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A correlation study between student achievement and part-time employment by Cynthia Dawn Lipinski

Cynthia Dawn Lipinski
University of Dayton

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A CORRELATION STUDY BETWEEN STUDENT ACHIEVEMENT
AND PART-TIME EMPLOYMENT

MASTER'S PROJECT

Submitted to the Graduate Committee of the School of Education
University of Dayton, in Partial Fulfillment
of the Requirements for the Degree
Master of Science in Education

by

Cynthia Dawn Lipinski

The School of Education

UNIVERSITY OF DAYTON

Dayton, Ohio

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Approved by:



Official Advisor

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CHAPTER I

INTRODUCTION

Traditionally, Americans have taken pride in maintaining a reputable "work ethic" principle. The belief that working is beneficial and that it builds character and self-esteem has been passed down from generation to generation.

Since the 1960's, there has been a massive entry of high school students into the work force. The increased number of students having access to a car and the rapid growth of the retail and service sectors of the economy have facilitated many opportunities for today's high school students to obtain part-time employment.

In many cases, today's youth are encouraged to work while in high school by parents, teachers, and school personnel. Several national panels have suggested potential positive effects associated with adolescent employment. Specifically, the Panel on Youth 1974 suggested that high school work experience should be promoted to improve preparation for postschool work (D'Amico, 1984). The National Panel on High School and Adolescent Education 1976 and the National Commission on Youth 1980 hypothesized that employment provides students with opportunities to assume greater responsibility and allows them to develop appropriate work values and attitudes (Lillydahl, 1990). In accordance,

many high school policies advocate student employment by allowing early release from school and academic credit for job experience.

However, at a time when America's schools report declining standards of academic excellence, researchers have begun to question noninstructional influences on students' achievement--such as the relationship part-time employment may have on the education of American students (D'Amico, 1984; Steinberg et al., 1988). The National Commission on Excellence in Education questions the current trend of encouraging youth to undertake additional responsibilities that may distract them from their schoolwork (D'Amico, 1984). Teachers and administrators have begun to question whether there is a significant correlation between employment and students' academic achievement. This author's study is concerned with the degree to which employment during high school is associated with lowered academic achievement.

PROBLEM STATEMENT

What is the relationship between part-time employment and academic achievement? To what extent does a part-time job affect academic achievement at the high school level?

SIGNIFICANCE OF THE STUDY

Since A Nation at Risk reported startling findings of decreased academic performance by American students, educational reform has become a national concern. The

responsibility to reform the educational system and reestablish academic excellence has fallen on the American schools. Many factors and variables that may account for the decline in educational achievement need to be examined. The impact of students holding jobs on their classroom performance is one area that needs such consideration. Though research has been conducted to determine the benefits and costs to adolescents and society of students' part-time employment during the school year, a review of the literature presents conflicting conclusions on the subject (Barton, 1989; Steinberg & Dornbusch, 1990). The conflicting claims of the literature and the writer's own personal observations prompted this study.

The correlation between working and academic achievement will be important to parents and students who will be facing college and/or future employment, as well as to teachers and administrators interested in raising academic excellence. With this knowledge, teachers, administrators, and parents may better be able to guide students in making decisions about part-time employment.

RESEARCH HYPOTHESES

Three hypotheses form the basis for this study. First, there will be a significant correlation between part-time employment and a student's grade point average. Further, there will be a correlation between the number of hours

worked and student performance. Specifically, the grade point average of those students employed more than 10 hours per week will decrease while the grade point average of those students employed 10 or fewer hours per week will not be affected. Second, there will be a significant correlation between the gender of working students and their grade point average. Third, there will be a significant correlation between college bound students and non-college bound students in relation to grade point average.

ASSUMPTIONS

The author assumes that the study is significant given the current needs of society and the myriad demands placed on students.

The author assumes the results of this study will be of interest to educators in other settings, even though the author is studying a small sample in a traditionally suburban community.

