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ABSTRACT

Since 1986, the National Assessment of Educational Progress (NAEP) has collected information from 11th-grade students about their employment activities. Out of the 29,000 students asked about work in the 1986 assessment, 54% reported working some amount of time each week, and over 28% reported working more than 15 hours per week. Thus, of 2.9 million 11th graders questioned in 1986, an estimated 1.6 million were employed and attending school. Data in this report cover the general characteristics and academic achievement of working students included in the NAEP as well as ancillary information from other studies. Student characteristics analyzed include gender, race/ethnicity, parents' education, high school program type, mathematics and science courses taken, postsecondary expectations, absenteeism, homework time, and television viewing time. Results indicate that: (1) employment has various effects on student achievement; (2) schools vary in the amount of time and effort they demand from their students, but it appears that some teachers lower their expectations regarding working students; (3) students' jobs should be examined in terms of content compatible with youth development and achievement; and (4) where work assignments are connected to schooling objectives, work can complement, rather than compete with, schooling objectives. Twenty-nine data tables and one graph are included. (TJH)

EARNING AND LEARNING

The Academic Achievement of High-School Juniors With Jobs

THE NATION'S REPORT CARD

NAEP

EDUCATIONAL TESTING SERVICE

ACKNOWLEDGMENTS

The author of a NAEP report is merely the final link between NAEP assessments and the public. This report is based on an assessment and an analysis plan designed and implemented by many people at ETS and Westat, whose involvement is detailed in "report cards" issued for each subject area.

Ina V.S. Mullis, Deputy Director of NAEP, suggested the idea for this report and also provided invaluable assistance in the report's design and review. Lynn Jenkins participated in the report's writing and is responsible for whatever clarity it has attained. Janet Johnson, John Barone, Archie Lapointe and Willard Wirtz contributed as reviewers. The author is also indebted to John Stinson of the U.S. Bureau of Labor Statistics for providing tabulations of unpublished data, the National Center for Education Statistics for arranging the excellent anonymous reviews, the members of NAEP's Design and Analysis Committee for their comments, and Albert Beaton and Michael Narcowich of ETS for the multiple regression analysis performed on the data. Rosemary Loeb provided word-processing services.

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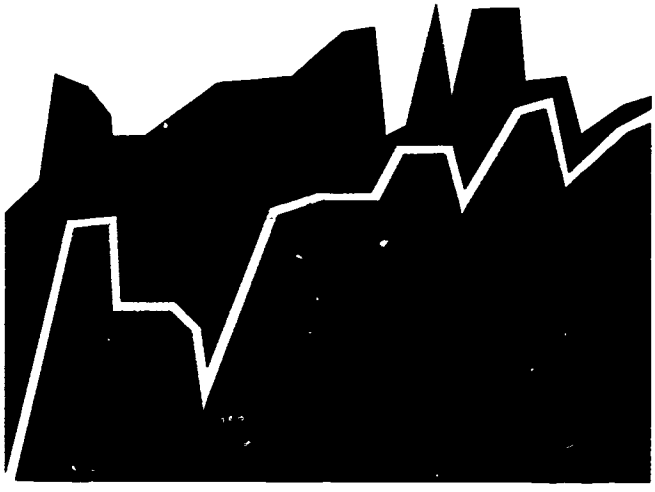
EARNING AND LEARNING



The Academic Achievement of High-School Juniors With Jobs

Paul E. Barton

March 1989

THE NATION'S REPORT CARD

EDUCATIONAL TESTING SERVICE

Report No: 17-WL-01

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INTRODUCTION

Although high-school students have been an established part of the work world for decades, recent interest in this issue has made headlines in major publications, including *USA Today, Fortune,* and the *Wall Street Journal*. News stories with titles such as "Students' Jobs Cut School Activities," "Learning in the Marketplace," and "Should Kids Work?" have been fueled by the writings of a new wave of researchers who are asking important questions about the role of part-time work in youth development.[1]

This report will explore the relationship between work and student achievement, using information from the 1986 assessment carried out by the National Assessment of Educational Progress (NAEP), also known as the Nation's Report Card. NAEP is funded by the U.S. Department of Education, National Center for Education Statistics, and administered by Educational Testing Service.

In 1986, as part of its ongoing program of biennial surveys of student achievement, NAEP assessed eleventh graders' proficiency in mathematics, science, reading, U.S. history, and literature. Since 1984, NAEP also has collected information from eleventh-grade students about whether and how much they work. In the 1986 assessment, approximately 54 percent of the 29,000 students who were asked this question reported working some amount of time each week; thus, of 2.9 million eleventh graders that year, an estimated 1.6 million were employed and attending school. Early returns from the 1988 NAEP assessment show that by grade 12, 66 percent of students are working.

Information on student work in 1986 can be related to data on students' academic proficiency, backgrounds, and activities. This brief report will relate hours worked per week to student achievement on the NAEP proficiency scale for each subject area assessed.[2] In addition, it will describe who works and who does not, examine the adjustments working students make in other activities, chart the growth of the student work force, and summarize the results of major research projects that have addressed the effects of student work on school performance.

While the phenomenon of students combining earning with learning has been with us for a long time, the percentage of students doing so has been increasing steadily since the early 1950s. This in itself is sufficient reason to take a close look at how working students perform in school. At a time when the nation is exploring avenues for raising educational standards, such inquiry is especially important. It is likely that this effort to raise standards will intensify as concern for our country's ability to compete in the world economy grows.

How students spend their time outside school has received considerable attention from the education research community over the years. Many studies have examined the effects of time spent watching television and doing homework on student achievement. Only recently has there been careful investigation of the role of part-time work on achievement. NAEP data, in combination with the studies summarized in this report, reveal a reasonably consistent pattern of findings, although it would be premature to claim that the returns are all in. More investigation is needed of the interrelationship between work and learning and the direction of causal impacts. However, we believe the information presented here from the rich NAEP database does begin to illuminate the subject.

THE ACHIEVEMENT OF WORKING STUDENTS

Prior studies of the relationship between academic achievement and student work have provided extensive information on patterns of student work but relatively little information on achievement. Those studies that have examined working students' achievement have relied largely on measures such as grade point averages, either self-reported or from transcripts. Studies based on the 1972 and 1980 National Longitudinal Surveys have made use of the results of a short test measuring student achievement, largely in the basic skills.[3]

Using data from the 1986 national assessment, NAEP can report the academic proficiency of working students across a variety of specific subject areas. The information on students' work is derived from a question asking eleventh graders whether they work and, if so, how many

[1] For a summary of recent research in this area, see "Results of Other Studies," page 11.

