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ABSTRACT

The educational performance of 690 14 and 15 year old dropout prone students given limited labor market experience was evaluated in a nationwide study. The students worked 28 hours per week during the 1971-72 school year, which was found to be excessive. Working increased grade point averages up to a point, after which favorable impact declined or became negative. The extent of career exploration experienced and its implications for longrun labor market prospects could not be discerned from the results of the study. The control group did not come from the same population as the program students. Nonresponse bias also makes the impact of the program unclear. A broader extension among the population of students to be served is recommended. Approximately one half of the document is devoted to appendixes covering data forms, questionnaires, child labor regulations, and survey analysis tables. (MS)

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AN ECONOMIC ANALYSIS OF THE WORK EXPERIENCE AND CAREER EXPLORATION PROGRAM: 1971-1972 SCHOOL YEAR

FINAL REPORT

Ernst W. Stromsdorfer

with the assistance of
James S. Fackler
Marianne V. Felton
and Robert E. Kelcher

Department of Economics
Indiana University
Bloomington, Indiana
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This report presents a study of the Work Experience and Career Exploration Program as it was in operation during the 1971-72 school year. While it is not a definitive study of this program, and, in particular, is subject to non-response bias, it is an evaluation of the program as it was operated nationally. The evidence of this study suggests that limited labor market experience during school hours can improve the educational performance of 14- and 15-year-old students who are drop-out prone or who otherwise suffer educational disabilities. However, as a general rule, the optimum hours these students work per day and per week are fewer than the current program constraints. Finally, although this study does not represent a cost-benefit analysis, we suggest that the program deserves a broader extension among the population of students it is intended to serve.

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PRECIS OF THE STUDY

This report presents a study of the Work Experience and Career Exploration Program as it was in operation during the 1971-72 school year. While it is not a definitive study of this program and, in particular, is subject to non-response bias, it is an evaluation of the program as it was operated nationally.

The evidence from this study suggests that limited labor market experience during school hours can improve the educational performance of 14- and 15-year-old students who are drop-out prone or who otherwise suffer educational disabilities. However, as a general rule, the hours these students work per day and per week are fewer than the current program constraints. Next, although this study does not represent a cost-benefit analysis, we suggest that the program deserves a broader extension among the population of students it is intended to serve. A definitive judgment on this point would, of course, require a consideration of costs to the student, society and employers as well as the consideration of benefits this study attempts to make.

With respect to specific findings and qualifications, the following things can be said. From an educational standpoint the Work Experience and Career Exploration Program (WECEP) does not appear to have any negative effects. In fact, for selected indices of educational performance, such as grade point average or days absent during the WECEP year, the program effect is positive. However, in many cases the program had no statistically significant effect at all. It is also important to note that the models used in the analysis sometimes failed to explain any of the behavior of students with respect to truancy and suspension, much less identify the specific effect of the WECEP program. Thus, for these two dependent variables, we must withhold judgment as to the program effect. Nevertheless, in general, the models used to estimate program effects conformed closely and consistently with our a priori hypothesis as to the relation between hours of work and educational performance; namely, that educational benefits will increase up to a point as hours worked increase, then reach a maximum, after which benefits will decline and sometimes become negative.

It is necessary to note that females were less likely to experience positive program effects than were males. This may be due in part to the relatively small number of females, approximately 100, which was included in the analytical models. Clearly, non-response bias due to missing data was a serious problem in this study, and, in fact, it precluded any analysis of program effects based on ethnic origin.

However, the conceptual basis of the WECEP program is a sound one, even though the exact institutional framework of the program as it is currently structured may not be ideal from the standpoint of maximizing net benefits (benefits minus costs) from the standpoint of the student, society or the employer. We make this judgment because the estimated models of program effect conform closely to what one would expect theoretically based on our knowledge of the economics of the allocation of one's time.

Within this conceptual framework the analysis suggests that four hours per day and 28 hours per week are not optima. The optimum hours per day and per week are usually somewhat less than this, depending upon the measure of educational effect considered. That is, the optimum hours differ for different indices of educational performance. Also the optimum hours differ as a function of one's prior WECEP grade point average. The optima in the study are estimated at mean prior WECEP grade point average. A higher prior WECEP grade point average implies a higher optimum number of hours, and a lower grade point average, a lower optimum.

The exposure to potential injury was a major concern in the formulation of the WECEP program. Fortunately, there is strong evidence in the study that injuries are not a problem with WECEP as it is presently constituted.

On the other hand, the program was supposed to provide not only work experience but also career exploration. The students certainly received the former, but most of the career exploration came about through more formal classroom interaction. We simply do not know the exact extent and intensity of exposure to different careers or what this exposure would imply to a student's longer-run labor market prospects.

Employers are an important consideration in this study, since it is necessary to acquire their cooperation even if one grants the program has positive net benefits to students. In this regard, employers are clearly favorable to the program and would encourage its expansion, although often they are unclear as to the exact justification for this expansion. In the final analysis, however, employers are generally favorable to the program since they selected the students they ultimately hired and therefore were under economic constraint to assure that the productivity of the student was generally in line with the wage rate paid to him.

Finally, though they can be said to have a vested interest in the program, the teacher-coordinators are also overwhelmingly in favor of WECEP. One teacher-coordinator surveyed thought the program was "a big pain in the neck." He was a distinct minority. Thus, the teacher-

coordinators, too, would encourage the expansion of WECEP. In one regard, however, the experience of the teacher-coordinators may have misled them, for the study results generally indicate that the maximum hours of work recommended by the teacher-coordinators is excessive.

In stating these generally positive results of the program, it is necessary to stress again that the program does not have a true experimental design. The WECEP students were generally of a higher educational quality than the control students. They do not come from the same population. Also, due to missing data, there is considerable non-response bias in the study, and the general direction of this bias, whether it is positive or negative vis-a-vis the net program impact, is not known.

In conclusion, although a principal investigator is not usually called upon to make policy judgments, and some feel strongly that it is not his appropriate role at all, if we were called upon to argue for or against the program, we would argue for it. We would do so perhaps as much on the basis of the basic theoretical grounds laid out in Chapters 1 and 2 as on the findings of the body of this report. The concept of the program is correct. It may be that its particular structure at present is not, although we do not have much evidence on this factor. And, indeed, final judgment as to the actual expansion of the program and the optimal hours to work depends on an estimate of marginal and average costs of the program as well as benefits. And, clearly, this study neglects the cost side.

ACKNOWLEDGMENTS

A considerable input of labor goes into the successful completion of any social study, and it is difficult for any one individual to claim unique authorship. In fact, apparently "simple" tasks such as coding and typing are critical skill inputs to any study. High quality performance in these areas can make a difference in weeks or months in the completion of a timely and accurate study. As project director, I wish to acknowledge warmly the help of my immediate assistants who share authorship of this study. James S. Fackler and Robert E. Keleher performed the various statistical computations, and Marianne V. Felton supervised the entire mail questionnaire operation for the employer and teacher-coordinator questionnaires. In addition, she wrote the code books for these questionnaires. Kamran Moayed-Dadkhah also provided statistical assistance to the study. Robert D. Hogan, Jr., and Rody O. Pozzatti assisted in much of the computer programming. Mrs. Charis Culver, Mrs. Joan P. Hongen, and Mrs. Josephine Woo performed the secretarial work of the study. Mrs. Linda Parker, head secretary of the Department of Economics, generously assisted with her staff to provide extra typing at a moment's request.

The state directors of the WECEP program, through their willing cooperation, were the persons who actually made the study possible. They were the keystones involved in assuring that the data needed would be collected. However, this is not intended to downgrade the role of the many teacher-coordinators who collected almost all of the needed data on a voluntary basis during the free hours available to them in a busy schedule.

Of course, numerous people at the U. S. Department of Labor were also instrumental in helping this study to completion. The very existence of the Work Experience and Career Exploration Program is due to the energy and dedication of Mrs. Lucille Pinkett. Mrs. Rose Wiener provided continuing encouragement and useful criticism as project monitor. Mrs. Frances Wattenberg and Mr. Stuart Garfinkle also critiqued the study methodology as it developed. In addition, the good judgment of Dr. Herbert Brum was a continual assistance. My sincere thanks to them all, though I did not always follow their good advice to the letter. Finally, I would like to affirm that while many of these people can take credit for whatever benefit this study ultimately yields, as project director, I am responsible for any residual errors.

Ernst W. Stromsdorfer

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CHAPTER 1

BACKGROUND AND ISSUES

A. The Problem.

There is an increasing awareness and concern in American society over the problems of juvenile delinquency, teen-age unemployment, early school leaving and related types of socially dysfunctional behavior which impose costs on the individuals who experience them as well as on society at large. It seems also clear that these problems are intimately bound up with the process of physical, social and psychological maturation of youth. There is an increasing awareness of the complexity of this maturation process both for different individuals and for different social groups. Thus, it is also clear that society's current method of role structuring for youth--the acquisition of maximum formal education and the legal necessity to remain in school up to a fixed age--is not necessarily optimal for all youth. Yet, legal prohibition from entering the labor market, except under narrowly circumscribed conditions, cannot be optimal for all youth. Of course, the effort to substantially remove children under the age of 16 from the labor market is in part justified as a corollary to insuring that the formal education process is not disrupted. This legal restriction is also justified in the enabling act, the Fair Labor Standards Act of 1938, as a means of avoiding the employment of youths aged 16 and under in oppressive or hazardous occupations.1/

Yet, as Martin Hamburger argues, "the inclusion or exclusion of children from the productive economy is not significantly correlated with the capacities of children in a given society, . . ."2/ And, as children in today's society generally mature physically and perhaps socially and psychologically faster than they did in the 19th Century, when the abuse of child labor was a serious social problem, it may not be as meaningful in today's society to have severe proscriptions against the ability of older teen-agers to participate in the labor market. This constraint is coming under increasing scrutiny as educators, policy makers, and government leaders speculate on the possibility that earlier involvement in labor force activity by teen-age youth and even younger persons may be a means of reducing delinquency, the high school drop-out rate and

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1/ Fair Labor Standards Act of 1938, as Amended, 29 U.S.C. 201 et seq. U. S. Dept. of Labor WHPC Publication 1167, November, 1966. Sec. 3 (1).

2/ Martin Hamburger, "Protection from Participation as Deprevation of Rights," New Generation, Vol. 53, No. 3, Summer 1971, p.2.

the undesirable social consequences of these types of behavior. Hamburger carefully delineates both the pros and cons of increasing the labor force participation of teen-age children. He argues that "the most cogent reasons for protection" are:

(a) to provide increasing periods of time for children to develop skills and competencies which will be needed in a complex society;

(b) to insure that the shift from the family as workplace to the factory should provide suitable physical protection;

(c) even more subtly, growing understanding of development requires that tasks performed by children should not be injurious to muscular, bone, or neural growth;

(d) to insure that the poor and disadvantaged are not placed at a further disadvantage with regard to education.3/

In contradistinction to these positive objectives, Hamburger lists the following negative effects of removing teen-age children from the labor market:

(a) the deliberate removal, sometimes for long periods of time, of a significant aspect of the real world from the lives of children;

(b) the tendency to homogenize children, especially in adolescence, so that they tend to receive an excess of verbal, intellectual experience as compared with the whole range of developmental experiences;

(c) the removal of children from the production of goods and services which aggravates the sharp discontinuity between school and work.4/

B. How WECEP Can Function to Achieve Its Goals.

Thus, it is clear that there are both negative and positive aspects to the participation of teen-age children in the labor market. To put the issue in more formal terms, there is some optimal mix, at any given time in a person's life cycle, between formal education, on-the-job training,

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3/ Ibid., p. 2.

4/ Ibid., p. 3.

labor market activity and leisure.[5] It is an understatement to note that our understanding of the optimal nature of this mix for 14- and 15-year-olds, the targeted age group for the Work Experience and Career Exploration Program (WECEP) is not known with any precision.

To the extent that the current mix is not optimal, society can expect stresses to develop as the behavior which individuals desire deviates from society's prescriptions. Prima facie evidence that the mix between formal schooling and labor force activity is not optimal is the presence of a relatively high drop-out rate, low motivation to learn and such things as truancy and behavior that leads to suspension, all of which effectively reduce the total time one spends in school.

Thus, the WECEP program has been devised as an effort to change the mix of formal schooling and labor force activity and, ideally, raise the quality and efficiency of both types of activities. The Ohio Occupational Work Adjustment Program (the WECEP program in Ohio) states the objective of the WECEP program as follows:

> Occupational work adjustment (WECEP) is a program designed to serve youth 14 and 15 year (sic) of age who are dropout prone and who may not be in school long enough to enroll in vocational education. This program is aimed specifically at helping such enfranchised (sic) youth to become reoriented and motivated toward education and explore careers through work experience.[6]

However, while economic theory in general clearly indicates that there is an optimal distribution of various activities with respect to time and one's current stage in his life cycle, and while there is evidence that our society may not have found this optimum for significant numbers of its teen-age youth, it is not clear exactly how such a program will achieve a reduction in the dysfunctional effects of a non-optimal distribution of effort between formal schooling and labor force activity.

On the simplest level of analysis, it is obvious that this program increases the options of students who formerly had the choices only of

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5/ See, for instance, Gary S. Becker, "A Theory of the Allocation of Time," The Economic Journal, September, 1965, and H. Gregg Lewis, "Hours of Work and Hours of Leisure," Industrial Relations Research Association, Proceedings, December, 1957.

6/ "Statement Concerning the Objectives of the OWA Program" State Department of Education, Division of Vocational Education, Distributive Education Services, Columbus, Ohio, p. 1.

formal schooling or leisure. This in itself should lead to an overall increase of benefit to the individual student. However, the supporters of such programs, of which Career Exploration and ACTION-Learning are variants, would like to argue for a causal relationship between program participation and improved performance in formal education. But, in order to argue for such causality, it is necessary to indicate the exact way in which program participation leads to increased scholastic performance. This can be difficult to do, since we know so little about the way in which educational outputs are produced. A look at the types of persons at which WECEP is directed does provide some clues, however, as to the suggested interaction between the program inputs and its desired outputs. The program in Florida (and, in general, nationally) is directed towards the following types of students possessing one or more of the following characteristics:

a) over age in grade,
b) not relating with classwork,
c) truancy problems,
d) need to work to continue their education,
e) deprived economically,
f) negative attitudes concerning work, school or society,
g) alienated children,
h) discipline problems, and
i) half-day performers.

How can a program such as WECEP, simply by providing work experience for in-school children, help solve such serious economic, social and psychological disabilities? Part of the answer to this question is straightforward. With respect to points a), d) and e), the program clearly reduces the opportunity costs of staying in school. It is a cost to society and the individual to keep teen-age children in school, laws and restrictions against labor force activity notwithstanding. As Tables 1 and 2 clearly show, the labor force participation rate of 14- and 15-year-old youths is greater than zero. A significant proportion can and does work. There are opportunities for this age group to engage in productive activity in the economy. To the extent that this age group remains in school, society gives up production these teen-agers could have otherwise produced. The teen-agers give up wages. These foregone wages and foregone production represent part of the cost of keeping this age group in school. Thus, a liberalization of restraints on their labor force participation will reduce the costs of maintaining this age group in school with no necessary loss in educational or scholastic performance. Presumably, hours spent in school attendance which are of low marginal value to the student, such as study halls or gym classes, can be spent now in labor market activity which will yield a greater addition to the individual's and society's level of benefit than did the previous activity. The value of the remaining hours in school is enhanced both because of a partial restructuring of the

TABLE 1

EMPLOYMENT STATUS OF 14- AND 15-YEAR-OLDS BY SEX AND COLOR, 1972

Employment Status	Thousands of Persons			Percent Distribution		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Total						
Civilian noninstitutional population	8279	4209	4070	100.0	100.0	100.0
Civilian labor force	1606	936	670	19.4	22.2	16.5
Employed	1414	816	598	88.0	87.2	89.3
Unemployed	191	119	72	11.9	12.7	10.7
Not in labor force	6673	3273	3400	80.6	77.8	83.5
White						
Civilian noninstitutional population	7081	3611	3470	100.0	100.0	100.0
Civilian labor force	1461	847	614	20.6	23.5	17.7
Employed	1320	756	564	90.3	89.3	91.9
Unemployed	141	91	50	9.7	10.7	8.1
Not in labor force	5620	2764	2856	79.4	76.5	82.3

Table 1
Employment Status of 14- and 15-Year-Olds by Sex and Color, 1972 (continued)

Employment Status	Thousands of Persons			Percent Distribution		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Negro and other races						
Civilian noninstitutional population	1197	598	600	100.0	100.0	100.0
Civilian labor force	145	88	56	12.1	14.7	9.3
Employed	94	60	34	64.8	68.2	60.7
Unemployed	50	28	22	34.5	31.8	39.3
Not in labor force	1053	509	544	88.0	85.1	90.7

Source: U. S. Department of Labor, Bureau of Labor Statistics, Changes in the Employment Situation in 1972, Special Labor Force Report No. 152, 1973, Table A-26, p. A-26.

TABLE 2

EMPLOYED 14- AND 15-YEAR-OLDS BY SEX, CLASS OF WORKER, AND MAJOR OCCUPATIONAL GROUP, 1972

Characteristics	Thousands of Persons			Percent Distribution		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Class of Workers						
Total	1414	816	598	100.0	100.0	100.0
Nonagricultural industries	1200	642	558	84.8	78.7	93.3
Wage and salary workers	1084	543	541	76.7	66.4	90.5
Private household workers	509	126	382	36.0	15.4	64.0
Government workers	65	40	25	4.6	4.9	4.2
Other wage and salary workers	510	376	133	36.1	46.1	22.3
Self-employed workers	100	88	13	7.1	10.8	2.2
Unpaid family workers	16	12	4	1.1	1.5	0.7
Agriculture	214	174	40	15.1	21.3	6.7
Wage and salary workers	108	88	20	7.6	10.8	3.4
Self-employed workers	18	17	1	1.3	2.1	0.2
Unpaid family workers	88	69	19	6.2	8.5	3.2
Occupation						
Total	1414	816	598	100.0	100.0	100.0
White-collar workers	308	238	70	21.8	29.2	11.7
Professional and technical	15	7	8	1.1	0.9	1.3
Managers and administrators, except farm	2	2	--	0.1	0.2	--
Sales workers	235	208	27	16.6	25.4	4.5
Clerical workers	56	21	35	4.0	2.6	5.9

Table 2
Employed 14- and 15-Year-Olds by Sex, Class of Worker, and Major Occupational Group, 1972 (continued)

Characteristics	Thousands of Persons			Percent Distribution		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Blue-collar workers	288	268	20	20.3	32.7	3.3
Craftsmen and kindred workers	15	14	1	1.1	1.7	0.2
Operatives, except transport	46	37	9	3.3	4.5	1.5
Transport equipment operatives	4	4	--	0.3	0.5	--
Nonfarm laborers	222	212	10	15.7	26.0	1.7
Service workers	626	157	469	44.3	19.2	78.4
Private household workers	408	29	379	28.9	3.6	63.4
Other service workers	218	128	90	15.4	15.7	15.1
Farm workers	192	154	39	13.6	18.9	6.5
Farmers and farm managers	4	4	1	0.3	0.5	0.2
Farm laborers and foremen	188	150	38	13.3	18.4	6.4

Source: U. S. Department of Labor, Bureau of Labor Statistics, Changes in the Employment Situation in 1972, Special Labor Force Report No. 152, 1973, Table A-27, p. A-26.

curriculum and because, in resource allocation terms, the law of diminishing returns implies a higher return to the remaining hours left in formal schooling. In short, providing some time release from formal schooling to work activity reduces the incentive to be truant or engage in activity designed to gain release from school through suspension or other types of school-imposed discipline.

However, it is not clear how work experience alone will alleviate such problems as alienation, truancy, or negative attitudes concerning work, school or society. On the other hand, other aspects of the program should have positive effects on such disabilities for there is a focus on an increase in the amount of contact between the student and the teacher-coordinator who administers and operates the WECEP unit.

Thus, the program should achieve its objectives both by lowering the opportunity costs of school attendance and by providing an increase in counseling services and other forms of teacher-student interaction. As stated in the objectives of the Ohio OWA (WECEP) program,

> . . .Ideally, the teacher-coordinator "instructs the students for the related and job adjustment program as well as supervising and counseling them in their work experience placement. The in-school instruction is aimed at helping the student become work oriented and to encourage him to continue his education for a job. Instruction will be offered in job adjustment information and job performance information as well as remedial instruction in academic subjects."7/

While we cannot clearly specify the exact relationship between the program inputs and its desired outputs, we do have enough information on how the program operates to focus the analysis on the following program outputs and related key questions.

C. Program Outputs of WECEP.

The major outputs of the program are:

a) reduction of the absence and truancy rate and, ultimately, the drop-out rate;

b) improvement of scholastic performance or, at least no adverse effects on the health, safety, welfare and scholastic performance of the participants due to the relaxation of Child Labor Regulation #3; and

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7/ Ibid., p. 1.

c) a greater appreciation of occupational alternatives.

To determine the degree to which the program has met these objectives, we seek answers to the following questions:

a) What is the relation between length of enrollment in WECEP and the increase in school attendance? What is the size of these effects?

b) To what extent does enrollment in WECEP affect such measures of educational performance as grade point average?

c) What is the relation between enrollment in WECEP and the probability of being cited for truancy or suspension?

d) What is the relation between enrollment in WECEP and improvement in labor market and scholastic attitudes and values?

e) What is the relation between hours worked per week in WECEP and attendance and tardiness?

f) What is the impact of the relaxation of Child Labor Regulation #3 with respect to hours worked and restricted occupations on the safety and health of WECEP participants?

g) To what extent does career exploration occur within the program?

h) To what extent does the program tend to reduce delinquency or other behavioral problems?

i) To what extent is there a difference in program outputs between WECEP experience in public versus private employments? To what extent is there any difference in program impact as a function of different occupations?

j) What are the problems which potentially limit the effectiveness of the WECEP program? For instance, would a reduction in the minimum wage rate for teen-age youth increase the attractiveness of the program to employers? How would this affect the attractiveness of the program to WECEP students?

D. Structure of the WECEP Program.

The structure of a program should reflect the program originator's concepts of the necessary program inputs and the way in which these inputs are formulated and interact to create the desired outputs enumerated above. In this regard, the WECEP program is set up by an

amendment to Child Labor Regulation #3, issued pursuant to the Fair Labor Standards Act (effective November 5, 1969, to August 31, 1972). This amendment provides for necessary deviations from the child labor standards to permit students to participate in the program. Students in approved work experience and career exploration programs may be employed as many as 28 hours during any week when school is in session and as many as four hours on a school day. Any portion of this work time may occur during school hours. The maximum number of hours a person 14 or 15 years of age may be employed when school is not in session is eight hours a day and 40 hours a week. Minors enrolled in an approved program may be employed in any occupation permitted to 14- and 15-year-olds under the child labor provisions of the Act and, additionally, in any occupation for which a variation has been obtained from the Director of the Bureau of Labor Standards. Under no circumstances may program enrollees be employed in mining or manufacturing occupations or occupations that have been declared hazardous for youngsters under 16.

The program is set up in terms of units of 12 to 20 students under the direction of a teacher-coordinator. A control group of the same size is intended to be randomly selected from the remaining population of students who are eligible for the program. However, the program does not have a pure experimental design since it was not always the case that students of a given eligible population were randomly assigned to either the WECEP program or the control group. In some cases, the control group was developed after the fact. In one state the concept of an experimental design was rejected out of hand.

Teacher-Coordinator Functions. The teacher-coordinator supervises the unit for which he or she is responsible. In addition, the following specific duties are required:

a) select and place students,
b) choose work stations for the students,
c) coordinate the work and education aspects of the program,
d) maintain records, WECEP data forms and prepare program reports,
e) counsel students, and
f) conduct in-school related class instruction.

Program Operation. The program provides for both a course of study and actual job experience. School classes include academic courses stipulated by state requirements for graduation as well as instruction in job-related and employability skill development. Individualized or remedial instruction is given where needed. Credits toward graduation are awarded for both in-school related instruction and on-the-job work experience in accordance with the standards of the respective participating states. A

part of the instruction is aimed toward development of safety concepts related to school, community, and employment as well as toward development of desirable attitudes toward work.

A minimum of two class periods per day is devoted to job-related and employability skill instruction, and a minimum of two periods is devoted to regular required general subjects or other elective subjects meeting state standards. A maximum of four hours is allowed at the work station, while the combined school-work day may not exceed 8 hours. Work experience is received on jobs permitted or approved under Federal or state laws and is under the supervision of the teacher-coordinator and employer. The program is constructed so as to provide students with an opportunity to advance academically as well as to grant them exposure to a wide range of career possibilities. Flexibility in the curriculum provides for entrances and exits. An enrollee can pursue higher academic training or can go into a vocational skill program. The program's aim is toward development of vocational skill attitudes rather than training in a particular vocation.

E. Relation to Prior Research.

The WECEP program is complementary to, but not a perfect substitute for, such educational and manpower programs as the Job Corps, the Neighborhood Youth Corps (NYC), and cooperative vocational education. Some indication of the potential impact of the WECEP program can be gained by looking at the experience of the in-school NYC. The comparison is not exact, however, since the average ages of the two populations served differ and WECEP is, as indicated above, a much more elaborate and structured program than the in-school NYC. Also, it may be the case that drop-out patterns begin at age 14 or 15 or earlier, rather than after the legal age to drop out, 16. Hence, any evaluation of NYC may be biased by this phenomenon, since the NYC deals with an older population which can legally drop out of school. WECEP, by having an impact at an earlier average age, may have a potentially greater impact than the NYC on reducing tendencies to drop out.

A major nationwide evaluation of the in-school and summer NYC was performed by Somers and Stromsdorfer. Their study, using single equation models, ordinary least squares regression, showed that the program increased the labor force participation rate of the NYC participants, and, although wage rates were not affected, earnings increased due to the relative rise in labor force participation rates. However, the program had no significant impact on either the high school graduation rate or on years of schooling completed.[8/] Subsequent preliminary

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8/ Gerald G. Somers and Ernst W. Stromsdorfer, A Cost-Effectiveness Analysis of the In-School and Summer Neighborhood Youth Corps, Madison

reworking of the same data by George F. Brown, et al., which uses a simultaneous equation model, suggests that participation in the summer NYC reduces the probability of dropping out of high school by .14 (or, in percentage terms, 14 percent), while participation in the in-school NYC suggests an increased probability of dropping out of school. A final resolution of these conflicting results still remains to be accomplished.9/

It is important to emphasize that the in-school and summer NYC program is a straight work program with some aspects of an income maintenance program. Although there was some initial emphasis on counseling in the NYC, generally little of this service was supplied. Also, the concept of the teacher-coordinator working closely with the students and supplying a significant amount of personal support, counseling and guidance is missing. Finally, unlike the NYC, there is no subsidy aspect in the employment relationship in WECEP. One can assume that the wage rate earned measures the WECEP students' productivity. It can be argued that there is a greater likelihood that the WECEP participants engage in meaningful work than does the average in-school NYC participant. Thus, the opportunities to learn marketable skills and behavior may be greater.