DELIMITATIONS

This study will be confined to the 1991-1992 twelfth grade students of the suburban public school where the researcher is a teacher. The results cannot be generalized outside the sample setting because the subjects will not be randomly selected.

Results of the relationship between part-time employment and student achievement will be tabulated using grade point

averages and the questionnaires returned. Other variables which could have an effect on the outcome of the research are the students' home environments, the different courses offered for the senior year, the maturation of the students, the choice of instrument used to measure academic achievement, the amount of extra-curricular activity involvement, and the influence across these different domains. These factors (and combinations of factors) will not be explored in this research.

Because the author's focus will be based on the "naturally-occurring" labor force, the reader is cautioned not to generalize the conclusions to other, very different types of work experiences, including school-based career or vocational education programs.

METHODOLOGY

The author will develop a questionnaire composed of seven questions to be distributed in a suburban high school (see Appendix A). Senior homeroom teachers will be asked to administer the survey. All twelfth-grade students will complete the survey during a homeroom period in the winter term of 1992. The responses will be collected by the author.

Grade point averages will be found using the guidance counselors' computerized record system. The author will then run statistical tests to determine if any differences occur in grade point average in relation to employment.

DEFINITION OF TERMS

Part-Time Employment--Any job performed outside the home for which a student is paid money, excluding school-based career or vocational education programs.

Noninstructional Influences--Factors outside of school instruction that may potentially affect school achievement during the high school years.

Naturally-Occurring Labor Force--Jobs that were not developed with student education in mind.

Work Status--Whether a student is employed or not.

Work Intensity--The number of hours per week the student is employed.

CHAPTER II
REVIEW OF RELATED LITERATURE

Each generation of Americans has outstripped its parents in education, in literacy, and in economic attainment. For the first time in the history of our country, the educational skills of one generation will not surpass, will not equal, will not even approach those of their parents. (Copperman, as reported in A Nation at Risk, 1983, p. 11)

In the recent rush of concern over the ways in which high schools can respond to the issue of declining achievement scores, teachers and school personnel have begun to investigate to what extent noninstructional influences are related to student performance in school. Because working during the school year conceivably may have an impact on students' school attendance, school involvement, and school achievement, employment represents a potentially important area of noninstructional influence on academic performance. The literature on the impact of part-time employment during the school year on adolescent achievement is relatively scant, however, because student employment was subject to very little empirical research prior to 1980 (Steinberg et al., 1988). D'Amico (1984) remarks, "Scant empirical work

exists to gauge the degree to which employment during high school is associated with reduced attention to school work or lowered academic achievement" (p. 154).

Current estimates of the percentage of high school students who are in the labor force vary. According to the Bureau of Labor Statistics, 40 to 45 percent of enrolled students were in the work force in 1980 (Lillydahl, 1990). Using the 1980 High School and Beyond Survey, which was based on a national sample of 60,000 high school students, Lewin-Epstein found that approximately one-half of all sophomores, two-thirds of all juniors, and three-fourths of all seniors are in the work force at any given time during the school year (Steinberg et al., 1988). Steinberg and Greenberger (1986) indicate that the vast majority of students--over 80 percent--have school year employment experience prior to graduation. In addition, students working today appear to be spending more hours working than students of previous generations. According to the National Assessment of Economic Education Survey, those high school juniors and seniors who were employed in 1987 averaged about 20 hours of work per week during the school year (Lillydahl, 1990).

Types of Employment

High school students can be found working in all kinds of jobs. Research shows that the significant differences in

the types of occupations held by high school students are based on gender, grade level, race, and type of community. There is a tendency, however, for students to be concentrated in a small number of occupations. For the most part, these occupations are low-skill, non-specialized jobs.

Student jobs are concentrated in three industries: wholesale/retail trade; service and recreation; and agriculture. In terms of specific occupations, students tend to cluster in five occupations: operatives, service workers, laborers, sales workers, and farm laborers.