[2] Except for reading, which is reported on a scale from 0 to 100, the proficiency scales for the 1986 assessment range from 0 to 500. In mathematics and science, the scales were "anchored" at 50-point intervals; at these points, NAEP defined what students know and can do (on the basis of items that students can perform successfully). The series of "report cards" summarizing these subject-area assessments provides more detailed information on student achievement. For a full description of the methodology for the 1986 assessment, see Albert E. Beaton, et al, *The NAEP 1986 Technical Report*, National Assessment of Educational Progress, Educational Testing Service, 1988, Princeton, NJ.

[3] These surveys, funded by the U.S. Department of Education, are known as "NLS '72" and "High School and Beyond" (HSB).

hours they work each week. The table below summarizes proficiency in various subjects by students' working status.[4]

Average Proficiency for Eleventh Graders by Hours Worked*

Hours Worked[5]	Mathematics	Science	History	Literature	Reading
None	307	292	288	289	57
Less than 6	309	299	292	291	58
6-10	307	296	287	288	57
11-15	309	299	291	290	58
16-20	308	297	289	289	57
21-25	303	293	281	281	55
26-30	299	285	276	277	54

Source. See Appendix Table 1 for detail and standard errors

* The proficiency scales for mathematics, history, literature, and science range from 0 to 500, while the reading scale ranges from 0 to 100

A clear pattern emerges that is consistent across all subject areas: Students who work more than 20 hours per week tend to exhibit the lowest proficiency. In mathematics, reading, and literature, those who work a moderate amount — from one to 20 hours per week — display average proficiencies that are almost identical to those of students who do not work. In science, students working moderate hours score slightly higher than do nonworkers.

Hours worked and mathematics proficiency scores are presented below for White, Black, and Hispanic students. The relation between work and learning suggested by these results is essentially similar for all subject areas examined.

Average Mathematics Proficiency for Eleventh Graders by Hours Worked and Race/Ethnicity

Hours Worked	White	Black	Hispanic
None	312	284	291
Less than 6	314	277	288
6-10	312	278	288
11-15	311	282	292
16-20	311	289	289
21-25	306	278	283
26-30	304	279	281

Source: See Appendix Table 2 for detail and standard errors

[4] All data used for abbreviated text tables are derived from complete tables, which include standard errors, provided in the Appendix.

[5] The variable "hours worked," as used in tables throughout this report, is derived from students' answers to the question, "How many hours per week do you usually work in a part-time job? Exclude vacations."

Across these three subgroups, average mathematics proficiency varies similarly in relation to hours worked; proficiency generally remained stable for up to 20 hours of work and then declined slightly. One exception was evident: Scores for Black students working fewer than 10 hours per week were very slightly lower than scores for Black students not working at all. The data do not provide an explanation for this departure.

As discussed in "Results of Other Studies" (page 11) some researchers have found similar relationships between achievement and student work or have found no relationship after controlling for other student characteristics associated with school performance. However, as discussed in the following section, the NAEP data do show that students working long hours (more than 20 per week) differ in some important respects from those who do not work or work only moderate hours. Students who work very long hours appear to be less likely to take the harder academic courses and to expect to go on to four-year colleges.

CHARACTERISTICS OF WORKING STUDENTS

In 1986, NAEP found that a majority (54 percent) of eleventh-grade students were working, and more than one in four (28 percent) were working in excess of 15 hours per week. In contrast, the Bureau of Labor Statistics (BLS) reported that about one-third of all 16- to 17-year-old students were working in 1986.[6] The NAEP data and the BLS data differ for a number of reasons.[7] One factor may be that the BLS asks whoever is home when the survey is conducted to report on the labor force activities of students in the household, while NAEP asks the students themselves. Teenagers always report more hours of work than do their parents or other members of the household who respond. An additional factor that may explain the difference is the BLS figures represent 16- and 17-year-olds, while the NAEP results represent eleventh graders.

While the NAEP data reveal a similar distribution of students across hours of work in 1984 and 1986, slightly more students reported working in 1986.

[6] U.S. Bureau of Labor Statistics, unpublished data.

[7] For one discussion of this difference, see Paul E. Barton, "Youth Unemployment and Career Entry," in *Labor Market Information for Youths*, Temple University School of Business Administration, Philadelphia, PA, 1975, p. 76. Surveys that have gone directly to the student, such as HSB, NLS '72, and the Department of Labor's National Longitudinal Study, show higher employment ratios than the regular BLS labor-force surveys, however, only the BLS reports provide a historical trend.

Trends in Percent of Eleventh Graders Working

Hours Worked	1984	1986
None	49	46
One or more	51	54
Less than 6	9	8
6-10	9	9
11-15	8	9
16-20	11	12
21-25	7	8
26-30	4	5
More than 30	3	3

Source. See Appendix Table 3 for detail and standard errors and cumulative percentages of hours worked

In 1986, 38 percent of the eleventh-grade students assessed worked a moderate number of hours (from one to 20 hours per week), and 16 percent worked long hours (more than 20 hours per week). An alternative view, which excludes those who do not work at all, reveals that seven in 10 of the employed students work moderate hours, and three in 10 work long hours.[8]

Who Works?

Eleventh-grade males were more likely to report working than their female peers and more likely to be working in excess of 20 hours per week. There were also considerable differences in working patterns by race/ethnicity. Comparative data are provided in the table below.

Percent of Eleventh Graders Working by Gender and Race/Ethnicity

	Do Not Work	Work Moderate Hours	Work More Than 20 Hours Per Week
All students	46	38	16
Male	42	39	19
Female	50	38	12
White	43	41	16
Black	59	28	13
Hispanic	49	34	17

Source: See Appendix Tables 4 and 5 for detail and standard errors

[8] In both 1984 and 1986, only 3 percent of the students assessed — or fewer than 1,000 — reported working very long hours (more than 30). Their responses to questions seem inconsistent. For example, these students report watching more television than any other group and spending more time on homework than students who work moderate hours. While they are not included in the tables that follow, data for these students are provided in the complete tables in the Data Appendix.

Half the eleventh-grade females did not work in 1986, compared with 42 percent of the males. While there was no difference by gender in the percentage of students working a moderate number of hours, males were more likely than females to work long hours.

Almost three in five (59 percent) Black students did not work in 1986, contrasted with almost half (49 percent) of Hispanic students and slightly more than two in five White students (43 percent). Although White students were much more likely to work a moderate number of hours, there was little variation by race/ethnicity in the proportion of students working more than 20 hours per week.[9]

Holding a part-time job does not appear to be a matter of lower socioeconomic status (SES). There were relatively small differences in the percent of eleventh graders not working in relation to the education of their parents — a good surrogate measure of socioeconomic status.

Percent of Eleventh Graders Working by Level of Parents' Education

Parents' Education	Do Not Work	Work Moderate Hours	Work More than 20 Hours Per Week
Did Not Complete High School	49	32	19
High-School Graduate	45	38	17
Some Education after High School	44	39	17
College Graduate	47	40	13

Source See Appendix Table 8 for detail and standard errors

The percent of eleventh graders not working at all varied little by level of parental education, and ranged from 44 to 49 percent. While there were no substantial differences in hours worked among those who did work, the higher the education level of the parents, the more likely students were to report working moderate hours, and the less likely they were to be working long hours.

