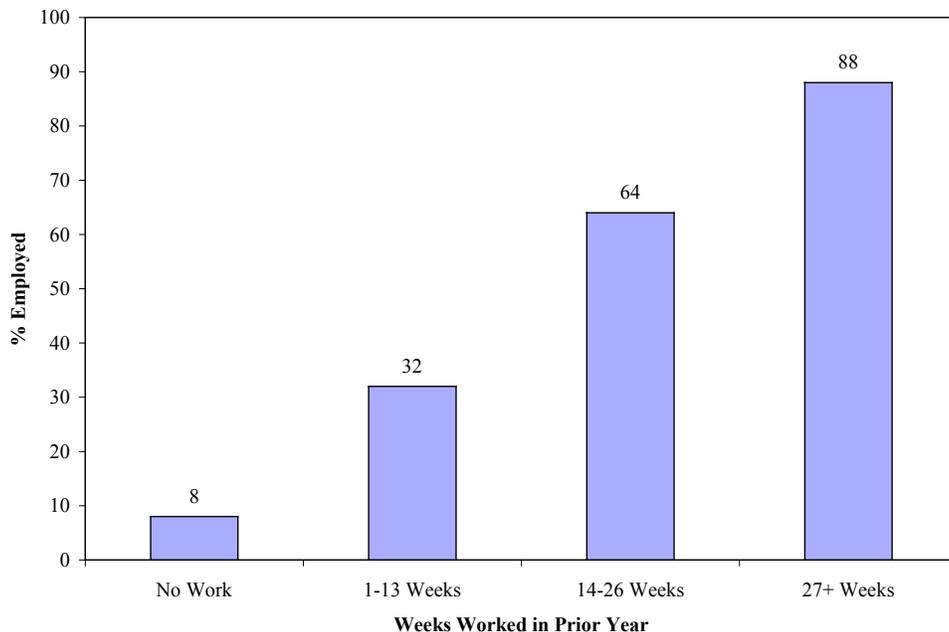


The employment behavior of teens is characterized by strong path dependency; i.e., the employment status of teens in time period (t + 1) is strongly linked to their job status in time

period t. To illustrate the nature of these employment relationships, we cross-tabulated the employment status of 16-20 year old high school students in March 2005 by their employment experiences in the prior calendar year; i.e., 2004. Each high school student in March 2005 was assigned to one of the following four mutually exclusive employment categories: did not work at all in the prior year, worked 1-13 weeks, worked 14-26 weeks, and worked 27 or more weeks during the year.

The employment rates of these high school students in March 2005 varied markedly by their weeks of work experience in the prior calendar year. Among those 16-20 year olds with no weeks of paid employment in 2004, only 8% were working at the time of the March 2005 CPS survey (Chart 22). If they had worked for 1-13 weeks in the previous year, then their employment rate would rise to 32 percent. Of those with more than six months of paid employment in 2004, 88 percent were employed at the time of the March 2005 survey. The employment rate of this last group of high school students was eleven times higher than that of their peers with no paid employment during 2004.

Chart 22:
Percent of 16-20 Year Old High School Students Who Worked in March 2005 by Weeks Worked in Previous Calendar Year



The strong time path dependence of employment among high school students holds true among men and women, each major race-ethnic group, and family income group.⁶⁶ Findings for race-ethnic groups of high school students are displayed in Table 21. For members of each of these four groups, only a very small percent (5 to 10 percent) of those with no paid employment in 2004 were working at the time of the March 2005 CPS survey. Employment rates of these four groups rose very strongly with the amount of their paid employment in the prior calendar year. Between 80 and 93 percent of those teens with more than six months of employment in the prior year were employed in March 2005. Each of these four groups of students with substantial work experience in 2004 were eight to seventeen times more likely to be employed in March 2005 than their peers with no weeks of paid work in the prior year. Work experience among teens clearly begets more work experience. A type of “Matthew effect” cited by some researchers in the literacy field also appears to prevail in the youth labor market.⁶⁷ These same types of behaviors also prevail in the labor market for young adults in their 20s. Cumulative work experience has very substantial effects on the wages and annual earnings of young men and women,⁶⁸ and the expected returns from work experience influence the decision of men to actively participate in the labor force.⁶⁹ These developments have created a “Catch 22” type of problem for young adults. Those who acquire limited work experience in their late teens and early 20s cannot command high wages in the labor market, and their limited wage prospects reduce the economic incentive for them to participate in the labor market.

⁶⁶ Findings from the NLS97 longitudinal surveys of youth also show strong path dependence in employment of teens from age 14 onward.

See: U.S. Department of Labor, Bureau of Labor Statistics, Employment of Teenagers During the School Year and Summer, Washington, D.C., 2004.

⁶⁷ In the literacy field, some researchers including Keith Stanovich of the University of Toronto refer to the cumulative effects of a weak base of literacy skills as the “Matthew effect” from the Biblical dictum, that “the rich get richer and the poor get poorer.”

See: (i) Keith Stanovich, “Matthew Effects in Reading: Some Consequences of Individual Differences in the Acquisition of Literacy,” Reading Research Quarterly, Vol. 21, 1986, pp. 360-406; (ii) John Comings, Andrew Sum and Johan Uvin, New Skills for A New Economy: Adult Education’s Key Role in Sustaining Economic Growth and Expanding Opportunity, Massachusetts Institute for A New Commonwealth, Boston, 2000.

⁶⁸ See: John Bishop, “Achievement, Test Scores, and Relative Wages,” in Workers and Their Wages, (Editor: Marvin H. Koster), American Enterprise Institute, Washington, D.C., 1991.

⁶⁹ See: Stephanie Aaronson, Looking Ahead: Young Men, Wage Growth, and Labor Market Participation, Ph.D. Dissertation, Columbia University, 2000.

Table 21:
Percent of 16-20 Year Old Asian, Black, Hispanic, and White, non-Hispanic High School
Students Who Worked in March 2005 by Weeks Worked in the Previous Calendar Year

Weeks Worked in Prior Year	Employment Rate			
	(A)	(B)	(C)	(D)
	Asian	Black	Hispanic	White
0	5.3	5.5	5.2	10.1
1-13	27.0	32.6	37.4	40.3
14-26	60.9	60.6	59.7	65.3
27+	92.7	89.3	80.4	88.1
All	16.5	15.4	17.2	32.2

The Rise in Year-Round Joblessness Among Teenaged Dropouts

From the mid-1990s through the end of the decade, employment opportunities for all major demographic subgroups of teens and young adults improved, including economically disadvantaged young adults and high school dropouts. Teenaged dropouts have, however, suffered steep declines in their employment rates over the past four to five years.⁷⁰ The fraction of 16-19 year old dropouts with no reported employment during the entire year rose from 38% in 1999 to 53% in 2004, a rise of 15 percentage points or 40% in relative terms (Table 19). Among teen dropouts, the share who were jobless year-round during 2004 ranged from a low of 45 percent among Whites to 52 percent among Hispanics and to a high of 75 percent among Blacks (Chart 23). The rise in year-round joblessness among teen dropouts over the past five years was much higher among native born dropouts than among immigrant dropouts (Table 22). Between 1999 and 2004, the year-round joblessness rate among native born teen dropouts rose from 37 to 55 percent while it increased by only 3 percentage points among foreign born dropouts. In 2004, native born dropouts were more likely to be jobless year-round than their immigrant counterparts.

