

High School Students in the Labor Force: Some Costs and Benefits to Schooling and Learning

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For several decades, social critics have questioned the almost exclusive emphasis placed on formal instruction in promoting the development of adolescents (Goodman, 1971; Illich, 1971) and have proposed that the education and socialization of all students, not just those bored with or alienated from school, would be facilitated by earlier experience in the world of work, either as an alternative or a complement to high school (National Panel on High Schools and Adolescent Education, 1976; Panel on Youth of the President's Science Advisory Committee, 1974). These critics have recommended that various steps be taken to facilitate earlier integration of young people into the workplace including lowering the minimum wage for young workers, expanding work-study and cooperative education programs, and instituting more flexible school schedules to promote youth employment.

This study is part of a large-scale investigation of the costs and benefits of part-time employment during the high school years. This research was supported by a contract from the National Institute of Education (NIE). The first two authors are Co-Principal Investigators of the NIE project and share primary and equal responsibility for this report. We wish to thank Mary Ruggiero, Ray Aguilar, John Martinez, Judie Stein, Sam Taff, and the other assistants who participated in the data collection. We are grateful to Dr. Margaret Mooney Marini for her painstaking commentary on an earlier version of this paper and for suggestions that substantially improved the quality of the final product.

As is often the case, adolescents do not necessarily wait for the blessing of their elders before taking action. Today, proportionately more American teenagers are working while attending high school than at any other time in the past quarter-century. Between 1940 (the year that the Bureau of the Census started reporting employment figures separately for in- and out-of-school teenagers) and 1970, the proportion of in-school, 16-year-old males employed part-time increased from 4 percent to over 27 percent. For females the same age, the rate of increase was even more dramatic: from 1 percent in 1940 to 16 percent in 1970 (U.S. Bureau of the Census, 1940, 1970). By most estimates, the 1980 census will reveal a further increase in these figures, and current calculations place the proportion of working 16-year-old high school students at close to 60 percent.

Not only are relatively more schooling teenagers working now than 40 years ago, but those who are doing so appear to be spending more time working than did their counterparts earlier. For instance, in 1960 only 44 percent of 16-year-old, in-school male employees worked more than 14 hours per week, whereas 56 percent did so in 1970. A similar rise occurred for females: from 34 percent in 1960 to 46 percent in 1970.

Despite the abundance of theoretical discussion concerning the value of early

work experience and the increased participation of in-school youth in the part-time labor force, investigations into the costs and benefits of early work experience have been scarce. Although the National Panel on High Schools and Adolescent Education (1976) recommended that steps be taken to facilitate youngsters' employment, the panel also regretted the lack of empirical data on the short- and long-term effects of adolescent employment.¹

Most research to date has concentrated on the long-term effects of early adolescent employment. Thus, researchers have examined whether youngsters who have worked part-time during their school years have greater success in obtaining and holding full-time jobs after leaving school, and whether part-time job experience during the school years selectively improves the future employment prospects of minority youth (Parnes, 1974; Stephenson, Note 1). Few studies, on the other hand, have assessed the immediate costs and benefits of part-time employment for youngsters during the school years. The most obvious potential costs that must be examined are those to school performance and attitudes toward school. Substantial commitments of time and energy to a job may weaken a young person's emotional investment in school, taking a toll on academic achievement, school attendance, participation in extracurricular activities, and time spent on studies. The most obvious potential benefits are those to the learning of "practical information" about the business world, money, and consumer transactions. These types of learning may be more easily acquired through working than through schooling.

Existing studies of the short-run, or immediate, costs and benefits of adolescent employment fall into two categories: (1) studies of adolescents' employment in "naturally occurring" jobs in the private sector; and (2) studies of work experience in jobs especially created for youth, commonly through federally funded projects. Research in the first domain suggests, on the whole, that part-time employment is

unrelated to academic achievement (as measured by grade point average) when the effects of social class are controlled (Mangum & Walsh, 1977; Straus & Holmberg, 1968). We can find no studies of the effects of employment in naturally occurring jobs on practical knowledge.