There is another interesting pattern in the characteristics of working students' families. Students working higher numbers of hours were more likely to come from families in which both parents worked full-time; 41 percent of the students who did not work reported that both their parents worked full-time, compared with 49 percent for students who worked from 26 to 30 hours per week. (See Appendix Table 9.)

There were also some differences across regions and types of schools in the percent of students working.

[9] These data must be interpreted with some caution, because a higher proportion of Black and Hispanic students than White students did not respond to this question. However, disparities by race/ethnicity in percent working were also found by the Bureau of Labor Statistics. (See section on "The Growth of the Student Work Force," p. 10.)

Students from the Northeast and Central regions were considerably more likely to be working than those from the Southeast, and somewhat more likely than those from the West. (See Appendix Table 6.) To understand these differences would require a comparison of labor-market opportunities by region, as well as differences in the expectations of students, parents, communities, and employers.

Students in private schools were about as likely to be working as those in public schools; however, private-school students who worked were more likely to be working a moderate number of hours and less likely to be working very long hours. (See Appendix Table 7.)

Attachment to Academics and Work

While there appear to be only minor differences in work behavior among students on the basis of parents' education or employment, sizeable differences among student workers are evident on measures related to academic commitment and expected pursuit of higher education. Labor-market economists use the term "attachment to the labor force" in distinguishing degrees of commitment to work. It is useful to view the relationship between education and work commitment in terms of attachment to academic subjects versus attachment to the labor force (although the analogy is far from perfect and no causality is implied by its use).

In general, the NAEP data show that the less eleventh graders are attached to academics — as measured by program enrollment, courses taken, and post-high-school expectations — the more they are attached to work.*

The pattern emerges in eleventh graders' choice of school program, as shown in the table below.

Percent of Eleventh Graders Working by Type of High-School Program

High-School Program	Do Not Work	Work Moderate Hours	Work More Than 20 Hours Per Week
Academic/College-Preparatory Program	46	40	12
General Program	47	36	18
Vocational/Technical Program	39	36	25

Source: See Appendix Table 10 for detail and standard errors

Students enrolled in vocational/technical programs were most likely to be working and most likely to be working more than 20 hours per week. Conversely, those enrolled in academic programs were the least likely to be working. While the student usually exercises choice in entering a curriculum track, this is not always the case. Frequently, students are simply assigned to tracks and in such cases the track a student is enrolled in does not necessarily signal degree of interest in academic content. It should also be noted that for the small proportion of students enrolled in cooperative education programs, working is a required part of schooling.

While there were sizeable differences across these groups in the percentage of students working, stereotypes of the *work-committed* vocational student and the *all-books* academic student do not hold. Slightly more than half of the academic and general students were working some number of hours during the week, compared to about three in five vocational students; further, one of every eight academic students was working more than 20 hours per week.

This pattern is reflected again in the academic courses that students reported taking.

Percent of Eleventh Graders Working by Mathematics and Science Courses Taken

Hours Worked	Algebra I, Geometry, and Algebra II	Biology and Chemistry
None	46	35
Less than 6	49	36
6-10	47	36
11-15	50	39
16-20	49	36
21-25	44	30
26-30	38	25

Source: See Appendix Tables 12 and 13 for detail and standard errors

Among students who reported working up to 20 hours per week, there was little variation with respect to hours worked in the percent who had taken mathematics courses through Algebra II or who had taken both Biology and Chemistry. However, as the number of hours worked progressed beyond 20, the percent of students taking these courses diminished.

The strongest indication of differences in attachment to rigorous academic content as compared with attachment to work appears in eleventh graders' expectations for what they plan to do after leaving high school.

*A general point should be made here. While the analyses undertaken illuminate associations between certain variables, they do not establish cause-and-effect relationships.

Percent of Eleventh Graders Working by Expectations After High School

Hours Worked	Will Work	Will Attend Four-Year College
None	14	56
Less than 6	14	59
6-10	16	55
11-15	14	57
16-20	17	51
21-25	24	43
26-30	30	36

Source: See Appendix Table 11 for detail and standard errors The question as asked does not permit identification of nontraditional arrangements that allow students to attend postsecondary education part-time

Few differences in hours worked were evident among students who planned to attend two-year colleges (see Appendix Table 11); however, students working the longest hours were the least likely to expect to go to four-year institutions and the most likely to expect to be working after high school (see table above). Thus it would seem that students who do not plan to continue their education after high school are those who work the most while still in high school. And, as shown in individual subject-area reports, those students who are least attached to academics tend, as expected, to have the lowest academic proficiency. For example, average mathematics proficiency was 286 for students who expected to work full-time after graduation, compared to 321 for those expecting to attend a four-year college.

In summary, students who work more than 20 hours per week are less likely to take rigorous academic subjects and more likely to expect to work after high school. These students perform less well on academic tests, which perhaps explains much of the lower proficiency observed for students who work longer hours. On the other hand, working longer hours may be implicated in the decisions students make about taking hard academic courses. The results suggest the complexity of the relation between course-taking and working. This brief investigation helps to raise several critical issues and questions that deserve and require further investigation through longitudinal studies.

The Time Bind

Students who work obviously must allocate their time somewhat differently than those who do not. The NAEP data suggest relationships between hours worked and factors such as school attendance, television viewing, and time spent on homework, as the following three tables show.* Perhaps the question of greatest concern to educators is that of absenteeism, as addressed in the following table.

Eleventh Graders' Absenteeism by Hours Worked and Length of Absence

Percent Missing Days of School the Previous Month

Hours Worked	0 to 1 Days	5 or More Days
None	38	11
Less than 6	37	9
6-10	37	10
11-15	35	9
16-20	30	11
21-25	29	12
26-30	27	18

Source See Appendix Table 14 for detail and standard errors

The percent of students absent for five or more days in the month before the assessment was higher for those working more than 25 hours per week than for those who worked less or not at all. Students working from 11 to 15 hours per week missed no more school than their non-working classmates, and 68 percent of those working from 21 to 25 hours per week reported missing two or fewer days in the preceding month. Thus, while there are some differences in attendance, working does not appear to be associated with increased school absence until the hours of work become quite long.

NAEP also asked students how much time they spend on homework each day, and their responses are compared by hours worked in the table below.

Percent of Eleventh Graders Working by Time Spent on Homework

Hours Worked	Don't Do Assigned Homework	Do Two or More Hours
None	8	37
Less than 6	7	37
6-10	7	35
11-15	9	30
16-20	10	27
21-25	12	22
26-30	15	21

Source See Appendix Table 15 for detail and standard errors

Students who work more than a moderate number of hours are more likely not to do assigned homework and considerably less likely to do two or more hours of homework per day.