⁷⁰ A school dropout for this analysis is defined as a 16-19 year old who was not enrolled in school at the time of the CPS survey and lacked a regular high school diploma or a GED certificate.

Chart 23:
Percent of 16-19 Year Old High School Dropouts With No Weeks of Paid Employment in 2004 by Race-Ethnic Group

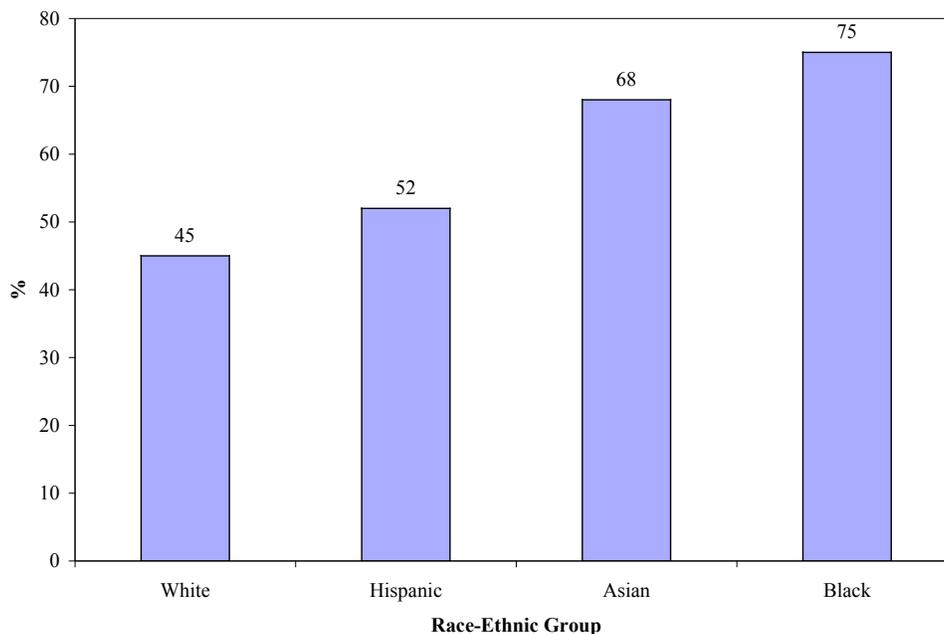


Table 22:
The Percent of 16-19 Year Old High School Dropouts with No Paid Work Experience in 1999 and 2004 by Nativity Status

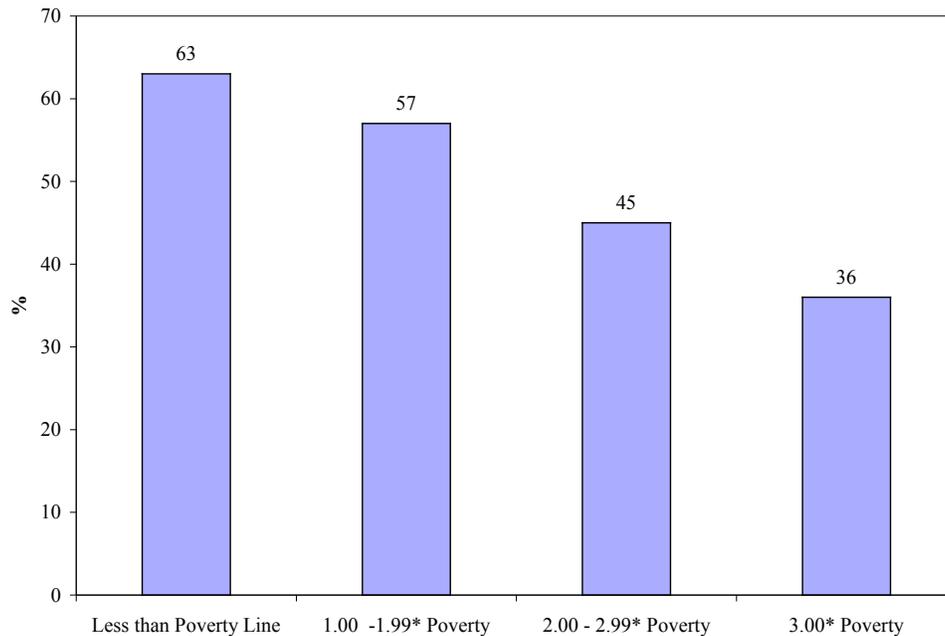
	(A)	(B)	(C)	(D)
Nativity Status	1999	2004	Percentage Point Change	Percent Change
Foreign Born	41	44	+3	7
Native Born	37	55	+18	49

Teen dropouts from low income families were the most at risk of year-round joblessness during 2004 (Chart 24). Sixty-three percent of those young dropouts from poor families were unable to obtain any paid employment during the year versus 57 percent of those living in families with incomes between one and two times the poverty line and 36 percent of those teen dropouts living in families with incomes three or more times the poverty line for their given size and age composition. Older male teens and young adults (20-22) without a high school diploma are considerably more likely than high school graduates to become institutionalized⁷¹, and their incarceration in jail and prison will have long-term adverse impacts on their employability and

⁷¹ The proportion of male 18-24 year old dropouts that were institutionalized at the time of the 2000 Census was more than twice as high as that of high school graduates and nearly 10 times higher than that of college graduates.

especially their earnings from labor market activity. The employability problems of young male high school dropouts in their teens and early 20s, thus, have negative effects on their economic well-being in both the short and long run.⁷²

Chart 24:
Percent of 16-19 Year Old Dropouts Who Were Jobless All Year Round in 2004 in Selected Family Income Groups, U.S.



Trends in the Real Weekly and Annual Earnings of Young Adult Men and Women in the U.S.

Among the most important measures of the labor market success of young adults is their real weekly and annual earnings from employment. Knowledge of both longer-term and recent trends in the real weekly and annual earnings of all young adult workers and key demographic and socioeconomic subgroups of these young adults is indispensable for educational and workforce development policymaking. There are a variety of data bases on the earnings of young adults, including the weekly earnings data for wage and salary workers from the national monthly Current Population Survey, the annual earnings data from the March CPS work experience and income supplement, and the annual earnings data from the decennial Censuses. Over the past few decades, there have been a number of divergent trends in the annual earnings of young adult men and women, with key educational subgroups of males experiencing steep

⁷² See: Scott Davies and Julian Tanner, “The Long Arm of the Law: Effects of Labeling on Employment,” The Sociological Quarterly, Volume 44, Number 3, pp. 385-404.

declines in their weekly and annual earnings.⁷³ Thus, we will examine the earnings data for young men and women separately.