Effects of Employment

In the existing literature, the estimates of the effect of employment on academic achievement produced inconsistent findings. Several studies (Steinberg & Dornbusch, 1990; MacArthur et al., 1989; Steinberg & Greenberger, 1986) measuring grade point average and work status showed significantly superior grade point averages of nonworking students, although the magnitude of the difference in grades in some studies was not great (it was enough to reach statistical significance but the strength of the relationship was modest).

In contrast, though it would seem probable that time constraints from combining school and work would result in less time to devote to studying and thus to lowered academic performance, several studies (Barton, 1989; D'Amico, 1984;

Barryman and Schneider, 1982) found no significant effect of working on academic achievement.

The difference in the conclusion of these studies can be attributed to many variables: the instruments used to measure academic achievement, the type of employment, the effect of work intensity, or a combination of these factors. Thus, the results reported in the following paragraphs must be considered with caution.

Steinberg and Dornbusch (1990) conducted a cross-sectional study of 4,000 15- through 18-year olds to examine the relationship between part-time employment and adolescent behavior. Ten indicators of school performance and engagement were assessed. The results indicated that long work hours during the school year were associated with diminished investment in schooling and lowered school performance.

In a recent study, MacArthur et al. (1989) used multiple regression to analyze the data from 400 randomly selected high school juniors (200 working and 200 not working). The study indicated a significant relationship between employment status and grade point average. The mean grade point average among working students was lower than the mean grade point average among non-working students, although practically speaking the strength of the relationship was modest.

Barton (1989) reported on the data included in the 1986 assessment carried out by the National Assessment of

Educational Progress (NAEP), also known as the Nation's Report Card. The NAEP conducted a multiple regression analysis involving 15 variables to examine the relationship between hours of employment and the academic proficiency of selected high school students. The analysis indicated that students who work moderate hours do not, on the average, have impaired proficiency.

In 1987, Wirtz et al. studied 446 students planning to attend college. Approximately 58 percent of the students worked more than 20 hours per week. His investigation found a negative relationship between working and grade point average in cases where students were employed more than 20 hours per week (Lillydahl, 1990).

In 1986, Mortimer and Finch used the Youth in Transition Study to follow tenth grade boys in their junior and senior years. Their findings revealed that the students with more extensive work experiences had slightly lower grade point averages in their senior year than those students with less work experience (Lillydahl, 1990).

Steinberg and Greenberger (1986) used both cross-sectional and longitudinal data to analyze the influence of work hours on academic performance. The cross-sectional data suggested that students working more than 15 to 20 hours per week had significantly lower grade point averages than students who worked fewer hours.

However, their longitudinal study failed to confirm the hypothesis that working long hours led to lower grades.

D'Amico (1984) analyzed the data of 5,000 high school students from the National Longitudinal Survey of the Labor Market Experience of Youth to determine the effect of part-time employment on class rank. His results concluded that employment did not impair academic achievement. In fact, employment actually improved the class standing of white males.

Berryman and Schneider (1982) surveyed 1277 students to investigate the work experience of high school students. They conducted a Chi-square analysis on student-reported grades. Their findings concluded that the number of hours worked per week was not significantly related to grades earned in school. However, they noted that 20.8 percent of students who had terminated employment cited interference with school work as a major reason for terminating employment.

In 1982, Steinberg et al. collected data from 531 tenth- and eleventh-grade adolescents in California. The study included first-time workers only. Their findings indicated that employment in excess of 15 to 20 hours per week was associated with diminished school performance and school involvement (Lillydahl, 1990).

Though it is recognized that work status alone is not the only noninstructional variable influencing grade point

average, parents and educators should be concerned about the relationship. Though there is no void in literature concerning part-time employment and academic achievement, the mixed results of the existing literature indicate that more research is needed to determine the extent of the correlation between employment and grade point average.

CHAPTER III

PROCEDURE AND DATA ANALYSIS

Subjects

The subjects used in this study were seventy-nine twelfth-grade students. The sample consisted of twenty-nine males and fifty females. The subjects were between the ages of seventeen and nineteen. Ten students worked an average of ten or fewer hours per week; sixty-nine students worked an average of more than ten hours per week. Seventy-five students were college bound and four were not college bound. Fourteen teachers aided the researcher in this study by administering the student questionnaires in their twelfth-grade homerooms.