Specific Evaluations of WECEP. There are no evaluations of the WECEP program as a whole, but there are several evaluations of specific WECEP units that have come to our attention.

The study by Mannebach and Darley concerns the experience of two WECEP units in the Louisville, Kentucky, Public Schools.10/ A notable aspect of this study was the use of an experimental design in the selection of the WECEP participants and the control group. A population of eligible students was first selected and then students were randomly assigned to either the WECEP program or the control group. Those selected into the WECEP sample were then invited to join the WECEP program. However, we

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Wisconsin: Industrial Relations Research Institute, Center for Studies in Vocational and Technical Education, University of Wisconsin, 1970.

9/ George F. Brown, Jr., et al., Analysis of the Neighborhood Youth Corps Program, Memorandum (PRI)(CNA) 1953-72, the Public Research Institute, Center for Naval Analysis, 1401 Wilson Blvd., Arlington, Va., 19 December 1972.

10/ Alfred J. Mannebach and Lorraine K. Darley, The Effectiveness of a Work Experience and Career Exploration Program, Lexington, Kentucky: Kentucky Research Coordinating Unit, Department of Vocational Education, University of Kentucky, February, 1972.

are not told exactly how many of the potential WECEP group actually enrolled and what their characteristics were. Since enrollment in the program is voluntary, it is still possible for self-selection bias to exist within the actual WECEP sample. For instance, it may well be that only students with a positive work orientation would actually join WECEP. It would not be too surprising then to find them expressing more positive work values, motivation, etc., than the control group.

The Mannebach-Darley study is an attitudinal analysis based on 40 questions to which the students are invited to respond on a Likert scale from 1 to 5. Typical questions are, "It doesn't matter if I miss work often," or, "There is no need for me to put extra effort into my work." The authors conclude that WECEP "made a significant difference in the several attitudes of potential drop-outs concerning their view of work."[11] However, many of these questions are expressions of the ideology of the Protestant work ethic. There is no necessary assurance that behavior always conforms to ideology. To present a simple case, one need only consider the Sixth Commandment.

The WECEP Annual Report for New Jersey for the School Year Ending June, 1970, found a positive effect of the WECEP program based on several indicators; however, the analysis does not control for differences in socio-demographic characteristics among the WECEP students and the controls. The study showed a 25% change in absences in favor of the WECEP students. However, while the WECEP students had a one percentage point drop in grades of D and F between the first and second semesters, the control students had six percentage point drop in D's and F's. Thus, the evidence based on these two indices shows a mixed effect for the WECEP program. But no sound conclusions can be drawn in the absence of control for the intervening influence of socio-demographic variables.

The WECEP program at the Pleasant Valley Junior High School in Cleveland, Ohio, reports a 7.1% increase in attendance and a 48% decrease in tardiness during the 1970-71 school year. Grades improved from a .688 average on a 4.00 base in the 1969-70 school year to a 1.60 average on a 3.00 base in the 1970-71 school year. However, no figures are given for a control group. Thus, it is very difficult to evaluate the program impact in even the grossest of terms.

The WECEP unit in Bloomington, Indiana, has set up its own business, a filling station, auto repair and used car lot in addition to the usual types of jobs which WECEP students manage to get.[12]

11/ Ibid., p. 20.

12/ Work Experience and Career Exploration Program Monroe County Community Schools, Bloomington, Indiana, A Report from Kenneth Bales, Director, March 3, 1972.

The Boca Raton WECEP program reported a 16.8% drop in absences among the 22 completors of the WECEP unit. (There were 27 starters.) Failures dropped from nine in 1969-70 to one in 1970-71. The average grade level for the students in the unit rose from D to C.[13]

Finally, based on a national program evaluation of five months of experience in 1969-70 by the Bureau of Labor Standards, the WECEP group of students showed fewer absences and slightly higher grades than the control groups.[14]

Thus, while all these short reports tend to show a positive gross impact for the WECEP program, the evidence is not conclusive. The present study should clear up some of these questions.

F. Methodology of This Study.

This study focuses on the impact of the WECEP program during the 1971-72 school year. Out of the total population of 7,943 WECEP participants located in 576 WECEP units and a somewhat smaller population of controls, 690 WECEP participants and 575 controls were randomly chosen for study. The method of selection was based on probability of selection proportional to size of WECEP unit, with replacement.[15] This ensures that the study speaks for the population of WECEP students as a whole rather than, say, the population of WECEP units. In addition, a sample of 200 teacher-coordinators was also chosen with probability of selection proportional to size of WECEP unit, with replacement; 100 each were selected from the 1970-71 and 1971-72 national WECEP programs, respectively. Replies from 162 of these teacher-coordinators were received after four mail contacts and up to three or more person-to-person telephone contacts. A sample of 100 WECEP employers was chosen with probability of selection proportional to the number of WECEP students they hired during the 1971-72 school year. Sixty-three usable replies were received after four mail contacts and at least three efforts to contact by person-to-person long distance telephone. Finally, a sample of 100 WECEP and control students was randomly selected from the 1971-72

13/ Statistical Summary--Work Experience Program--School Year 1970-71, Work Experience Department, Boca Raton Junior High School, Boca Raton, Florida, June 1971.

14/ "Fourteen and 15-Year-Olds Participate in Work Experience Program," Safety Standards, Vol. 19, No. 6, November-December 1970, p. 16.

15/ See Leslie Kish, Survey Sampling, New York: John Wiley and Sons, Inc., 1965, Chapter 7 for a discussion of this methodology of sample selection.

sample of students, 50 for each group. These students were interviewed in person by the teacher-coordinator in the respective WECEP unit locations. There are 65 usable replies to this sample, 39 WECEP students and 26 controls.

While simple disinterest was the main reason for lack of teacher-coordinator response, the major non-response problem with the employer sample was lack of a proper firm name, address or name of firm proprietor so that often it was not possible to contact a former WECEP employer at all. Changes of managership or ownership was an additional factor. Finally, some marginal businesses had ceased to exist by the time of this study. In most cases, non-response to the personal questionnaire administered to students was due to the fact that the student or his family had moved out of the area or was in the area but with no forwarding address. In one case, a student was being detained by police on suspicion of a criminal offense and could not be interviewed.

The Problem of the Control Group. There are several methodological problems with the present study, the major one being the quality of the control group. Unlike the Louisville WECEP study done by Mannebach and Darley,16/ there is no guarantee that an experimental design was used across the participating states in the selection of the WECEP participants and the controls. First, participation in the program is voluntary, so that self-selection bias is a factor here. That self-selection bias is a factor is evidenced by the fact that, based on the personal interview sample of WECEP students and controls, the WECEP students were much more likely to have work experience prior to WECEP than were the controls. Twelve, or about 31 percent, of the WECEP sample had had a job prior to enrollment in WECEP. In contrast, only two, or 7.6 percent, of the control group had had a job in the recent past. (See Appendix Table G-2.)

Second, at least one of the state directors of WECEP totally rejected the random assignment approach even though it was made clear that the study is experimental in nature and required a random assignment of students to the WECEP and control groups from the larger eligible population. However, special efforts were made to ensure that each WECEP state director and each high school principal and teacher-coordinator did understand that this was an experimental program and that random assignment was critical to the success of the analysis. Control for the influence of different socio-demographic variables reduces the error, mainly self-selection bias, interjected by lack of an experimental design, but the self-selection bias which is inherent in a non-experimental design cannot be fully controlled for. In particular, the

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16/ Mannebach and Darley, op. cit.

study lacks evidence on the income, education and socio-economic status of parents, all of which are highly correlated with a child's educational aspirations and performance.

The Problem of Drop-Outs. The study suffers from an unknown bias due to the fact that records are available only for those WECEP students who completed the school year or semester. Those who dropped out of WECEP for whatever reason are substantially not represented in the analysis. While some of these drop-outs may have dropped out for reasons not connected with schooling or the WECEP program or who may have achieved maximum attainable benefit from the program, clearly, some of the drop-outs must be considered program failures. Their exclusion from the analysis will impart an upward bias to the results. Unfortunately, we do not even know how large this drop-out group is for the national WECEP population as a whole.

Finally, due to missing observations on certain variables such as grade point average or absences, additional non-response bias exists in the data.

CHAPTER 2

EVALUATION OF THE WECEP PROGRAM ON EDUCATIONAL PERFORMANCE

A. Introduction.

This chapter evaluates the effect of the WECEP program on selected measures of educational performance. The major intent of the analysis is to determine the effect of hours worked per day and per week on performance. The impact of total hours worked during the entire time in the WECEP program is also evaluated. The chapter is broken into three parts. First, the broad characteristics of the sample are described. Next, the gross impact of the program on educational performance is discussed. In these gross comparisons, no significance tests between means are conducted since patterns of effect and significance will likely change when analysis is performed which uses multiple regression analysis. Finally, a set of models to analyze the impact of WECEP is estimated by means of multiple regression analysis.

It is important to stress at this point that we are only estimating the net benefits of the WECEP program exclusive of the costs of the program. Since costs are not estimated and compared to benefits, we can make no efficiency judgments based on this analysis. We cannot say if the program is efficient, that is, average and marginal benefits (appropriately discounted) are equal to or greater than average and marginal costs (appropriately discounted). Nor do we know if this program, as currently constituted, is the most efficient alternative among an almost infinite number of programs one could devise to aid the target population in question. What we can determine, however, is whether the program has any positive effects at all.

B. Structure of the Sample.

The number and quality of independent variables on which to perform analysis is relatively limited in this study. However, the variables which are available are the major educational and socio-demographic variables one would want to consider in such an analysis as this. It would be desirable, however, to have information on the income, education and socio-economic and occupational status of the students' parents, since these variables are highly correlated with educational aspirations and performance. The main problem of this study lies, however, in the large amount of missing information on such variables as ethnic origin and grade point average prior to entry into the WECEP program.

TABLE 3
SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE STUDY SAMPLE

	WECEP		Non-WECEP	
	#	%	#	%
Age (as of December, 1971)				
13	2	0.3	8	1.4
14	201	29.1	198	34.4
15	375	54.3	275	47.8
16	81	11.7	85	14.8
17	4	0.6	5	0.9
18			1	0.2
Not Ascertained	27	3.9	3	0.5
M 1/	14.8		14.8	
SD	(0.7)		(0.7)	
Sex				
Male	547	79.3	406	70.6
Female	139	20.1	169	29.4
Not Ascertained	4	0.6		
Ethnic Origin				
White	240	34.8	263	45.7
Black and Other	69	10.0	59	10.3
Not Ascertained	381	55.2	253	44.0
State of Origin				
Florida	289	41.9	168	29.2
Illinois	30	4.3	31	5.4
Indiana	25	3.6	20	3.5
Kentucky	15	2.2	14	2.4
Minnesota	13	1.9	9	1.6
New Jersey	84	12.2	77	13.4
Ohio	229	33.2	237	41.2
Not Ascertained	3	0.4		

Notes: 1/ M = the mean exclusive of not ascertained responses. SD is the standard deviation of the mean.

As Table 3 shows, the WECEP and non-WECEP samples have an identical mean and standard deviation with respect to age. Age is not ascertained for a trivial proportion of the sample. Note that several WECEP and non-WECEP students are well beyond the program cutoff age of 15, though students may enter the program at 15 and continue on through the school year even when they reach age 16. The sex composition of the sample differs between the two groups. About 79 percent of the WECEP sample is male, while only 70.6 percent of the non-WECEP sample is male. The greatest problem lies with the ethnic origin variable. The ethnic origin of 55.2 percent of the WECEP sample and 44.0 percent of the non-WECEP sample is not ascertained. This means that one either omits this variable from analysis in order to preserve the number of observations, or else one includes the variable in the analysis with the result that considerable non-response bias due to missing observations occurs. We chose not to use the variable in the regression analysis to follow. The reader's attention is directed to Appendix Tables 1, 2, 3 and 7 for further descriptive statistics.

Grade point average, as an index of achievement, motivation and I.Q., is seen as the major variable upon which to compare the similarity of the two samples. It is fairly clear that the WECEP and non-WECEP samples differ in terms of pre-WECEP year grade point average (GPA) on the basis of age, sex and ethnic origin. As a general statement, the WECEP students are of higher potential if GPA is an acceptable index of achievement, motivation and I.Q. Fortunately, inclusion of this variable in the analyses to follow should help control for these specific sample differences.

C. Program Effects: Teacher-Coordinator Evaluation.

Tables 5 through 7 provide the teacher-coordinator evaluation of the WECEP and non-WECEP sample on the basis of a Likert scale with choices ranging from 1 to 5, where 1 = excellent, 2 = good, 3 = average, 4 = fair, and 5 = poor. The initial rating is filled out when the WECEP student begins the program or when the non-WECEP student is selected as a member of the comparison sample. At the end of the WECEP year, each WECEP and non-WECEP student is re-evaluated on the same set of performance characteristics. Tables 4 through 6 show the average differences in evaluation on each variable when the beginning evaluations are subtracted from the ending evaluations. The major conclusions one draws from these tables are that the performance of the WECEP students improved dramatically over the course of their experience in the program, while that of the non-WECEP students either deteriorated slightly or stayed constant. This is so whether one looks at the data on the basis of sex, age or ethnic origin. Thus, on the face of it, one might conclude that the WECEP program has had a remarkable impact on the participants' behavior, conduct and school performance. However, this conclusion must be qualified by the following points.

TABLE 4

GRADE POINT AVERAGE IN YEAR PRIOR
TO WECEP AS A FUNCTION OF SEX, AGE AND ETHNIC ORIGIN[1/]

		WECEP			Non-WECEP		
Sex		**Female**		**Male**	**Female**		**Male**
Grade Point Average Year Prior to WECEP	M[2/]	2.63		2.51	2.55		2.31
	SD	(0.68)		(0.72)	(0.67)		(0.61)
	N	57		259	69		187
Age		**14**	**15**	**16**	**14**	**15**	**16**
GPA Prior to WECEP	M	2.69	2.46	2.56	2.58	2.25	2.27
	SD	(0.66)	(0.72)	(0.72)	(0.56)	(0.64)	(0.67)
	N	82	194	40	89	125	36
Ethnic Origin		**White**		**Black & Other**	**White**		**Black & Other**
GPA Prior to WECEP	M	2.49		2.44	2.39		2.16
	SD	(0.61)		(0.57)	(0.58)		(0.70)
	N	218		56	186		51

Notes: 1/ Calculated on a scale of one to five, where A = 5.

2/ M = the mean, SD = the standard deviation of the mean, N = the cell size.

TABLE 5

TEACHER-COORDINATOR EVALUATION OF WECEP AND NON-WECEP STUDENTS, BY AGE: DIFFERENCES IN RATING AT BEGINNING OF YEAR AND END OF YEAR

		WECEP		Non-WECEP	
		14 and Under	15 and Over	14 and Under	15 and Over
Neatness	M[1/]	0.64	0.65	-0.05	-0.02
	SD	(0.71)	(0.79)	(0.68)	(0.64)
	N	194	436	192	343
Courtesy	M	0.59	0.68	-0.12	0.04
	SD	(0.79)	(0.82)	(0.67)	(0.77)
	N	194	439	193	345
Student's Morale	M	0.72	0.82	-0.13	-0.13
	SD	(0.80)	(0.88)	(0.73)	(0.71)
	N	193	421	185	336
Completion of Class Assignments	M	0.81	0.68	-0.11	-0.12
	SD	(0.90)	(0.78)	(0.77)	(0.76)
	N	194	439	193	345
Cooperates with Teacher	M	0.67	0.72	-0.14	-0.04
	SD	(0.88)	(0.86)	(0.76)	(0.69)
	N	194	439	193	345
Gets Along with Co-Students	M	0.61	0.59	-0.07	-0.00
	SD	(0.77)	(0.82)	(0.65)	(0.63)
	N	194	439	193	342
Shows Initiative in School Work	M	0.70	0.59	-0.08	-0.10
	SD	(0.85)	(0.75)	(0.76)	(0.67)
	N	194	439	193	343
Takes Part in Class Discussions	M	0.68	0.72	-0.07	0.01
	SD	(0.89)	(0.86)	(0.78)	(0.66)
	N	194	439	192	338
Careful Use of Books, Supplies and Facilities	M	0.66	0.58	-0.05	0.01
	SD	(0.79)	(0.78)	(0.58)	(0.53)
	N	184	423	188	336

Notes: 1/ M is the mean, SD is the standard deviation, and N the cell size.

TABLE 6

TEACHER-COORDINATOR EVALUATION OF WECEP AND NON-WECEP STUDENTS, BY RACE: DIFFERENCES IN RATING AT BEGINNING OF YEAR AND END OF YEAR

		WECEP		Non-WECEP	
		Black & Other	White	Black & Other	White
Neatness	M[1/]	0.72	0.64	-0.06	-0.18
	SD	(0.69)	(0.81)	(0.45)	(0.63)
	N	67	228	54	242
Courtesy	M	0.84	0.74	-0.02	-0.13
	SD	(0.67)	(0.93)	(0.90)	(0.71)
	N	67	228	54	44
Student's Morale	M	0.98	0.93	-0.12	-0.21
	SD	(0.74)	(0.94)	(0.64)	(0.73)
	N	50	226	41	241
Completion of Class Assignments	M	0.75	0.91	-0.07	-0.26
	SD	(0.91)	(0.87)	(0.51)	(0.80)
	N	67	228	54	244
Cooperates with Teacher	M	0.66	0.93	-0.13	-0.16
	SD	(0.83)	(0.93)	(0.62)	(0.79)
	N	67	228	54	244
Gets Along with Co-Students	M	0.69	0.78	-0.04	-0.12
	SD	(0.76)	(0.90)	(0.55)	(0.73)
	N	67	228	54	242
Shows Initiative in School	M	0.75	0.79	-0.20	-0.16
	SD	(0.68)	(0.90)	(0.68)	(0.74)
	N	67	228	54	244
Takes Part in Class Discussions	M	0.75	0.98	-0.13	-0.15
	SD	(0.88)	(1.01)	(0.59)	(0.73)
	N	67	228	53	241
Careful Use of Books, Supplies and Facilities	M	0.51	.86	-0.06	-0.12
	SD	(0.70)	(0.92)	(0.45)	(0.60)
	N	67	228	54	244

Notes: 1/ M is the mean, SD is the standard deviation, and N the cell size.

TABLE 7

TEACHER-COORDINATOR EVALUATION OF WECEP AND NON-WECEP STUDENTS, BY SEX: DIFFERENCES IN RATING AT BEGINNING OF YEAR AND END OF YEAR

		WECEP		Non-WECEP	
		Female	Male	Female	Male
Neatness	M[1/]	0.67	0.64	-0.12	0.01
	SD	(0.72)	(0.77)	(0.75)	(0.60)
	N	130	508	157	379
Courtesy	M	0.73	0.65	0.01	-0.03
	SD	(0.76)	(0.83)	(0.77)	(0.72)
	N	131	510	158	381
Student's Morale	M	0.81	0.78	-0.11	-0.14
	SD	(0.81)	(0.87)	(0.68)	(0.74)
	N	128	494	153	369
Completion of Class Assignments	M	0.86	0.69	-0.15	-0.10
	SD	(0.91)	(0.79)	(0.84)	(0.72)
	N	131	510	158	381
Cooperates with Teacher	M	0.76	0.69	-0.15	-0.05
	SD	(0.91)	(0.86)	(0.76)	(0.70)
	N	131	510	158	381
Gets Along with Co-Students	M	0.72	0.58	-0.09	0.00
	SD	(0.84)	(0.79)	(0.63)	(0.64)
	N	131	510	157	379
Shows Initiative in School Work	M	0.79	0.60	-0.12	-0.08
	SD	(0.89)	(0.75)	(0.78)	(0.67)
	N	131	510	156	381
Takes Part in Class Discussions	M	0.84	0.69	-0.04	-0.02
	SD	(0.95)	(0.84)	(0.81)	(0.66)
	N	131	510	153	378
Careful Use of Books, Supplies and Facilities	M	0.74	0.58	-0.03	-0.01
	SD	(0.76)	(0.79)	(0.63)	(0.51)
	N	118	496	153	372

Notes: 1/ M is the mean, SD is the standard deviation, and N the cell size.

First, the evaluations are purely subjective even though several of the measures can conceivably be measured in objective terms, such as "completion of class assignments." "Student's morale," though, is an ephemeral variable, to say the least, and can only be considered an approximation to what is intended to be measured. It is not an objective variable.

Next, each teacher-coordinator may have different concepts of what is "excellent" and what is "poor." Thus, different units of measurement are undoubtedly employed by different teachers and perhaps by the same teacher at different points of time.

Third, an arbitrary ordinal scale is assigned to five different nominal categories. Any other scale which preserved the same relative rankings would have been just as acceptable, say a 1, 15, 22, 23, 107 scale. We have no assurance that the relative and absolute rankings among the five choices accurately reflect the intensity of differences which the qualitative categories are intended to measure.

Finally, there is the possibility of a "halo effect" in that the teacher-coordinator is the judge, jury and prosecutor in this particular evaluation. The WECEP students were consistently evaluated higher on the basis of every available socio-demographic grouping at the point of program beginning. If the WECEP and non-WECEP students came from the same population, they would, on the average, have been evaluated the same on every measure at the beginning of the program. Ideally, a third party with no emotional or intellectual involvement with the students in the sample should have performed these before and after evaluations. As a practical matter, also, the teacher-coordinator has much more extensive involvement with the WECEP students than with the controls. He or she knows the WECEP students considerably better. Whether familiarity breeds contempt is not clear, but certainly, the teacher-coordinators spend more time with the WECEP students, and this will affect their evaluation in subtle ways that are not necessarily connected with objective program performance. One way to overcome this problem would have been to employ placebo treatments on the control group. Because the WECEP students receive special treatment, there may be something of a Hawthorne Effect operating on the WECEP students due to their extensive interaction with the teacher-coordinator. Of course, this potential Hawthorne Effect can also obscure the estimation of impact on the more objective measures of program effect, such as GPA or absences. In addition, it may obscure the measurement of such important contributions of the teacher-coordinator as counseling.

In short, for the above reasons, we do not place too much reliance on these measures of program effect. What they probably do show, though,

is that the morale and commitment of teacher-coordinators to the program was high. This is some measure of program success in itself, since such commitment is a prerequisite to effective operation of the program.

D. Program Effects: Measures of Scholastic Performance.

This analysis is broken down into two sections. First, the gross program effects are presented. Then, regression models are used to analyze the data in greater detail. Again, significance tests are not provided for the cross-tabulations, since the signs, sizes and statistical significance of the program effects can change in the more complex interactions of the regression analysis.

Age. Table 8 shows the program impact as a function of age. For students 14 and under, those in WECEP show a .38 of one grade point (GPA) increase in subjects required by the school or state over the course of the WECEP experience, while their comparison counterparts show a decrease of .14 of a grade point. For those 15 and over, WECEP students show a .19 of one grade point increase in required subjects, while the non-WECEP counterparts show a .07 decrease over the program time period.

There does not appear to be any difference in the percent of students promoted between the WECEP and non-WECEP groups as a function of age. WECEP students 14 and under showed no change in absences when the WECEP experience is compared to the year prior to WECEP, while their non-WECEP counterparts show about a 7-day increase in absences. A similar pattern is true for those students age 15 and over.

The WECEP students 14 and under also perform better than their non-WECEP counterparts with respect to tardiness, but the drop in tardiness over the WECEP experience is similar for WECEP and non-WECEP students age 15 and over.

Ethnic Origin. As seen in Table 9, black WECEP students show a .44 GPA improvement, while black non-WECEP students show a .09 drop in required subjects. White WECEP students show a .30 GPA improvement in required subjects, while white non-WECEP students show a .17 GPA drop.

Black WECEP students have a higher promotion rate than black non-WECEP students, but the difference between white WECEP and non-WECEP students is minimal.

The number of absences of both WECEP and non-WECEP black students increases in the WECEP year, but the WECEP increase is greater. For white students, on the other hand, absences of WECEP students drop by 2.4 days but rise by 6.3 days for non-WECEP students.

TABLE 8
SCHOLASTIC PERFORMANCE, BY AGE, FOR SELECTED EDUCATIONAL VARIABLES, 1971-72 SCHOOL YEAR COMPARED TO PREVIOUS SCHOOL YEAR

		WECEP		Non-WECEP	
		14 and Under	15 and Over	14 and Under	15 and Over
Cumulative Grade Point Average for previous year: subjects required by school or state	M[1/]	2.64	2.51	2.40	2.28
	SD	(0.07)	(0.77)	(0.63)	(0.74)
	N	188	419	200	350
Cumulative Grade Point Average for previous year: other subjects	M	2.96	2.73	2.83	2.72
	SD	(0.91)	(0.97)	(0.94)	(0.94)
	N	89	186	94	200
End of school year grade average (1971-72): subjects required by school or state	M	3.02	2.70	2.26	2.21
	SD	(0.90)	(0.83)	(0.82)	(0.78)
	N	190	432	194	347
End of school year grade average (1971-72): other subjects	M	3.65	3.04	2.54	2.60
	SD	(0.99)	(1.00)	(1.01)	(1.03)
	N	78	155	124	222
% Promoted	%	95	82	94	83
	N	73	235	107	173
Days absent year prior to entering WECEP	M	14.8	21.0	18.2	25.8
	SD	(14.4)	(20.4)	(18.0)	(23.2)
	N	77	221	87	150
Days absent during WECEP year	M	14.7	20.4	25.0	30.0
	SD	(15.3)	(19.7)	(19.6)	(24.1)
	N	47	153	103	161
Days tardy year prior to entering WECEP	M	7.8	9.6	7.7	12.0
	SD	(12.3)	(14.3)	(12.9)	(15.4)
	N	72	143	56	110
Days tardy during WECEP year	M	4.0	7.0	7.5	9.8
	SD	(4.7)	(11.1)	(13.8)	(12.4)
	N	45	115	85	130

Table 8
Scholastic Performance, by Age, for Selected Educational Variables, 1971-72 School Year Compared to Previous School Year (continued)

		WECEP		Non-WECEP	
		14 and Under	15 and Over	14 and Under	15 and Over
% Ever Truant	%	10	12	13	11
	N	201	459	206	364
% Ever Suspended	%	5	7	8	6
	N	201	458	206	364

Notes: 1/ M is the mean, SD is the standard deviation, and N the cell size.