Estimates of the median real weekly earnings of full-time employed young men and women (in constant 2004 dollars) over the 1973-2004 period are displayed in Table 23.⁷⁴ During 1973, the end of the so-called “Golden Era” of the U.S. economy, the median real weekly earnings of full-time employed young male wage and salary workers reached their post-World War II peak of \$545.⁷⁵ From 1973 through 1996, with the exception of some small cyclical improvements during the peak years of the business cycles in the late 1970s and 1980s, the real weekly earnings of young males (16-24 year olds) declined quite consistently and dramatically, falling to \$369 in 1996. During the labor market boom years of the second half of the 1990s, the median real weekly earnings of young men improved substantially, rising from \$369 in 1996 to \$418 in 2001. This was the first sustained increase in their weekly earnings since the early 1970s. Since 2001, the median weekly wages of these young males have again declined, falling to \$400 in 2004. In the latter year, the median real weekly earnings of these full-time, employed young men were \$145 or 27% below their 1973 peak. In a research paper in the late 1980s, Cliff Johnson and Andrew Sum referred to this long period of wage decline as an extension of economic adolescence for young men.⁷⁶

⁷³ For earlier reviews and analyses of trends in the weekly and annual earnings of young adult men and women, See: (i) Andrew Sum, Neeta Fogg, and Garth Mangum, Confronting the Youth Demographic Challenge...; (ii) Andrew Sum, et al., Leaving Young Workers Behind, National League of Cities, Institute for Youth, Education, and Families, Washington, D.C., 2003.

⁷⁴ The CPI-UXI price index was used to convert the nominal weekly earnings data for each year into their constant 2004 dollar equivalents. The 1973 data pertain to the month of May only. The data for all other years are annual averages.

⁷⁵ See: Ray F. Marshall (Editor), Back to Shared Prosperity: The Growing Inequality of Wealth and Income in America, M.E. Sharpe, Armonk, New York, 2000.

⁷⁶ See: Clifford Johnson and Andrew Sum, Declining Earnings of Young Men: Their Relation to Poverty, Teen Pregnancy, and Family Formation, Children’s Defense Fund, Washington, D.C., 1987.

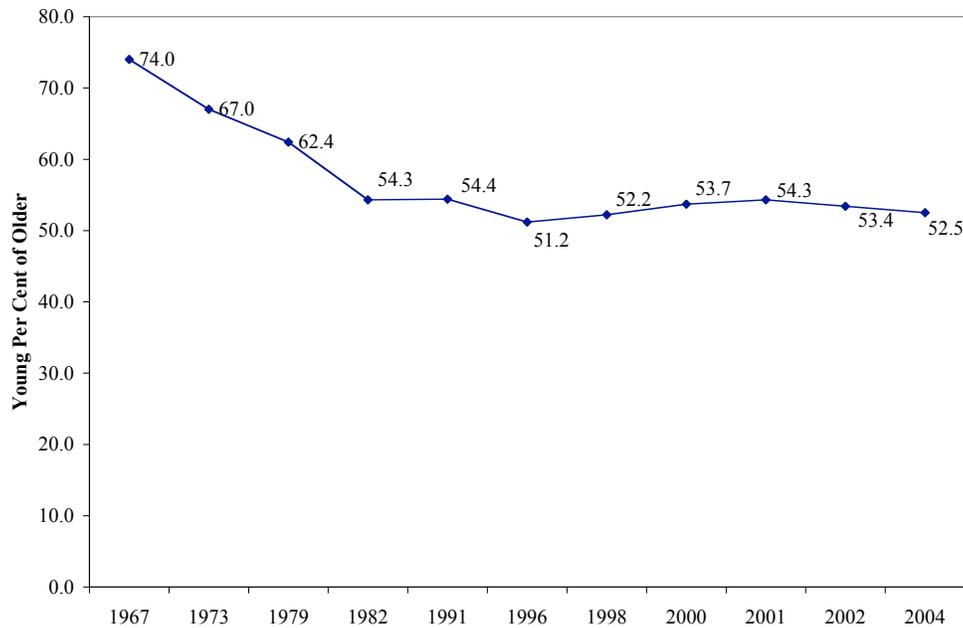
Table 23:
Trends in the Median Real Weekly Earnings of Young Adult Men and
Women Employed in Full-time Wage and Jobs, 1973-2004
(in Constant 2004 Dollars)

Year	(A)	(B)
	Men	Women
1973	545	412
1979	499	393
1989	413	374
1991	396	369
1996	369	341
1998	387	353
2000	413	375
2001	418	378
2003	398	371
2004	400	375
Absolute Change 1973-2004	-145	-37
Relative Change 1973-2004	-27%	-9%

Source: CPS public use surveys, May 1973 and annual averages, selected years, 1979 to 2004.

Trends in the weekly wages of full-time employed young men relative to their older male counterparts (25 and older) over the 1967-2004 period are displayed in Chart 25. In 1967, these full-time employed young males obtained median weekly earnings equivalent to 74% of those of men 25 and older. During the 1970s, as the labor market absorbed the huge influx of the post-World War II baby boomers, the relative weekly wages of young men declined considerably, falling to 62 percent by 1979. Changing demographics in the 1980s were expected to reverse these wage developments as the young adult population began to decline. Despite a declining number of young adult males in the population, the relative weekly wages of young males fell steadily throughout the 1980s, falling to 54% in the late 1980s and dropping to a low of 51% in 1996 before improving modestly during the full employment labor market environment of the late 1990s. Since 2001, unfortunately, there has been a renewed decline in the relative wage position of young men, with their weekly wages falling to 52 percent of those of adult men in 2004 (Chart 25).

Chart 25:
Median Weekly Earnings of Full-Time Employed Young Men (16-24) Relative to
Those of Older Men (25 and over), Selected Years, 1967-2004
 (in Percent)



In America's Choice: High Skills or Low Wages, the Commission on the Skills of the American Workforce bemoaned the absence of effective school-to-work transition programs capable of moving more young high school graduates into career jobs shortly after graduation. The typical high school graduate was viewed as “milling about in the labor market, moving from one dead-end job to another until the age of 23 or 24”.⁷⁷ The evidence on the employment experiences and real wages of male teens and young adults since 1989 reveals a lack of any substantive progress in these areas. In fact, young adult males' weekly wages today are modestly below where they were in 1989. The situation does not improve when we focus on the annual earnings experiences of young men throughout their entire 20s. The real median annual earnings of employed young men (20-29) in 2004 were about 10 percent lower than they were in 1989 and were 25 percent below where they were in 1973 (Table 24). During the 1949-73 era, we estimate that the mean real annual earnings of all 20-29 year old men, including those with zero earners, nearly doubled, rising from \$14,400 to \$28,300. Young male high school graduates were earning about 8 percent less last year than they did in 1989 while employed male high

⁷⁷ See: National Center on Education and the Economy, America's Choice: High Skills or Low Wages, pp. 45-47.

school dropouts maintained their mean low annual earnings over this 15 year period.⁷⁸ The only group of young male adults (20-29) with higher real annual earnings in 2004 than in 1989 were those holding a Master's or higher degree. There has been an extraordinary deterioration in the real annual earnings position of the typical employed young male with no post-secondary schooling over the past 30 years. Such men now earn one-third less than they did 30 years ago, and this development has had a number of adverse consequences for their ability to form independent households, marry, and support their children.