Research in the second domain, participation in youth employment and career education programs, tends to focus on long-range outcomes such as future employability and future earnings. Relatively fewer studies evaluate the effect of youth employment programs on short-run outcomes such as academic achievement, attitudes toward school, and the acquisition of so-called "survival skills." In general, it appears that participation in youth employment programs may lead to improvements in practical or survival skills, and to continued school attendance among youngsters designated as potential drop-outs (Mangum & Walsh, 1977; Pines & Morlock, Note 2). Evaluation of experience-based career education projects has shown no gains in academic achievement (as measured by standardized tests) of program participants when compared with nonparticipants, but no losses either (National Institute of Education, 1977).

It is important to underscore the fact that the study findings in one domain cannot be readily generalized to the evaluation of work experience in the other domain. Whereas naturally occurring youth employment involves adolescents from all socioeconomic and ethnic groups, youth employment programs are often targeted for particular groups of young people: the disadvantaged, the potential school dropout, or the out-of-school unemployed. Furthermore, naturally occurring youth employment is designed, at least implicitly, for the employer's benefit; in contrast, youth employment programs often are designed with the adolescent's education in mind.

The present investigation explores the immediate costs and benefits of naturally occurring part-time employment during the school years. Specifically, this study examines the relations between work experience and (1) business, economic, and consumer knowledge, (2) school performance, and (3) school involvement, as indexed by attendance, participation in ex-

¹ Our own, more recent, review of the literature corroborates the Panel's view: It is still the case that little systematic research exists on the effects of part-time working on learning and schooling.

tracurricular activities, time spent on studies, and attitudes toward school.

Method

Participants

The sample consisted of 531 10th and 11th grade adolescents in Orange County, California. This sample was drawn from a pool of 3,100 respondents who participated in a survey regarding their employment histories and family background characteristics. These 3,100 students were the entire 10th and 11th grades present on the testing days at four high schools selected to provide a heterogeneous sample of Orange County students with respect to social class and ethnicity. Survey results indicated that 36 percent of the respondents were currently holding paid jobs and that 38 percent of the respondents had never held a job. The average working adolescent reported working 20–24 hours per week. The completion rate of the initial survey was 86 percent (or 73 percent of the total pool of 10th and 11th grade students, including those absent from school on the test days).

From this pool of respondents, a group of 1,000 youngsters was selected for more intensive study. This subsample consisted of all teenagers who currently were holding their first part-time job (work was defined as regular, paid employment, of at least 3 hours weekly, for nonfamily members) or who were working and had held only one past job during the summer, and a random sample of teenagers who had never worked. Approximately 15 percent of this group failed to return consent forms, and thus could not participate in the study; 6 percent agreed to participate but failed to show up for the testing; and 12 percent refused to participate. The remaining sample of 667 individuals completed survey questionnaires. After they were initially contacted, a number of the 667 respondents quit or changed jobs (and in the latter case, therefore, were no longer first-time workers) and were excluded from the analyses. The sample for the present study, therefore, consists of 531 youngsters.

Table I shows demographic characteristics of the initial survey sample, the present study as a whole, and the subsamples of workers and nonworkers separately.

TABLE I
Demographic Characteristics of the Sample

	Initial Survey Sample (N = 3101)	Present Study Sample		
		Total Sample (N = 531)	Workers (N = 212)	Nonworkers (N = 319)
Grade				
10	49.6%	42.9%	34.0%	48.9%
11	50.3%	57.1%	66.0%	51.1%
Sex				
Male	50.8%	42.6%	48.6%	38.6%
Female	49.2%	57.4%	51.4%	61.4%
Ethnicity				
White	79.0%	82.2%	85.4%	80.1%
Hispanic	12.4%	9.7%	10.4%	9.2%
Asians, blacks, and others	8.6%	8.2%	4.2%	10.8%
Social Class (by father's occupation)				
Professional	21.6%	25.8%	26.7%	25.2%
White collar and management	34.6%	32.6%	32.7%	32.6%
Blue collar	43.8%	41.6%	40.6%	42.3%

Note. Percentages may not add to 100% due to rounding.

The results of chi-square analyses indicated that the subsample of workers contains proportionately more 11th graders, more males, and fewer blacks and Asians than does the subsample of nonworkers; the two groups do not differ with respect to social class (as indexed by father's occupation). The sample for the present study is demographically comparable to the survey sample from which it was drawn.

Measures

A self-report questionnaire covering work, school, family, and peer activities was group administered to students in their high schools. The portions of the questionnaire relevant to this study are: (1) a 41-item, multiple-choice test of practical knowledge; (2) self-reported current grade point average (GPA) on a 6-point scale; and (3) a series of questions about school attendance, enjoyment of school, number of hours per week spent on studying, and time spent in extracurricular activities. The latter questions are referred to hereafter as indicators of school involvement.