TABLE 9

SCHOLASTIC PERFORMANCE, BY RACE, FOR SELECTED EDUCATIONAL VARIABLES, 1971-72 SCHOOL YEAR COMPARED TO PREVIOUS SCHOOL YEAR

		WECEP		Non-WECEP	
		Black & Other	White	Black & Other	White
Cumulative Grade Point Average for previous year: subjects required by school or state	M[1]	2.36	2.40	2.07	2.29
	SD	(0.62)	(0.67)	(0.68)	(0.61)
	N	67	232	54	252
Cumulative Grade Point Average for previous year: other subjects	M	2.64	2.58	2.23	2.81
	SD	(1.12)	(0.82)	(0.81)	(0.90)
	N	32	119	24	140
End of school year grade average (1971-72): subjects required by school or state	M	2.80	2.70	1.98	2.12
	SD	(0.85)	(0.92)	(0.68)	(0.77)
	N	67	230	55	248
End of school year grade average (1971-72): other subjects	M	3.13	3.41	2.44	2.49
	SD	(1.13)	(1.06)	(0.70)	(0.96)
	N	30	99	21	177
% Promoted	%	80	90	76	91
	N	54	218	51	186
Days absent year prior to entering WECEP	M	20.5	19.6	32.0	21.6
	SD	(19.5)	(19.5)	(21.1)	(21.8)
	N	58	198	54	166
Days absent during WECEP year	M	28.6	17.2	35.3	27.9
	SD	(26.1)	(16.9)	(26.4)	(22.2)
	N	29	139	35	209
Days tardy year prior to entering WECEP	M	18.9	5.8	23.1	6.3
	SD	(17.4)	(10.8)	(14.7)	(11.6)
	N	43	150	34	117
Days tardy during WECEP year	M	19.2	3.5	15.9	7.2
	SD	(15.2)	(5.0)	(16.6)	(11.3)
	N	21	117	17	177

[1] M

Table 9
Scholastic Performance, by Race, for Selected Educational Variables, 1971-72 School Year Compared to Previous School Year (continued)

		WECEP		Non-WECEP	
		Black & Other	White	Black & Other	White
% Ever Truant	%	1	4	2	6
	N	70	240	58	262
% Ever Suspended	%	1	5	0	2
	N	70	239	58	262

Notes: 1/ M is the mean, SD is the standard deviation, and N the cell size.

In terms of tardiness, the experience of black WECEP students worsens during the WECEP year, while it improves considerably for non-WECEP black students. The reverse is the case for white students.

With respect to truancy and suspension frequencies, the picture is mixed. Truancy rates appear to be higher for non-WECEP students, but suspension rates are lower for both ethnic groups. However, the high non-response rate vitiates much of this comparison.

Sex. Both male and female WECEP students improve their GPA in required courses, while their control counterparts have a deterioration in GPA. However, promotion rates are somewhat higher for non-WECEP students as a function of sex.

Absences increase more for WECEP females than for non-WECEP females, while the absences of WECEP males decrease and absences of non-WECEP males increase. WECEP females perform more poorly than their non-WECEP counterparts with respect to tardiness, but the reverse is true for males. There is no difference in truancy and suspension rates for WECEP and non-WECEP males. With respect to females, this is also true of suspension rates. However, WECEP females have lower truancy rates than non-WECEP females.

E. Program Effects: Multivariate Analysis.

This section provides an analysis of the effect of hours worked per day, hours worked per week (including Saturday hours), hours worked per week (excluding Saturday hours), and total hours worked while enrolled in WECEP on selected indices of educational performance. The basic hypothesis being tested is that as hours worked increase, educational performance will increase up to a point, but at a decreasing rate, and then finally decrease. The reason for this is as follows: It is postulated that some types of students, namely, those served by a program like WECEP (drop-out prone students), do not have their time appropriately distributed between formal schooling, leisure, and market work. Assuming that these students were devoting less than optimal time to market work (and, likewise, more than optimal time to formal schooling), then devotion of more time to market work and less time to formal schooling will increase the effectiveness or efficiency of the remaining hours spent on formal education. However, since it is also possible to devote less than optimal time to formal schooling, the benefits to be gained from reducing time spent in formal schooling begin to decrease at some point. They could, conceivably, become negative. It is thus possible, conceptually, to specify exactly the optimal hours that should be spent at both market work and in formal schooling. The formal models of behavior developed in this section test these possibilities.

TABLE 10

SCHOLASTIC PERFORMANCE, BY SEX, FOR SELECTED EDUCATIONAL VARIABLES, 1971-72 SCHOOL YEAR COMPARED TO PREVIOUS SCHOOL YEAR

		WECEP		Non-WECEP	
		Female	Male	Female	Male
Cumulative Grade Point Average for previous year: subjects required by school or state	M[1]	2.74	2.50	2.51	2.26
	SD	(0.82)	(0.73)	(0.76)	(0.67)
	N	128	481	160	393
Cumulative Grade Point Average for previous year: other subjects	M	3.16	2.71	2.98	2.69
	SD	(0.95)	(0.94)	(0.96)	(0.92)
	N	53	223	72	224
End of school year grade average (1971-72): subjects required by school or state	M	3.16	2.71	2.35	2.19
	SD	(0.83)	(0.85)	(0.82)	(0.78)
	N	125	505	158	386
End of school year grade average (1971-72): other subjects	M	3.41	3.20	2.61	2.57
	SD	(1.01)	(1.03)	(1.06)	(1.02)
	N	50	187	88	260
% Promoted	%	82	85	85	89
	N	54	254	75	207
Days absent year prior to entering WECEP	M	21.5	19.0	28.2	20.9
	SD	(18.3)	(19.4)	(23.3)	(20.6)
	N	52	246	68	171
Days absent during WECEP year	M	25.3	17.8	30.6	26.9
	SD	(18.0)	(18.9)	(18.2)	(24.1)
	N	35	165	82	184
Days tardy year prior to entering WECEP	M	4.7	10.0	8.7	11.4
	SD	(7.7)	(14.6)	(13.6)	(15.2)
	N	41	174	53	113
Days tardy during WECEP year	M	5.6	6.2	8.4	9.1
	SD	(5.6)	(10.5)	(11.7)	(13.6)
	N	28	132	68	147

[1] M

Table 10
Scholastic Performance, by Sex, for Selected Educational Variables, 1971-72 School Year Compared to Previous School Year (continued)

		WECEP		Non-WECEP	
		Female	Male	Female	Male
% Ever Truant	%	9	11	14	11
	N	136	532	169	404
% Ever Suspended	%	4	7	4	7
	N	136	531	169	404

Notes: 1/ M is the mean, SD is the standard deviation, and N the cell size.

Dependent Variables. There are six different dependent variables in this analysis. They are as follows:

Y_1 Probability of being cited as truant, where 1 = truant and 0 = not truant;

Y_2 Probability of being suspended, where 1 = suspended and 0 = not suspended;

Y_3 Total days absent during WECEP year;

Y_4 Total days tardy during WECEP year;

Y_5 Grade point average (GPA) for WECEP year, all courses, on a 5.0 scale; and

Y_6 Grade point average for WECEP year, academic courses only, on a 5.0 scale.

Two of these variables, Y_1 and Y_2, require comment. Each of these variables measures only if a person had ever been cited for truancy or suspended. The frequency of truancy or suspension is not recorded. It is quite possible and, as the personal interviews show, actually the case that the total number of truancy and suspension incidents varies for those individuals who are ever cited. Thus, in our analysis it is possible to show an unfavorable program impact on the probability of being suspended while, in fact, WECEP students may have fewer total incidents of suspension relative to the control students. Of course, the reverse could happen, also. Thus, the truancy and suspension variables are not ideal. Variables which would measure the actual number of suspensions and truancies would be conceptually more desirable.

One other variable was omitted from the analysis. This was the probability of being promoted. In general, due to the phenomenon of "social promotion" and the possibility that the particular population intended to be served by WECEP is most subject to social promotion, it was felt that this variable, from a conceptual standpoint, was relatively unreliable. The remaining variables used in the analysis are objective in nature. That is, a person either is or is not absent, and barring any accounting error, the total days absent can be tallied up. Likewise, several teachers are responsible for awarding grades, not just the teacher-coordinator, so that a student is evaluated by several different people. On the average, their biases for or against a student ought to cancel out on this variable. To check for possible biases, as well as test the impact of WECEP on academic performance alone, variable Y_6 subtracts that portion of the GPA due to WECEP courses per se.

Independent Variables. The independent variables in this analysis are limited for two reasons. First, the WECEP data forms and school records contained information on only a limited number of variables. Second, missing information on certain variables, such as ethnic origin and I.Q., precluded their use due to the effect their use would have on reducing sample size and thus increasing the likelihood and extent of non-response bias in the study.

However, the variables that are available are adequate for the purposes of the analysis. These are as follows:

X_1 Age, in years, at last birthday;

X_2 Sex, where 1 = male and 0 = female;

X_3 Grade point average in the year prior to WECEP, all courses, on a 5.0 scale;

X_4 Grade point average in the year prior to WECEP, academic courses only, on a 5.0 scale;

X_5 Total days absent in the year prior to WECEP;

X_6 Total days tardy in the year prior to WECEP;

X_7 Total hours worked per school day;

X_8 Total hours worked per week, including Saturday work;

X_9 Total hours worked per week, excluding Saturday work;

X_{10} Total hours worked throughout WECEP year; and

X_{11} Total hours worked on Saturday.

Several of these variables deserve comment. The inclusion of the age (X_1) and sex (X_2) variables is straightforward. For instance, as a drop-out prone child ages, he is more likely to assert his personal autonomy. This self-assertion might then be expressed as an increase in absences or truancy. It might also be expressed as a desire to perform more market work as the legal age to work approaches. From the standpoint of sex, girls commonly perform better academically than do boys. The grade point average (GPA) in the year prior to WECEP is an excellent proxy for achievement, motivation and native intelligence as well as an excellent predictor of one's future GPA. As such, this is a crucial variable in the analysis even though its inclusion resulted

in the loss of about half of the observations in the sample. Likewise, absences and incidents of tardiness in the year prior to WECEP should be good predictors of the same behavior during the WECEP year and thus are included in several analytical models of behavior.

Finally, the five variations of the policy variable, hours worked during school, deserve comment. It is of major interest to determine if working in the labor market during school hours has a detrimental effect on educational performance. This variable has at least four dimensions. First, from the standpoint of fatigue alone, it should make a difference whether one works two hours a day or four hours a day during school hours in addition to attending school. Likewise, the total hours worked per week, including work on Saturday when school is not in session, should be a factor in school performance, since as hours worked increase, less time is available for other tasks. Perhaps more importantly, total school day hours worked per week may be crucial. Hours worked on Saturday may be neutral in their effect on school performance. We thus seek to determine if it is total hours worked per week or only total school day hours worked per week which has the most important impact on school performance. Finally, since we do not have accurate and reliable measures of the total counseling hours or classroom training hours related to work experience or career exploration, we use the total hours worked while enrolled in the program as a linear approximation of these latter two (more desirable) variables. Of all these dimensions of the policy variable, inspection of the data suggests that hours worked per day is the most accurate and reliable.

Specification of the Models. For the dependent variables above, the following models were estimated:

Model (1) Analysis of Hours Worked per School Day.

$$(1)\quad Y_{ij} = a_{0ij} + a_{1ij}X_{1ij} + a_{2ij}X_{2ij} + a_{3ij}X_{3ij} + a_{4ij}X_{7ij} + a_{5ij}(X_{7ij})^2 + a_{6ij}(X_{7ij}X_{3ij}) + u_{ij}$$

Where,

Y = dependent variables 1 through 6 as defined above;

X_1, X_2, X_3, X_7 = independent variables as defined above;

a_0, . . ., a_6 = partial regression coefficients;

u = an error term to formally account for relevant but missing variables;

i = observations 1, 2, 3, . . ., n; and

j = dependent variables 1, 2, 3, . . ., 6.

This model implies the following. First, each of the dependent variables is linearly related to age. Since for this sample age can imply both maturity (hence, improvement in school performance and, hence, a positive relation) as well as an increase in self-assertion as the legal age to drop out approaches (hence, reduction in school performance with a resulting negative relation), we hesitate to predict whether, on net, age will be positively or negatively related to each of these dependent variables.

With respect to sex, we would generally expect girls to perform better than boys for each of these six variables. Sex is excluded as a variable when the model is estimated separately for males and females. Prior GPA is clearly positively related to GPA during the WECEP year. It is also most likely to be positively associated with a reduction in absence, tardiness, suspension and truancy.

Hours worked per day (X_7) is expected to be related to each of the dependent variables in a non-linear fashion. Hence, both X_7 and the square of X_7 are included in the model. (This yields a quadratic function which is curvilinear.) Finally, the product of X_7 and X_3 is included in the model. Mathematically, this accounts for any interaction there may be between hours worked per day and one's previous GPA. This complex variable is included because it is suspected that poorer students (those with a lower prior GPA) may desire to work more to avoid a distasteful educational experience or teachers may encourage them to work more in order to get them out of the classroom. In short, the inclusion of this interaction term allows us to estimate the effect of hours worked on each of the dependent variables net of any potentially confusing effect of hours and GPA on each other.

Model (2) Analysis of Hours Worked per School Week, Including Saturday Work.

$$(2)\quad Y_{ij} = b_{0ij} + b_{1ij}X_{1ij} + b_{2ij}X_{2ij} + b_{3ij}X_{3ij} + b_{4ij}X_{8ij} + b_{5ij}(X_{8ij})^2 + b_{6ij}(X_{8ij}X_{3ij}) + u_{ij}$$

Where,

$b_0, \ldots, b_6$ are partial regression coefficients and all other terms are defined as above.

Model (3) Analysis of Hours Worked per School Week, Excluding Saturday.

$$(3)\quad Y_{ij} = c_{0ij} + c_{1ij}X_{1ij} + c_{2ij}X_{2ij} + c_{3ij}X_{3ij} + c_{4ij}X_{9ij} + c_{5ij}(X_{9ij})^2 + c_{6ij}(X_{9ij}X_{3ij}) + c_{7ij}X_{11ij} + c_{8ij}(X_{9ij}X_{11ij}) + u_{ij}$$

Where,

$c_0, \ldots, c_8$ are partial regression coefficients and all other terms are defined as above.

This model argues that there is a linear relationship between the dependent variables of educational performance and hours worked on Saturday, X_{11}. In addition, it indicates that there is an interaction effect between hours worked during the school week and hours worked on Saturday. In effect, this model tests whether Saturday work (X_{11}) has an effect on the level of educational performance, while (X_9X_{11}), the interaction term, tests to see if the effect of hours worked per school week changes as the distribution of hours worked between school days and Saturdays changes. However, due to collinearity in the model, $c_{8ij}(X_{9ij}X_{11ij})$ had to be dropped for females. Thus, we were not able to test for this interaction effect for females.

Model (4) Analysis of Total Hours Worked Throughout the WECEP Year.

$$(4)\quad Y_{ij} = d_{0ij} + d_{1ij}X_{1ij} + d_{2ij}X_{2ij} + d_{3ij}X_{3ij} + d_{4ij}X_{10ij} + d_{5ij}(X_{10ij})^2 + d_{6ij}(X_{10ij}X_{3ij}) + uij$$

Where,

$d_0, \ldots, d_6$ are partial regression coefficients and the other terms are defined as above.

In general, the rationale for inclusion of the specific variables and their specific functional forms is the same for Model (2), (3), and (4) as it is for Model (1).

Methodological Issues vis-a-vis Estimated Program Effects.[1/]

Figures 1, 2, 3 and 4 on pages 44, 50, 54 and 59 as well as the accompanying tables in this chapter show the effect of hours worked on academic GPA

1/ I am indebted to Kamran Moayed-Dadkhah for this analytical discussion.

and other dependent variables for three different subsets of the study sample--the total sample, males and females.

There are two important points to keep in mind when studying these estimates. First, for the sake of simplicity, the constant term is left out of the picture. In general, the constant term shows the average academic GPA during the WECEP year for the person who works zero hours per week. This average GPA is greater than zero. It is shown for the total, male and female samples in the note at the bottom of each of the four figures. Second, the point estimates of program effect are subject to constrained values of the dependent variables.

The Constant Term. Omission of the constant term has an important implication for the interpretation of the figures. For example, it does not mean that since the curve passes through the origin (the zero point) that the GPA of persons who work zero hours per day (week, or school year) is zero. Obviously, persons who do not work at all do earn some positive academic grade point average.

Take the following example: Assume that we have an average male, age 15, with average academic GPA prior to the start of the WECEP program. Now, given his age, sex and average prior WECEP academic GPA, the analytical model (Model 1) estimates that, on the average, his average academic GPA during the WECEP program will be 3.7 if he does not work at all. (See Figure 1.) Once he begins working as a result of his participation in WECEP, his academic GPA will begin rising based on the reasoning discussed previously in Chapters 1 and 2. But after some point, as this average 15-year-old male increases his hours worked per day, his academic performance will tend to deteriorate, and if hours worked per day exceeds some limit, the impact of this work on academic GPA may even become negative. Again, the reasons for this are discussed previously in Chapters 1 and 2. In short, the omission of the constant term in the figures results in showing just the additional impact of hours worked on academic GPA as hours worked increase from zero to the statutory limit allowed in the WECEP program. Figures 1 through 4 are drawn in such a way that the discontinuous portions of the curves lie above or below the constrained values of the dependent variable.

Constrained Values of the Dependent Variable. Consider again the case of the effect of hours worked per week (including Saturday) on the average female's GPA during WECEP. Take the case of a 15-year-old girl whose prior WECEP GPA is at the mean for all WECEP females, 2.6. When she is not working at all, the model predicts her academic WECEP GPA to be, on the average, 3.3. As she starts working her academic GPA rises until at .8 hours worked per day or 4.0 hours per week, her academic GPA reaches 5.0, which is the highest GPA possible. The extension of our smooth curve will result in an even higher academic GPA. However, our dependent variable, academic GPA, is bounded. It cannot rise above

5.0 or fall below zero. This is also the reason why one cannot assign any meaning to the estimation of the dependent variable for hours worked beyond 28 hours per week, but more generally, for any hours beyond the actual range of the true hours worked for it is these actual values of the independent variables on which the estimated model is based. In addition, estimations of academic GPA based on hours worked which exceed the true range of the data will likely result in a negative GPA. It is incorrect, or at least very risky, to extrapolate beyond the range of one's observations even if these hours are less than the maximum hours allowed is 28 per week or four per day.

Next, since the dependent variable is bounded at 5.0 from above, the curve will be a straight line parallel to the horizontal axis at GPA = 5.0. When work hours per week reaches approximately 25 hours, the curve starts falling downward and once again we are on our smooth curve.

The curves in Figures 1 through 4 are drawn to reflect the fact that the program impact is added on to the average GPA in the absence of the program. Thus, when the average GPA plus the program effect exceeds 5.0 or is less than zero, the plotted function becomes a broken line.

Note that this is in addition to the fact that we are talking about point estimation, and because of the low numbers of observations at points along the estimated curves, we have wide confidence intervals. Further investigation may demonstrate that the average effect of hours worked on such variables as academic GPA may well fall within the actual bounds of the dependent variable.

With respect to what was said above, it may seem reasonable to utilize a more sophisticated technique such as probit analysis or constrained least squares. We preferred ordinary least squares, however, for the following reasons. To begin with, high cost of computation is involved in using these techniques. Also, there was no readily available program for making these types of computations. Next, constrained estimation of the parameters, which in our case involves techniques like linear programming, would result in fewer degrees of freedom. Finally, a factor related to this latter point concerns the low quality of data and low goodness of fit; it seems to us that it is preferable to use a simple methodology on data with low quality than a sophisticated methodology.

A final note of caution is in order. We are not refuting our conclusions. To the contrary, we are describing the true meaning of the results of our analysis: Namely, the results we now have conform to our general theoretical expectations and indicate that the conceptual basis on which the WECEP program is founded is a reasonable one. But the exact point estimates, constrained within the upper and lower bounds of the dependent

variables, are basically suggestive of the direction of actual program effects rather than exact estimates of actual program effects at any given number of hours worked.

Results of the Analysis, Model (1).

Table 11 displays the summary results for Model (1). Additional information on Model (1) is shown in Appendix Tables 8, 9, 10 and 11.

For those equations of the model which were statistically significant, the model explained from about 5 to 32 percent of the variance in the respective dependent variables. (See Appendix Table 10.) The model has the highest explanatory power for the female sample with respect to grade point average for academic courses only. In general, the model has a higher explanatory value for females than for males. However, with respect to the policy variables, impact on absences and tardiness, girls experience no statistically significant effect compared to boys.

In general, it can be said that the policy variable, hours worked per day, either has no statistically significant effect whether positive or negative, on educational experience or else it conforms to the hypothesized expectations stated above. Thus, in Appendix Table 8, we see for the total sample the impact of hours worked per day on grade point average of academic courses has a positive (the sign of the regression coefficient to X_7 is positive) but decreasing effect as hours worked increases (the sign of the regression coefficient to $(X_7)^2$ is negative). To be more specific, an inspection of Table 11 shows that, compared to non-WECEP students who work zero hours per day, one hour worked per day for a WECEP student raises his academic course GPA by 1.45 points.[2/] Working 2.3 hours per day raises his academic GPA by 2.06 points, but working four hours a day results in a GPA increase of only .47 points. Figure 1 plots the relationship for the total sample, males and females at age 15 for mean prior WECEP GPA.

It is notable that participation in WECEP has no effect on the probability of being suspended or of being cited for truancy as a function of hours worked per day. Generally, the most unambiguous impact is on grade point average, whether for all courses or just academic courses. For males, the impact of the program is similar for both the GPA of all courses and academic courses. Note that for GPA, the basic hypothesis of the study is borne out. For instance, for the total sample, a WECEP student who

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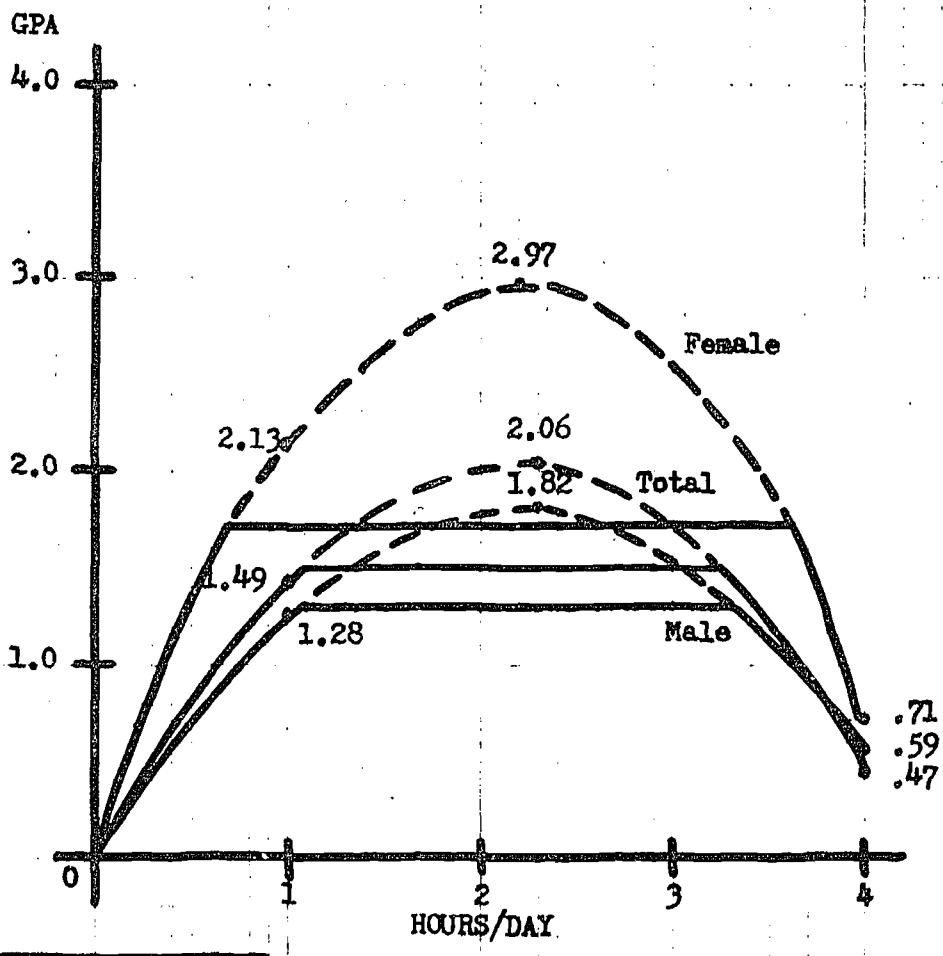
2/ These estimated values are calculated in the following way. Based on the data in Appendix Table 8, we estimate for academic GPA: (Hours · 1.59228) + [(Hours)^2 · -.45665] + (Hours · pre-WECEP GPA · .13583 = net impact on Y_8, GPA of academic courses.

TABLE 11

IMPACT OF HOURS WORKED PER SCHOOL DAY ON SELECTED EDUCATIONAL INDICES, WECEP STUDENTS COMPARED TO NON-WECEP STUDENTS WHO WORK ZERO HOURS PER DAY

		Total Sample Hours/Day			Males Hours/Day			Females Hours/Day		
		1	Mean	4	1	Mean	4	1	Mean	4
Probability of Being Truant	Hours Effect	No Effect			No Effect			No Cases Cited		
Probability of Being Suspended	Hours Effect	No Effect			No Effect			No Effect		
Days Absent During WECEP Year	Hours	1.0	2.3	4.0	1.0	2.2	4.0			
	Effect	-4.0	-6.0	-3.3	-1.0	-2.1	-3.6	No Effect		
Days Tardy During WECEP Year	Hours	1.0	2.2	4.0	1.0	2.2	4.0			
	Effect	-1.5	-2.4	-1.9	-0.4	-0.9	1.5	No Effect		
Grade Point Average: All Courses	Hours	1.0	2.3	4.0	1.0	2.3	4.0	1.0	2.2	4.0
	Effect	1.45	1.98	0.35	1.26	1.80	0.64	2.20	2.89	-0.06
Grade Point Average: Academic Courses Only	Hours	1.0	2.3	4.0	1.0	2.3	4.0	1.0	2.2	4.0
	Effect	1.49	2.06	0.47	1.28	1.82	0.59	2.13	2.97	0.71

FIGURE 1
IMPACT OF HOURS WORKED PER DAY ON GPA:
ACADEMIC COURSES ONLY, FOR WECEP STUDENTS AGE 15,
AT AVERAGE PRIOR WECEP GPA



Notes: Estimated WECEP year GPA for persons who work zero hours per day is: Total Sample = 3.5, Males = 3.7, Females = 3.3.