Table 24:
Trends in the Median Real Annual Earnings of Employed 20-29 Year Old Men, 1973-2004
(in Constant 2004 Dollars)¹

	(A)	(B)	(C)	(D)	(E)	(F)	(G)
Group	1973	1979	1989	1995	2000	2004	Percent Change 1973-2004
All	27,618	25,529	22,852	19,090	21,940	20,700	-25
Race-Ethnic Group							
Black	20,813	19,844	18,282	17,355	19,746	19,000	-9
Hispanic	23,918	21,216	17,520	14,966	18,254	18,720	-22
White	28,342	27,393	24,377	21,073	24,134	22,880	-19
Schooling							
<12 Years	22,686	19,913	15,998	14,876	16,455	16,000	-30
12 Years, GED	30,819	28,082	22,854	20,330	22,378	21,000	-32
13-15 Years ⁽²⁾	28,018	28,592	26,756	22,313	26,328	25,000	-9
Bachelor's Degree	35,390	33,954	36,565	30,990	37,297	35,000	-1
Master's or Higher	40,826	37,528	38,088	37,189	47,170	45,000	10

Notes: (1) The CPI-UX1 index was used to convert the nominal annual earnings data for each year into their constant 2004 dollar equivalents.
(2) Findings for this educational group exclude 20-24 year olds who were enrolled in college at the time of the CPS surveys.

Data Sources: March 1974, 1980, 1990, 1996, 2001, and 2005 CPS surveys, tabulations by authors.

The Mean Weekly and Annual Earnings of Out-of-School Young Adults (16-24) by Educational Attainment, 2004

How well have the nation's out-of-school young adults fared in obtaining weekly and annual earnings from the labor market in the most recent year? To identify the recent weekly and annual earnings experiences of out-of-school young adults, we analyzed the findings of the

⁷⁸ This finding holds true for those dropouts with some employment during the year. In 2004, a lower fraction of male dropouts were employed than in 1989.

March 2005 CPS work experience surveys.⁷⁹ The work experience survey captures information on the weeks and hours of employment in the prior calendar year and on annual earnings. Data on self-reported annual earnings from employment and weeks of paid employment during 2004 were combined to estimate mean weekly earnings of employed 16-24 year old out-of-school youth in each of the following four educational subgroups.⁸⁰

- Those lacking a high school diploma or a GED certificate
- Those with a high school diploma or a GED certificate but no completed years of post-secondary schooling
- Those completing one to three years of post-secondary schooling including an Associate's degree
- Those with a Bachelor's or more advanced academic degree

Estimates of the mean weekly earnings of employed out-of-school, male youth in each educational subgroup are displayed in Table 25.⁸¹ Findings are presented for all men and for those in four major race-ethnic groups. For men, the mean weekly earnings of out-of-school youth varied considerably by their educational attainment, ranging from a low of \$354 among high school dropouts to \$434 for high school graduates and to a high of \$779 for those with a Bachelor's degree (Table 25). The mean weekly earnings of employed male high school graduates exceeded that of high school dropouts by \$80 or 23% while male Bachelor degree recipients obtained mean weekly earnings that were \$345 or nearly 80% higher than those of employed, young high school graduates. In each of the four race-ethnic groups, the mean weekly earnings of males tended to rise steadily and strongly with their level of educational attainment. Among Black males, the mean weekly earnings of those men with a Bachelor's degree were only slightly higher (9%) than those completing 1-3 years of college.

⁷⁹ Out-of-school youth are defined as those who were not enrolled in school at the time of the March CPS survey. Some of these youth may have been enrolled in school for part of the year in 2004.

⁸⁰ The annual earnings data include wages and salaries as well as income from self-employment.

⁸¹ Each employed male is weighted equally in determining these mean weekly earnings regardless of their weeks of employment during the prior calendar year.

Table 25:
Mean Weekly Earnings of Employed Out-of-School 16-24 Year Old Males
in the U.S. by Educational Attainment and Race-Ethnic Group, 2004

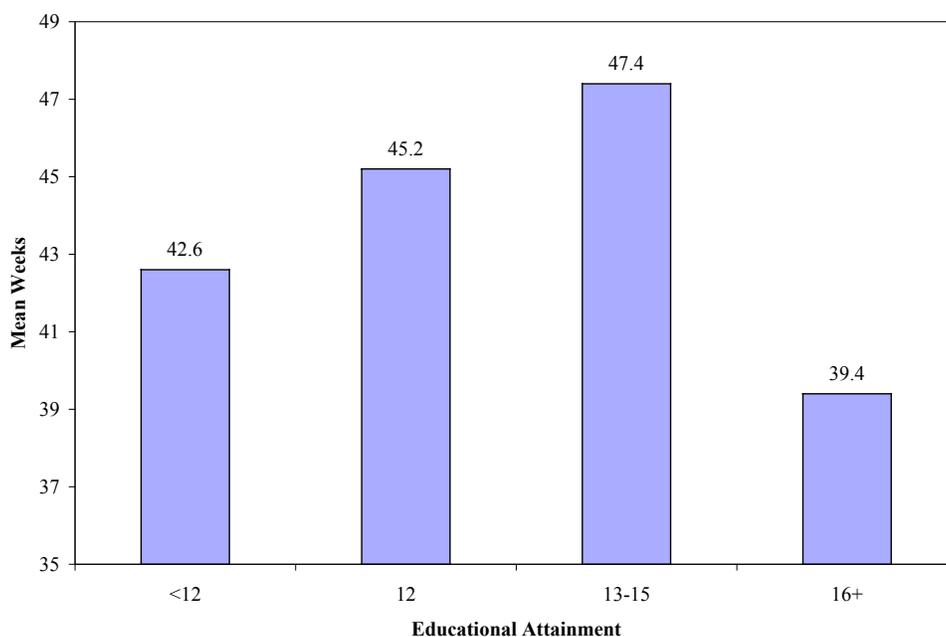
	(A)	(B)	(C)	(D)	(E)
Educational Attainment	All	Asian	Black	Hispanic	White, not Hispanic
All	\$453	\$493	\$405	\$372	\$487
<12 or 12 no diploma/GED	354	232	287	340	386
High school diploma/GED	434	379	379	386	453
13-15 years, including Associate's degree	461	507	509	410	458
Bachelor's degree or higher	779	817	553	582	811

Source: March 2005 CPS survey, work experience and income supplement, public use files, tabulations by authors.

Among employed out-of-school males, mean weeks of paid employment during the year (44) were fairly high, but tended to rise modestly with years of schooling until the bachelor's degree level was reached (Chart 26). Employed males with a high school diploma tended to work 2.6 more weeks than high school dropouts, and those completing 1-3 years of post-secondary schooling worked on average for two more weeks during 2004 than their counterparts with only a high school diploma. The higher mean weeks of employment among these latter two groups widened their annual earnings advantages over their less educated peers.⁸²

⁸² Employed Black male dropouts worked fewer weeks than their dropout counterparts in each of the other race-ethnic groups. During 2004, mean annual weeks of employment among Black male dropouts were only 38.

Chart 26:
Mean Weeks of Employment During 2004 Among 16-24 Year Old Employed
Out-of-School Males by Educational Attainment



The mean annual earnings during calendar year 2004 of all employed, out-of-school 16-24 year old males were equal to slightly over \$20,000 (Table 26). These mean annual earnings of young adult men ranged from a low of \$15,045 among high school dropouts to \$19,605 among high school graduates to a high of just under \$30,000 for Bachelor degree recipients. The mean annual earnings of employed, male high school graduates exceeded those of high school dropouts by 30 percent while those of male bachelor degree recipients surpassed those of high school graduates by 53 percent.⁸³

⁸³ The bachelor degree recipients include a small number of men with a Master's or professional degree.