*These three tables are based on two variable cross-tabulations and do not address the possibility of "clusters" of behavior and their effect. For example, students' investments in academic subjects and homework and their school attendance might go *together* into a trajectory that plays itself out in more hours of work; alternatively, reversing the causal assumption, more hours of work may divert students from academic subjects, homework, and school attendance.

Given evidence that some working students devote less time to school and homework than their nonworking peers, one wonders if these students also spend less time on leisure activities. Do working students sacrifice their television viewing? The answer is, quite a lot, although they by no means give it up.

Percent of Eleventh Graders Working by Time Spent Watching Television

Hours Worked	Percent of Students Watching Three or More Hours of Television Each Day
None	60
Less than 6	48
6-10	51
11-15	46
16-20	45
21-25	42
26-30	44

Source: See Appendix Table 16 for detail and standard errors

The amount of time spent watching television is considerably lower among students who work than among those who do not work at all. The differences start with those who work as little as one to five hours. Among students who work in excess of 15 hours, television viewing remains fairly stable, with between 42 and 45 percent watching three or more hours per day. Working students may differ in their participation in other leisure activities, although the NAEP data cannot shed light on this issue.

In summary, students who work long hours appear to sacrifice some of the time that their peers spend watching television and doing homework, and they are also likely to miss more days of school. In contrast, students working a moderate number of hours appear to trim other activities while maintaining their proficiency in the classroom.

* * *

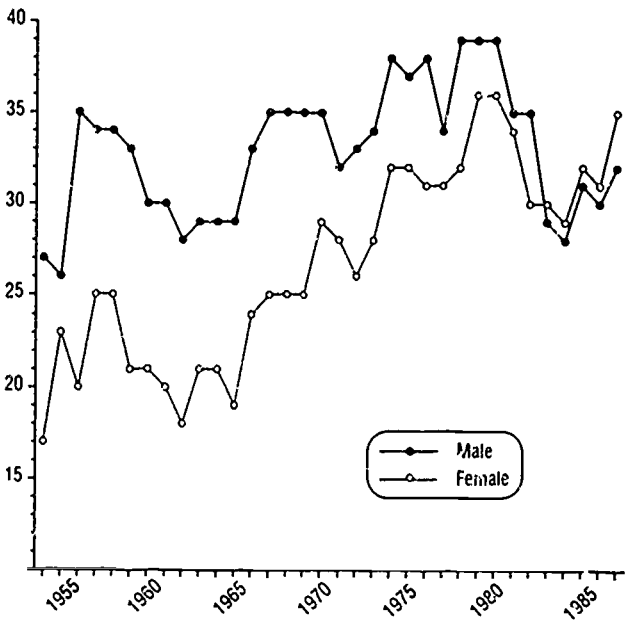
It is clear from this analysis that students who work moderate hours do not, *on the average*, have impaired proficiency. Circumstantial evidence suggests that eleventh graders who work long hours (and perform less well) are different kinds of students — they are more likely to take less-rigorous courses and they expect to work after high school rather than pursue higher education. This is consistent with other major studies cited later in this report, where hours of work, by themselves, were not found to be associated with lower performance after the study controlled for other student characteristics.

Since the impact of student work is an important question, NAEP undertook a multiple regression (path) analysis involving 15 variables to examine the relationship between hours of work and proficiency. Hours of work were clustered in different ways — including moderate versus long hours — and variations in hours of work explained, at the most, only 1 percent of the variation in performance.* The NAEP results therefore appear to be consistent with other studies that use different databases and methodologies.

THE GROWTH OF THE STUDENT WORK FORCE

While most studies of working students have been produced in the last four years, the phenomenon of the working high-school student has existed throughout the post-World War II period. In fact, data from the U.S. Bureau of Labor Statistics (BLS) indicate that student work peaked in the 1970s and has been relatively stable since then.

Percent of 16- and 17-Year-Old Students Working, 1953 to 1986



Source: Data for 1953-1983 were computed from U.S. Bureau of Labor Statistics, *Handbook of Labor Statistics*, Bulletin Number 2217 (June 1985). Data for 1984-1986 were computed from unpublished information provided by the U.S. Bureau of Labor Statistics. See Appendix Table 17

*In the analysis, this 1 percent has been allocated among all the variables used. The path-analysis results are available from NAEP.

The Bureau of Labor Statistics reports that slightly more than one in four male 16- and 17-year-old students worked in 1953, and this proportion gradually increased through the 1970s, approaching two in five by 1979. However, a glance at the graph also shows ups and downs in the percent of students working during that period. Opportunity for student work is affected by business cycles, and the ups and downs in the percent of students working generally reflect those cycles. This is particularly noticeable after 1979, when the severe recession of the early 1980s pushed the percent of males working to levels existing in the recession of 1961. By 1986, the percent working had recovered to slightly more than three in 10.

The pattern for females is more dramatic. In 1953, just 17 percent of female students ages 16 and 17 were working, a full 10 percentage points less than for males. By 1963, after recovery from the 1961 recession, this percent edged up to only 19 percent. After that, growth was relatively steady — interrupted only by recessions — and rose to a peak of 36 percent in 1978, just under the peak for male students of 39 percent. The percentage of female students working was similarly affected by the poor job markets of the early 1980s but has nearly recovered to prerecession peaks. The BLS reported that 35 percent of female students were working in 1986; thus, females were more likely to be working than their male counterparts.[10]

These changing averages for males and females contain divergent trends among racial and ethnic groups, as demonstrated in the table below.[11]

Trends in Percent of 16- and 17-Year-Old Students Working by Gender and Race/Ethnicity

White	1964	1986
Males	30	36
Females	21	39
Black		
Males	26	11
Females	11	17

Source: Data for 1964 were computed from U S Bureau of Labor Statistics, *Handbook of Labor Statistics*, Bulletin Numbe: 2217 (June 1985) Data for 1986 were computed from unpublished information provided by the U S Bureau of Labor Statistics

The trends for White male and female 16- and 17-year-olds are roughly parallel. The pattern for Black females roughly parallels that of their White female counterparts, although at a much lower rate of employment. The employment pattern for Black males is the opposite of that for White males. In 1964, the percent of Black male students working was nearly the same as the percent of White male students working. Since then, Black males have been slowly diminishing in the ranks of the employed. At the same time, Black females have increased their employment rate, exceeding that of Black males. The trends for students of Hispanic origin are similar to those for Blacks, although more Hispanic males are working.

Generally, growth in student work was halted by the deep recession of the early 1980s, and while it has bounced back with economic recovery, the rate of student work has not quite returned to the peaks reached in the late 1970s. Interpretation of these trends is affected by the perspective taken on the desirability of students working. In any event, the labor market seems less friendly to students now than in the late 1970s, and the extent to which student labor will be in demand in the coming years remains to be seen. However, the fact that there will be fewer 16- and 17-year-olds in the population should increase employer demand and cause further increase in the percent of students working.