Setting

The study was conducted in a suburban public high school in southwestern Ohio. Total enrollment for the 1991-1992 school year was eight hundred twenty-four students, of which two hundred sixty-six were twelfth-graders. The study commenced in February of 1992.

Data Collection

Xeroxed copies of the questionnaire composed by the author (see Appendix A) were given to the cooperating twelfth-grade homeroom teachers in the high school. Each teacher was personally asked to administer the questionnaires

during the week of February 24, 1992. The author collected the completed surveys at the end of that week.

The researcher identified those students currently employed and recorded the current grade point average of each student. Using the high school guidance department's automated record system, the writer then found each student's grade point average for the grading period preceding his/her employment. Using these grade point averages and the students' responses on the questionnaires, the writer completed scantron sheets for running statistical tests. The scantron sheets were used to perform a computerized analysis of data at the University of Dayton.

Analysis of Data

This investigation was a study of high school students' employment and its affect on academic achievement, specifically grade point average. The study focused on: (a) whether the grade point averages of students who work more than ten hours per week would decrease while the grade point averages of those students who work ten or fewer hours per week would not be affected; (b) whether male or female student grade point averages would be influenced by part-time employment; and (c) whether college bound or non-college bound student grade point averages would be affected by part-time employment.

A statistical analysis for each of the hypotheses was conducted using a chi square test. Table 1 shows the results

of the chi square test for students who work different lengths of time. The obtained values and the expected values were not similar in this test. The chi square value for this data was .402 while the tabled value was 3.84 with one degree of freedom of error level (see Table 1).

Table 2 shows the results of the chi square test for male and female students. The obtained values and the expected values were not similar in this test. The chi square value for this data was 1.17 while the tabled value was 3.84 with one degree of freedom of error level (see Table 2).

Table 3 shows the results of the chi square test for college bound and non-college bound students. The obtained values and the expected values were similar in this test. The chi square value for this data was 4.108 while the tabled value was 3.84 with one degree of freedom of error level (see Table 3).

Discussion of Results

The writer's first research hypothesis, that there would be a relationship between student work load and grade point average, was rejected. The statistical findings were not significant and indicated that no relationship existed between part-time employment and academic achievement at the high school level.

The second research hypothesis, that there would be a relationship between the gender of the student and grade

point average, was also rejected. The statistical findings were not significant. This indicated that no relationship existed between male and female students and academic achievement at the high school level.

The third research hypothesis, that there would be a correlation between college bound students and non-college bound students and their grade point averages, was accepted. The statistical findings were significant and indicated that a relationship does exist between the grade point averages of college bound and non-college bound students. Though there was a significant correlation in the third hypothesis, the writer acknowledges that the small sample size in the non-college bound cell may have resulted in the positive finding.

The results of this study corroborate the findings of Barton (1989), D'Amico (1984), and Barryman and Schneider (1982). As related in the review of literature, their findings conclude that the number of hours worked per week was not significantly related to grades earned in school.

The conclusions of this study are inconsistent with the research of Steinberg and Dornbusch (1990), MacArther et al. (1989), and Wirtz et al. (1987). The review of literature revealed several studies that were in direct contrast with the results of this study.

A closer look at the possible reasons for the rejections of the first and second hypotheses may be necessary. This research study was conducted with a small number of subjects.

The small number of students involved may have affected the results of this study. A similar investigation involving a larger number of students in a larger school district may or may not yield similar results.

If the investigation were replicated, a different student population or a mixture of student populations should be examined. Students in urban and suburban communities may prove the research hypothesis.