Table 26:
Mean Annual Earnings of 16-24 Year Old Out-of-School Men in the U.S. by
Educational Attainment and Race-Ethnic Group
(Employed Only)

	(A)	(B)	(C)	(D)	(E)
Educational Attainment	All	Asian	Black	Hispanic	White, not Hispanic
All	20,016	20,378	17,608	17,261	21,391
<12 or 12 no diploma/GED	15,045	17,084	11,007	15,156	15,846
High school diploma/GED	19,605	11,255	17,043	18,447	20,401
13-15 years, including Associate's degree	21,862	22,158	22,455	19,159	22,121
Bachelor's degree or higher	29,985	27,419	20,572	30,365	30,739

Source: March 2005 CPS survey, public use files, tabulations by authors.

Across race-ethnic groups, there were a number of large differences in mean earnings even within the same educational group. Among high school dropouts, mean annual earnings ranged from a low of only \$11,000 among Black men to highs of \$15,800 among White dropouts and \$17,000 among Asian dropouts. Among Bachelor degree recipients, mean annual earnings ranged from a low of about \$20,000 among Black males to highs of \$30,700 among Whites. Across the entire earnings distribution for males classified by race-ethnic group and educational attainment, the mean earnings of employed, young adult men varied from a low of \$11,000 among Black, high school dropouts to a high of more than \$30,000 among Hispanic and White bachelor degree recipients.⁸⁴ A recent analysis by the authors of the degree of inequality in the annual earnings distribution of employed, young adult men ages 20-29 revealed that the degree of earnings inequality was quite extraordinary in 2004 and far surpassed that of earlier decades. Annual earnings inequality among young men has risen sharply since the end of the Golden Era in 1973.⁸⁵ The top fifth of 20-29 year old male earners obtained nearly one-half of the total earnings received by such males in 2004.⁸⁶

All of the above analyses of the weekly and annual earnings of out-of-school males in the 16-24 age group were based on those who were employed at some time during the year.

⁸⁴ The mean annual earnings of young, male bachelor degree recipients declined considerably in real terms between 2000 and 2004, falling from \$36,488 (in constant 2004 dollars) to \$29,985, a drop of 18%.

⁸⁵ See: Andrew Sum, Neeta Fogg, and Garth Mangum, Confronting the Youth Demographic Challenge, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 2000.

⁸⁶ The analysis of earnings inequality includes males with no earnings during the calendar year except those who reported that they did not work because they were enrolled in college.

Employment rates during the year among those young male adults varied considerably across educational attainment and race-ethnic groups (Table 27 and Chart 27). For example, thirty-one percent of male high school dropouts did not work at any time during 2004 versus 18 percent of high school graduates and 11 percent of those with some post-secondary schooling. Among male dropouts, immigrants were more likely to work than the native born (80 vs. 63 percent) and Black dropouts (66%) were considerably more likely to not have worked at any time during the year than White (26%) or Hispanic dropouts (22%). National and state research reveals that Black male dropouts are adversely affected by the presence of large numbers of immigrants in the labor market.⁸⁷ An African-American resident of South Central Los Angeles described the situation for teens in his neighborhood in the following manner:

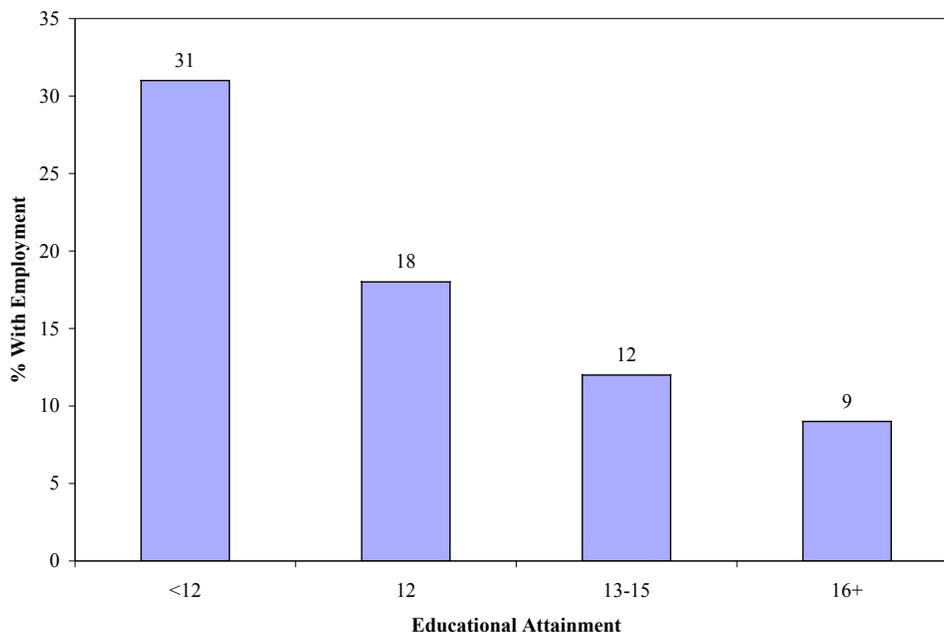
Table 27:
Percent of Out-of-School 16-24 Year Old Men in the U.S. with No Weeks of Paid Employment in 2004 by Educational Attainment and Race-Ethnic Group

	(A)	(B)	(C)	(D)	(E)
Educational Attainment	All	Asian	Black	Hispanic	White, not Hispanic
All	19.2	20.3	40.7	20.2	13.7
<12 or 12 no diploma/GED	31.1	47.7	65.7	22.3	26.4
High school diploma/GED	17.7	18.9	36.4	18.9	12.9
13-15 years, including Associate's degree	11.5	12.8	17.1	16.0	9.2
Bachelor's degree or higher	8.9	14.1	20.9	16.8	6.9

Source: March 2005 CPS survey, work experience and income supplement, public use files, tabulations by authors.

⁸⁷ See: George Borjas, "The Demand Curve for Labor is Downward Sloping," Quarterly Journal of Economics, October 2003, pp.

Chart 27:
Percent of 16-24 Year Old, Out-of-School Males Who Did Not
Work At Any Time During 2004 by Educational Attainment



“Today, teenagers can’t get after school or entry-level jobs. Something to put on a resume. When I was 16 and 17, I had jobs at McDonald’s, Burger King, Jack in the Box. Now these jobs in L.A. are held by 30 or 40 year old immigrants – 100% Spanish speaking and probably 90% from Mexico.”⁸⁸

The mean annual earnings of these out-of-school, 16-24 year old males were adjusted to take into consideration the incidence of employment in 2004 among males in each educational attainment/race-ethnic group.⁸⁹ Findings of our analysis are presented in Table 28. The expected mean annual earnings of men ranged from a low of \$10,366 among high school dropouts to a high of \$27,314 among Bachelor degree holders. The range of these expected annual earnings varied from a low of \$3,775 among Black high school dropouts to a high of nearly \$28,618 among White bachelor degree recipients. The relative size of this mean earnings difference from top to bottom was nearly eight to one.