RESULTS OF OTHER STUDIES

In the last few years, numerous research projects have attempted to assess the costs and benefits of student work. Several have looked at the issue broadly, in terms of the role that work plays in adolescent and youth development. Some of these studies began with questions about the possible adverse effects of student work. Others started from a premise that work has beneficial effects, particularly with regard to smoothing the transition from school to work, and emphasized the value of learning through experience. Still others emphasized the costs of student work in terms of diversion from education. This section touches only on a few major studies that have concerned themselves with performance in the school environment.[12]

[10] This diverges from the NAEP data for eleventh-grade students, in which more males reported working.

[11] Statistics for White/Black students have been available from the BLS since 1964. Data for students of Hispanic origin were available from 1972 to 1983 but are not available after 1983.

[12] For a comprehensive review of this research, see Ivan Charner and Bryna Shore Fraser, *Youth and Work*, The William T. Grant Foundation Commission on Work, Family and Citizenship, Washington, DC, 1987.

Studies of the relation between student work and school performance have indicated that part-time student work generally has no adverse impact on school performance. In one study, Ronald D'Amico examined data from the National Longitudinal Survey of the Labor Market Experience of Youth, funded by the U.S. Department of Labor.[13] Five thousand high-school students were selected from a national sample of more than 12,000 youth in 1979. D'Amico looked at the employment record of these students while they were in school, week by week, from 1979 to 1982.

Over this three-year period, D'Amico measured the percent of weeks during the school year that students worked more than 20 hours per week and the percent of weeks that students worked from one to 20 hours per week. In determining the relation of work to school performance, the study controlled for the separate performance effects of educational expectations and student background characteristics.

D'Amico summarized his conclusions as follows:

> *The percent weeks worked more than 20 hours per week is significantly associated with reduced study time for White males and White females and does appear to limit free time spent at school for both minority females and White males. . Most importantly, whatever constraints high school employment puts on school involvement, no adverse effects for either work intensity variable emerge in the class rank equations for any race/sex group. Working students simply do not appear to have impaired academic achievement in these data.*

Another large-scale study reported by William J. Schill, et al, in 1985 was based on an analysis of the working patterns of more than 4,500 high-school students in the state of Washington.[14] The study found that students who work fewer than 20 hours per week had the highest grade point averages — higher than those of students who did not work at all. Students who worked more than 20 hours per week displayed the lowest grade point averages.

A Columbus, Ohio, study involving 714 high-school students over a three-year period was reported by Lawrence Hotchkiss in 1986.[15] For effects on school performance, Hotchkiss used both self-reported grade point averages (GPAs) and GPAs taken from school transcripts. The study also measured days tardy and days absent, as recorded in school transcripts. The study's conclusion was that "hours of work have no effect on any of the school variables (measured) — days absent from school, days tardy to school, extracurricular activities, and the two measures of grade point average."

In *High School Work Experience and its Effects*, published in 1983, M.V. Lewis, et al, analyzed the High School and Beyond Data from the National Longitudinal Survey.[16] They found that work experience had either no effect or minimal effect on students' grades and class rankings. No effects were found in grade point averages for males, while the results for females showed a somewhat mixed picture; working had a small adverse effect on grades but a slightly positive effect on class ranking.

The most widely reported finding in recent years is from a study of 531 tenth- and eleventh-grade adolescents in Orange County, California, first reported in 1982 by L. Steinberg, et al.[17] Their study was of first-time workers only, and they reported lower grade point averages for working students. The patterns found in the Orange County study are at variance with the other studies reported here and with the NAEP results. It is not known if the fact that the students were first-time workers contributes to these differing results.

In summary, recent research is generally consistent with NAEP's finding of little or no achievement effects associated with student employment when the hours worked are moderate. While the NAEP data presented early in this report show that students who work more than 20 hours have slightly lower performance than students who work fewer hours or not at all, the statistical analysis (multiple regression) shows a very weak association between work and proficiency. The predominant theme in the other studies reported is that hours of work bear no relationship to performance. Although performance may be slightly lower for those who work more than 20 hours, this difference disappears when the differing characteristics of the students are accounted for. However, as explained in the section that follows, such an analysis on the basis of averages does not necessarily apply to individuals; each student is unique, and the characteristics and circumstances of each student must guide the choices made and the advice rendered concerning the costs and benefits of working.

[13] Ronald D'Amico, "Does Employment During High School Impair Academic Progress?" *Sociology of Education 57*, July 1984, pp. 152-164.

[14] William J. Schill, et al, "Youth Employment. Its Relationship to Academic and Family Variables," *Journal of Vocational Behavior 26*, 1985, pp. 155-163.

[15] Lawrence Hotchkiss, "Work and Schools — Complements or Competitors?" in K. Berman and S. Reisman (eds.), *Becoming a Worker*, Ablex Publishing, Norwood, NJ, 1986.

[16] Reported in Ivan Charner and Bryna Shore Fraser, *Youth and Work*, The William T. Grant Foundation Commission on Work, Family and Citizenship, Washington, DC, 1987.

[17] Reported in D'Amico, *op. cit.*

CONCLUSION AND COMMENT

The results of the 1986 NAEP assessment and other major research efforts indicate there is no cause for alarm about the effect of student work on academic achievement. Average proficiency in mathematics, reading, history, literature, and science differed little between students who worked and those who did not and was little affected by the number of hours worked. At the same time, students who worked more than 20 hours had slightly lower average proficiency and were likely to be less involved in the academic content of schooling, as measured in several ways.

While public and research interest in student work is relatively recent, student work itself is prevalent and has been for at least three decades. Growth in student work appears to have halted in recent years, and percentages of students employed are still below the peaks reached in the late 1970s. The percentages of female students working have risen more rapidly than the percentages of males working. The employment ratio has also risen for Black female students. However, we should be concerned that the trend in working among Black male high-school students has been declining steadily since 1964 (when information by race/ethnicity was first collected), particularly if this trend reflects a decline in opportunity for those who want part-time work or suggests an increase in alienation from the workplace. While the percent of Black and Hispanic students working is low, there is little difference overall in the rate of student work in families with different levels of parent education, which is one measure of socioeconomic level.

While the findings regarding work and learning may be reassuring to educators, parents, employers, and students who are concerned about adverse effects on academic performance, the present says little about the future. As school reform creates more-demanding schools, student work could become a more prominent issue. Further, it should be remembered that the results are based on averages for large population groups. The findings do not speak of individual circumstances. While the averages show no association between school performance and work, there may be students who excel in school even as they work, students whose grades remain the same, and students whose grades decline.* Nevertheless, for students as a whole, there are no indications of harmful effects.

In considering individual circumstances, a number of factors not measured in these surveys and research studies should be taken into account.