A timed test of practical knowledge tapped knowledge of business operations (15 items), economic concepts (7 items), informed consumer practices (10 items), and consumer arithmetic (9 items). The test is similar in nature to proficiency and survival skills examinations that are now used by schools and in evaluations of various adolescent work programs.² Reliability

of the measure as indicated by Cronbach's Alpha is .783.

Students also responded to questions concerning parental occupation. Responses were coded according to U.S. Census occupational categories (interrater reliability was 97%) and subsequently collapsed to form a three-level index of father's occupation: professional, white-collar/managerial, and blue collar.

Participants also provided information about their work status and average hours of work per week. Work status, as noted earlier, is a two-level variable; participants are characterized either as currently holding their first part-time job during the school year or as having never worked.

Plan of Analysis

A series of multiple regression analyses were performed to examine the relation between work status and scores on the practical knowledge test, and between work status and GPA. Independent variables included in the regression analyses were sex, grade, father's occupation, work status, and weekly hours of employment.

The order of entry of the independent variables was planned to determine (1) the significance of work status, controlling for the effects of the demographic variables, and (2) the added contribution of weekly hours of employment after the contribution of the demographic variables and work status had been accounted for. In the absence of any causal ordering of the independent variables, work status and the demographic variables were entered in one step and regression coefficients were tested to assess the significance of each variable. Weekly hours of employment was entered in the second step, and the increment in the explained variance was examined. In the prediction of practical knowledge scores, GPA was used as an additional independent variable and entered in the first step along with work status and the demographic variables. Preliminary analyses had indicated that GPA suppresses the relationship between work status and scores on the test of practical knowledge. The suppressor effect occurs because workers, in general, have lower GPA's than nonworkers ($t [529] = 1.86, p < .06$) and because GPA and scores on the

² Representative items are: (1) When the owner of a record store talks about the store's "market," she is referring to: (a) the place where she buys her records; (b) the people who are likely to buy records from her store; (c) the newspapers in which the store advertises record prices; (d) the place in which the records are actually displayed and sold (*Business Operations*); (2) Your "net" income is the amount of money you earn: (a) from "overtime" you work at a full-time job; (b) from interest on your savings account; (c) before taxes are taken out of your paycheck; (d) after taxes and deductions are taken out of your paycheck (*Economic Concepts*); (3) Which of the following would be the best source of information about the quality of different kinds of TV's and stereos you might buy? (a) Chamber of Commerce; (b) *Consumer Reports*; (c) Better Business Bureau; (d) advertisements in newspapers and magazines (*Consumer Knowledge*); (4) A TV set costs \$389.95 if the customer pays cash. On an installment plan, the customer pays \$70 down, and \$30 a month for 12 months. How much is saved by paying cash? (a) \$40.05; (b) \$41.05; (c) \$51.15; (d) \$59.75 (*Consumer Arithmetic*).

practical knowledge test are correlated ($r = .42, p < .001$).

An additional strategy was employed in studying the relation between working and practical knowledge and between working and GPA. The cross-sectional nature of this study does not permit one to distinguish between worker/nonworker differences due to differential selection into the work force and worker/nonworker differences resulting from the experience of working. This is an important issue in the present analysis since it is possible that GPA, school involvement, and practical knowledge (all examined as dependent variables potentially influenced by working) may in fact influence selection into the workplace. In an effort to separate causes from consequences of working, comparisons were made between unemployed youngsters who are seeking employment (job seekers) and those who are not seeking jobs (nonseekers) (all nonworkers answered the question, "Are you looking for a job at the present time?"). Our assumption is that job seekers and workers may share a number of attributes that differentiate them from youngsters who do not work and do not wish to work. If a worker/nonworker difference on a

given measure is not due to working but to such selection factors, we would expect to find similar differences between job seekers and nonseekers. If, on the other hand, a worker/nonworker difference is due to the experience of working, we would expect to find no difference between job seekers and nonseekers on that variable. This strategy permits a closer approximation to causal analysis than is usually the case with cross-sectional data, but causal interpretations should be regarded as tentative.

The data concerning school involvement were used in two ways. First, the involvement variables were employed as dependent variables in multivariate analysis of variance (MANOVA) with work status as the independent variable to determine whether school involvement is affected by working. Second, these variables were entered as independent variables in a regression equation predicting GPA.