⁸⁸ This quote recently appeared in the following article:

Roger D. McGrath, “End of the Rainbow,” *The American Conservative*, December 19, 2005, pp. 7-11.

⁸⁹ The earnings estimates are expected mean annual earnings, whose values are obtained by multiplying the mean annual earnings of the employed by the percent of males in a given cell with some paid employment during the year.

Table 28:
Mean Annual Earnings of 16-24 Year Old Out-of-School
Men in the U.S. by Educational Attainment and Race-Ethnic Group
(Including Zero Earners)

	(A)	(B)	(C)	(D)	(E)
Educational Attainment	All	Asian	Black	Hispanic	White, not Hispanic
All	16,173	16,241	10,441	13,774	18,460
<12 or 12 no diploma/GED	10,366	9,311	3,775	11,776	11,662
High school diploma/GED	16,135	9,128	10,839	14,960	17,769
13-15 years, including Associate's degree	19,348	19,322	18,615	16,094	20,086
Bachelor's degree or higher	27,314	23,553	16,272	25,264	28,618

Source: March 2005 CPS survey, public use files, tabulations by authors.

The earnings differences between better educated and less educated males widen as they get older and gain more work experience. Findings of the National Longitudinal Survey for Youth (NLSY79) have revealed that from ages 23 to 32 the growth in the real hourly earnings of men with a high school diploma exceeded those of high school dropouts by one-third to 45 percent while hourly earnings growth rates of men with a bachelor's degree were two to three times higher than those of high school graduates.⁹⁰ Over their entire working lives, males in the U.S. without a bachelor's degree will earn considerably less (25 to 39 percent less) than they did 20 years ago. The lifetime earnings gaps between college educated males and those with only 12 or fewer years of schooling have widened considerably over the past 25 years primarily as a result of lower real lifetime earnings among those with no formal schooling beyond high school.⁹¹

Trends in the Weekly and Annual Earnings of Young Adult Women in the U.S., 1973-2004

Progress of young adult women in improving their real weekly and annual earnings over the past few decades as well as since the publication of America's Choice has been mixed. Similar to findings on the weekly earnings of full-time employed young males, full-time

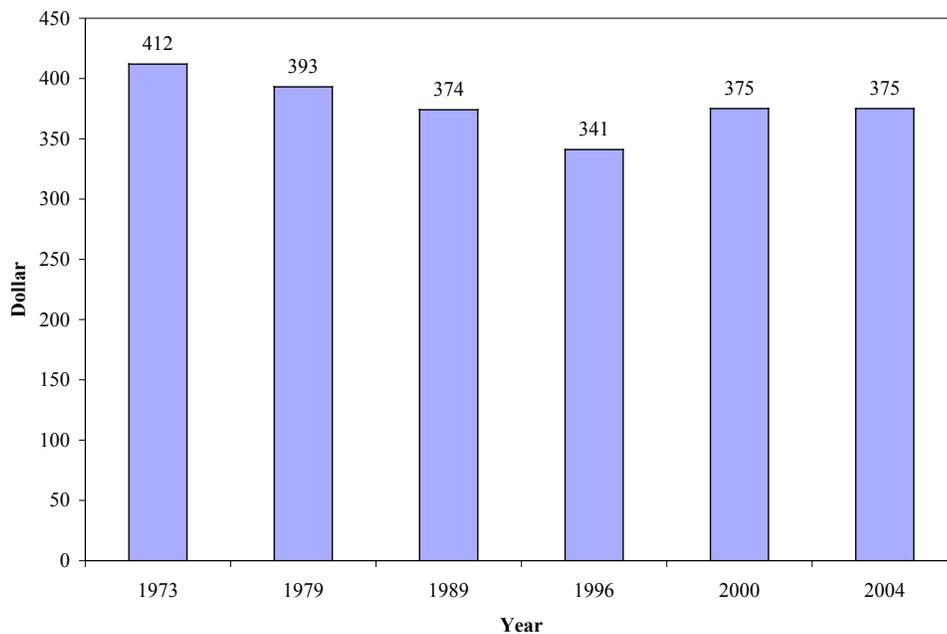
⁹⁰ See: U.S. Department of Labor, Bureau of Labor Statistics, Number of Jobs Held, Labor Market Activity, and Earnings Growth Among Younger Baby Boomers: Recent Results from A Longitudinal Survey, Washington, D.C., August 2004.

⁹¹ These lifetime earnings estimates for males are based on the findings of the 1980, 1990, and 2000 Censuses. They are calculated for persons 18-64 years old in each educational attainment category. The mean earnings of men in each single age group include those with zero reported earnings during the year.

See: Andrew Sum and Robert Taggart, "The Changing Economic Fortunes of America's Men: The Declining Lifetime Earnings of the Non-College Educated," Center for Labor Market Studies, Northeastern University and the Remediation and Training Institute, Alexandria, Virginia, forthcoming, December 2005.

employed women (16-24) saw their median real weekly earnings decline over the past few decades although the relative size of these declines were substantially smaller than those for young men (Table 23 and Chart 28). In 2004, median real weekly wages for young women were \$375, approximately 9% below their level in 1973 (See Chart 28). Young women experienced a steeper 18% decline in their real weekly wages from 1973 to 1996, but benefited from the strong labor market conditions from 1996 through 2000 when their real weekly earnings rose 10%. In the past four years, their real weekly wages have been stagnant. In 2004, their median real weekly earnings were statistically identical to those prevailing in the year before the publication of America's Choice.

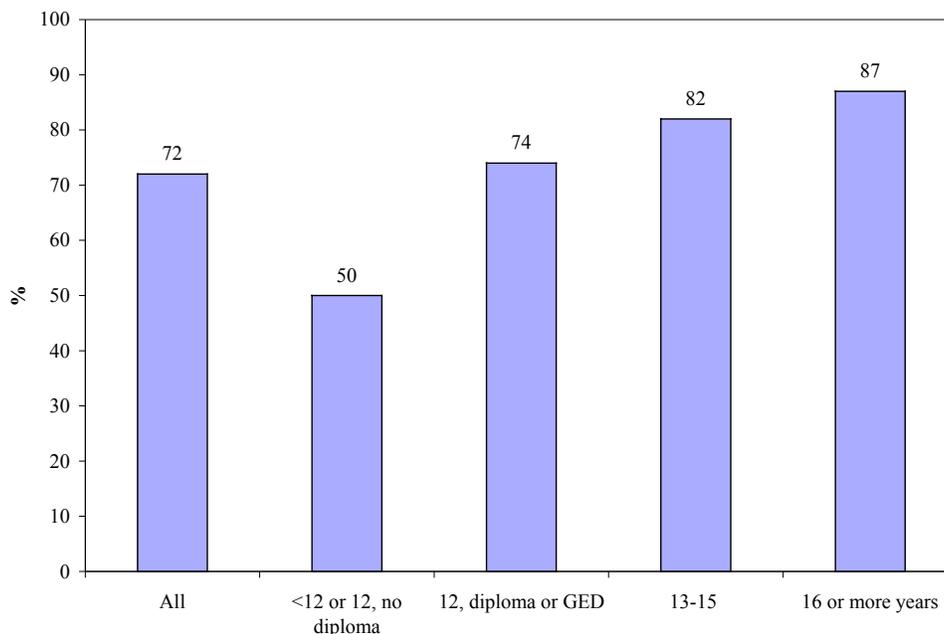
Chart 28:
Trends in the Median Real Weekly Earnings of Full-Time Employed
Women Under 25, Selected Years 1973 – 2004
 (in Constant 2004 Dollars)



To provide more current insights into the weekly earnings patterns of out-of-school young women by educational attainment, we analyzed the findings of the March 2005 CPS work experience surveys. During 2004, 72 of every 100 young, out-of-school women were employed at some time during the year (Chart 29). These employment rates ranged from a low of 50 percent for women lacking a high school diploma to 74 percent for those with a regular high school diploma/GED and to a high of 87 percent for those women with a Bachelor's or higher degree. In each of the four race-ethnic groups, the year-round joblessness rates of young female

dropouts were quite high, ranging from 46% among White, non-Hispanics and 48% among Black women to a high of 71% among Asian women.