- *Student capability.* Clearly, many students are capable of excelling in school and holding a job at the same time. Others, deprived of the time to study and with depleted energies, may achieve less well in school than they would otherwise. For still others, the discipline of work may improve school habits.
- *The demands of school.* Schools may vary in how much time and effort they demand of the student. This directly affects the difficulty of working and maintaining grades. There is some concern by researchers in the work-and-learning field that some teachers lower their expectations of working students; however, NAEP data do not disclose lower proficiencies for working students, as would likely be the case if this were a widespread practice.
- *The nature of the work.* The content and demands of student jobs vary. Some support intellectual development, while others involve mindless activity that, for some individuals, could have a negative effect. The intensive investigations of Ellen Greenberger, et al, have identified the need to look at students' jobs in terms of content compatible with youth development and achievement.[18]
- *Links between school and work.* Where work assignment is connected to schooling objectives (as in cooperative education and other work-study arrangements), work can complement schooling objectives rather than compete with them.

While this brief look at working students has been confined to their school achievement, there are other important aspects of student work to be considered, including how it affects the transition from school to labor force and the general role it plays in development.[19]

*Using a national sample of students working in fast-food chains, Philip W. Wirtz and Cynthia A. Rohrbeck have looked at teacher and parent roles in shaping student decisions about work intensity. They found that teachers (and other school personnel) are perceived by low-achieving students as discouraging intense employment, while parents are not. *Journal of Adolescent Research, 3(1)* pp. 97-105, 1988.

[18] Ellen Greenberger, Lawrence P. Sternberg, and Mary Ruggierio, "A Job Is A Job Is A Job. . . Or Is It? Behavioral Observations in the Adolescent Workplace." *Work and Occupations 9(1)*, pp. 79-96, February 1982.

[19] Research has generally established that students who work part-time in school are less likely to be unemployed after leaving school. For a summary, see Charner and Fraser, *op. cit.*

In recent years, a handful of researchers has found many differences between the learning that occurs in school and in jobs. This research suggests that success in the employment world necessitates both kinds of learning, and that schools would benefit from paying closer attention to these differences.[20] Our nation has, perhaps, drawn too sharp a dichotomy between the world of school and the world of employment. The possibilities are many for schools, employers, and local employment institutions to work together to improve student learning and students' transition to adulthood.

It is a positive development that schools and businesses are viewing youths to a greater extent than ever before as individuals who frequently are both students and workers. Historically, this has not been an accepted perspective, as American institutions concerned with schooling and those concerned with work have gone their separate ways, unlike institutions in some European countries. Worried over by their parents, youth themselves have, on their own, juggled jobs and school. On the average, it seems they have done it pretty well.

[20] For example, see Sylvia Scribner and Patricia Stevens, *Experimental Studies on the Relationship of School Math and Work Math*, The Graduate School and University Center, City University of New York, New York, NY, September 30, 1987.

DATA APPENDIX

Detailed Tables*

* For all tables in this Appendix, jackknifed standard errors are presented in parentheses. A full description of the procedures used can be found in *Expanding the New Design: The NAEP 1985-86 Technical Report*, Albert E. Beaton, et al, Educational Testing Service, Princeton, NJ, 1988, pp. 183-192. Unless otherwise specified, the data provided is drawn from the 1986 NAEP assessment.

Table 1

Average Proficiency for Eleventh Graders by Hours Worked

Hours Worked Per Week	AVERAGE PROFICIENCY*				
	Mathematics	Science	History	Literature	Reading
None	307.4 (1.2)	292 3 (1 2)	287.7 (1.6)	288 8 (1.4)	56 8 (0 3)
Less than 6	308 9 (2.1)	299 0 (1.7)	292 2 (3.3)	290 7 (3 0)	57 6 (0 5)
6-10	306 9 (1.4)	295 7 (2 0)	287.2 (2.3)	287 7 (2.6)	56.6 (0 5)
11-15	309 3 (1 0)	299 2 (1.6)	291 4 (1.9)	290 2 (1.9)	57 8 (0 4)
16-20	307.5 (0 9)	296 9 (1 3)	288 7 (2 0)	288 7 (1 8)	56 9 (0 3)
21-25	302.9 (1.2)	292 5 (1 7)	281.3 (2 2)	280 7 (1.8)	55 2 (0 4)
26-30	299.4 (1.5)	284.8 (2 6)	276 0 (2.4)	277 2 (1 8)	53 6 (0 4)
More than 30	292.3 (1 8)	282.1 (1.8)	275 2 (3 8)	269 7 (3 6)	51 7 (0 6)

*The proficiency scales for mathematics, science, history, and literature range from 0 to 500, whereas the Reading proficiency scale ranges from 0 to 100.

Table 2

Average Proficiency for Mathematics by Race/Ethnicity and Hours Worked

Hours Worked Per Week	AVERAGE PROFICIENCY		
	White	Black	Hispanic
None	312 4 (1 1)	283 6 (1 4)	291 0 (2 9)
Less than 6	314.1 (2 0)	277 2 (4 3)	287 9 (5 1)
6-10	311 8 (1 5)	278 1 (2 7)	288 3 (4 6)
11-15	311 4 (1 1)	282 2 (3 7)	291 7 (4 8)
16-20	310 7 (0 9)	288 8 (2 9)	289 0 (3 0)
21-25	305 9 (1 3)	278 4 (4 0)	282 5 (3 6)
26-30	304 0 (1 8)	279.3 (4 1)	280 9 (4 3)
More than 30	296 7 (2 1)	274 5 (3 6)	283 3 (6 3)

Table 3

Trends in Percent of Eleventh Graders Working, 1984 to 1986

Hours Worked Per Week	PERCENT DISTRIBUTION	
	1984	1986
None	48 8 (1 0)	46 0 (0 9)
Less than 6	9 4 (0 5)	8 1 (0 3)
6-10	8 9 (0 4)	9 1 (0 3)
11-15	8 2 (0 3)	9 1 (0 3)
16-20	10 8 (0 4)	12 0 (0 5)
21-25	6 7 (0 4)	7 7 (0 3)
26-30	4 0 (0 2)	4 5 (0 2)
More than 30	3 3 (0 2)	3 4 (0 1)

Expressed cumulatively for 1986, 46% work no hours; 54% work less than 6 hours; 63% work 10 hours or less; 72% work 15 hours or less; 84% work 20 hours or less; 92% work 25 hours or less; 97% work 30 hours or less; and 3% work more than 30 hours.