If we add 3.3 to 1.7 for the females at .7 of one hour per day, the constraint of 5.0 GPA is reached. The dotted portion of the curve represents an unattainable effect. True program effect is bounded at 5.0.

Estimated at mean pre-WECEP GPA.

works one hour per day increases his GPA by 1.45 points relative to the non-WECEP student who works zero hours per day. For the WECEP student who works the average number lf 2.3 hours per day, GPA is 1.98 points higher than the non-WECEP student who works zero hours per day. But, four hours of work per day only increases one's GPA by .35 of one point relative to the non-WECEP students. Thus, as hours worked per day increase, scholastic performance (GPA) increases up to a point, but eventually decreases. The same pattern holds for both males and females. Likewise, the same pattern holds for the total, male and female samples with respect to GPA of academic courses only.

Optimal Program Hours. Next, it is important to note that by using the data contained in Appendix Tables 8, 9, and 10, it is possible for some cases to estimate the optimal number of hours a student should work per day in order to achieve the largest increase in his or her GPA.3/

For the total sample with respect to the GPA for academic courses only, the point at which the impact of work experience is greatest (for the student with an average GPA prior to entrance to the WECEP program) is at two hours per day. Beyond two hours, the incremental gain of work experience falls off. Note again, for instance in Table 11, that the

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3/ The optimum number of hours to work per day is determined by partially differentiating Y_6 with respect to X_7, setting the equation equal to zero and solving for X_7. Thus, for the total sample,

$$a_{4ij}X_{7ij} + a_{5ij}(X_{7ij})^2 + a_{6ij}(X_{7ij}X_{3ij}) \text{ equals}$$

$$a_{4ij} + 2a_{5ij}X_7 + a_{6ij}X_{3ij}.$$

Substituting the actual values for a_4, a_5, a_6, and X_3 and setting the equation equal to zero, we have

$$a_{4ij} + a_{6ij}X_{3ij} = -2a_{5ij}X_7$$

$$(a_{4ij} + a_{6ij}X_{3ij}) / -2a_{5ij} = X_7$$

$$1.59228 + .33858 / .91330 = X_7 = 2.1$$

Thus, $X_7 = 2.1$ hours at the mean value of X_3, the WECEP student's GPA prior to entering WECEP. Therefore, for the work experience of the WECEP program to have its optimum impact on the academic grade point average (for average students), the students should work only about two hours per day. If a person has a lower prior GPA, he should work fewer hours per day. If he has a higher prior GPA, he can work more hours per day.

impact on GPA is to increase it to 2.06 points more than the control group GPA when an average prior GPA student works 2.3 hours per day, but the gain is only .47 over the control group GPA for the student who works four hours per day.

The formulation in footnote 3 points out one other factor. Namely, the optimal number of hours one should work per day depends on how high his prior WECEP GPA is. Because there is an interaction between prior GPA and hours, the value of the prior GPA has a significant impact on the estimation of optimum hours one should work per day. Thus, for males, at average GPA prior to entering WECEP, the optimum hours are approximately 2.2 per day, while for females it is about 2.1 hours. Of course, what constitutes the optimum number of hours in any given case depends on the dependent variable in question as well as the formulation of the specific model. Table 12 shows the optimal number of hours per day which should be worked for each of the dependent variables for which a maximum or minimum value for the estimated function exists. In general, for the set of educational measures as a whole, the optimal hours range from 2.0 to 2.7 hours per day at mean GPA prior to entering WECEP. Note again, however, that the functions are bounded and that, for all practical purposes, the optimum will lie along any portion of the horizontal part of the curve when such a constraint exists.

However, in concluding this discussion, we should note that what is optimum for the student is not necessarily optimum for the employer. In fact, there may be some jobs where the student's productivity could fall below the market wage if he works less than the optimum hours from the employer's standpoint. While we are mainly interested in the welfare of the student, such a possibility has implications for the program since it is necessary to have the cooperation of the employer if one wishes to operate WECEP as it is currently constituted.

Results of the Analysis: Model (2).

Model (2) estimates the effect of hours worked per school week, including Saturday hours, on selected indices of educational performance. The results are shown in Tables 13 and 14 as well as in Figure 2. (Data from which these results are calculated are shown in Appendix Tables 12, 13, 14 and 15.)

For those equations of the model which were statistically significant, the model explains up to 32 percent of the variance in the respective dependent variable. The model gives the best fit for females for grade point average, academic courses only. As with hours worked per day, the model has the weakest explanatory power for probability of being truant and probability of being suspended. This could be due to several factors. First, it may be that the model misspecifies the relationship. Unfortunately, more appropriate variables are not available. (Other

TABLE 12
OPTIMAL HOURS ONE SHOULD WORK PER DAY
TO ACHIEVE MAXIMUM IMPACT ON EDUCATIONAL INDICES,
TOTAL, MALE AND FEMALE SAMPLES (FOR AVERAGE PRIOR WECEP GPA)[1/]

	Total	Male	Female
Probability of Being Truant	No Effect	No Effect	No Cases Cited
Probability of Being Suspended	No Effect	No Effect	No Effect
Days Absent During WECEP Year	2.4	2.2	No Effect
Days Tardy During WECEP Year	2.7	2.5	No Effect
Grade Point Average: All Courses	2.1	2.2	2.0
Grade Point Average: Academic Courses Only	2.1	2.2	2.1

Notes: 1/ Estimated at mean prior WECEP GPA.

functional forms of the same variables as included in this model performed no better and were less desirable from a conceptual standpoint.) Or, the model may well be properly specified, but there is simply no relationship between probability of being truant or suspended and hours worked per week. Finally, the form of the dependent variable may be inappropriate, as mentioned above. Thus, we are essentially left in the dark as to the impact of the WECEP program on truancy and suspension with respect to hours worked per day and per week. We must suspend judgment as to probable program effect on these two variables for these two models.

As with hours worked per day [Model (1)], Model (2) explains the variance in days absent and GPA the best; thus, we shall concentrate our comments on these indices of educational performance. Note again the pattern of effect of hours worked on the indices of performance. Compared to non-WECEP students who work zero hours per week[4], WECEP students who work a total of six hours per week can expect 4.2 days fewer absences. However, absences drop to 6.2 less than the comparison group when WECEP students work the mean weekly hours of 11.4. Note that the effect of working 28 hours a week is the expectation of reducing absence a total of only 1.6 days. Thus, our original hypothesis is again borne out, namely, that the relation between hours worked per day or week and selected educational indices can be expected to be a curvilinear one. Finally, if males work 28 hours per week, they can expect to be absent <u>two more</u> days, on the average, than their non-WECEP counterparts.

With respect to grade point average, the results are similar for GPA: All Courses and GPA: Academic Courses Only, whether we consider the total sample, males or females. In each case, the expectations of our model are confirmed: Working increases GPA up to a point, after which the favorable impact declines and may even become negative if too many hours are worked during the week. Figure 2 plots the approximate relationship for GPA: Academic Courses Only. Note the sharp rise and then even more precipitous fall in GPA for females. The effect on males is much more uniform over the entire span of 28 hours per week.

<u>Optimal Hours Per Week (Including Saturday)</u>. Table 14 shows the pattern of optimal hours for the various indices of educational performance. To achieve the maximum impact on GPA for academic courses only, a WECEP student with an average prior WECEP GPA should work approximately 13.7 hours per week. However, this does not tell us how these hours are to

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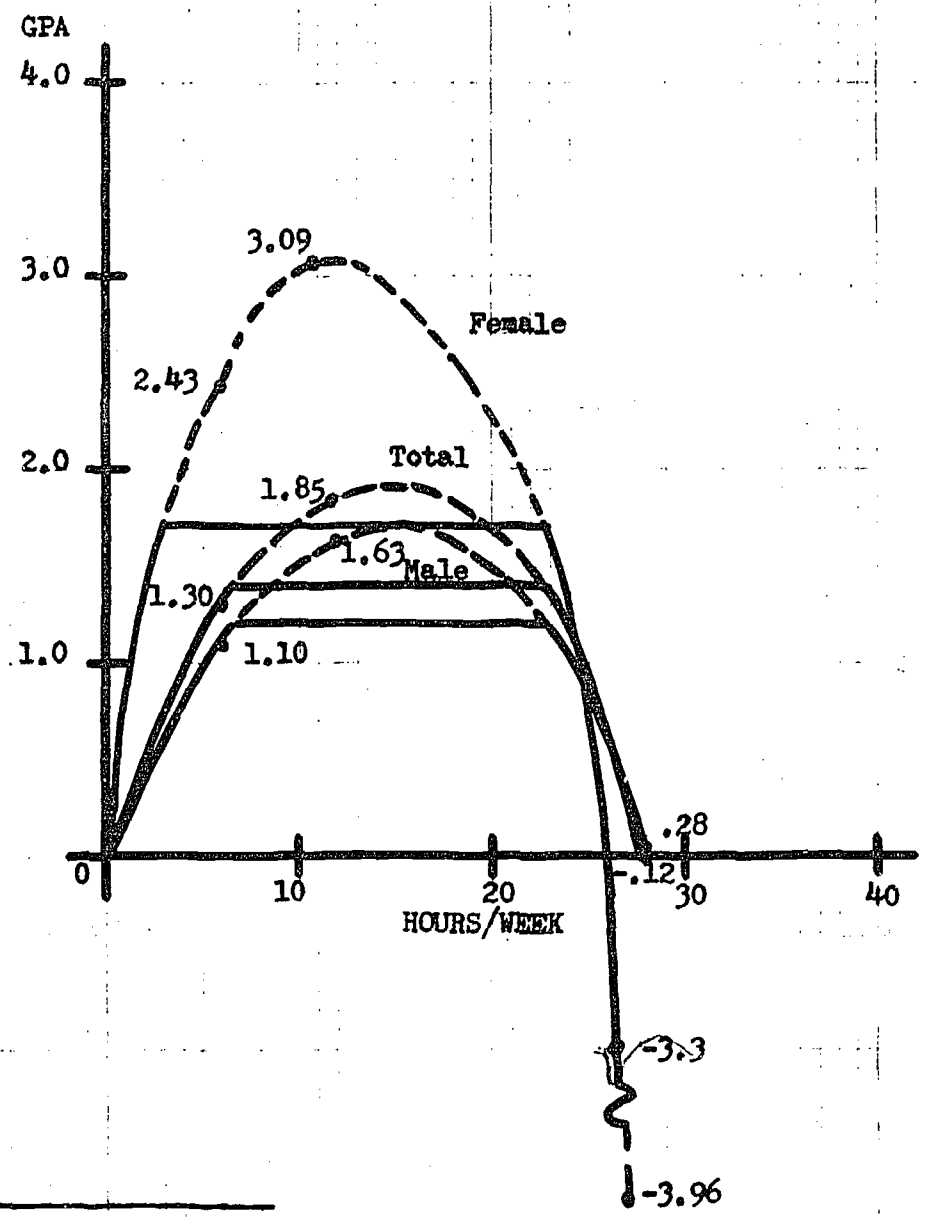
4/ This is not quite correct, since evidence of the personal interviews of the small sample of WECEP and non-WECEP students shows that non-WECEP students do work during school but generally less than WECEP students. And, of course, they cannot legally work during those hours when school is in session.

TABLE 13

IMPACT OF HOURS WORKED PER WEEK (INCLUDING SATURDAYS) ON SELECTED EDUCATIONAL INDICES, WECEP STUDENTS COMPARED TO NON-WECEP STUDENTS WHO WORK ZERO HOURS PER WEEK

		Total Sample Hours/Week			Males Hours/Week			Females Hours/Week		
		6	Mean	28	6	Mean	28	6	Mean	28
Probability of Being Truant	Hours									
	Effect	No Effect			No Effect			No Cases Cited		
Probability of Being Suspended	Hours									
	Effect	No Effect			No Effect			No Effect		
Days Absent During WECEP Year	Hours	6.0	11.4	28.0	6.0	11.4	28.0			
	Effect	-4.2	-6.2	-1.6	-3.1	-4.2	2.0	No Effect		
Days Tardy During WECEP Year	Hours	6.0	10.8	28.0	6.0	10.9	28.0			
	Effect	-2.2	-3.1	-0.9	-1.6	-2.3	0.6	No Effect		
Grade Point Average: All Courses	Hours	6.0	11.7	28.0	6.0	11.9	28.0	6.0	10.8	28.0
	Effect	1.28	1.79	-0.47	1.13	1.65	0.12	2.41	2.97	-5.06
Grade Point Average: Academic Courses Only	Hours	6.0	11.7	28.0	6.0	11.9	28.0	6.0	10.8	28.0
	Effect	1.30	1.85	-0.16	1.10	1.63	0.28	2.43	3.09	-3.96

FIGURE 2
IMPACT OF HOURS WORKED PER WEEK (INCLUDING SATURDAY) ON GPA:
ACADEMIC COURSES ONLY, FOR WECEP STUDENTS AGE 15,
AT AVERAGE PRIOR WECEP GPA



Notes: Estimated WECEP year GPA for persons who work zero hours per week is: Total Sample = 3.6, Males = 3.8, Females = 3.3.

Estimated at mean pre-WECEP GPA.

TABLE 14

OPTIMAL HOURS ONE SHOULD WORK PER WEEK (INCLUDING SATURDAY) TO ACHIEVE MAXIMUM IMPACT ON EDUCATIONAL INDICES, TOTAL, MALE AND FEMALE SAMPLES (FOR AVERAGE PRIOR WECEP GPA)[1/]

	Total	Male	Female
Probability of Being Truant	No Effect	No Effect	No Cases Cited
Probability of Being Suspended	No Effect	No Effect	No Effect
Days Absent During WECEP Year	15.0	12.6	No Effect
Days Tardy During WECEP Year	15.1	13.2	No Effect
Grade Point Average: All Courses	13.2	14.3	10.6
Grade Point Average: Academic Courses Only	13.7	8.9	11.2

Notes: 1/ Estimated at mean prior WECEP GPA.

be distributed on a daily basis. Note again that if a student had a lower prior GPA, he should work fewer hours. With a higher prior GPA, he can work more hours. Boys, at their average prior WECEP GPA, maximize their benefits in terms of academic courses GPA when they work about 9.8 hours per week.

Girls, on the other hand, at their average prior WECEP GPA, maximize their expected academic GPA at about 11.2 hours per week. One should note at this point that the difference between the optimal hours for the total, male and female samples is due to the fact that the functions are evaluated at different mean prior WECEP GPA's and the regression coefficients for each of the three samples differ substantially.

In general, the optimal number of hours one should work per week when Saturday work is included ranges from about nine to fifteen hours. Thus, the present maximum of 28 hours per week allowed for WECEP students is too generous a limit if one wishes to achieve maximum program impact on the selected indices of educational performance. This judgment must be tempered by the realization that there is an unknown non-response bias in the sample, however, due to observations lost from missing data.

Results of the Analysis: Model (3).

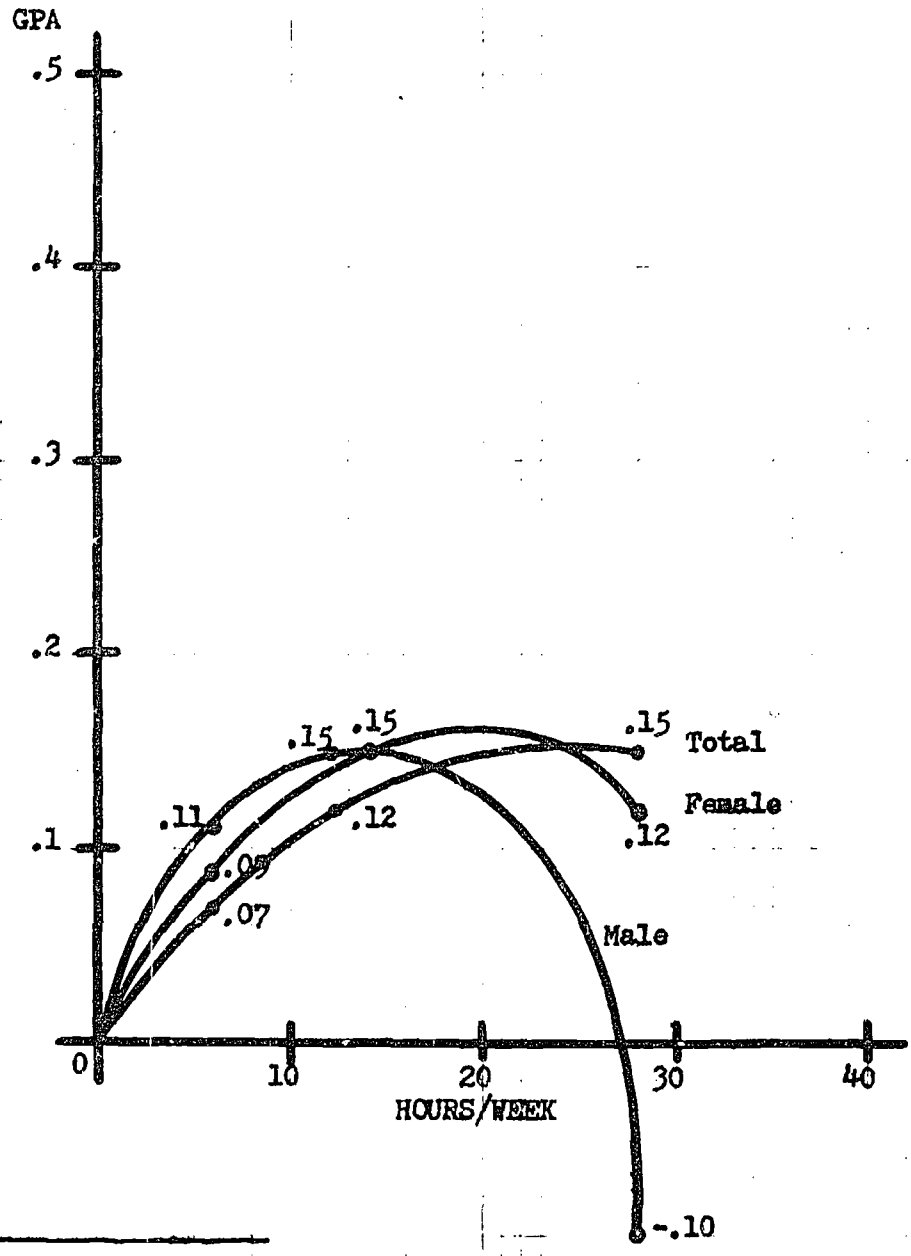
It is important to determine if the distribution of hours worked during the week has a major impact on educational performance. In particular, Saturday work hours may be neutral in their educational impact. It may well be the case that only those total hours worked on actual school days affect educational performance. Model (3) attempts to answer this problem. Tables 15 and 16 as well as Figure 3 display the estimated results. (Appendix Tables 16, 17, 18 and 19 display the analytical detail.) Average hours worked per week exclusive of Saturday is a very large fraction of total hours worked per week. On the average, for the sample, WECEP students work about one-half hour on Saturday. As Tables 15 and 16 so clearly show, the results are radically different between Model (2) and Model (3). First, the coefficients of determination are considerably larger for Model (3). As an example, for males, for GPA, all courses, the coefficient of determination is 34 percent (Appendix Table 19), whereas for the same sample group and dependent variable, Model (2) explained only six percent of the variance in the dependent variable in question (Appendix Table 15). Thus, in general, Model (3) predicts much better than Model (2) even though the absolute size of the coefficients of determination is still small. It is important to point out that no Saturday hours were worked in Ohio, roughly half of the original sample, and that, on the average, hours worked on Saturday are small--about one-half hour for the total sample. In addition, the results suggest that the Saturday variable may be picking up some structural difference in the program which exists between Ohio and the

TABLE 15

IMPACT OF HOURS WORKED PER WEEK (EXCLUDING SATURDAY) ON SELECTED EDUCATIONAL INDICES, WECEP STUDENTS COMPARED TO NON-WECEP STUDENTS WHO WORK ZERO HOURS PER WEEK

		Total Sample			Males			Females		
		Total Hours in WECEP			Total Hours in WECEP			Total Hours in WECEP		
		6	Mean	28	6	Mean	28	6	Mean	28
Probability of Being Truant	Hours	6.0	12.2	28.0	6.0	12.2	28.0			
	Effect	0.001	0.003	-0.003	0.005	0.006	-0.009	No Cases Cited		
Probability of Being Suspended	Hours									
	Effect		No Effect			No Effect			No Effect	
Days Absent During WECEP Year	Hours	6.0	12.0	28.0	6.0	11.6	28.0			
	Effect	-3.8	-6.5	-8.00	-4.5	-6.6	-1.6		No Effect	
Days Tardy During WECEP Year	Hours	6.0	11.4	28.0	6.0	11.0	28.0			
	Effect	-1.6	-2.6	-3.2	-1.4	-1.9	0.2		No Effect	
Grade Point Average: All Courses	Hours	6.0	12.4	28.0	6.0	12.2	28.0	6.0	13.6	28.0
	Effect	0.06	0.11	0.09	0.30	0.47	0.20	0.25	0.49	0.66
Grade Point Average: Academic Courses Only	Hours	6.0	12.3	28.0	6.0	12.1	28.0	6.0	13.9	28.0
	Effect	0.07	0.12	0.15	0.11	0.15	-0.10	0.09	0.15	0.12

FIGURE 3
IMPACT OF HOURS WORKED PER WEEK (EXCLUDING SATURDAY) ON GPA:
ACADEMIC COURSES ONLY, FOR WECEP STUDENTS AGE 15,
AT AVERAGE PRIOR WECEP GPA



Notes: Estimated WECEP year GPA for persons who work zero hours per week is: Total Sample = 3.7, Males = 2.5, Females = 2.5.

Estimated at mean pre-WECEP GPA.

rest of the sample states in addition to explaining the interaction effect of hours per se. Other than the possibility that zero hours worked on Saturday has a significant effect, we do not have any idea of what this structural difference might be.

Next, Saturday hours worked has a mixed pattern of statistical significance. In general, when the variable is statistically significant, people who work a positive number of Saturday hours usually reduce the level of their performance on the indices of educational performance. Thus, Saturday work lowers the average level of impact of the program. Next, the interaction term, hours worked per school week times Saturday hours worked, is statistically significant and positive for days tardy during the WECEP year, total sample, and GPA, all courses, male sample. In the former case, as the product of the two variables increases, the impact of hours worked on days tardy increases. This is not a desirable effect since total days tardy will increase. However, for males, the interaction term implies that as the product of the two variables increases, all course GPA increases. Finally, for both the total sample and males, the interaction results in a reduction in the probability of being truant. Unfortunately, since hours worked per week and Saturday hours worked can change in opposite directions and, at the legal limit, must change in opposite directions, we cannot make any judgment as to how the mix of hours per se affects scholastic performance since we cannot predict in any given case whether the product will increase or decrease as the mix of hours changes.

In terms of program impact, Model (3) and Model (2) predict in a similar fashion with respect to total days absent and total days tardy. For the total sample at 12.0 mean hours worked per school week, we can expect absences of the WECEP group to drop by about 6.5 days. Similarly, for the total sample at 11.4 mean hours worked per week we can expect total days tardy to drop by 2.6 for the WECEP sample. However, the impact of hours worked per school week, once the effect of Saturday work is controlled for, is radically different compared to Model (2) where we investigated the impact of total hours worked per week. For Model (2), Table 13 shows that a WECEP student who works an average of 11.7 hours per week can expect his academic course GPA to rise by 1.85 grade points. For Model (3), Table 15 shows that a person who works an average of 12.3 hours during the school week can expect his or her academic course GPA to rise only by .12 of a grade point. Which set of results should one believe or place the greatest confidence in? First, to some extent the direct comparison is incorrect, since the samples of the two Models have a slightly different composition--hence, the different mean hours worked per week. Second, which model one ultimately uses depends on the policy question he wants to answer. Is the net impact of hours worked per school week only of interest? Then Model (3) must be used, for instance. Finally, one should make an analytical judgment as to which model, apart

from policy needs, is theoretically more appealing. On this basis, we would have to opt for Model (3) as a more appropriate specification of the time relationship for at least two reasons. First, the coefficients of determination are much higher, so the model explains more of the variance in the dependent variables. Thus, Model (3) has higher predictive power. Second, the estimated functions all lie within the constraints of the GPA variables--equal to or less than 5.0 and greater than zero. Thus, from a conceptual standpoint, we would have to choose Model (3) over Model (2).

Optimal Hours. Finally, we come to the issue of optimal hours. Again, the optimal hours one should work during the week is a function of the specific index of educational performance as well as one's grade point average prior to WECEP and average hours worked on Saturday. But, Model (3) results suggest that the optimum is close to the legal maximum for females, grade point average, all courses. We should also note in Table 16 that the optimum for probability of being truant is the point where the impact of hours worked on increasing the probability of being truant is greatest, since this model suggests that WECEP students are likely to have a higher probability of ever being truant at least once. Again, we caution the reader that a much better specification of this variable would have been the total frequency or number of times one was truant. It is not inconsistent for a group to have a greater probability of being truant, but a lower total number of truancy incidents.

Results of the Analysis: Model (4).

The estimation of total hours of contact between the teacher-coordinator and the WECEP student, as well as the total hours spent counseling each of these students, is not known in this study. If these counseling and contact hours are linearly related to the total number of hours spent on the job, then total hours spent on the job, in addition to their own effect on educational performance, can be seen as a proxy for student-teacher contact and counseling hours. That is, by using total hours at work as a policy variable, we can gauge its effect on the various indices of educational performance. Model (4) attempts to do this. The results are shown in Tables 17 and 18 as well as Figure 4. (Appendix Tables 20, 21, 22 and 23 display the data on which these calculations are based.)