Results

Practical Knowledge

The results of the multiple regression analysis of practical knowledge scores on

TABLE II
Summary of Multiple Regression Analysis of Practical Knowledge Scores

Variables	B	<u>B</u>	SE _B
Sex	1.31**	.224	.225
Grade Level	-.728**	-.125	.225
Social Class ^a	.729*	.102	.343
	-.245	-.036	.316
GPA	-1.97**	-.454	.171
Work Status	.628**	.107	.285

Variables	R	R ²	R ² Change	df	F
Demographic Variables, GPA, and Work Status	.535	.286		6,493	32.89***
Demographic Variables, GPA, Work Status, and Weekly Hours of Employment	.537	.289	.003	1,492	2.03
Demographic Variables, GPA, Work Status, and Work Status × GPA	.540	.292	.006	1,492	4.18*

^a The use of two vectors for the three-level, categorical variable social class results in two sets of coefficients.

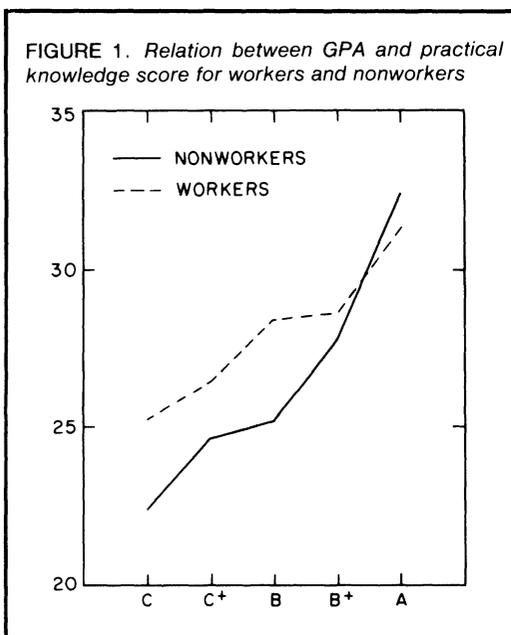
* $p < .05$
 ** $p < .01$
 *** $p < .001$

the demographic variables, GPA, work status, and weekly hours of employment are presented in Table II. Included in the table are the unstandardized (B) and standardized (\underline{B}) regression coefficients for the variables entered in the first step (the demographic variables, GPA, and work status) and the increment to R^2 obtained when weekly hours of employment is added to the equation.

The results indicate a significant effect for work status when the effects of the other variables in the equation are controlled. Students who work perform better on the test of practical knowledge than students who have never worked ($t [518] = 3.40, p < .001$). Adding weekly hours of employment to the equation does not, however, add to the prediction of practical knowledge scores. Whether an individual works is more important, with respect to the acquisition of practical knowledge, than how much more he or she works.

All possible two-way and three-way interactions were examined in subsequent analyses. Only the interaction between GPA and work status proved to be significant (see Table II).

This GPA \times work status interaction is of some interest, and is depicted in Figure 1. For students with high GPAs, working does not appear to be associated with performance on the practical knowledge test.



In contrast, among students with lower GPAs, workers outperform nonworkers.

As noted above, workers score higher than nonworkers on the measure of practical knowledge. It is important to determine whether students who select into the part-time work force bring with them more practical information to begin with, or alternatively, whether working leads to the gains in practical knowledge. A preliminary answer to this question is suggested by comparing the practical knowledge scores of unemployed job seekers with scores of unemployed nonseekers of employment (see *Plan of Analysis*). If these groups do not differ significantly, then it may be inferred that the superior performance of workers over nonworkers is actually a consequence of working. Using GPA as a covariate, no differences were found in the practical knowledge scores of job seekers and nonseekers. It appears, then, that the kind of knowledge we measured is not related to selection into the workplace but that working may promote the acquisition of this type of knowledge.

Grade Point Average

The results of the multiple regression analysis of GPA on the demographic variables, work status, and weekly hours of employment are presented in Table III. The results indicate that the effect for work status is not significant when the effects of the other variables are controlled. The addition of weekly hours of employment does add significantly, however, to the prediction of GPA. Thus, in contrast to the relation between working and practical knowledge, how much an individual works is a more important predictor of GPA than whether the student works. Greater weekly hours of employment are associated with lower grades in school.