Table 4

Percent of Eleventh Graders Working by Gender

Hours Worked Per Week	PERCENT DISTRIBUTION	
	Male	Female
None	41 5 (1.1)	50 3 (0 9)
Less than 6	8 1 (0 3)	8 0 (0 3)
6-10	9 2 (0 4)	8 9 (0 3)
11-15	8 8 (0 4)	9 4 (0 3)
16-20	12 9 (0 5)	11 3 (0 5)
21-25	8 9 (0 4)	6 6 (0 3)
26-30	5 5 (0 3)	3 5 (0 3)
More than 30	5 0 (0 3)	1.8 (0 1)

Table 5

Percent of Eleventh Graders Working by Race/Ethnicity

Hours Worked Per Week	PERCENT DISTRIBUTION		
	White	Black	Hispanic
None	43 2 (1.0)	59 4 (1 0)	49 0 (1.4)
Less than 6	8 2 (0 3)	6 4 (0 4)	8 8 (0.7)
6-10	9 1 (0 3)	8 5 (0 5)	8 9 (0.6)
11-15	10 2 (0 4)	5 0 (0 4)	5 9 (0.5)
16-20	13 1 (0 6)	8 1 (0 4)	10 8 (1 0)
21-25	8 3 (0 3)	5 4 (0 5)	6 0 (0 6)
26-30	4.6 (0 2)	4 2 (0 4)	4 9 (0 5)
More than 30	3 3 (0 2)	3 1 (0 3)	5 8 (0 6)

Table 6

Percent of Eleventh Graders Working by Region

Hours Worked Per Week	PERCENT DISTRIBUTION			
	Northeast	Southeast	Central	West
None	40 9 (2 1)	54 0 (2 0)	43 1 (1.5)	47 9 (0 7)
Less than 6	8 7 (0 7)	7 1 (0 3)	7 4 (0 4)	9 0 (0 5)
6-10	10 1 (0 6)	7 7 (0 5)	9 5 (0 4)	8 6 (0 4)
11-15	10 8 (0 9)	6 3 (0 7)	10 5 (0 4)	8 1 (0 8)
16-20	13 5 (1 2)	9 4 (1 1)	13 4 (0 8)	11 5 (0 4)
21-25	8 3 (0 7)	7 0 (0 6)	8 4 (0 6)	6 9 (0.4)
26-30	4 6 (0 6)	5 2 (0 4)	4 3 (0 3)	4 2 (0 4)
More than 30	3 1 (0 4)	3 3 (0 2)	3 4 (0 3)	3 8 (0 2)

Table 7

Percent of Eleventh Graders Working by Private and Nonpublic Schools

Hours Worked	Public School	Nonpublic School
None	46 1 (1 0)	45 4 (3 5)
Less than 6	7.9 (0 3)	9 3 (0 7)
6-10	8 9 (0 3)	10 5 (0 6)
11-15	9.1 (0 4)	9 2 (0 9)
16-20	11 9 (0 5)	14.2 (1.7)
21-25	7 8 (0 3)	6 4 (1 1)
26-30	4 7 (0 2)	3 2 (0.6)

Table 8

Percent of Eleventh Graders Working by Level of Parents' Education

	PERCENT DISTRIBUTION			
Hours Worked Per Week	Did Not Complete High School	Graduated from High School	Some Education After High School	Graduated from College
None	49.4 (1.4)	45 1 (1 5)	44 4 (1 1)	46 6 (0 7)
Less than 6	6 7 (0 6)	7.1 (0 4)	7 7 (0.6)	9 4 (0 4)
6-10	8 5 (0 7)	9 0 (0 5)	8 8 (0 4)	9 4 (0 3)
11-15	5 9 (0 6)	8 9 (0 5)	9 7 (0 5)	9 8 (0 4)
16-20	10 4 (0.9)	12 5 (0.7)	12.9 (0 6)	12 0 (0 5)
21-25	8 8 (0 8)	8 6 (0 4)	8 6 (0 4)	6 5 (0 3)
26-30	5 6 (0 6)	5 0 (0 4)	4 6 (0 3)	3 8 (0 3)
More than 30	4 6 (0.5)	3 8 (0 3)	3 2 (0 3)	2 5 (0 2)

Table 9

Percent of Eleventh Graders with Both Parents Working Full-Time by Hours Worked

Hours Worked Per Week Per Student	Percent of Eleventh Graders With Both Parents Working Full Time
None	40 7 (0 7)
Less than 6	40 7 (1 3)
6-10	42 5 (1 6)
11-15	45 7 (1 2)
16-20	46 8 (1 2)
21-25	47 7 (1 5)
26-30	48 9 (2 2)
More than 30	47 5 (1 6)

Table 10

Percent of Eleventh Graders in Curriculum Tracks by Hours Worked

	PERCENT DISTRIBUTION		
Hours Worked Per Week	General	Academic/College Preparatory	Vocational/ Technical
None	46 1 (1 3)	47 3 (0.9)	38 8 (1 8)
Less than 10	15 8 (0 4)	18 2 (0 5)	15 8 (1 1)
11-20	20 1 (0 8)	22 2 (0.7)	20 2 (1 1)
More than 20	18 0 (0.6)	12 3 (0 6)	25 2 (1.5)

Table 11

Eleventh Graders' Expectations After High School by Hours Worked

	PERCENT OF STUDENTS EXPECTING TO SPEND MOST TIME AFTER HIGH SCHOOL:			
Hours Worked Per Week	Will Work	Will Attend Two-Year College	Will Attend Four-Year College	Other
None	13 8 (0 6)	19 3 (0 8)	55 7 (1 3)	11 2 (0.6)
Less than 6	13.7 (1 2)	18 8 (1 2)	59 4 (1 8)	8 0 (1 0)
6-10	15 9 (0 9)	21 1 (1.1)	54 5 (1.7)	8 6 (0.7)
11-15	13.7 (0 9)	21 6 (1.1)	57 0 (1 4)	7.6 (0 6)
16-20	17.0 (1 0)	22 5 (1 0)	5 0 (1 3)	9.6 (0 6)
21-25	23 7 (1 0)	24 6 (1.0)	43 0 (1 0)	8 7 (0 7)
26-30	29 9 (2.0)	24 8 (1.1)	36 1 (2 0)	9 2 (0 9)
More than 30	37 9 (1.9)	18 8 (1.4)	30 4 (1 5)	13 0 (1 5)

Table 12

Mathematics Courses Taken (cumulative*) by Eleventh Graders by Hours Worked

Hours Worked	PERCENT, HIGHEST-LEVEL MATHEMATICS COURSE TAKEN					
Per Week	Prealgebra	Algebra I	Geometry	Algebra II	Calculus	Other
None	16 3(0.9)	15 5(0 6)	14 3(0 5)	45 7(1 3)	6 7(0 7)	1 4(0 2)
Less than 6	14 7(1 3)	12 9(1 3)	13 6(1 1)	49 3(1.7)	8 7(1 3)	1 1(0 3)
6-10	13 3(0 9)	15 0(0 9)	16 4(1 1)	47 4(1 3)	8 6(0 9)	1 4(0 3)
11-15	11 1(0 9)	14 6(1 0)	16 9(0 8)	50 0(1 7)	6 2(0 7)	1 2(0.2)
16-20	13 0(0 8)	15 7(0 8)	17 2(0 7)	48 7(1 4)	4.2(0 4)	1 1(0 3)
21-25	15 4(1 1)	19 2(0 7)	16 0(1 2)	44 4(1 4)	3 9(0 7)	1 1(0 2)
26-30	20 7(1 7)	21 9(1 8)	15 2(1 2)	37 5(1 6)	3 3(0 9)	1 5(0 4)
More than 30	25 9(1 9)	19 8(1 4)	15 6(1 7)	30 3(1 4)	5 3(0 9)	3 0(0 7)

*This is an inclusive variable; that is, students appearing under the column titled "Geometry" have completed Algebra I, students appearing under the column "Algebra II" have completed Algebra I and Geometry, and so on.