The coefficients of determination have essentially the same pattern as that of Models (1) and (2). The amount of variance explained ranges from a low of one percent for the male sample, probability of being suspended, to 33 percent for females, grade point average: academic courses only. (See Appendix Table 23.) This model, like the previous three, does not explain the variance in either probability of being truant or suspended. As indicated above, alternative models were no

TABLE 16

OPTIMAL HOURS ONE SHOULD WORK PER WEEK (EXCLUDING SATURDAY) TO ACHIEVE MAXIMUM IMPACT ON EDUCATIONAL INDICES, TOTAL, MALE AND FEMALE SAMPLES (FOR AVERAGE PRIOR WECEP GPA)[1/]

	Total	Male	Female
Probability of Being Truant	11.3[2/]	10.8[2/]	No Cases Cited
Probability of Being Suspended	No Effect	No Effect	No Effect
Days Absent During WECEP Year	23.0	15.8	No Effect
Days Tardy During WECEP Year	22.6	12.3	No Effect
Grade Point Average: All Courses	18.4	14.9	27.8
Grade Point Average: Academic Courses Only	23.9	13.6	18.7

Notes: 1/ Estimated at mean prior WECEP GPA.

2/ These points are not optima. Rather, since the impact of the WECEP program is positive and tends to increase the probability of being truant, these points represent that point at which one's probability of being truant is maximum and not minimum.

TABLE 17

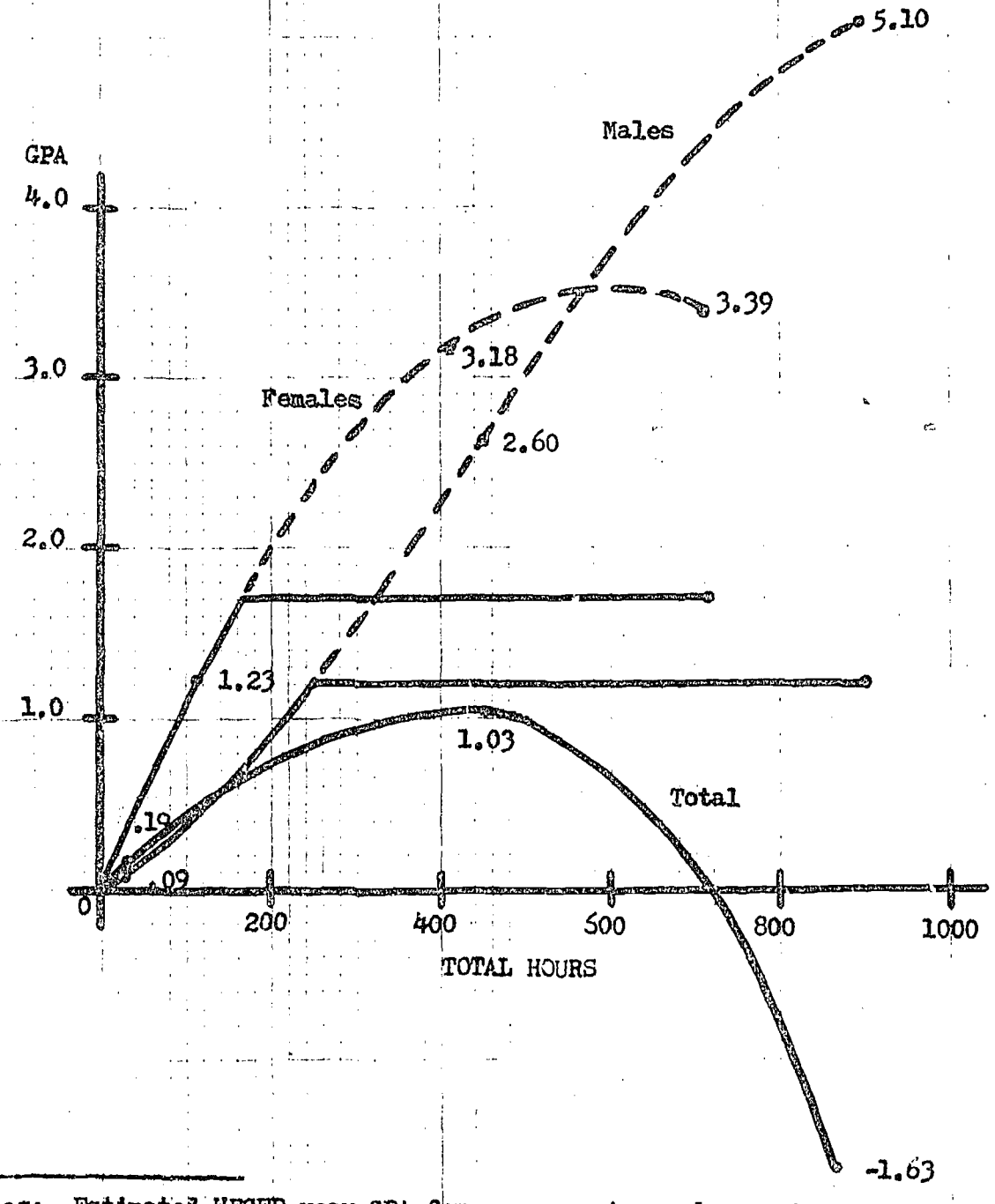
IMPACT OF TOTAL HOURS WORKED WHILE IN THE PROGRAM ON SELECTED EDUCATIONAL INDICES, WECEP STUDENTS COMPARED TO NON-WECEP STUDENTS WHO WORK ZERO HOURS PER DAY

		Total Sample			Males			Females		
		m-2SE[2]	m[1]	m+2SE	m-2SE	m	m+2SE	m-2SE	m	m+2SE
Probability of Being Truant	Hours	29	447	965	15	455	895	No Cases Cited		
	Effect	0.00	0.03	0.05	0.00	0.09	0.18			
Probability of Being Suspended	Hours	29	447	965						
	Effect	0.01	0.11	0.21	No Effect			No Effect		
Days Absent During WECEP Year	Hours	20	432	844	8	420	832			
	Effect	-0.4	-4.9	-2.7	-0.1	-3.0	0.9	No Effect		
Days Tardy During WECEP Year	Hours	140	406	772	25	403	781			
	Effect	-0.4	-2.2	-1.3	-0.2	-1.3	0.4	No Effect		
Grade Point Average: All Courses	Hours	29	447	865	15	455	895	114	410	706
	Effect	0.19	0.99	-1.70	0.09	2.60	5.11	1.29	2.18	-0.42
Grade Point Average: Academic Courses Only	Hours	29	447	865	15	455	895	114	410	706
	Effect	0.19	1.03	-1.63	0.09	2.60	5.10	1.23	3.18	3.39

Notes: 1/ m = Mean of total hours worked during the WECEP year.

2/ m-2SE = Mean minus two standard errors of the mean. Plus and minus two standard errors of the mean of total hours worked includes 95% of the observations in the sample.

FIGURE 4
IMPACT OF TOTAL HOURS WORKED WHILE ENROLLED IN WECEP ON GPA:
ACADEMIC COURSES ONLY, FOR WECEP STUDENTS AGE 15,
AT AVERAGE PRIOR WECEP GPA



Notes: Estimated WECEP year GPA for persons who work zero hours per week: Total Sample = 3.6, Males = 3.8, Females = 3.3.

Estimated at mean pre-WECEP GPA.

more successful. Again, the model predicts best for females--grade point average, all courses and academic courses only--and for males, days absent during the WECEP year. Thus, the estimated functions shown in Table 17 are most reliable for these sample groups and dependent variables.

For males, days absent during the WECEP year (Table 17), working an average of 420 hours during the WECEP year has an expected impact of reducing absence by three days. For females, who work an average of 410 hours during the year they are enrolled in WECEP, their overall GPA can be expected to rise 2.18 points compared to the non-WECEP students who do not work at all. The expected impact is even greater for the academic course GPA--3.18 points, on net.

Estimation of Optimal Hours. Table 18 provides the estimates of optimal total hours one should work in order to anticipate the maximum favorable impact on the indices of educational performance. In several cases, no optimal point can be estimated since there is no maximum (minimum) value of the independent variable over the relevant range of the independent variable. Therefore, since the total number of hours one can work during the WECEP year is legally constrained at 28 times the number of weeks in the school year, mathematically we reach the conclusion that the optimal number of hours one should work is at this boundary. However, it is most important to note that we have insufficient experience in the sample of persons who have worked at the maximum possible hours to specifically recommend that this mathematical maximum be accepted as an appropriate policy maximum. This mathematical maximum is in the neighborhood of 1,000 hours of work during the school year. It is important to note that in the cases where optimal hours can be estimated which yield the maximum impact on the indices of educational performance, none of these optima exceed 600 hours, and most of them are below 400 hours for the school year. Thus, on a weekly basis we are discussing a range of estimates of between 11 to 17 hours per week, assuming a 36-week school year. This range is consistent with our previous estimates in Model (2) above /though less so for Model (3)/, though this is not too surprising since hours worked per day, week and year are all linearly related.

Alternative Models: Days Absent During WECEP Year.

In an effort to provide an alternative estimate of the effect of hours worked during the WECEP experience on days absent, two models were estimated which included the days absent in the year prior to WECEP as an independent variable. This additional variable should be an excellent predictor of absence during the WECEP year and, hence, help control for the lack of other educational or socio-demographic variables which were not available to the study. Model A regressed days absent during the WECEP year on age at last birthday (linear), sex, prior WECEP grade point

TABLE 18
OPTIMAL TOTAL HOURS ONE SHOULD WORK WHILE ENROLLED
IN WECEP TO ACHIEVE MAXIMUM IMPACT ON EDUCATIONAL INDICES,
TOTAL, MALE AND FEMALE SAMPLES (FOR AVERAGE PRIOR WECEP GPA) 1/

	Total	Male	Female
Probability of Being Truant	No Maximum	No Maximum	No Cases Cited
Probability of Being Suspended	No Maximum	No Effect	No Effect
Days Absent During WECEP Year	500	388	No Effect
Days Tardy During WECEP Year	470	363	No Effect
Grade Point Average: All Courses	334	No Maximum	338
Grade Point Average: Academic Courses Only	338	No Maximum	593

Notes: 1/ Estimated at mean prior WECEP GPA.

average, days absent in the year prior to WECEP, hours (per day: per week, including and excluding Saturday and total), hours times prior WECEP GPA. Model B estimated the same relation with the addition of hours squared. For the models dealing with the separate effects of Saturday hours, a variable for Saturday hours was added plus a variable to capture the interaction between hours worked during the week and hours worked on Saturday. Due to collinearity, this latter variable had to be dropped for the female sample. The results are displayed in Tables 19 and 20 as well as in Appendix Tables 24, 25, 26 and 27.

In general, these models predict much better than Models (1) through (4) for days absent. Models A and B explain about 50 to 60 percent of the variance in the dependent variable, performing best for females (Appendix Table 27). In contrast, Models (1) through (4) generally yield coefficients of determination which are under 30 percent and often under 20 percent.

Hence, in view of the fact that we are using the regression coefficients of all these models to estimate points along a function which shows the net relation between absences and hours, the estimates of Model A and B are much more reliable. And, Model B performs somewhat better for females relative to Model A--60 to 61 percent of the variance explained versus 56 percent. Model A and B work equally well for the total sample and males.

We see in Table 19 that regardless of the measure of hours used or the Model, hours worked has no statistically significant net effect on absences (either positive or negative) for females. For the total sample and for males, regardless of the measure of hours used or the model, we see that at mean hours worked, WECEP students experience from over six to over nine days less absence over the school year compared to the non-WECEP students who work zero hours. This represents well over a week of additional schooling.

Optimal Hours. On a daily basis, between three and 3.5 hours worked per day has the maximum impact on reducing days absent. The models suggest that between 15 to 29 hours worked per week is optimal, while about 600 hours worked over the entire WECEP year provides the optimal impact on reduction of absence. Note, however, that since hours are constrained at 28 per week maximum, the best a person can do in cases where the optimum exceeds 28 is to work just 28 hours per week.

Alternate Models: Days Tardy During the WECEP Year.

Based on the same reasoning as that for absence, Models A and B were estimated for days tardy during the WECEP year, except that days tardy in the year prior to WECEP were substituted for days absent in the year

TABLE 19

IMPACT OF HOURS WORKED PER DAY, HOURS WORKED PER WEEK (INCLUDING SATURDAY), HOURS WORKED PER WEEK (EXCLUDING SATURDAY) AND TOTAL HOURS WORKED WHILE ENROLLED IN WECEP ON DAYS ABSENT DURING WECEP YEAR, WECEP STUDENTS COMPARED TO NON-WECEP STUDENTS WHO WORK ZERO HOURS PER WEEK

		Total Sample			Male			Female
MODEL A								
Hours/Day	Hours	1.0	2.3	4.0	1.0	2.2	4.0	
	Effect	-4.4	-7.7	-8.4	-3.8	-6.5	-6.4	No Effect
Hours/Week (Including Saturday)	Hours	6.0	11.4	28.0	6.0	11.4	28.0	
	Effect	-5.4	-8.2	-5.8	-4.9	-7.2	-2.3	No Effect
Hours/Week (Excluding Saturday)	Hours	6.0	11.9	28.0	6.0	11.4	28.0	
	Effect	-4.8	-8.4	-12.6	-6.1	-9.2	-4.1	No Effect
Total Hours	Hours	20.0	432.0	844.0	5.0	425.0	845.0	
	Effect	-0.5	-6.6	-5.9	-0.1	-6.5	-5.8	No Effect
MODEL B								
Hours/Day	Hours	1.0	2.2	4.0	1.0	2.2	4.0	
	Effect	-4.3	-7.6	-8.7	-3.8	-6.6	-7.0	No Effect
Hours/Week (Including Saturday)	Hours	6.0	11.4	28.0	6.0	11.4	28.0	
	Effect	-5.3	-8.2	-6.2	-4.9	-7.3	-2.9	No Effect
Hours/Week (Excluding Saturday)	Hours	6.0	11.9	28.0	6.0	11.4	28.0	
	Effect	-4.9	-8.7	-13.1	-6.1	-9.3	-4.6	No Effect
Total Hours	Hours	24.0	426.0	828.0	5.0	425.0	845.0	
	Effect	-0.6	-6.6	-6.1	-0.1	-6.5	-5.9	No Effect

TABLE 20

OPTIMAL HOURS TO WORK PER DAY, PER WEEK (INCLUDING SATURDAY), PER WEEK (EXCLUDING SATURDAY) AND TOTAL HOURS WHILE ENROLLED IN WECEP (FOR MEAN PRIOR WECEP GPA) TO ACHIEVE MAXIMUM REDUCTION IN DAYS ABSENT 1/

	Total	Male	Female
MODEL A			
Hours/Day	3.4	3.1	No Effect
Hours/Week (Including Saturday)	17.4	15.2	No Effect
Hours/Week (Excluding Saturday)	28.2	15.8	No Effect
Total Hours	598.0	593.0	No Effect
MODEL B			
Hours/Day	3.5	3.2	No Effect
Hours/Week (Including Saturday)	17.6	15.6	No Effect
Hours/Week (Excluding Saturday)	28.6	16.1	No Effect
Total Hours	600.0	597.0	No Effect

Notes: 1/ Estimated at mean prior WECEP GPA.

prior to WECEP. All other variables in the models remained the same. Tables 21 and 22 as well as Appendix Tables 28, 29, 30 and 31 display the results.

First, Models A and B perform equally well for females in terms of explaining the variance of the dependent variable ($\bar{R}^2 = .57$). However, for the total sample and males, Model B has greater explanatory value than Model A, though the edge is not great--three to four percent. However, these models do represent a considerable improvement over Models (1) through (4), where the coefficient of determination (percent of variance explained) is usually under ten percent. Nevertheless, the Models are less successful in explaining the variance in days tardy than they are for days absent. Clearly, tardiness is subject to more random behavior, more errors in data reporting or a less well specified model (or all three) compared to absence.

With regard to statistically significant net impact, the WECEP program has none for females with respect to days tardy during the WECEP year. Additionally, total hours worked during the WECEP year have no statistically significant effect on tardiness for either Model A or B, whether one considers the total sample, males or females.

For the total sample, at mean hours worked per week (including or excluding Saturday) total days tardy drop by about 3.5, but for males the drop is only about 2.5 days compared to the non-WECEP students who work zero hours per day.

Optimal Hours. As Table 22 shows, optimal hours one should work per week to achieve a maximum reduction in tardiness range from about 12 to 30, depending on the model and sample examined. However, since hours worked are constrained at 28, this constraint becomes the best possible point for cases exceeding 28 hours.

F. Conclusion.

While we have a limited number of independent variables whereby to control for the influence of non-WECEP factors on educational performance, several of these are quite powerful variables, such as prior GPA, days absent and days tardy. Thus, we can estimate the impact of the various measures of hours worked during WECEP on educational performance with some hope for success. Often, though, the models explain a disappointingly low proportion of the variance in the different dependent variables. This fact weakens the policy conclusions we can draw from our point estimates of the relationship between the various measures of educational performance and hours worked. Higher coefficients of determination would give us more confidence that the point estimates are close to the true population parameters. In this regard, Model (3) appears to be the best of the four models.

TABLE 21

IMPACT OF HOURS WORKED PER DAY, HOURS WORKED PER WEEK (INCLUDING SATURDAY) HOURS WORKED PER WEEK (EXCLUDING SATURDAY) AND TOTAL HOURS WORKED WHILE ENROLLED IN WECEP ON DAYS TARDY DURING WECEP YEAR, WECEP STUDENTS COMPARED TO NON-WECEP STUDENTS WHO WORK ZERO HOURS PER WEEK

		Total Sample			Male			Female
MODEL A								
Hours/Day	Hours				1.0	2.2	4.0	
	Effect		No Effect		0.1	-0.8	-4.5	No Effect
Hours/Week (Including Saturday)	Hours	6.0	10.8	28.0	6.0	10.9	28.0	
	Effect	-2.3	-3.5	-3.1	-1.7	-2.5	-1.8	No Effect
Hours/Week (Excluding Saturday)	Hours	6.0	11.4	28.0	6.0	10.7	28.0	
	Effect	-1.7	-2.8	-4.5	-1.5	-2.2	-1.4	No Effect
Total Hours	Hours							
	Effect		No Effect			No Effect		No Effect
MODEL B								
Hours/Day	Hours				1.0	2.2	4.0	
	Effect		No Effect		-0.4	-1.2	-3.2	No Effect
Hours/Week (Including Saturday)	Hours	6.0	10.8	28.0	6.0	10.9	28.0	
	Effect	-2.5	-3.6	-1.0	-1.9	-2.7	-0.1	No Effect
Hours/Week (Excluding Saturday)	Hours	6.0	11.4	28.0	6.0	10.7	28.0	
	Effect	-1.5	-2.6	-4.2	-2.0	-2.7	0.4	No Effect
Total Hours	Hours							
	Effect		No Effect			No Effect		No Effect

TABLE 22

OPTIMAL HOURS TO WORK PER DAY, PER WEEK (INCLUDING SATURDAY), PER WEEK (EXCLUDING SATURDAY) AND TOTAL HOURS WHILE ENROLLED IN WECEP (FOR MEAN PRIOR WECEP GPA) TO ACHIEVE MAXIMUM REDUCTION IN DAYS TARDY 1/

	Total	Male	Female
MODEL A			
Hours/Day	No Effect	4.0 2/	No Effect
Hours/Week (Including Saturday)	18.6	17.3	No Effect
Hours/Week (Excluding Saturday)	29.3	16.7	No Effect
Total Hours	No Effect	No Effect	No Effect
MODEL B			
Hours/Day	No Effect	4.0 2/	No Effect
Hours/Week (Including Saturday)	12.5	15.1	No Effect
Hours/Week (Excluding Saturday)	30.2	13.6	No Effect
Total Hours	No Effect	No Effect	No Effect

Notes: 1/ Estimated at mean prior WECEP GPA.

2/ The unconstrained extreme point of the above regression function (Model A) is at $X = -0.8$. This is a point of maximum since the coefficient of $(\text{Hours})^2$ is negative. (See Appendix Table 29.) Even if it was a point of minimum, still it would be of no value because it is outside the relevant range of the independent variable. In cases like this, where the independent variable is constrained to two boundary values (zero and four hours, in this case) the problem is one of optimization subject to the constraints. It can be shown mathematically that when a function is concave (or convex), then the minimum (or maximum) point will lie on the boundary points. Which boundary point will be the optimal point is determined by evaluating the function at both boundary points and comparing the two evaluations. In our case the function is concave and the values of function for zero and four hours are -0.37 and -3.22, respectively. Therefore, the minimum amount of days tardy will result from four hours of work per day. However, this is a mathematical artifact and wider experience with the program could dictate a different policy conclusion.

Nevertheless, it is important to note that our original hypothesis is borne out with remarkable consistency. That is, we postulate a curvilinear relation between hours worked per day (week, year) and the various indices of educational performance. As hours worked increase, performance increases, but after a point, more work yields smaller additional gains, and, in fact, the gains may even become negative. This very consistency gives us considerable confidence in the models, even though the coefficients of determination are often low. Of course, in some cases our estimated effects exceed the constrained values of our dependent variables. In such cases, the constrained limit represents the maximum possible program effect.

We often find that the program has no effect on females, except when one considers GPA. Effects on males and the total sample are much more likely. Likewise, the program may have no effect on reducing the probability of being truant or suspended, though neither of these variables is formulated ideally for study. In our judgment, one should remain agnostic with respect to program effects (whether positive, negative or zero) on these variables.

The various models work relatively well for the remaining dependent variables, especially absence and GPA. Significant positive program effects are indicated for the WECEP student who works the average number of hours per day (week, year).

However, the optimal number of hours one should work per day (week, year) in order to achieve a maximum favorable impact on the indices of educational performance in most cases is less than the maximum currently allowed under law--four hours per day or 28 hours per week. The analysis suggests that two to three hours per day or 12 to 18 per week is a more desirable work load relative to hours spent in school or at leisure or working at home. However, when we net out the effect of hours worked on Saturday, the optimum number of hours increases up to sometimes exceeding the maximum allowable. Since the optimum for males is similar between hours per week including Saturday, Model (2), and hours per week excluding Saturday, Model (3), this effect is due to females in the sample.

Finally, though this study is based on a national probability sample and speaks for the national program as a whole, the control group was not always selected in classic experimental fashion. There is self-selection bias in the sample as well as non-response bias due to missing variables. Hence, these results, while quite encouraging, especially in terms of their consistency with a priori prediction, are in no sense final though they are more than merely suggestive of true WECEP program effects.

CHAPTER 3

INJURY EXPERIENCE[1/]

A. Introduction.

An integral part of this study of the WECEP program is an assessment of the possible social cost of injuries to the program participants. With respect to the WECEP program, the following question must be answered: Is the injury rate of WECEP participants significantly different from the injury rates of the 14- to 15-year-old student population at large? While the question is essentially empirical in nature, prior to discussing specific statistical tests which can answer the question for us, it is informative to examine the design of the WECEP program to attempt to determine whether WECEP participants are exposed to potentially hazardous situations.

The Fair Labor Standards Act of 1938 and subsequent amendments define "oppressive child labor" as[2/]

> "a condition of employment under which (1) any employee under the age of sixteen years is employed by an employer (other than a parent or person standing in place of a parent employing his own child or a child in his custody under the age of sixteen years in an occupation other than manufacturing or mining or an occupation found by the Secretary of Labor to be particularly hazardous for the employment of children between the ages of sixteen and eighteen years or detrimental to their health or well-being) in any occupation, or (2) any employee between the ages of sixteen and eighteen years is employed by an employer in any occupation which the Secretary of Labor shall find and by order declare to be particularly hazardous for the employment of children between such ages or detrimental to their health or well-being . . . ."

However, the employment of 14- to 16-year-olds in occupations other than manufacturing and mining ". . .shall not be deemed to constitute oppressive child labor if and to the extent that the Secretary of Labor

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1/ This chapter is jointly written with James S. Fackler.

2/ Fair Labor Standards Act of 1938, As Amended (29 U.S.C. 201, et seq.) U.S. Dept. of Labor, WHPC publication 1167, Section 3. (l).

determines that such employment is confined to periods which will not interfere with their health and well-being."3/

The WECEP program is, of course, designed in a manner such that it does not constitute "oppressive child labor." This design, among other things, reduces the likelihood that student employees will sustain injuries while on the job. Specifically, students enrolled in the program are restricted in the number of hours which they may work per day (a maximum of four) and per week (a maximum of 28) and in the types of jobs they may hold. These regulations presumably reduce the chance of the type of injury which may be incurred due to physical exhaustion or to general conditions of being overworked. Further, WECEP participants may not work at their jobs on days in which they do not attend school. Thus, students are presumably not working during periods in which they are ill, though clearly such a situation can occur.

WECEP participants are also prohibited from working in occupations which have been declared as hazardous by the Secretary of Labor. For example, in manufacturing industries students may not be employed in any manufacturing activity or canning or bottling operations although they may be employed in clerical or office jobs within these types of industries. For example, Appendix E, Child Labor Regulations, describes exactly those types of occupations which are allowed and prohibited. Appendix Table 32 is a translation of these regulations as interpreted by the WECEP administrators in Michigan.

Thus, as part of the general design of the WECEP program, avoidance of situations which may be hazardous to participants has been explicitly dealt with.

B. Analysis of Results.

We seek to determine if the WECEP students have higher accident rates and more serious injuries than the student body at large which would be eligible for the WECEP program. This exact comparison cannot be made since we do not have employment and accident information on the sample of WECEP control students, although limited information does exist on the sample of 65 WECEP students and controls who were interviewed in person by the teacher-coordinator. In this analysis, it is crucial to determine the net additional effect of the WECEP program on accidents to students, however. Therefore, it is necessary to devise a comparison group against which one can compare WECEP experience. The best data for comparison against the WECEP student experience are those collected from an annual survey performed by the National Safety Council (NSC), which obtains accident and injury rates for approximately eight percent of the

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3/ Ibid., Section 3. (1).

nation's school-aged children. (See Table 23.) This is not a random survey response, however, so an unknown sampling bias exists in these data. Nevertheless, the data do allow comparisons to be made as long as one keeps their limitations in mind. As regards our purposes, these data are broken down by grades 7-9 and 10-12. For both boys and girls, injury rates[4] are provided for categories such as shop and laboratories, the school building, school grounds, sports categories and travel to and from school.

The total rates for boys are lower for grades 7-9 than they are for grades 10-12. This is reversed for girls. Also, the accident rate for girls is less than half of that for boys. For the sample as a whole, the number of days lost per injury is approximately one for boys and somewhat higher than one for girls. For boys, injury rates in vocational and industrial arts are the highest, though the days lost due to accidents from this source are approximately equal to the mean days lost in all shop and laboratory accidents. In contrast, the accident rates for regular inter-scholastic football are considerably higher than the vocational and industrial arts shop accident rate, for 10-12 grade boys, 2.13 versus 1.48, respectively. The severity of the injury in terms of days lost is also greater. Thus, an inspection of this table shows that certain types of sports activities cause a greater loss of time compared with the experience of WECEP students.