Table 1

ANALYSIS OF GRADE POINT AVERAGES
OF HIGH SCHOOL STUDENTS EMPLOYED
DIFFERENT LENGTHS OF TIME

<u>Hours Employed</u>	<u>GPA Less Than 2.4</u>	<u>GPA 2.4 and Up</u>
10 or Less	6 (7.59)	4 (5.06)
More than 10	34 (43.04)	35 (44.30)
Total	40 (50.63)	39 (49.37)

$\chi^2 = .402$ $df = 1$ $p = .526$ not significant
at .05 level

The χ^2 required for significance at the .05 level is 3.84 ($df = 1$). Since .402 is less than 3.84 it was concluded that there is no significant relationship between students' grade point average and the number of hours students work. The writer's hypothesis was rejected.

Table 2

ANALYSIS OF GRADE POINT AVERAGES
OF HIGH SCHOOL STUDENTS
BY GENDER

<u>Sex</u>	<u>GPA Less Than 2.4</u>	<u>GPA 2.4 and Up</u>
Male	17 (21.52)	12 (15.19)
Female	23 (29.11)	27 (34.18)
Total	40 (50.63)	39 (49.37)

$\chi^2 = 1.17$ $df = 1$ $p = .27$ not significant
at .05 level

The χ^2 required for significance at the .05 level is 3.84 ($df = 1$). Since 1.17 is less than 3.84 it was concluded that there is no significant relationship between students' grade point average and students' gender. The writer's hypothesis was rejected.

Table 3

ANALYSIS OF GRADE POINT AVERAGES
OF COLLEGE BOUND STUDENTS AND
NON-COLLEGE BOUND STUDENTS

<u>College Bound</u>	<u>GPA Less Than 2.4</u>	<u>GPA 2.4 and Up</u>
Yes	36 (45.47)	39 (49.37)
No	4 (5.06)	0 (0.00)
Total	40 (50.63)	39 (49.37)

$\chi^2 = 4.108$ $df = 1$ $p = .043$ significant
at the .05 level

The χ^2 required for significance at the .05 level is 3.84 ($df = 1$). Since 4.108 is greater than 3.84 it was concluded that there is a significant relationship between the grade point averages of college bound students and non-college bound students. The writer's hypothesis was accepted.

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The number of high school students entering the work force continues to grow. Many students are encouraged to work while in high school by parents, teachers, and school personnel. At the same time, the education of American students and academic excellence is being questioned. Some teachers and administrators have begun to question how noninstructional influences affect the educational process. It was the writer's intention to investigate: (a) if working part-time during high school affects academic achievement; (b) if grade point averages are affected by the gender of students; (c) if grade point averages are influenced by the intention of students to attend college.

The chi square test found no significant relationship between part-time employment and academic achievement. Likewise, the chi square test found no significant relationship between grade point average and students' gender. The chi square test found a significant relationship between the grade point averages of college bound and non-college bound students--though the strength of the relationship was modest.

Recommendations for Further Study

Three areas have emerged from this study which future researchers should investigate.

1. Future research should examine a larger group of subjects, possibly encompassing a mixture of urban and suburban high school students.
2. Future research should examine more specifically how the increased number of hours worked by high school students affects grade point average.
3. Future research should examine the correlation between the type of job a student holds and that position's influence on grade point average.

Educators should continue to examine the impact of noninstructional influences on academic achievement.

Knowledge gained on factors possibly influencing academic achievement may some day impact educational problems and thus improve classroom performance.

APPENDIX A
Questionnaire

Seniors:

For my Master's Project at the University of Dayton, I am conducting a correlation study to determine if high school students' employment has an influence on academic achievement.

This questionnaire and your grade point averages will be used in conducting the study. Your help in answering the following questions would be greatly appreciated.

Your names are needed to compare grade point averages but will not be used in the final paper. Thanks for your help!

1. Name: _____
2. Sex: _____ Male _____ Female
3. Age: _____ 16 _____ 17 _____ 18 _____ 19
4. Are you currently employed? _____ Yes _____ No
5. If you are employed, approximately how many hours do you work per week?
_____ 10 or Less _____ More than 10
6. If you are currently employed, when was the last time you were unemployed?
_____ Month _____ Year
7. Do you plan to attend college? _____ Yes _____ No

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