Table 13

Science Courses Taken (cumulative*) by Eleventh Graders by Hours Worked

Hours Worked Per Week	PERCENT, HIGHEST-LEVEL SCIENCE COURSE TAKEN				
	General Science	Biology	Chemistry	Physics	Other
None	9 0(0.9)	43 8(1 4)	35 3(1 3)	6 2(0 6)	5.7(0 4)
Less than 6	8 2(1.1)	41.1(1 5)	36 4(1 6)	7 9(1 1)	6 4(0 7)
6-10	8 2(1.0)	43 3(1.6)	36 2(1 5)	5 8(0 6)	6 5(0 7)
11-15	7.3(0.8)	43 2(2.0)	38.7(1 9)	5 1(0 7)	5.7(0 9)
16-20	8.9(0.9)	45 4(1.4)	36 2(1 2)	4 8(0 5)	4.7(0 5)
21-25	10.7(0.8)	49.7(2.0)	29 5(1 6)	5 4(0 8)	4 7(0 5)
26-30	11.4(1.2)	54.1(1.9)	24 7(1 5)	3 3(0 6)	6 6(1 2)
Less than 30	14.8(1.6)	50.8(2.0)	20.4(1.7)	5 3(1 0)	8 7(0.9)

*This is an inclusive variable; that is, students appearing under the column titled "Chemistry" have completed Biology, students appearing under the column "Physics" have completed Biology and Chemistry, and so on.

Table 14

Percent of Eleventh Graders Absent by Hours Worked and Length of Absence

Hours Worked Per Week	DAYS OF SCHOOL MISSED THE PREVIOUS MONTH				
	0-1 Day	1-2 Days	3-4 Days	5-10 Days	10 or More Days
None	37 6(0 8)	34.9(0 5)	16.8(0.5)	8 0(0 4)	2.8(0 2)
Less than 6	36 6(0 9)	37 0(1.7)	17 2(1 4)	7.6(0.8)	1.6(0 4)
6-10	27 1(1 1)	37.5(1.2)	15.7(1.0)	7.6(0 7)	2.1(0 3)
11-15	35 0(1 1)	39 0(1.1)	17.5(1 0)	6.8(0 5)	1.7(0 3)
16-20	30 3(0 8)	39 4(1 0)	19 2(0.7)	8.3(0 8)	2.9(0 4)
21-25	29 2(1 3)	38 5(1 3)	20.5(1 2)	8 8(0 7)	3.0(0 3)
26-30	26 7(1 5)	33 3(1 3)	21.6(1 3)	13.8(1 3)	4 6(0 8)
More than 30	28 4(1 8)	29 8(1 6)	20 8(1 7)	11.9(1.2)	9 0(1.2)

Table 15

Percent of Time Eleventh Graders Spend on Homework by Hours Worked

Hours Worked Per Week	TIME USUALLY SPENT ON HOMEWORK EACH DAY					
	None Assigned	Didn't Do Assigned Homework	1/2 Hour	1 Hour	2 Hours	More than 2 Hours
None	5 9(0 5)	8 0(0 3)	15 8(0 5)	33 1(0.5)	21.8(0 6)	15 3(0 8)
Less than 6	5 6(0 6)	6 7(0 5)	16 1(1.2)	34 4(0 9)	22 1(0 9)	15 1(1 3)
6-10	5 9(0 8)	7 3(0 7)	18 0(0 8)	34 2(1.1)	21 0(1 1)	13 6(1 1)
11-15	5 6(0 6)	9 1(0 8)	18.5(1 1)	36 5(1.0)	20 7(1 1)	9 6(0 8)
16-20	6 3(0 5)	10 3(0 6)	20.9(0.8)	35 9(0.9)	18 0(0 8)	8 5(0 6)
21-25	8 1(0 6)	12 4(0 6)	24 0(1.0)	34 0(1 0)	14 6(0 8)	7 0(0 7)
26-30	8 8(0 8)	15 2(1 3)	21 6(1 3)	33.4(1 3)	13 6(1 0)	7 5(0 9)
More than 30	14 0(1 5)	18 8(1 3)	21 1(1 5)	23 5(1 6)	11 2(1 3)	11 5(1 2)

While the answer to this question tells us how long students who were assigned homework spent on their homework, it does not tell us how much was assigned, and therefore, how much students did in relation to how much was assigned.

Table 16

Percent of Time Eleventh Graders Spend Watching Television by Hours Worked

Hours Worked Per Week	HOURS WATCHED EACH DAY		
	0-2 Hours	3-5 Hours	6 or More Hours
None	40 2 (1 2)	49 0 (1 0)	10 7 (0 4)
Less than 6	51 5 (2 0)	41 0 (1 8)	7 4 (0 7)
6-10	49 2 (1 3)	43 2 (1 2)	7 6 (0 5)
11-15	54 2 (1 2)	40 4 (1.3)	5 4 (0 5)
16-20	55 2 (1 1)	39 1 (1 1)	5 7 (0.5)
21-25	57 7 (1.8)	35 7 (1 6)	6 6 (0 7)
26-30	56.4 (1 3)	35.3 (1 3)	8 3 (0.9)
More than 30	54.9 (1.7)	32 5 (1.8)	12 6 (0 9)

Table 17

Trends in Percent of 16- and 17-Year-Old Students Working, 1953 to 1986

Year	Male	Female	Year	Male	Female
1953	27	17	1970	32	28
1954	26	23	1971	33	26
1955	35	20	1972	34	28
1956	34	25	1973	38	32
1957	34	25	1974	37	32
1958	33	21	1975	38	31
1959	30	21	1976	34	31
1960	30	20	1977	39	32
1961	28	18	1978	39	36
1962	29	21	1979	39	36
1963	29	21	1980	35	34
1964	29	19	1981	35	30
1965	33	24	1982	29	30
1966	35	25	1983	28	29
1967	35	25	1984	31	32
1968	35	25	1985	30	31
1969	35	29	1986	32	35

Source: Data for 1953-1983 were computed from *Handbook of Labor Statistics*, U.S. Bureau of Labor Statistics, Bulletin Number 2217 (June 1985). Data for 1984-1986 were computed from unpublished information provided by the Bureau of Labor Statistics.

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