The WECEP-9 Work Injury Report records the frequency, type and severity of accidents which result in an absence of two or more days from school or work. The data show that for the 1971-72 WECEP year, none of the WECEP students sustained an injury resulting in two or more days' absence. An independent check on these results comes from the employer questionnaire. Although we have data on only 63 of the 100 firms surveyed, none of these employers reports any accident to a WECEP student which resulted in absence from work of two or more days. As a final check on these results, we can compare the accident and injury experience of the WECEP and non-WECEP students who were individually interviewed. Sixty-five of the sample of 100 students in the personal interview sample were located--39 WECEP students and 26 control students. Thus, we have a 78 percent response rate for the WECEP students but only a 52 percent response rate for non-WECEP students. One WECEP student reports that he was injured while working at a WECEP job. One non-WECEP student also reports a job-related injury. However, neither of these two students

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4/ The number of accidents per 100,000 student days, where an accident is defined as an injury requiring a doctor or resulting in one-half day's loss or more of school time or activity during non-school time.

TABLE 23
STUDENT ACCIDENT RATES PER 100,000 STUDENT DAYS BY SCHOOL GRADE, SEX, LOCATION AND TYPE OF ACCIDENT, 1968-69 SCHOOL YEAR

	Male			Female		
	7 - 9 Grade	10-12 Grade	Days Lost Per Injury	7 - 9 Grade	10-12 Grade	Days Lost Per Injury
Enrollment Reported	351	264		329	245	
Total School Jurisdiction	12.63	14.23	1.08	6.02	5.00	1.32
Shops and Labs	1.01	1.95	0.65	0.17	0.22	0.53
Homemaking	0.01	0.02	0.71	0.08	0.07	0.50
Science	0.06	0.16	0.40	0.06	0.07	0.36
Driving (practice)	*	0.01	0.63	0.00	0.01	0.00
Vocational, industrial arts	0.79	1.48	0.67	0.01	0.03	0.30
Agricultural	0.02	0.04	0.59	0.00	*	11.00
Other labs	0.02	0.05	0.42	0.01	0.03	0.25
Other shops	0.10	0.20	0.81	0.01	0.01	0.75
Building--general	2.41	1.66	0.89	1.35	1.17	0.99
Grounds--unorganized activities	0.73	0.23	0.99	0.24	0.12	1.09
Grounds--miscellaneous	0.44	0.29	0.97	0.16	0.20	1.39
Physical Education	5.92	5.98	1.14	3.66	2.72	1.04
Baseball--hard ball	0.04	0.07	0.98	0.02	*	0.83
Baseball--soft ball	0.31	0.29	1.10	0.25	0.12	0.97
Football--regular	0.30	0.38	1.74	0.01	*	1.00
Football--touch	0.62	0.71	1.36	0.03	0.03	2.06
Basketball	1.02	1.40	1.07	0.47	0.45	0.75
Track and field events	0.38	0.21	1.73	0.20	0.09	1.32
Intra-mural sports	0.41	0.59	0.84	0.06	0.04	2.66
Inter-scholastic sports	1.20	3.16	1.00	0.05	0.10	2.28
Baseball--hard ball	0.01	0.06	0.50	0.00	0.00	0.00
Baseball--soft ball	*	0.03	0.33	*	*	0.00
Football--regular	0.82	2.13	1.07	0.01	0.02	3.42
Basketball	0.18	0.40	0.80	0.02	0.02	4.50
Track and field events	0.11	0.19	0.71	0.02	0.02	1.88

Table 23
Student Accident Rates per 100,000 Student Days by School Grade, Sex, Location and Type of Accident, 1968-69 School Year (continued)

	Male			Female		
	7 - 9 Grade	10-12 Grade	Days Lost Per Injury	7 - 9 Grade	10-12 Grade	Days Lost Per Injury
Special activities	0.07	0.12	1.47	0.06	0.11	1.52
Going to and from school (moving vehicle)	0.20	0.15	3.55	0.14	0.19	8.26
Going to and from school (not a moving vehicle)	0.24	0.11	1.54	0.14	0.13	1.33

Notes: Accidents are those severe enough to cause the loss of one-half day or more of (1) school time or (2) activity during non-school time and/or any property damage as a result of a school jurisdictional accident.

* Less than 0.005.

Source: Accident Facts 1972 Edition, pp. 90 and 91.

ever lost two or more days of school as a result of his reported injury. In fact, neither student reports having lost so much as a day due to the injury. Thus, these data substantially corroborate the above data from the employers as well as the injury data reported by the teacher-coordinators.

Thus, from these data it seems clear that given the way the WECEP program is currently constituted, the risk of injury is not great. The comparisons with the data in Table 23 are not exact since there the definition of lost time is one-half day or more, so a higher frequency is reported in Table 23 than we would pick up in the WECEP study. Nevertheless, the results are very convincing. Injury to WECEP students is not a problem in this program.

CHAPTER 4

EMPLOYER EXPERIENCE WITH THE WECEP PROGRAM

A. Introduction.

This chapter describes the general experience of the WECEP employers with the WECEP program. It is designed to answer the following questions:

What additional training or special treatment did the WECEP student receive?

What additional training costs did the WECEP employer experience as a result of the program?

How are WECEP students rated by employers in comparison to regular employees?

How do WECEP employers rate the WECEP students at the end of the WECEP year in contrast to the beginning of the student's employment?

Finally, what recommendations for change do WECEP employers have for the program?

B. Sampling Procedure.

In order to answer the above questions, the population of employers for whom the students in the 1971-72 WECEP sample worked was randomly sampled with probability of selection proportional to the size of their WECEP work force. Replacement was allowed in the sampling process. Table 24 shows the distribution of employers by state, the distribution of the employer sample of 100, and sample response. Two factors should be noted about this sample. First, since selection was allowed with replacement, some large employers were selected more than once. These employers tended to be schools, school districts, wholesale and retail establishments, and service establishments.

The second factor to realize is that the distribution of the employer sample across states need bear no relation to the distribution of the employer population across states, since the sample of 100 is weighted not by state but by number of WECEP students employed. This is done to insure that the employer experience is that which they had with the sample of 690 WECEP students as a whole. Thus, it reflects the overall experience of employers with WECEP students.

TABLE 24
EMPLOYER AND WECEP EMPLOYEE SAMPLES, BY STATE

	Total Employers of WECEP Student Sample		Employers Sampled		Employers Responding		Total Students in Study Sample			
							WECEP		Non-WECEP	
	N 1/	%	N	%	N	%	N	%	N	%
Florida	145	47.1	37	37.0	22	34.4	289	41.9	168	29.2
Illinois	30	9.7	8	8.0	1	1.6	30	4.3	31	5.4
Indiana	23	7.5	3	3.0	0	0.0	25	3.6	20	3.5
Kentucky	3	1.0	3	3.0	3	4.7	15	2.2	14	2.4
Minnesota	8	2.6	3	3.0	3	4.7	13	1.9	9	1.6
New Jersey	48	15.6	18	18.0	16	25.0	84	12.2	77	13.4
Ohio	38	12.3	28	28.0	19	29.7	229	33.2	237	41.2
Virginia	13	4.2	0	0.0	0	0.0	2	0.3	19	3.3
Not Ascertained	0	0.0	0	0.0	0	0.0	3	0.4	0	0.0
Total	308	100.0	100	100.0	64	100.1 2/	690	100.0	575	100.0

Notes: 1/ N = Number of observations.

2/ Total percentages do not always add to 100.0 due to rounding.

C. Employer characteristics.

Sixty-three employers of the sample answered a detailed mail questionnaire. (See Appendix D.) These employers had been originally contacted through the offices of the state directors of the WECEP (OWA) program. Usually the local teacher-coordinator delivered the questionnaire in person, but it was self-administered by the employer. Of the firms that did not respond, ten failed to do so since the establishment was under new management at the time it was contacted. The remaining firms either refused outright, failed to respond after repeated mail and telephone contacts or were no longer in business. The major problem occurred in Illinois, where seven of the eight firms failed to respond. All seven were small retail establishments or restaurants.

Of the 63 responding, 24 (or 38.1%) were in wholesale and retail trade, including restaurants. Almost 29 percent were in services excluding education and nine employers (14.3%) were in education. Only two firms were in construction, three in durable manufacturing and six in agriculture, landscaping or dairy.

About 78 percent of the firms sold their products exclusively in local markets. The firms were small on the average and had a high concentration of youthful employees. The average number of production workers per firm was about 46, and the average number of salaried workers, about 25. On the average, 7.5 of the firm's employees were between 16 and 17 years old, while somewhat more than six were aged 18 to 21.

Currently, each establishment was employing an average of about five WECEP students.

By far the most frequently listed primary job title for WECEP students was in food service. Seventeen establishments (27.0%) employed their WECEP students in this occupation. Nine establishments (14.3%) employed their WECEP students in custodial work, and 9 other firms used their students as clerks. General labor (6 establishments, or 9.5%) and agricultural and horticultural labor (6 establishments) comprised the next largest categories. Fifty-five, or 87.3 percent, of the establishments claimed that these were the same types of jobs as held by their regular employees.

In general, the WECEP employers paid WECEP students the same as their other employees. About 79.4 percent of the employers indicated this was the case, while only about 17.5 percent indicated they paid WECEP students less. The wage rate paid was about $1.59 per hour with a standard deviation of 37 cents. Thus, two thirds of the WECEP students were earning between $1.22 to $1.96 per hour on their jobs. These wage rates are reasonable in view of the fact that about 87 percent of the employers indicated that the jobs performed by the WECEP students were the same as

those performed by their regular employees and about 87 percent of the employers indicated that WECEP employees were given no special consideration of any kind. These facts bear out the general assertion that WECEP students are employed in jobs which exist solely due to market demand and the students' wage rate is a good estimate of their marginal productivity. In sum, the program does not have the large income transfer aspect of the Neighborhood Youth Corps. The WECEP students' contribution to total output is equal to their wage rate.

D. Training Experience and Costs.

Thirty-six (or 57.1%) of the establishments indicated that the WECEP student received no additional formal training of any kind. Of those employers who did provide some training, the types of training were widely scattered over sales and management skills, use of machinery, shipping and receiving skills, and library skills. However, while a majority of the firms did not engage in any formal training, those that did incurred an average of about $98 out-of-pocket costs per WECEP student hired and about $151 in indirect costs such as the imputed value of supervisory time. Thus, while this represents a considerable expenditure of resources when training is required, it is generally the case that extensive training is not required. This reality is further reflected in the fact that about 59 percent (or 37 establishments) of the employers accept any student recommended by the school, and of the remaining 26 employers, 21 indicate that no specific skills are required for employment in the jobs WECEP students are hired for. In addition, when one inspects the main reasons why employers participated in the WECEP program, no employer sees the program as primarily providing training and guidance for the student. If an employer argues that he sees the program as a vehicle for training students, it is invariably either a third or fourth choice. Of course, when one recognizes that the WECEP student is already expected to possess a marginal productivity equal to his wage rate, this is not too surprising.

In fact, this situation plus the relatively low skill level of the jobs points up a structural problem in the program. Namely, on the one hand, it is hoped that the students will receive training, but, on the other, to be hired, their productivity must be equal to the wage rate. It should also be noted that the jobs are comprised of a high component of general skill which is not specific to the skill needs of any given firm. Also, we should note that no firm will pay workers to learn such skills even if the workers were deficient in such skills. To continue this logically, the fact that the wage rate paid is generally equal to that of regular employees on the same job suggests that either no on-the-job training is occurring or WECEP students incur the same on-the-job training costs to acquire these general skills as do the regular employees.

In summary, based on these results, we judge that the amount of additional skills being imparted on the job is very small. To the extent that a WECEP student's productivity is being directly raised through the job experience, it is probably being done so via improvement in labor force discipline: punctuality, cooperativeness, and similar economically rewarding patterns of behavior. This potential improvement may be, of course, far from trivial in its long-run impact on one's economic experience.

E. Employer Ratings of WECEP Students.

Tables 25 through 28 display the evaluation of the WECEP students by the program employers. Table 25 is based on employer responses to the employer questionnaire and represents each employer's average judgment. (See Appendix D.) Tables 26, 27 and 28 are based upon the individual evaluations of students by employers which are subsequently collected by the teacher-coordinators. For the latter three tables, sample sizes are not consistent between the evaluations at the beginning of employment and end of school year because either teacher-coordinators failed to see that the preliminary evaluations were performed or employers otherwise neglected to fill out the preliminary evaluations at the beginning of employment. Finally, in some cases, an employer simply failed to fill out a specific evaluation item. This failure was systematic with respect to the beginning of employment evaluation.

Table 25 is particularly notable since it shows the employers' comparison of WECEP students with the employers' own regular employees. The employer rankings range from a low score of 2.2 (on a scale of three, where 1 = more, 2 = same and 3 = less) for "works well without supervision" to a high of 1.9 for "courtesy." What is most interesting, though, is that none of these scores is significantly different from 2.0. In other words, on the average the employers rate the WECEP students the same as their regular employees. Thus, in terms of a broad range of work-related characteristics, the WECEP students prove capable of performing at an equal level with presumably more experienced workers. Given that the same quality of students continues to enter WECEP, the program would appear to be an economically viable proposition for employers in the cross-section of industries represented by this sample.

Evaluation of Individuals: Total Sample. Over time, as employers came to know the WECEP students better, they gave them improved ratings on each of the 16 characteristics shown in Tables 26, 27 and 28. In these three tables, employers ranked students on a Likert scale of one to five, with five representing the highest possible rating. In Table 26 the lowest rating shown at the beginning of employment is 2.8 on "shows initiative." The highest rating is 3.5 for "honesty." At the end of the school year the lowest rating was 3.5, again for "shows initiative," while the highest remained 3.9 for "honesty." The greatest absolute

TABLE 25
EVALUATION OF WECEP STUDENTS VIS-A-VIS REGULAR EMPLOYEES

	Average Rating[1]	
	M[2]	SD
Neatness	2.0	0.5
Courtesy	1.8	0.5
Honesty	1.8	0.5
Attendance	2.0	0.8
Punctuality	2.0	0.7
Calls in when absent	2.0	0.6
Accepts constructive criticism	1.9	0.5
Cooperates	1.8	0.5
Takes pride in work	2.0	0.6
Completes tasks	2.0	0.6
Understands job procedures	2.0	0.7
Works well without supervision	2.2	0.8
Able to follow directions	2.0	0.5
Accuracy in work	2.0	0.7
Observes rules	1.9	0.6
Uses equipment properly	1.9	0.5

Notes: 1/ The employer was asked the following question: "Could you please rate the WECEP (OWA) participants relative to your regular employees on the following characteristics? With respect to the following characteristics, are WECEP (OWA) participants more, the same, or less . . . relative to your regular employees? More = 1, same = 2, less = 3."

2/ M = mean; SD = standard deviation.

TABLE 26
EMPLOYER EVALUATION OF WECEP STUDENTS:
BEGINNING OF EMPLOYMENT VERSUS END OF SCHOOL YEAR COMPARISON

	Beginning of Employment[1]			End of School Year[1]		
	M[2]	SD	N	M	SD	N
Neatness (personal grooming)	3.0	1.0	519	3.6	0.9	532
Courtesy	3.1	1.1	520	3.7	0.9	532
Honesty	3.5	1.1	518	3.9	1.0	530
Attendance: punctual	3.2	1.1	516	3.8	1.0	528
Attendance: calls in when absent	3.1	1.2	497	3.9	1.1	516
Accepts constructive criticism	3.0	1.0	519	3.6	1.0	532
Cooperates with supervisors and co-workers	3.1	1.1	520	3.7	1.0	532
Takes pride in work	2.9	1.1	520	3.6	1.0	532
Shows initiative	2.8	1.1	513	3.5	1.0	528
Completes assigned tasks	3.0	1.1	519	3.6	1.0	531
Understands job procedures	3.1	1.0	518	3.8	0.9	530
Works well without supervision	2.8	1.0	517	3.5	1.1	528
Able to follow directions	3.0	1.0	517	3.7	0.9	529
Accuracy in work	3.0	1.0	515	3.6	0.9	527
Observes rules	3.0	1.0	517	3.7	1.0	529
Uses equipment/supplies properly	3.1	1.0	519	3.8	0.9	528

Notes: 1/ Excellent = 5; Very Good = 4; Good = 3; Fair = 2; Poor = 1.

2/ M = Mean; SD = standard deviation; N = cell size.

TABLE 27
EMPLOYER EVALUATION OF WECEP STUDENTS:
BEGINNING OF EMPLOYMENT VERSUS END OF SCHOOL YEAR COMPARISON, BY SEX

	FEMALES[1]						MALES[1]					
	Beginning of Employment			End of School Year			Beginning of Employment			End of School Year		
	M[2]	SD	N	M	SD	N	M[2]	SD	N	M	SD	N
Neatness (personal grooming)	3.2	1.1	112	3.7	1.0	114	3.0	1.0	409	3.6	0.9	421
Courtesy	3.3	1.2	112	3.8	1.0	114	3.5	1.5	410	3.7	0.9	421
Honesty	3.6	1.5	112	4.0	1.1	114	3.3	1.2	408	3.9	1.0	419
Attendance: punctual	3.4	1.2	112	3.9	1.1	114	3.1	1.1	406	3.7	1.0	417
Attendance: calls in when absent	3.3	1.3	111	3.8	1.2	114	3.0	1.2	388	3.7	1.1	405
Accepts constructive criticism	3.1	1.2	112	3.6	1.1	114	2.9	1.0	409	3.6	1.0	421
Cooperates with supervisors and co-workers	3.2	1.1	112	3.7	1.1	114	3.0	1.0	410	3.7	1.0	421
Takes pride in work	3.2	1.2	112	3.6	1.0	114	2.9	1.0	410	3.6	1.0	421
Shows initiative	2.9	1.2	111	3.4	1.1	114	2.8	1.0	404	3.4	1.0	417
Completes assigned tasks	3.3	1.2	112	3.7	1.0	114	2.9	1.0	409	3.6	1.0	420
Understands job procedures	3.2	1.1	112	3.7	1.0	114	3.1	0.9	408	3.8	0.9	419
Works well without supervision	3.0	1.3	111	3.5	1.1	113	2.8	1.0	408	3.7	1.1	418
Able to follow directions	3.1	1.2	111	3.7	1.0	113	3.0	1.0	408	3.6	1.0	419

Table 27
Employer Evaluation of WECEP Students: Beginning of Employment Versus End of School Year Comparison, by Sex (continued)

	FEMALES						MALES					
	Beginning of Employment[1]			End of School Year[1]			Beginning of Employment[1]			End of School Year[1]		
	M[2]	SD	N	M	SD	N	M[2]	SD	N	M	SD	N
Accuracy in work	3.2	1.2	112	3.6	1.1	114	2.9	1.0	405	3.6	0.9	416
Observes rules	3.2	1.2	112	3.7	1.1	114	3.0	1.0	407	3.6	1.0	418
Uses equipment/supplies properly	3.2	1.2	112	3.9	1.0	110	3.0	1.0	407	3.8	1.0	421

Notes: 1/ Excellent = 5; Very Good = 4; Good = 3; Fair = 2; Poor = 1.

2/ M = Mean; SD = standard deviation; N = cell size.

TABLE 28
EMPLOYER EVALUATION OF WECEP STUDENTS:
BEGINNING OF EMPLOYMENT VERSUS END OF SCHOOL YEAR COMPARISON, BY AGE

	14 and Under						15 and Over					
	Beginning of Employment[1]			End of School Year[1]			Beginning of Employment[1]			End of School Year[1]		
	M[2]	SD	N	M	SD	N	M[2]	SD	N	M	SD	N
Neatness (personal grooming)	3.1	1.0	150	3.7	0.9	154	3.0	1.0	365	3.6	1.3	375
Courtesy	3.3	1.1	150	3.8	0.9	154	3.0	1.1	366	3.7	1.0	375
Honesty	3.5	1.2	149	4.0	0.9	153	3.3	1.1	365	3.8	1.2	374
Attendance: punctual	3.4	1.1	148	4.0	0.9	152	3.1	1.1	364	3.7	1.1	373
Attendance: calls in when absent	3.4	1.1	141	3.9	1.1	148	3.0	1.2	352	3.6	1.2	365
Accepts constructive criticism	3.1	1.0	150	3.6	0.9	154	3.0	1.1	365	3.6	1.0	375
Cooperates with supervisors and co-workers	3.2	1.1	150	3.8	1.0	154	3.0	1.1	366	3.7	1.1	375
Takes pride in work	3.1	1.0	150	3.7	1.0	154	2.9	1.1	366	3.5	1.0	375
Shows initiative	2.8	1.1	149	3.5	1.0	153	2.8	1.1	360	3.4	1.1	372
Completes assigned tasks	3.1	1.0	149	3.7	1.0	153	3.0	1.1	366	3.6	1.0	375
Understands job procedures	3.2	1.0	148	3.8	0.9	152	3.1	1.0	366	3.7	1.0	375
Works well without supervision	2.9	1.1	147	3.5	1.1	151	2.8	1.1	366	3.5	1.1	374
Able to follow directions	3.1	1.0	147	3.7	1.0	151	3.0	1.0	366	3.6	1.0	375

Table 28

Employer Evaluation of WECEP Students: Beginning of Employment Versus End of School Year Comparison, by Age (continued)

	14 and Under						15 and Over					
	Beginning of Employment [1]			End of School Year [1]			Beginning of Employment [1]			End of School Year [1]		
	M [2]	SD	N	M	SD	N	M [2]	SD	N	M	SD	N
Accuracy in work	3.0	1.0	149	3.6	1.0	153	3.0	1.0	362	3.6	0.9	371
Observes rules	3.1	1.0	149	3.7	1.1	153	3.0	1.1	364	3.6	1.0	373
Uses equipment/supplies properly	3.2	1.1	150	3.9	0.9	151	3.2	1.1	364	3.7	1.0	374

Notes: 1/ Excellent = 5; Very Good = 4; Good = 3; Fair = 2; Poor = 1.

2/ M = Mean; SD = standard deviation; N = cell size.

improvement was .7 of a rating point for several different characteristics. The lowest absolute improvement was for "honesty," .4 of a rating point. All of these differences are significant at the .05 level. Thus, the employers appeared to perceive a positive improvement over time on a variety of indices of student worker performance.

Evaluation of Individuals, by Sex. When comparing boys relative to girls, we see that girls receive an initial evaluation at the beginning of employment which ranges from .1 to .4 of a point higher, but this differential is narrowed as the increment of improved evaluation is somewhat higher for boys than for girls. The lowest initial rating for boys is 2.8 for "shows initiative" and "works well without supervision." The lowest initial rating for girls is 2.9 for "shows initiative." Boys have a 3.5 rating for "courtesy" on their initial rating, while girls receive their highest initial rating of 3.6 for "honesty."

By the end of the school year, boys have made the greatest improvement in "uses equipment properly," an increase of .8 of a rank from 3.0 to 3.8. Girls have their greatest improvement in the same category with an improvement of .7 of a rank from 3.2 to 3.9. Overall, the patterns of improvement as well as levels are remarkably similar between boys and girls. Thus, to the extent that these measures have objective validity, boys and girls appear equally effective as WECEP employees.

Evaluation of Individuals, by Age. There appears to be little difference in the evaluation of individuals as a function of age. Fourteen- and 15-year-olds perform similarly in the labor market based on the average evaluations of the total student sample. In fact, if anything, the 14-year-olds perform slightly better than their older counterparts. Of course, this judgment, as well as the judgment concerning the total sample, boys and girls separately, is only true in a gross sense since there is no control group against which to compare the relative rankings of the WECEP students. In any case, though, the rankings at the end of the school year are all above 3.5, except in one case, and the improvements are often as large as .7 of one point over the course of the employment period.

Other Experience. Additional experience of the employers with WECEP students can help one assess the WECEP program. The comparison group with WECEP students in this section of analysis is, implicitly, the employer's regular employees. Note above that the employer rates the WECEP student the same, on the average, as his regular employees. With this in mind, we can look at disciplinary action. Twenty-nine of the employers (46%) at some time were forced to fine, fire or suspend a WECEP employee. The usual cause for this action was absenteeism. Eleven employers cited this as the primary reason and five as the secondary reason. Nine employers cited theft as the primary reason, and two cited theft as the secondary reason. Insubordination was the third most

important primary reason. Three cited poor work as the primary reason, and four employers cited it as a secondary reason. Unfortunately, these are gross average effects and do not represent the net experience of the WECEP students per se. Ideally, we would need a control group against which to compare the WECEP experience, but in the case of employment, one does not exist.

To continue, the normal action of the firms was to fire the WECEP student outright. Twenty-two employers (34.9%) chose this course of action. Only two employers chose to refer the WECEP student to his teacher-coordinator as an initial disciplinary action. In short, some of the WECEP students do create personnel problems for employers, and the action of the employers is, generally, to treat them as they would a regular employee. This is further evidence that the WECEP student operates in a "real world" context. On the whole, this type of work environment, even for those students who may run afoul of it, should be more effective in improving labor market skills and school-work transition than a situation where students are less likely to be treated as full-fledged members of the labor force who are expected to earn their daily wage. But, again, without a control group, we cannot be sure of the net effects of WECEP.

F. Employer Attitudes toward WECEP.

Two issues are of concern here. First, what might be the effect of a lowering of the minimum wage on employer incentive to hire WECEP students? Second, what changes do employers recommend in the WECEP program?