Chart 29:
Percent of 16-24 Year Old Out-of-School Women Who Were
Employed at Some Time During 2004 by Educational Attainment



Of those women who were employed during 2004, mean weekly earnings were \$358.⁹² (Table 29 and Chart 30). These mean weekly earnings ranged from a low of \$267 for those women lacking a high school diploma/GED to \$320 for high school graduates and to a high of \$516 for those with a Bachelor's degree. The higher the level of schooling, the higher were the mean weeks of employment among these young out-of-school women with jobs during calendar year 2004. Thus, the mean annual earnings advantages of college educated women were even more considerable than their weekly wage advantages over their less educated peers. Among these 16-24 year old women, the mean annual earnings of college educated women exceeded those of high school graduates by more than \$10,000 or 73%.

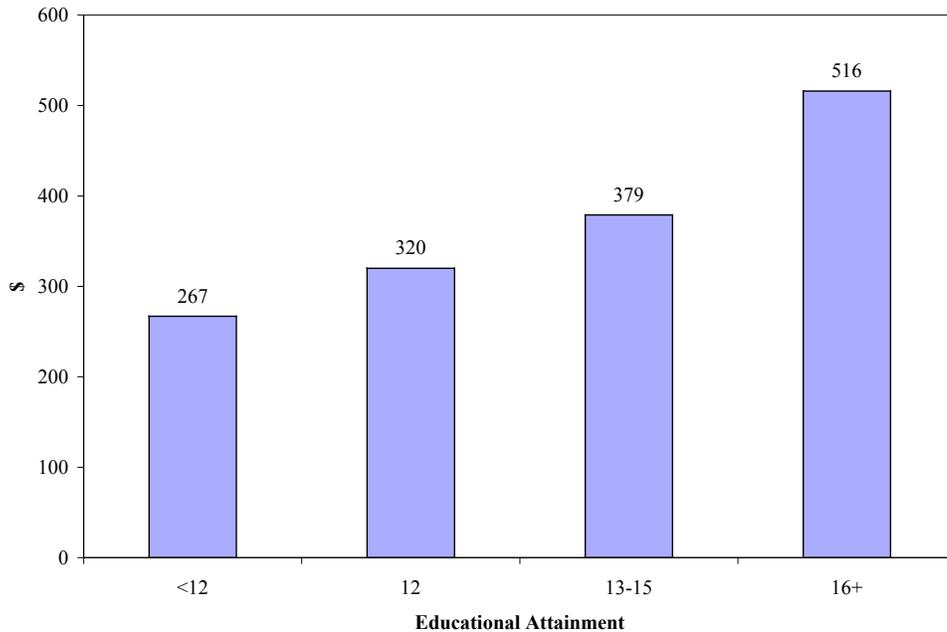
⁹² These mean weekly earnings include returns from both part-time and full-time jobs. Mean weekly earnings were computed by dividing annual earnings by weeks worked during the year.

Table 29:
Mean Weekly Earnings of Employed Out-of-School 16-24 Year Old Women
In the U.S. by Educational Attainment and Race-Ethnic Group, 2004

	(A)	(B)	(C)	(D)	(E)
Educational Attainment	All	Asian	Black	Hispanic	White, not Hispanic
All	358	416	371	332	359
<12 or 12 no diploma/GED	267	213	386	276	220
High school diploma/GED	320	422	337	335	309
13-15 years, including Associate's degree	379	378	368	383	383
Bachelor's degree or higher	516	529	512	452	513

Source: March 2005 CPS survey, work experience and income supplement, public use files, tabulations by authors.

Chart 30:
Mean Weekly Earnings of Employed 16-24 Year Old, Out-of-School
Women by Educational Attainment, 2004



Primarily as a consequence of both more weeks and hours of employment during the year, employed young adult women (20-29) were able to boost their median real annual earnings over the past three decades (Table 30). In 2004, the median annual earnings of these employed young women were \$16,000, or about 20 percent higher than they were in 1973. The bulk of these real earnings gains, however, had been achieved by 1989. Since then, the median annual

earnings of employed young women have risen by only \$400 or less than 3 percent.⁹³ The only group of women to substantially improve their real annual earnings since the publication of America's Choice were those with a Master's or higher degree. This highly educated group of women boosted their real annual earnings by more than \$6,000 between 1989 and 2004 while the median annual earnings of women with 12 years of schooling, 13-15 years, and those with a Bachelor's degree were modestly lower in 2004 than they were in 1989 (Chart 31).⁹⁴ In 2004, median annual earnings of employed young adult women varied quite considerably by educational attainment, ranging from slightly under \$10,000 for women with less than a high school education to \$35,000 for those with a Master's or higher degree (Table 30 and Chart 32). Employed young adult women with a high school diploma obtained annual earnings 50 percent higher than those of their peers who did not graduate from high school while those with a Bachelor's degree received earnings 88 percent higher than those of high school graduates. The absolute and relative earnings advantages of college educated women in 2004 were markedly higher than they were in 1973, but the relative size of these earnings differences have been fairly stable since the end of the 1980s.⁹⁵

Table 30:
Trends in the Median Annual Earnings of Employed 20-29 Year Old
Women in the U.S., Selected Years, 1973-2004

	1973	1979	1989	2000	2004
All	\$13,399	\$15,316	\$15,606	\$16,459	\$16,000
White	\$13,891	\$15,545	\$16,756	\$17,552	\$17,000
Black	\$12,807	\$14,550	\$13,710	\$16,455	\$15,000
Hispanic	\$11,207	\$13,072	\$13,710	\$14,261	\$14,400
<12 years	\$7,833	\$8,297	\$8,593	\$9,873	\$9,900
12 years	\$14,047	\$15,929	\$15,234	\$15,402	\$15,000
13-15 years	\$16,008	\$17,869	\$19,066	\$19,746	\$19,000
16 years	\$22,012	\$22,974	\$29,516	\$30,167	\$28,120
>16 years	\$31,914	\$28,080	\$28,945	\$37,297	\$35,000

Source: CPS March Supplements, 1974, 1980, 1990, 2001, and 2005, U.S. BLS and U.S. Census Bureau, tabulations by Center for Labor Market Studies.

Note: Employed 20-24 year old students are included in the totals for both men and women but are not separately identified in the educational breakouts.