All possible two-way and three-way interactions were examined in subsequent analyses. Two two-way interactions were significant: The interaction between grade level and weekly hours of employment, and the interaction between grade level and social class each resulted in a small but significant increment to R^2 (see Table III).

The interaction between grade level and weekly hours of employment, shown in

TABLE III
Summary of Multiple Regression Analysis of GPA

Variable	B	B	SE _B		
Sex	.134*	.100	.058		
Grade Level	-.032	-.024	.059		
Social Class ^a	-.384**	-.233	.088		
	-.019	-.124	.083		
Work Status	.091	.067	.060		
Variables	R	R ²	R ² Change	df	F
Demographic Variables, and Work Status	.257	.066		5,494	6.96**
Demographic Variables, Work Status and Weekly Hours of Employment	.279	.078	.012	1,493	6.45**
Demographic Variables, and Hours	.273	.075		5,494	7.98**
Demographic Variables, Hours, and Grade Level × Hours	.287	.083	.008	1,493	4.13**
Demographic Variables, Hours, Grade Level × Hours, and Grade Level × Social Class	.307	.094	.011	2,491	5.52**

^a The use of two vectors for the three-level, categorical variable social class results in two sets of coefficients.

* $p < .05$

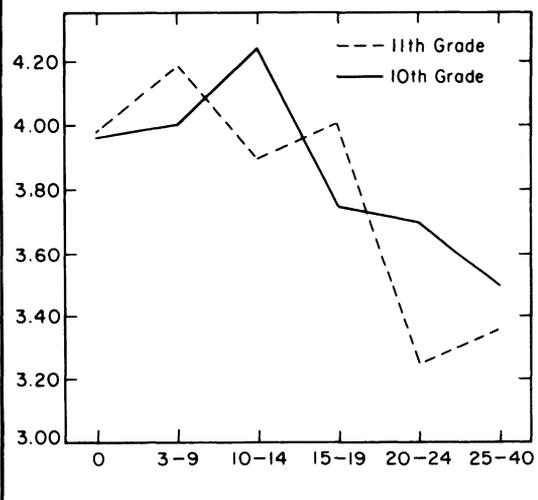
** $p < .01$

Figure 2, indicates that 10th graders can sustain fewer hours of weekly employment than 11th graders before working appears to take its toll on school performance. For 10th graders, a drop in GPA appears at the point when youngsters are working more than 14 hours per week; for 11th graders, this drop does not occur until they are working more than 19 hours per week.

Our analyses indicate that workers tend to have lower GPAs than nonworkers. Once again, the question arises: Is this difference an antecedent or consequence of working? The comparison between job seekers and nonseekers on GPA suggests that the lower GPA of workers is indeed a result of working: Job seekers and nonseekers do not differ significantly on GPA.

The difference between workers and nonworkers in GPA might come about as a result of the effects of work on attitudes toward and involvement in school. If so,

FIGURE 2. Interaction of Hours Worked per Week and Grade Level for GPA



we would expect that: (1) The relation between work and GPA is explained by differences in the school involvement of workers and nonworkers; and (2) jobseekers and nonseekers do not differ with regard to school involvement, that is, lower school involvement is a consequence, not an antecedent, of working.

Work, School Involvement, and GPA

The relation between working and school involvement was examined in a MANOVA with the four school involvement variables as dependent measures. The independent variables were sex, social class, grade level, and work status. The multivariate analysis, using Wilk's Lambda criteria, reveals significant main effects for sex ($F[4,421] = 5.19, p < .001$), social class ($F[9,842] = 4.00, p < .001$), and work status ($F[4,421] = 8.09, p < .001$), and a significant interaction between grade level and work status ($F[4,421] = 4.94, p < .001$).

The univariate tests for school absences, enjoyment of school, and time spent on homework all indicate a significant main effect for work status. Workers are absent more often from school than nonworkers ($F[1,424] = 8.12, p < .01$), enjoy school less ($F[1,424] = 14.49, p < .001$), and spend less time on homework ($F[1,424] = 20.40, p < .001$). Workers and nonworkers do not differ with regard to time spent on extracurricular activities. On the whole, then, workers appear to be less involved in school than are nonworkers.