The Issue of the Minimum Wage. With respect to the minimum wage, 34, or 54 percent, of the firms indicated that they would hire more WECEP students if the minimum wage were lowered. Of course, how many more hours of labor they would hire would depend on the elasticity of demand for labor as the wage rate is lowered, that is, the relative response in hours of labor hired vis-a-vis the relative change in the hourly wage rate. Since we do not know what the elasticity of demand for labor is in these industries, it is difficult to get an estimate of the potential increase in the quantity of labor demanded if the WECEP wage rate were to be cut. In order to make such an estimate, we have to rely on secondary sources of evidence from outside this study. Based on the work of H. Gregg Lewis, Albert Rees estimates that a 10 to 15 percent increase in wage rates will result in a 10 to 15 percent decrease in the quantity of labor demanded.[1] If this effect is symmetrical in the reverse direction and if it holds for the non-unionized service and public sector industries that dominate this WECEP employer sample, then

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1/ Albert Rees, "The Effects of Unions on Resource Allocation," The Journal of Law and Economics, Vol. 6, October, 1963, pp. 69-78.

the wage change-employment change effect may operate in a one-to-one relationship. That is, a ten percent wage cut may result in a ten percent employment increase. If this is the case, then a cut in the minimum wage would result in an increase in employment of persons in these industries where WECEP students can be hired. Thus, since the average wage rate paid WECEP students is approximately $1.60 per hour, a 10 percent cut to $1.44 per hour could have, conceivably, increased total WECEP employment under the program as it is currently structured from the current level of about 7,900 students to about 8,700 students. This wage rate of $1.44 is about eight cents an hour higher than the WECEP employer estimate of a more appropriate wage rate to pay WECEP students--$1.36 per hour. Note also that this analysis also assumes that all employers would respond similarly. If only 50 percent of the employers responded as suggested above but all employers hired the same average number of students, then the above total effect would only be half as large under the current industrial and occupational structure of the WECEP program.

It is important to note again, however, that in our judgment the students now being hired are, on the average, earning a wage equal to their marginal product. Employers cannot pay a person more than his marginal product over the long run. Most people normally will not work for a wage less than their marginal product. The result, then, of lowering the WECEP wage rate will be to allow students of lower productivity to enter the program. Of course, some higher productivity students will likely drop out of the program since their marginal product will be higher than the wage rate, and they will seek employment elsewhere. Tables 1 and 2 attest to the reality of this alternative. There is widespread labor market activity of this 14- and 15-year-old age group outside of WECEP. Nevertheless, a lower wage rate would encourage employers to hire more students, and it would allow lower productivity students to gain access to the services of the WECEP program.

Should the program thus be expanded? Twenty-eight (or about 44.4%) of the employers felt it should be. Thirty (or 47.6%) felt it should be kept operating at the same level. No employer suggested that its scope should be reduced, but five employers failed to respond to this question.

The reasons for arguing for expansion are more important than the simple assertion to expand, yet 15, or 46.9 percent, of the employers who argued for expansion gave no substantive reason why the program should be expanded; they simply indicated that it would be desirable to give more students the opportunity to participate. This tends to bring into question the quality of their suggestion. (See Table 29.) Seven, or about 22 percent, of the employers felt that program expansion would give the students more vocational training. Three of the employers, or 9.4 percent, argue that an expansion of the program would either benefit the students financially or in terms of the experience they would gain.

TABLE 29
EMPLOYER ATTITUDES TOWARDS THE WECEP PROGRAM

	#	%
A. Primary Reason for Expanding the WECEP Program:		
Give students more vocational training	7	21.9
Give more students the opportunity to participate	15	46.9
Benefits the students financially or in terms of experience	3	9.4
Program is beneficial	1	3.1
Other	2	6.3
Not ascertained	4	12.5
Total	32	100.1
B. Employer Recommendation of Single Most Important Change to Make In WECEP:		
No change necessary	27	42.9
More supervision by schools or teacher-coordinator	2	3.2
More pre-employment orientation	3	4.8
Expand the program	8	12.7
Subsidize employer costs	2	3.2
Other	11	17.5
Not ascertained	10	15.9
Total	63	100.0
C. Employer Judgment of the Most Effective Change to Make in WECEP to Improve Operation of His Establishment:		
No change	28	44.4
More communication needed with school	2	3.2
Change scheduling of student hours	7	11.1
Let more students participate	4	6.3
Other	11	17.5
Not ascertained	11	17.5
Total	63	100.0

Critique of the Program. An effort was made to elicit constructive criticism from the employers with respect to the WECEP program. Employers were asked, "If you were in charge of running the WECEP (OWA) program, what would be the single most important change you would like to make in it?" Ten employers neglected to answer the question, unfortunately. However, about 43 percent of the firms felt that no change was necessary. Only two employers felt that they were incurring extra costs that ought to be subsidized. About 13 percent of the firms simply argued for an expansion of the program. Only five firms indicated that they desired a substantive change in the supervision or pre-employment orientation of the WECEP students. In summary, the majority of firms appear to be well satisfied with the structure of the WECEP program as it is currently constituted.

As an additional probe into employer attitudes concerning the program, they were asked, "What change or changes in the WECEP (OWA) program would have the best effect on the operation of your firm?" Again, about 44 percent indicated that no change was necessary. Seven employers (11.1%) argued that a change in the scheduling of hours worked by WECEP students would improve the efficiency of their operation. Other reasons were scattered over a variety of issues, but again, the general view one has is that the employers are largely satisfied with the program as it is currently structured, or, at least, have no strong negative attitudes.

G. Summary.

WECEP students are evaluated by their employers as being of overall equal quality with their regular employees. Indeed, they are generally paid the same wage rate. Thus, the program is qualitatively different from such programs as the Neighborhood Youth Corps. The WECEP students are able to meet the market test and perform effectively for employers. However, other than informal on-the-job training, which by no means is insignificant in terms of affecting a person's income and livelihood, little formal on-the-job training occurred. A sub-set of firms indicated that they incurred total costs of about $249 per WECEP student hired, however. As a general statement, though, no extensive training, or at least no training other than what would be given to a regular employee, is required. The employers hire workers whose productivity is equal to their wage rate.

The employers' evaluation of the WECEP students improves over time, and the measured improvements are statistically different from zero. Thus, in the eyes of the employer, the students gain additions to skills which are valuable to him in his business. This is a benefit to the employer and can be a benefit to the student when he seeks jobs elsewhere.

Employers also expressed a willingness to hire more WECEP students if the minimum wage were lowered. On the assumptions of a one-to-one relationship between wage rate change and change in quantity of labor demanded, a ten percent wage cut would have resulted in a ten percent increase in WECEP student employment. This implies an increase of about 800 students if all employers respond the same or only about 400 students if only those employers are considered who indicated a willingness to hire if the wage rate were cut.

Finally, employers seem well satisfied with the program. A large plurality of employers indicates that no changes are desirable in the program from their standpoint.

CHAPTER 5

TEACHER-COORDINATOR EXPERIENCE WITH THE WECEP PROGRAM

A. Introduction.

As indicated in Chapter 1, a sample of 200 teacher-coordinators, 100 each from the 1970-71 and 1971-72 school years, was chosen according to probability of selection proportional to the size of the WECEP unit. The 1971-72 sample includes all the teacher-coordinators of the WECEP units which were selected for study from the 1971-72 WECEP year. The use of two WECEP years allows us to make some limited comparisons of program change and differential teacher-coordinator experience over time.

Ultimately, after at least four mail requests and at least three attempts at person-to-person telephone contacts, 78 of the 1970-71 sample and 84 of the 1971-72 sample responded. Those who failed to respond did so due to two basic reasons. First, a few left the school where they had been a teacher-coordinator and gave no forwarding address. Second, the remainder simply failed to cooperate. Thus, there is non-response bias in this sample, too. An additional problem with this sample lies in errors in the data. The specific problem exists with the teacher-coordinators' estimates of their time spent counseling and dealing with students individually. Here, marked overestimation existed on the part of the teacher-coordinator, and these particular variables were not usable even after considerable effort was made to edit the estimates of hours spent counseling students and contacting employers. Although we felt the questions were worded unambiguously, apparently there was massive misunderstanding of what was desired on these questions. (See Appendix C.)

B. Characteristics of the Samples.

As shown in Table 30, the two samples of teacher-coordinators are relatively similar. They have the same approximate average ages, for instance, though non-response bias in the 1970-71 sample makes comparisons difficult on sex, ethnic origin and marital status.

The educational qualifications of the two samples differ somewhat; a higher proportion of the 1971-72 sample has the bachelor's degree, while a higher proportion of the 1970-71 sample has the master's degree. In terms of college credits, the 1970-71 sample has somewhat higher qualifications in academic guidance and counseling as well as vocational-technical education, while the 1971-72 sample has an edge in psychology and vocational guidance and counseling. In general, the dispersion of credits earned is much greater among the 1971-72 teacher-coordinators

TABLE 30
SOCIO-DEMOGRAPHIC AND EDUCATIONAL CHARACTERISTICS
OF TEACHER-COORDINATORS, 1970-71 AND 1971-72 SAMPLES

		1970-1971 Sample		1971-72 Sample	
Age	M	37.3		37.1	
	SD	12.2		9.6	
Sex		N	%	N	%
Male		65	85.3	69	82.1
Female		5	6.4	15	17.9
Not ascertained		8	10.3		
Total		78	100.0	84	100.0
Marital Status		N	%	N	%
Single		9	11.5	8	9.5
Married		58	74.4	71	84.5
Other		3	3.8	5	6.0
Not ascertained		8	10.3		
Total		78	100.0	84	100.0
Ethnic Origin		N	%	N	%
White		56	71.8	69	82.1
Black		12	15.4	15	17.9
Not ascertained		10	12.8		
Total		78	100.0	84	100.0
Years of College Education	M	4.2		4.2	
	SD	0.5		0.5	
Years of Graduate Work	M	1.1		0.8	
	SD	0.9		0.9	
With Bachelor's Degree		N	%	N	%
		71	91.0	84	100.0
With Master's Degree		N	%	N	%
		35	44.9	29	34.5
Academic Guidance & Counseling Number of Credits	M	5.5		4.3	
	SD	6.3		7.2	
Vocational Guidance & Counseling Number of Credits	M	2.1		3.3	
	SD	3.8		7.6	

Table 30
Socio-Demographic and Educational Characteristics of
Teacher-Coordinators, 1970-71 and 1971-72 Samples (continued)

		1970-1971 Sample	1971-1972 Sample
Psychology	M	10.6	10.9
Number of Credits	SD	8.3	12.0
Vocational-Technical Education	M	10.8	7.4
Number of Credits	SD	22.9	20.7

Notes: M is the mean, SD is the standard deviation, and N the cell size.

which suggests that they may be a somewhat less homogenous group than the 1970-71 sample. How this might be reflected in performance as a teacher-coordinator is unclear, however.

C. Implementation of WECEP by Teacher-Coordinators.

An important issue in this study is how WECEP achieves one of its goals--that of career exploration. The types of jobs held by the WECEP students are of relatively low skill level, and the separate students do not sample a wide variety of jobs. Therefore, heavier reliance on career exploration must be made through counseling and formal instruction. As Table 31 shows, the primary technique of career exploration for both 1970-71 and 1971-72 teacher-coordinator samples is a reliance on films and film strips. The 1971-72 sample placed a much heavier reliance on visiting speakers than did the 1970-71 teacher-coordinators. On the other hand, the 1970-71 teacher-coordinators place a much heavier reliance on field trips. Personal counseling is a relatively minor technique for both samples of teacher-coordinators, which seems incongruous in light of the (unreliably) high number of counseling hours reported.

Since teacher-coordinators obviously use more than one method to achieve their purpose, they were asked to list their methods of career exploration in order of descending importance. Thus, a teacher-coordinator would, for instance, place major stress on one method and use other methods secondarily. As a matter of interest, we should note that about 14 percent of the 1970-71 sample and about 10 percent of the 1971-72 sample rely on only one method to achieve the objective of career exploration. The most important secondary source of instruction in career exploration is the use of outside speakers. This is true for both samples. Reading material and field trips then comprise the remaining major secondary methods. Unfortunately, we do not have estimates of the total hours, in or out of class, of exposure to these methods. Thus, while there appears to be a wide variety of methods used, we have no idea of the intensity of their use.

How the Program Works. How does the WECEP program work? What is the exact mechanism whereby program inputs are transformed into program outputs? As with all educational programs, this is a difficult question to answer. As stated in Chapters 1 and 2, our knowledge of educational production functions is simply imperfect.

Thus, when we asked the teacher-coordinators, "In your judgment how does the WECEP program achieve its goals? That is, how does it work to bring about its desired program objectives?", they responded either in terms of listing the program inputs or outputs. For the first example, 11.5 percent of the teacher-coordinators said that the program achieved its goals "through individual counseling." This is an input, though it is also a process. Nineteen percent of the 1971-72 sample listed this as

TABLE 31
TECHNIQUES USED TO EXPOSE WECEP STUDENTS
TO CAREER OPPORTUNITIES

	1970-1971 Sample		1971-1972 Sample	
	N	%	N	%
Major Techniques				
Films and film strips, tapes	27	34.6	40	47.6
Speakers	9	11.5	22	26.2
Reading material	5	6.4	4	4.8
Field trips	20	25.6	6	7.1
Personal counseling	4	3.8		
Exposure to work	3	3.8	1	1.2
Other	5	6.4	2	2.4
Not ascertained	5	6.4	9	10.7
Total	78	99.8	84	100.0
Secondary Techniques				
No other technique	11	14.1	8	9.5
Films and film strips, tapes	7	9.0		
Speakers	22	28.2	27	32.1
Reading material	8	10.3	15	17.9
Field trips	12	15.4	13	15.5
Personal counseling	2	2.6	2	2.4
Exposure to work	5	6.4	6	7.1
Other	5	6.4	5	6.0
Not ascertained	6	7.7	8	9.5
Total	78	100.1	84	100.0

Notes: Totals do not add up to 100.0 due to rounding.

TABLE 32
TEACHER-COORDINATOR JUDGMENT ON METHODS BY WHICH
WECEP PROGRAM ACHIEVES ITS GOALS

	1970-1971 Sample		1971-1972 Sample	
	N	%	N	%
Major Method				
Through individual counseling	9	11.5	16	19.0
Increase student's self-respect	12	15.4	22	26.2
Teaches employment skills	7	9.0	21	25.0
Recognition of value of education	9	11.5	7	8.3
Financial help	8	10.3	5	6.0
Close supervision	6	7.7	1	1.2
Other	21	26.9	2	2.4
Not ascertained	6	7.0	10	11.9
Total	78	100.0	84	100.0
Secondary Method				
No other	35	44.9	15	17.9
Through individual counseling	2	2.6		
Increase student's self-respect	4	5.1	7	8.3
Teaches employment skills	4	5.1	7	8.3
Recognition of value of education	2	2.6	21	25.0
Financial help	4	5.1	11	13.1
Close supervision	2	2.6	3	3.6
Other	19	24.4	10	11.9
Not ascertained	6	7.7	10	11.9
Total	78	100.1	84	100.0

Notes: Totals do not add up to 100.0 due to rounding.

the major method. (See Table 32.) On the other hand, "Increase student's self-respect," is a final output of the program, though in some cases this behavioral characteristic can be seen as an intermediate output which then leads, for instance, to improved labor market or educational performance.

However, all in all, the teacher-coordinators were not able to shed much light on the exact process whereby the program achieves its goals. If the program is to be expanded, a much more careful understanding of this process is first needed; otherwise, one's basis for predicting future program effects becomes weaker.

Guidance and Counseling. Guidance and counseling is not a dominant technique in career exploration as shown in Table 31. However, it is a technique for which there are few substitutes in certain contexts, such as when a student is having problems with a specific teacher or employer or peer. Table 33 presents the teacher-coordinators' judgment as to the adequacy of the quality and quantity of vocational, personal and educational guidance. The 1971-72 teacher-coordinators are more likely to rate the counseling they can give as "adequate" than are the 1970-71 teacher-coordinators. About 62 percent of the 1971-72 sample feel that no changes are needed in counseling quantity or quality, while 44 to 46 percent of the 1970-71 teacher-coordinators argue for some change in time spent on counseling or basic change in its nature. Overall, though, the majority of teacher-coordinators in each sample judge the counseling as adequate or more than adequate.

An important function of the teacher-coordinator, one which relates to counseling and guidance, has to do with the way in which teacher-coordinators resolve differences between students and employers. The major method used is simply to shift the student to a different employer but keep the same job. But the 1971-72 sample of teacher-coordinators was more likely (25.0 percent) to attempt to mediate the differences between the student and his employers or co-workers than was the 1970-71 teacher-coordinator sample (only 16.7 percent). (See Table 34.) In contrast, the 1970-71 teacher-coordinator was a more frequent user of intensive personal counseling as a major method of handling differences with the student (15.4 percent) than was the 1971-72 sample (only 9.5 percent).

It is interesting to speculate on whether this shift occurred as a result of learning over time better methods of handling such inevitable problems, but in-depth interviews would likely be needed to ascertain this question, and the sample cohort would have to be the same between the two years.

TABLE 33
ADEQUACY OF VOCATIONAL, PERSONAL
AND EDUCATIONAL GUIDANCE COUNSELING

	1970-1971 Sample		1971-1972 Sample	
	N	%	N	%
Adequacy of Vocational Guidance Time				
Less than adequate	28	35.9	27	32.1
Adequate	40	51.3	55	65.5
More than adequate	1	1.3	1	1.2
Not ascertained	9	11.5	1	1.2
Total	78	100.0	84	100.0
Adequacy of Vocational Guidance Quality				
Less than adequate	17	21.8	15	17.9
Adequate	48	61.5	66	78.6
More than adequate	4	5.1	2	2.4
Not ascertained	9	11.5	1	1.2
Total	78	99.9	84	100.1
Adequacy of Personal and Educational Guidance Time				
Less than adequate	28	35.9	23	27.4
Adequate	37	47.4	58	69.0
More than adequate	4	5.1	2	2.4
Not ascertained	9	11.5	1	1.2
Total	78	99.9	84	100.0
Adequacy of Personal and Educational Guidance Quality				
Less than adequate	19	24.4	16	19.0
Adequate	44	56.4	61	72.6
More than adequate	6	7.7	6	7.1
Not ascertained	9	11.5	1	1.2
Total	78	100.0	84	99.9
Are Changes Needed in Amount of Time Spent on Counseling?				
No	34	43.6	52	61.9
Yes	34	43.6	31	36.9
Not ascertained	10	12.8	1	1.2
Total	78	100.0	84	100.0

Table 33
Adequacy of Vocational, Personal and Educational Guidance Counseling (continued)

	1970-1971 Sample		1971-1972 Sample	
	N	%	N	%
Types of Changes Needed in Counseling				
More qualified personnel needed	7	9.0	11	13.1
More contact with student	10	12.8	11	13.1
Peer group counseling	2	2.6		
Other	13	16.7	8	9.5
No changes needed	36	46.2	52	61.9
Not ascertained	10	12.8	2	2.4
Total	78	100.1	84	100.0

Notes: Totals do not add up to 100.0 due to rounding.

TABLE 34
TEACHER-COORDINATOR METHODS OF RESOLVING STUDENT EMPLOYMENT PROBLEMS

	1970-1971 Sample		1971-1972 Sample	
	N	%	N	%
Major Method				
Shift to different employer, same occupation	30	38.5	32	38.1
Shift to different occupation, same employer	1	1.3	1	1.2
Shift to different occupation, different employer	2	2.6	12	14.3
Provide intensive counseling with student	12	15.4	8	9.5
Mediate differences between student and employer or co-workers	13	16.7	21	25.0
Other	11	14.1	9	10.7
Not ascertained	9	11.5	1	1.2
Total	78	100.1	84	100.0
Secondary Method				
Shift to different employer, same occupation	37	67.4	37	44.0
Shift to different occupation, same employer	3	3.8		
Shift to different occupation, different employer	3	3.8	1	1.2
Provide intensive counseling with student	9	11.5	21	25.0
Mediate differences between student and employer or co-worker	9	11.5	15	17.9
Other	8	10.3	9	10.7
Not ascertained	9	11.5	1	1.2
Total	78	99.8	84	100.0

Notes: Totals do not add up to 100.0 due to rounding.

D. Program Expansion.

Related to the employer judgment of the feasibility of program expansion is that of the teacher-coordinator. Overall, the teacher-coordinators in 1971-72 were much more optimistic about the possibilities of expanding the program than were the teacher-coordinators in 1970-71. Two thirds of the former were able to locate sufficient jobs in 1971-72, while only about one half of the latter were able to do so in 1970-71. (See Table 35.)

Ignoring not ascertained responses, we find that 22.6 percent of the 1971-72 sample felt they could locate sufficient jobs if the program were tripled. (This would imply about 24,000 WECEP students in the states currently participating in the experiment.) Only 15.4 percent of the 1970-71 sample felt that such a tripling of enrollment was possible.

Two reasons are dominant with respect to the pessimism of those who say the program cannot be expanded--economic conditions and the age of the students. As suggested in Chapter 4, a lowering of the wage rate is a potential way of expanding the program given the fact that some employers view the age of the students as a disability. (See Table 35.) However, since the demand for labor is a derived demand dependent on the demand for the firm's products, economic conditions, that is, deficient economic demand, can be an intransigent factor limiting program growth.

Nevertheless, we see in Table 36 the curiosity of 74.4 percent of the 1970-71 sample arguing for an actual expansion of the WECEP program, while only 65.5 percent of the 1971-72 sample of teacher-coordinators do so.

For those who argue for an expansion, the meaning is clear-cut, increase the number of students enrolled, or, what amounts to the same thing, increase the number of WECEP units. For the 1970-71 sample, there was some sentiment for increasing the number of teacher-coordinators, which can imply either a lightening of the teacher-coordinator's work load or a more intensive application of this program input.

Finally, for those who argue against expansion, it is understandable that they would do so based on the judgment that there simply aren't enough jobs available. Only one reason was given which implied a negative judgment on the program. One teacher-coordinator felt that too much of the teacher-coordinator's time was involved.

One major change, which in a sense is a type of expansion, relates to the teacher-coordinators' recommendations on total hours a student should be allowed to work. The 1970-71 sample of teacher-coordinators argues for a mean allowable total work week of 27.4 hours. Since the standard deviation is 7.9 hours, one third argue for a maximum which could be as high as 35.3 hours. For the 1971-72 sample, the mean recommended is

TABLE 35
TEACHER-COORDINATOR EVALUATION OF WECEP
PROGRAM IN RELATION TO THE LABOR MARKET

	1970-1971 Sample		1971-1972 Sample	
	N	%	N	%
Have you been able to locate sufficient jobs for all of your WECEP students?				
No	37	47.4	28	33.3
Yes	40	51.3	56	66.7
Not ascertained	1	1.3		
Total	78	100.0	84	100.0
If the program were tripled... do you think you could locate sufficient jobs....?				
No	33	42.3	39	46.4
Yes	12	15.4	19	22.6
Can't locate sufficient jobs now	29	37.2	24	28.6
Not ascertained	4	5.1	2	2.4
Total	78	100.0	84	100.0
Major reason for insufficient jobs:				
Economic conditions	18	23.1	12	14.3
Age factor	10	12.8	8	9.5
Lack of skills	1	1.3	2	2.4
Competition from older students	0	0.0	4	4.8
Lack of transportation	1	1.3	1	1.2
Other	6	7.7	1	1.2
Not appropriate: sufficient jobs exist	40	51.3	55	65.5
Not ascertained	2	2.6	1	1.2
Total	78	100.1	84	100.1

Notes: Totals do not add to 100.0 due to rounding.

TABLE 36
TEACHER-COORDINATOR ASSESSMENT OF THE VIABILITY
OF EXPANDING THE WECEP PROGRAM

	1970-1971 Sample		1971-1972 Sample	
	N	%	N	%
Should the Program be Expanded				
Yes	58	74.4	55	65.5
No	19	24.4	27	32.1
Not ascertained	1	1.3	2	2.4
Total	78	100.1	84	100.0
Most Useful Expansion of Program				
Involve more students	19	37.2	30	35.7
Expand where job opportunities exist	3	3.8	2	2.4
Furnish transportation	3	3.8		
Increase the number of teacher-coordinators	5	6.4		
Increase the number of WECEP units per school	1	1.3	8	9.5
Other	15	19.2	11	31.1
Inappropriate: Do not expand	19	24.4	29	34.5
Not ascertained	3	3.8	4	4.8
Total	78	100.1	84	100.0
Major Reason Why Program Should Not Be Expanded				
Not enough jobs available	8	10.3	15	17.9
Not enough eligible students	0	0.0	1	1.2
About at capacity now	1	1.3	5	6.0
Too much teacher's time involved	1	1.3	0	0.0
Limited funds	0	0.0	1	1.2
Other	9	11.5	6	7.1
Inappropriate: Program should be expanded	58	74.4	56	66.7
Not ascertained	1	1.3	0	0.0
Total	78	100.1	84	100.1

Notes: Totals do not add to 100.0 percent due to rounding.

27.9 hours, with a standard deviation of 5.2 hours. In both cases, based on the findings of Chapter 2, these recommendations must be rejected, since, except for the results of Model (3), the analysis of Chapter 2 suggests an optimum number of hours of no more than 18 per week, though the maximum could, in some cases, exceed this before a negative program effect set in.

E. Summary Evaluation of WECEP by Teacher-Coordinators.

Finally, and related to the teacher-coordinators' judgment on whether to expand the program, is the overall judgment of the teacher-coordinators as to the major strengths and weaknesses of the program.

Teacher-coordinators in both the 1970-71 and 1971-72 samples see the major positive aspect of the WECEP program as keeping the student in school and leading to academic improvement. The results of the analysis in Chapter 2 tend to confirm this judgment. Clearly, the program also provides a source of income. However, it is clear from the data in Appendix G, based on the personal interview sample, that many of the students in WECEP would have worked in the absence of the program. How many, we cannot say, though it is clear that the program has no unique claim in this respect.

If reduction in truancy and absence is an index of responsibility, then the teacher-coordinator is correct in weighting the program heavily as a way of improving a student's sense of responsibility.

However, whether or not the program successfully relates academic subjects to work is not clear. The problem here again is that we have no unambiguously identified process whereby such a relation is said to occur. Without such a clearly identified process, we cannot test the nature and extent of the relationship in any unambiguous way.

Finally, it is understandable that the major negative aspect of the program is that it may cut down one's time for academic work. This is a very real possibility, though the danger can be attenuated somewhat by reducing the maximum number of hours a student may work and by close monitoring of the relationship between a student's work hours and his educational performance. We did not analyze this aspect of the teacher-coordinator's role, but obviously such monitoring is critical to the successful and proper operation of the program.