⁹³ Stronger gains from the mid-1990s through 2000 were partly offset by reductions in their real annual earnings since 2000.

⁹⁴ The modest overall gain in the median annual earnings of young adult women between 1989-2004 was primarily attributable to improved educational attainment of women, pushing more of them into the higher earnings group.

⁹⁵ In 1989, employed young women with a Bachelor's degree obtained median annual earnings 94% above those of their peers with only a high school degree while the relative earnings difference was 96% in 2000.

Chart 31:
Changes in the Median Annual Earnings of Employed Young
Adult Women (20-29) Between 1989 and 2004
(in Constant 2004 Dollars)

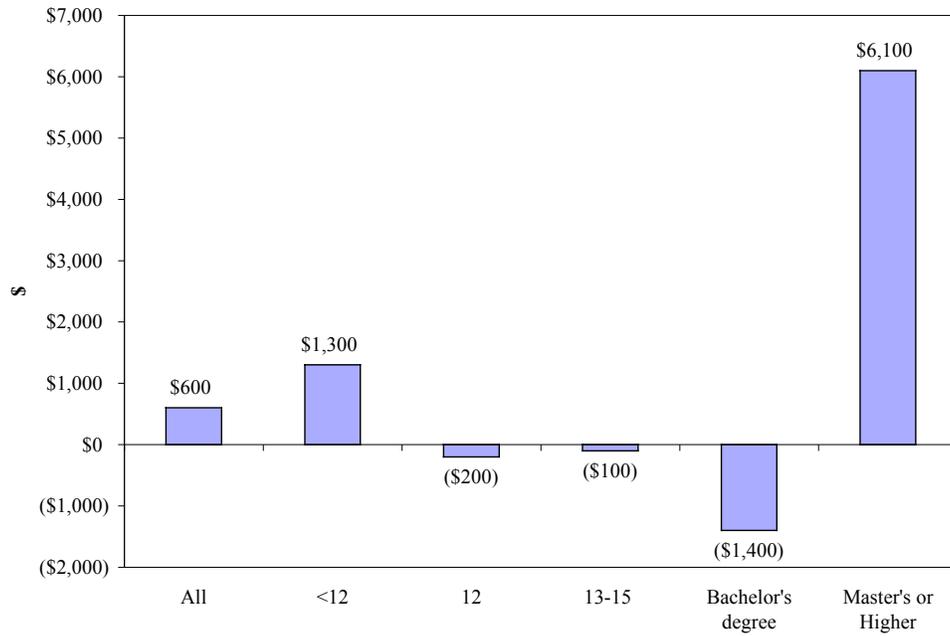
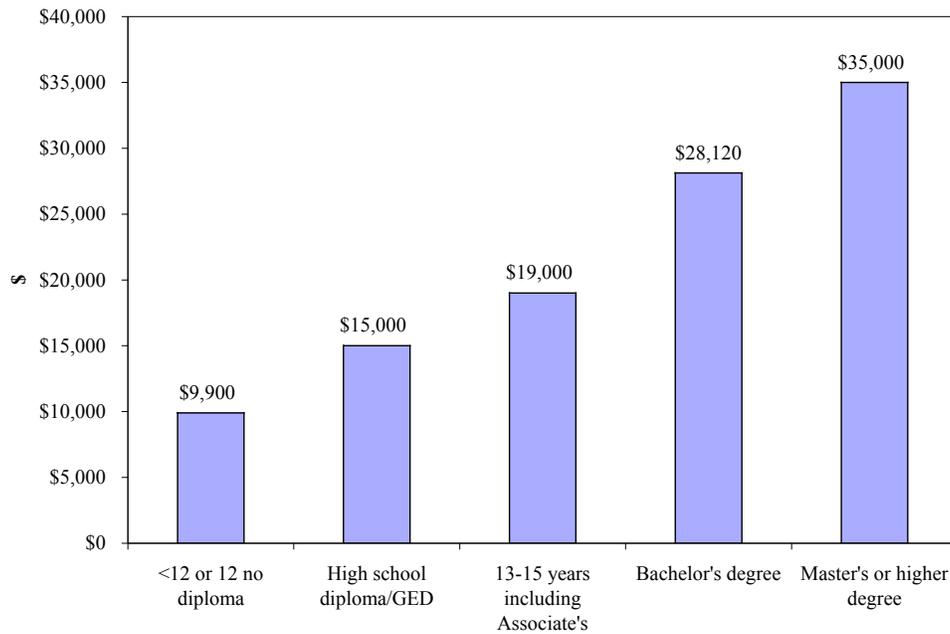


Chart 32:
Median Annual Earnings of Employed Young Women (20-29)
By Years of Schooling Completed, 2004



Similar to our findings for young men, the distribution of annual earnings among the nation's young women has been highly concentrated in recent years. In 2004, the top quintile of earners obtained more than half (53%) of the earnings received by these young women (Table 31). In fact, women in the top decile of the earnings distribution obtained one-third of all earnings, a share greater than that received by women in the bottom 70% of the distribution. The bottom fifth of these women had no reported earnings during the year. A high fraction of these young women with no earnings during 2004 were high school dropouts and many were mothers. One-half of all 20-29 year old female high school dropouts were jobless all year as were 30 percent of high school graduates. In contrast, only 15 percent of those women with a Bachelor's degree failed to work during 2004.

Table 31:
The Share of Annual Earnings Received by Women 20-29 by
Decile of the Earnings Distribution, 2000 and 2004

Decile	(A)	(B)
	2000	2004
Lowest	0	0
Second	.2	0
Third	1.9	1.2
Fourth	4.2	3.5
Fifth	6.5	6.0
Sixth	9.0	8.8
Seventh	11.7	11.8
Eighth	14.8	15.3
Ninth	19.0	20.1
Highest	32.8	33.3

Sources: March 2001 and March 2005 CPS surveys.

Note: (1) Women with no paid employment during a calendar year who cited "school" as the main reason for not working were excluded from the analysis.

The steep declines in the real annual earnings of young adult men with no post-secondary schooling and the low annual earnings of women with no high school degree have been accompanied by lower marriage rates among these young males and a higher rate of childbearing out-of-wedlock. These developments have had a series of important consequences for the structure of young families with children and their economic well-being. In the past two years (2003-2004), a slight majority (52%) of all young families (householder under the age of 30)

with children are single parent families, including a growing number of single father families.⁹⁶ More than one-third of all young families with one or more children present in the home were poor in 2003-2004, and the poverty rate rose above 50 percent among such young families when there was only one parent present in the home. Many of these poor single parent families, especially those headed by high school dropouts and with limited work experience, run a great risk of being long term poor and dependent. Their children will incur a series of cognitive, educational, health, and nutrition deficits, as a consequence of their exposure to these less favorable material living conditions.⁹⁷

⁹⁶ See: Neeta Fogg and Andrew Sum, Trends in Young Family Formation and the Changing Structure and Characteristics of Young Families with Children, Report Prepared for the National League of Cities, Institute on Youth, Education, and Families, Washington, D.C., September 2005.

⁹⁷ For a review of the evidence on these issues,

See: Sara McLanahan and Gary Sandefur, Growing Up With a Single Parent, Harvard University Press, Cambridge, 1994