The interaction between grade level and work status produces a significant effect for two of the four involvement variables, absences ($F[4,421] = 7.40, p < .01$), and enjoyment of school ($F[4,421] = 5.68, p < .05$). Workers are absent from school more than nonworkers among 11th graders, but not among 10th graders. With regard to school enjoyment, however, the worker/nonworker difference is more pronounced among 10th graders than among 11th graders.

To examine whether the lower school involvement of workers is likely to be an antecedent or consequence of working, job seekers and nonseekers were compared along the three dimensions that differen-

tiated workers and nonworkers: absences from school, enjoyment of school, and time spent on homework. Job seekers and nonseekers do not differ with regard to absences or enjoyment, which suggests that the higher frequency of absences and lower enjoyment of school on the part of workers are likely to be effects of working rather than factors that prompt youngsters to enter into the labor force. In the case of time spent on homework, however, job seekers and nonseekers differ significantly ($t[305] = 2.57, p < .01$): Job seekers report spending less time per week on studies than nonseekers.

A multiple regression analysis was employed to test the hypothesis that the relation between work and GPA can be explained in terms of the differential school involvement of workers and nonworkers. After entering sex, grade level, and social class as independent variables predicting GPA, four measures of school involvement were entered into the equation: time spent on homework, frequency of school absences, degree of enjoyment of school, and time spent on extracurricular activities. Work status and weekly hours of employment were then entered into the equation. The results of this analysis are presented in Table IV.

The proportion of explained variance in GPA increases, with the addition of the school involvement variables, from 6 percent to 33 percent ($F[4,455] = 48.09, p < .001$). Not surprisingly, students who devote time to their homework, are seldom absent, enjoy school, and participate in extracurricular activities, have higher GPAs than their less involved peers. The addition of work status and weekly hours of employment does not result in a significant increment to R^2 .

In summary, the lower GPA of workers compared to nonworkers is explained in part by the lower involvement of workers in school. As hypothesized, when the effect of school involvement is controlled, the relation between work and GPA is no longer significant. Low school involvement is associated with poorer school performance, and working appears to lead to lower involvement: Specifically, working leads to more frequent school absences and to decreased enjoyment of school.

Discussion

This paper has explored some immediate costs and benefits of part-time employment during the high school years. In short, working appears to have small but significant effects on schooling and learning. Part-time employment leads to lower school involvement and poorer school performance, but facilitates the acquisition of practical knowledge about the business world, money, and consumer transactions.

The negative impact of working on school performance, is, not unexpectedly, strongly related to the number of hours a student works each week. It appears that school involvement is an important mediating variable. Specifically, working long hours leads to lower school involvement which, in turn, takes its toll on academic performance. We emphasize that it is working long hours, not merely working, that depresses school performance. (Previous studies of working and school performance have not examined weekly hours of work as an independent variable.) Furthermore, the number of hours a student can work each week without suffering a drop in GPA is different for 10th graders than for 11th graders: For the former group, the "breaking point" appears to be at 15 hours of work each week; for 11th graders, the drop in GPA does not occur until 20 hours. Interestingly, child labor laws have differentiated among youngsters on the basis of age; for example, under most current legislation, 16-year-olds are permitted to work longer

hours than 14-year-olds. Our findings suggest that youth of even slightly different ages may indeed merit different consideration under the law.

The negative impact of working on school involvement and performance is balanced somewhat by the positive effect that part-time employment appears to have on the acquisition of practical knowledge. This finding is consistent with previous research indicating that participation in youth employment programs enhances an individual's knowledge of "survival skills" (Mangum & Walsh, 1977). In the case of practical knowledge, however, the number of hours a youngster spends working is not the issue: practical knowledge, at least of the kind we have assessed, may be effectively acquired through relatively small doses of work.

Of special interest is the finding that the positive effects of working on practical knowledge are most marked for those students who perform poorly in school. One interpretation of this finding is that youngsters with less sophisticated cognitive skills (suggested by low GPAs) are better able to pick up information about business-related matters when this information is tied to workplace experience. In contrast, the more academically talented youngsters may learn this information as well without experiential support.

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TABLE IV
Summary of Multiple Regression Analysis of GPA Adding School Involvement and Work Variables

Variable	R	R ²	R ² Change	df	F
Sex, grade level, and social class	.254	.064		4,459	7.90*
Increment due to homework, school enjoyment, absences, and extracurricular activities	.572	.328	.264	4,455	44.54*
Increment due to work status and weekly hours of employment	.573	.328	.000	2,453	.676

* $p < .001$

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