F. Summary.

The experience and impressions of the teacher-coordinators are mainly valuable as a guide to and understanding of the institutional and educational structure of the WECEP program, though to some extent even

TABLE 37
TEACHER-COORDINATOR EVALUATION OF
POSITIVE AND NEGATIVE ASPECTS OF WECEP

	1970-1971 Sample		1971-1972 Sample	
	N	%	N	%
Major Positive Aspects				
None	1	1.3	3	3.6
Keeps student in school-- academic improvement	25	32.1	24	28.6
Provides a source of income	20	25.6	18	21.4
Teaches responsibility	7	9.0	17	20.2
Relates academic subjects to work	9	11.5	4	4.8
Provides direction to one's life	2	2.6	9	10.7
Provides an opportunity for success	8	10.3	5	6.0
Other	4	5.1	0	0.0
Not ascertained	2	2.6	4	4.8
Total	78	100.1	84	100.1
Secondary Positive Aspect				
None or no other	11	14.1	9	10.7
Keeps student in school-- academic improvement	3	3.8	3	3.6
Provides a source of income	7	9.0	12	14.3
Teaches responsibility	14	17.9	15	17.9
Relates academic subjects to work	14	17.9	9	10.7
Provides direction to one's life	7	9.0	14	16.7
Provides opportunity for success	10	12.8	8	9.5
Other	10	12.8	10	11.9
Not ascertained	2	2.6	4	4.8
Total	78	99.9	84	99.9
Major Negative Aspect				
None	42	53.8	42	50.0
May cut down on academic work	9	11.5	13	15.5
Help is too late	1	1.3	0	0.0
Program is used as a threat or bribe	1	1.3	2	2.4
Reward is given for unacceptable behavior	3	3.8	1	1.2
Discontinuity during summer	1	1.3	1	1.2
Other	15	19.2	17	20.2
Not ascertained	6	7.7	8	9.5
Total	78	99.9	84	100.0

Table 37
Teacher-Coordinator Evaluation of Positive and Negative Aspects of WECEP (continued)

	1970-1971 Sample		1971-1972 Sample	
	N	%	N	%
Secondary Negative Aspect				
No other or none	67	85.9	59	70.2
May cut down on academic work	1	1.3	0	0.0
Reward is given for unacceptable behavior	0	0.0	1	1.2
No place for children under 16	1	1.3	0	0.0
Other	3	3.8	16	19.0
Not ascertained	6	7.7	8	9.5
Total	78	100.0	84	99.9

Notes: Totals do not add up to 100.0 due to rounding.

they are unclear as to exactly how the process through which the program achieves its goals can be identified.

Clearly, though, they react favorably to the program and feel that it can and should be expanded. Where they seem clearly wrong, however, is in their judgment of the maximum number of hours the student ought to be allowed to work. Only one model, Model (3), tends to support this position of the teacher-coordinators.

Finally, though there is non-response bias and no significance tests were conducted, there do not appear to be any major differences between the two samples.

CHAPTER 6

SUMMARY AND CONCLUSIONS

A. The Nature of the Study.

This analysis of the 1971-72 year of operation of the WECEP program is an overall evaluation of the program as it operated in the participating states. The sample of WECEP units was drawn with probability proportional to size, with replacement. Thus, the sample speaks for the experience of the students in the program as a whole. Similarly, the employer and teacher-coordinator samples were drawn so that their experiences reflected the interaction they had with the population of students as a whole.

While this program was intended to have a true experimental design and a major effort to this end was made by the program originators, self-selection bias exists in the program. Even the small sample of 65 respondents to the personal questionnaire sample tends to support this judgment. Even apart from participation in the program, WECEP students were more likely to work than the non-WECEP students. Additionally, their indices of educational performance prior to program participation were more positive than those of the non-WECEP sample.

Next, due to missing data, considerable non-response bias exists in the data. The presence of a large amount of non-response data in the personal interview sample made it difficult to check on the nature of this bias. Likewise, non-response bias exists in the sample of teacher-coordinators as well as in the employer sample.

B. Results.

With these problems in mind, the study can report the following results:

1) Educationally, the program does not appear to have any negative effects, and, in fact, for selected indices of educational performance, such as grade point average or days absent during the WECEP year, the program effect is positive. However, in many cases the program had a zero effect.

2) The models used to estimate the effect of WECEP on the probability of being cited as truant or being suspended were not generally successful. Thus, we must withhold judgment here as to program effect.

3) However, in general, the models used to estimate program effects conformed closely and consistently with our a priori hypothesis as to the relation between hours of work and educational performance; namely, that educational benefits will increase up to a point as hours worked increase, then reach a maximum, after which benefits will decline and sometimes become negative.

4) Females were less likely to experience positive program effects on educational performance than were males. This may in part be due to the relatively small numbers of females, in the neighborhood of 100, in the analytical models of Chapter 2.

5) There is very strong evidence in the study that injuries are not a problem with the program as WECEP is presently constituted.

6) While the students certainly engaged in work experience, most of the career exploration came about through more formal classroom interaction. We do not know the exact extent and intensity of this exposure to different careers. In general, the occupations held by students were low level and relatively unskilled.

7) Employers are favorable to the program and would encourage its expansion, although they were not always clear as to their reasons for recommending such expansion. A reduction in the minimum wage is likely to increase the number of students who can be employed, but change their characteristics. Some of the higher productivity students may drop out of the program, while more lower productivity students will enter.

8) Though they can be said to have a vested interest in the program, teacher-coordinators are also favorable to the program and would encourage its expansion. The study results suggest, however, that the maximum hours they recommend, on the average, are too high. Also, in general, the teacher-coordinators as well as the state directors of the WECEP program were not able to shed much light on the exact process whereby the program achieves its goals. If the program is to be expanded, a much more careful understanding of this process is first needed; otherwise, one's basis for predicting the effects of an expanded program becomes much weaker.

9) However, the analysis in general suggests that four hours per day and 28 hours per week are not optima. The optimum hours per day and per week are usually somewhat fewer than this, depending upon the measure of educational effect. This judgment must be tempered by the fact that the optimum hours differs for different indices of educational performance. Also, the optimum hours differ as a function of a person's prior WECEP grade point

average. The optima are estimated at mean prior WECEP GPA. A higher prior WECEP GPA implies a higher optimum number of hours and a lower GPA, a lower optimum number of hours for any given educational performance index. Finally, the reader will recall that Model (3), which estimated the impact of hours worked per school week exclusive of Saturday hours worked, did suggest optima which were closer to the legal maximum hours worked per week.

Although a principal investigator is not usually called upon to make policy judgments, and some persons feel strongly that it is not his appropriate role at all, if we were called upon to argue for or against the program, we would argue for it. We would do so perhaps as much on the basis of the basic theoretical grounds laid out in Chapters 1 and 2 as on the findings of the body of this report. The concept of the program is correct. It may be that its particular structure at present is not, although we do not have much evidence on this factor. And, indeed, final judgment as to the actual expansion of the program and the optimal hours to work depends on an estimate of marginal and average costs of the program as well as benefits. And, clearly, this study neglects the cost side.

Explicit hoc totum;

Pro Christo da mihi potem.

. . . An obscure Medieval monk

APPENDIX A

FACSIMILES OF WECEP DATA FORMS

wecep-1
2 copies (1st copy for LSB through State Coordinator; 2nd copy for State Coordinator.)
To be completed by State Coordinator

STATE _____

DATE _____
Submit to Washington no later than October 1, 1970.

PRELIMINARY REPORT OF SCHOOLS AND PROGRESS
(For WECEP Units)

School District, County or Township	Location of WECEP Unit Programs* (Name of School and City)	Teacher Coordinator	Enrollment in WECEP Unit Program (Total No. Per Unit)	Number of WECEP Unit Programs at location

* A WECEP unit is a single group consisting of a minimum of 12 students and a maximum of 20 students wo are participants in the experiment and are under the supervision and direction of one teacher-coordinator.

_____
Signature of State Coordinator

W-9:8:70

wecep-2
4 copies (1st and 2nd copy for LSB; 3rd copy for State Coordinator; 4th copy for Teacher-Coordinator).
To be completed by Teacher-Coordinator.

STATE_____

DATE_____

APPLICATION FOR APPROVAL OF OCCUPATIONS NOW PROHIBITED UNDER CHILD LABOR REGULATION NO. 3

This requests a variation from the provisions of Section 1500.33 and 34 of Title 29 of the Code of Federal Regulations for employment in the occupation of _____ in order that a student enrolled in a WECEP experimental unit may be so employed.

School District
County or Township_____

Teacher-Coordinator_____

Location
Mailing Address_____

_____

Area Code____ Phone Number_____

Employer's Name_____

Employer's Address_____

_____

Industry or Business (use attached list)	Occupation	Duties of Student at Work Station

W-9:8:70

wecep-2a

TO PERSONS INTERESTED IN PROPOSED OCCUPATIONAL CHANGE:

This is to give interested persons an opportunity to be heard with regard to employment in _____ occupations of 14- and 15-year-olds engaged in the experimental school work-experience and career exploration program. If you do not think students in this age group should be employed in the above occupation, please indicate by checking the box provided below and returning this to the Director of the Bureau of Labor Standards, Railway Labor Building, 400 First Street, N. W., Washington, D. C. 20001, within 5 days. Additional comments may be written below. No response is necessary if you agree that this occupation should be approved for purposes of the program.

I do not think _____ occupations should be approved for 14- and 15-year-olds participating in the experimental program. ☐

DATE_____ NAME_____

ADDRESS_____

W-9:8:70

wecep-3

3 copies (1st copy for LSB through State Coordinator; 2nd copy for State Coordinator; 3rd copy for Teacher-Coordinator.) To be completed by Teacher-Coordinator.

STATE_____

DATE_____

Due June 30, 1971

GRADE REPORT
(for WECEP experimental students)

Name_____ School_____

Age_____ Sex_____ Soc. Sec. No._____

Teacher-Coord._____

Disadvantaged_____ Industry_____

Handicapped_____ Occupation_____

Subject	Average Grade for Previous Year (if available)	End of School Year Grade 1970-71 (average)
Job Adjustment and Work Orientation (Classroom job-related instruction)		
On-job Performance		
Subjects Required by School or State:		
Other (specify):		

Indicate grade based on the numerical range:

5	A	93-100
4	B	86-92
3 or	C	76-85
2	D	66-75
1	F	65 or below

W-9:8:70

wecep-3
3 copies (1st copy for LSB through State Coordinator; 2nd copy for State Coordinator; 3rd copy for Teacher-Coordinator). To be completed by homeroom teacher or other designated personnel.

STATE_____

DATE_____

Due June 30, 1971

GRADE REPORT
(for control students)

Name_____ School_____

Age_____ Sex_____ Soc. Sec. No. _____

Disadvantaged_____

Handicapped_____

Homeroom Teacher_____
(or other designated personnel)

Subject	Average Grade for Previous Year (if available)	End of School Year Grade 1970-71 (average)
Subjects Required by School or State:		
Other (specify):		

Indicate grade based on the numerical range:

5	A	93-100
4	B	86-92
3 or	C	76-85
2	D	66-75
1	F	65 or below

W-9:8:70

wecep-4
3 copies (1st copy for LSB through State Coordinator; 2nd copy for State Coordinator; 3rd copy for Teacher-Coordinator.)
To be completed by Teacher-Coordinator.

STATE_____

DATE_____
Due June 30, 1971

ATTENDANCE REPORT
(for WECEP experimental students)

Name of Student_____ School_____

Sex _____ Age _____ Teacher-Coordinator_____

Social Security No. _____ Industry_____

Disadvantaged_____ Occupation_____

Handicapped_____

	Previous Year	End of School Year 1970-71
Days Absent +		
Days Tardy		

+ Give reason for any prolonged absence (more than 2 days)_____

W-9:8:70

wecep-4
3 copies (1st copy for LSB through State Coordinator; 2nd copy for State Coordinator; 3rd copy for Teacher-Coordinator.) To be completed by homeroom teacher or other designated personnel.

STATE_____

DATE_____
Due June 30, 1971

ATTENDANCE REPORT
(for control students)

Name_____ School_____

Sex _____ Age _____

Homeroom Teacher_____
(or other designated personnel)

Soc. Sec. No._____

	Previous Year	End of School Year 1970-71
Days Absent +		
Days Tardy		

+ Give reason for any prolonged absence (more than 2 days) _____

W-9:8:70

wecep-5
3 copies (1st copy for LSB through State Coordinator; 2nd copy for State Coordinator; 3rd copy for Teacher-Coordinator.)

STATE _____

DATE _____
Due June 30, 1971

EMPLOYER'S EVALUATION
(for WECEP experimental students on the job)

Name of Student _____ School _____

Age _____ Sex _____ Soc. Sec. No. _____

Disadvantaged _____ Teacher-Coord. _____

Handicapped _____ Occupation _____

_____ Industry _____
Name and Address of Company

_____
Name and Title of Authorized Representative Making Evaluation

	Initial Report (Should be filled out approximately 2 weeks after student starts job)	End of School Year 1970-71
Neatness (personal grooming)		
Courtesy		
Honesty		
Attendance		
Punctual		
Calls in when absent		
Accepts constructive criticism		
Cooperates with supervisors & co-workers		

wecep-5 (continued)

	Initial Report (Should be filled out approximately 2 weeks after student starts job)	End of School Year 1970-71
Takes pride in work		
Shows initiative		
Completes assigned tasks		
Understands job procedures		
Works well without supervision		
Able to follow directions		
Accuracy in work		
Observes rules		
Uses equipment/supplies properly		

Code: 5 Excellent - very high quality, high level of performance for individual student.
4 Very Good - high quality, good level of performance for individual student.
3 Good - satisfactory quality and level of performance.
2 Fair - low quality, student not performing at his level of capability.
1 Poor - poor quality, student performing far below level of capability.

W-9:8:70

wecep-6
3 copies (1st copy for LSB through State Coordinator; 2nd copy for State Coordinator; 3rd copy for Teacher Coordinator.)
To be completed by Teacher-Coordinator.

STATE_____

DATE_____
Due June 30, 1971

SCHOOL EVALUATION
(for WECEP experimental students)

Name of Student_____ School_____

Age_____ Sex_____ Soc. Sec. No. _____

Disadvantaged_____ Teacher Coord.*_____

Handicapped_____ Industry_____

Occupation_____

	Beginning of School Year (approximately 2 weeks after start of school)	End of School Year 1970-71
Neatness (personal grooming)		
Courtesy		
Student's morale		
Completion of class assignments		
Cooperates with teacher		
Gets along with co-students		
Shows initiative in schoolwork		
Takes part in class discussions		
Careful use of books, supplies, and facilities		

wecep-6 (continued)

Code: 5 Excellent - very high quality, high level of achievement for individual student.
4 Very good - high quality, good level of achievement for individual student.
3 Good - satisfactory quality, satisfactory level of achievement for individual student.
2 Fair - low quality, student not achieving at his level of capability.
1 Poor - poor quality, student achieving far below level of capability.

* The Teacher-Coordinator completes this form; however, opinions of other teachers involved may be obtained.

W-9:8:70

wecep-6

3 copies (1st copy for LSB; 2nd copy for State Coordinator; 3rd copy for Teacher Coordinator.)
To be completed by homeroom teacher or other designated personnel.*

STATE_____

DATE_____

Due June 30, 1971

SCHOOL EVALUATION
(for control students)

Name_____ School_____

Age_____ Sex_____ Soc. Sec. No._____

Disadvantaged _____

Handicapped _____

Homeroom Teacher*_____
(or other designated personnel)

	Beginning of First Semester (approximately 2 weeks after start of school)	End of School Year 1970-71
Neatness (personal grooming)		
Courtesy		
Student's morale		
Completion of class assignments		
Accepts constructive criticism		
Cooperates with teacher		
Gets along with co-students		
Shows initiative in schoolwork		
Takes part in class discussions		
Careful use of books, supplies, and facilities		

wecep-6 (continued)

Code: 5 Excellent - very high quality, high level of achievement for individual student.
4 Very good - high quality, good level of achievement for individual student.
3 Good - satisfactory quality, satisfactory level of achievement for individual student.
2 Fair - low quality, student not achieving at his level of capability.
1 Poor - poor quality, student achieving far below level of capability.

* The Homeroom Teacher or other designated personnel completes this form; however, opinions of other teachers involved may be obtained.

W-9:8:70

wecep-7

IDENTIFICATION

SCHOOL WORK-EXPERIENCE
AND
CAREER EXPLORATION PROGRAM

W
E
C
E
P

Name_____

Address_____

School_____

Place of Employment_____

Signature of Teacher-Coordinator_____

Signature of Participant_____

W-9:8:70

wecep-8
4 copies (1st copy for employer's files; 2nd copy for Teacher-Coordinator; 3rd copy for LSB; 4th copy for State Coordinator

Minnesota

WECEP AGREEMENT

STUDENT:_____ SOCIAL SECURITY NO._____

JOB TITLE:_____ INDUSTRY:_____

EMPLOYER:_____ EMPLOYER'S ADDRESS:_____

WORKING HOURS (Daily ___ to ___; Sat. ___ to ___ WAGES PER HOUR_____

In order to carry on WECEP, it is advisable that all parties concerned agree to the following responsibilities.

EMPLOYER'S RESPONSIBILITIES

The student will be placed on the above named job for the purpose of providing work experience and career exploration and will be given work of instructional value.

The student's work activity will be under the close supervision of an experienced and qualified person. The work will be performed under safe and hazard free conditions.

The student, when possible, will receive the same consideration given employees in regard to safety, health social security, general work conditions, and other regulations of the firm.

COORDINATOR'S RESPONSIBILITIES

The Coordinator will visit each student at least once per month at the work station and will become acquainted with the person to whom the student is responsible while on the job.

The Coordinator shall endeavor to adjust all complaints with the cooperation of all parties concerned, and shall have the authority to transfer or withdraw a student.

The Coordinator will make plans to meet with each student's parent or guardian several times during the school year.

PARENT'S OR GUARDIAN'S RESPONSIBILITIES

Parents (or guardians) agree to let the student participate in the Work Experience and Career Exploration Program.

STUDENT'S RESPONSIBILITIES

I agree whenever possible to follow the rules set up by the school, employer, and coordinator.

When I am absent I will call the school office by 10 a.m. I will also call my employer to let him know I will be absent.

I understand that on days when I miss school, I will not be able to work.

I will only carry one part-time job - my WECEP job.

Student_____ Employer_____

Parent (or Guardian)_____ Teacher-Coordinator_____

_____ _____

W-8/26/70

wecep-9
3 copies (1st copy for LSB through State Coordinator; 2nd copy for employer; 3rd copy for Teacher-Coordinator.
To be completed by employer.

STATE_____

DATE_____
due when injury occurs

WORK INJURY REPORT
(Report all injuries requiring attention by medical personnel or resulting in absence of 2 or more days)

Name of Student_____ School_____

Age _____ Sex _____ Soc. Sec. No. _____

Disadvantaged _____ Teacher Coord._____

Handicapped _____ Industry_____

Employer_____ Occupation_____
Name and Address

_____
Name and Title of Person Making Report

INFORMATION*

1. Activity when injured
2. Kind of injury
3. Body part
4. Source of injury
5. Cause of accident
6. Number of days absent from work and/or school
7. Please indicate if claim for Workmen's Compensation has been filed.
8. Supervisor give brief description of what happened at time of injury

_____

wecep-9 (continued)

* Definitions:

1. Activity when injured identifies what the injured was doing at the time of injury.
2. Kind of injury or occupational disease, i.e., cuts, lacerations, amputations, punctures, dermatitis, lead poisoning, etc.
3. Body part or the part of the injured person's body directly affected, i.e., hand, back, arm, etc.
4. Source of injury identifies the object, substance, exposure, or bodily motion which directly produced or inflicted the injury, i.e., working surfaces, hand tools, etc.
5. Cause of accident identifies the event which directly resulted in the injury, i.e., struck by moving objects, falls, over-exertion, etc.
6. Number of days absent - If available show actual time lost in days. If no time lost, "N".

W-9:8:70

APPENDIX B

WECEP PERSONAL INTERVIEW QUESTIONNAIRE

Identification #_____

Date of Interview_____

A. WECEP (OWA) Experience

1) How many grades of school have you completed so far? ___grades.

2) Have you ever applied for participation in the Work Experience and Career Exploration Program (in Ohio, the Occupational Work Adjustment Program)? Yes ( ) Go to Q. 3 No ( ) Go to Q. 24.

3) (If YES to Q. 2). Were you accepted into the program? Yes ( ) Go to Q. 4 No ( ) Go to Q. 24.

4) (If YES to Q. 3). When did you begin in WECEP (OWA)? Month _____ Year _____

5. (If YES to Q. 3). Are you still enrolled in the WECEP (OWA) program? Yes ( ) Go to Q. 8 No ( ) Go to Q. 6.

6) (If NO to Q. 5). When did you leave the WECEP (OWA) program? Month _____ Year _____

7) (If NO to Q. 5). Why did you leave the WECEP (OWA) program?

a) Work interfered with school ( )
b) Lost interest in working ( )
c) Wages were too low ( )
d) Hours were too long ( )
e) Didn't like the kind of work I was doing ( )
f) Couldn't get along with employer or other workers ( )
g) Other: please explain_____

(Interviewer: Allow the respondent to give multiple answers to this question. If he gives "Other" as a reason, please probe and get his clearest response. Don't accept such answers as "I just didn't like it." Find out why.)

8) Did you ever hold a job for one month or more before entering the WECEP (OWA) program? Yes ( ) Go to Q. 9. No ( ) Go to Q. 12.

9) (If YES to Q. 8). How many separate jobs lasting one month or longer did you hold before WECEP (OWA)? _____ # of jobs.

10) (If YES to Q. 8). What did you do on the last job you held just before you enrolled in WECEP (OWA)? _____

11) (If YES to Q. 8). When did you hold this job? Start _____ month/year
End _____ month/year

12) Have you held a job for one month or longer since leaving WECEP (OWA)? Yes ( ) Go to Q. 13. No ( ) Go to Q. 16.

13) (If YES to Q. 12). How many jobs lasting one month or more did you hold since leaving WECEP (OWA)? _____ # of jobs.

14) (If YES to Q. 12). What kind of work did you do on the last job you held since leaving WECEP (OWA)? _____

15) (If YES to Q. 12). When did you hold this job? Start _____ month/year
End _____ month/year

B. Evaluation of WECEP (OWA)

Since you are (were) a member of the WECEP (OWA) program, we would like to get your impressions of how the program may have helped you in school and at work. How would you rank the WECEP (OWA) program on the following points?

	VERY HIGH	HIGH	AVERAGE	LOW	NOT AT ALL
16) Help in improving your school grades	( )	( )	( )	( )	( )
17) Help in finding out about different kinds of jobs	( )	( )	( )	( )	( )
18) Help in getting a better job than I otherwise could get	( )	( )	( )	( )	( )
19) Help in staying in school	( )	( )	( )	( )	( )
20) Help in making new friends and acquaintances at school and work	( )	( )	( )	( )	( )

	VERY HIGH	HIGH	AVERAGE	LOW	NOT AT ALL
21) Help in making school more interesting	( )	( )	( )	( )	( )
22) Help in learning how to work and hold a job	( )	( )	( )	( )	( )
23) Help in learning new job skills	( )	( )	( )	( )	( )

C. Work Experience During School

24) Have you ever held a job for one month or longer while you were attending school or during vacation? Yes ( ) Go to Q. 25.
No ( ) Go to Q. 60.

	MOST RECENT JOB	JOB BEFORE THAT	JOB BEFORE THAT
25) What kind of work were you doing?	_____	_____	_____
26) What kind of business or industry was this?	_____	_____	_____
27) What month and year did you start this job?	start: _____ mo/yr	start: _____ mo/yr	start: _____ mo/yr
28) What month did you leave this job?	leave: _____ mo/yr	leave: _____ mo/yr	leave: _____ mo/yr
29) Was this job part of the WECEP (OWA) program?	Yes ( ) No ( )	Yes ( ) No ( )	Yes ( ) No ( )
30) How many hours per day did you work on this job?	___hrs/day	___hrs/day	___hrs/day
31) How many hours per week did you work on this job?	___hrs/wk	___hrs/wk	___hrs/wk

		MOST RECENT JOB	JOB BEFORE THAT	JOB BEFORE THAT
32)	What was your final hourly wage rate before deductions?	Hourly Wage Rate _____$/hr	Hourly Wage Rate _____$/hr	Hourly Wage Rate _____$/hr
33)	Please indicate the weekly amount of any tips, commissions, etc. which you received.	Weekly Tips _____$/wk	Weekly Tips _____$/wk	Weekly Tips _____$/wk
34)	Did the job require any type of special training?	Yes ( ) No ( )	Yes ( ) No ( )	Yes ( ) No ( )
35)	Did your school provide a course of study to learn these skills?	Yes ( ) Go to Q. 36. No ( ) Go to Q. 37.	Yes ( ) Go to Q. 36. No ( ) Go to Q. 37.	Yes ( ) Go to Q. 36. No ( ) Go to Q. 37.
36)	(If YES to Q. 35). What kind of training was it? Please explain.	_____ _____	_____ _____	_____ _____
37)	(If NO to Q. 35). How did you get the training? Please explain.	_____ _____	_____ _____	_____ _____
38)	(If YES to Q. 35). Who trained you? Your employer, the teacher-coordinator, or someone else? Please specify.	Employer( ) Teacher-coordinator( ) Other ( ) _____	Employer( ) Teacher-coordinator( ) Other ( ) _____	Employer( ) Teacher-coordinator( ) Other ( ) _____
39)	(If YES to Q. 35). How many days of training did you get?	_____days	_____days	_____days
40)	Do you think you learned useful skills on the job?	Yes ( ) Go to Q. 41. No ( ) Go to Q. 42.	Yes ( ) Go to Q. 41. No ( ) Go to Q. 42.	Yes ( ) Go to Q. 41 No ( ) Go to Q. 42.

		MOST RECENT JOB	JOB BEFORE THAT	JOB BEFORE THAT
41)	(If YES to Q. 40). Were these job skills, work habits, learning to get along with people, or what? Please specify.	Job skills( ) Work habits ( ) Getting along ( ) Other ( ) _____	Job skills( ) Work habits ( ) Getting along ( ) Other ( ) _____	Job skills( ) Work habits ( ) Getting along ( ) Other ( ) _____
42)	Did your school counselor or teacher-coordinator give you special counseling to prepare you for this job?	Yes ( ) Go to Q. 43. No ( ) Go to Q. 45.	Yes ( ) Go to Q. 43. No ( ) Go to Q. 45.	Yes ( ) Go to Q. 43. No ( ) Go to Q. 45.
43)	(If YES to Q. 42). Please estimate how many hours of counseling per week you received for this job.	_____ total hrs/wk	_____ total hrs/wk	_____ total hrs/wk
44)	How many weeks did you receive counseling for his job?	_____wks	_____wks	_____wks
45)	Did your school counselor or teacher-coordinator visit with you or your employer while you were on the job?	Yes ( ) Go to Q. 46. No ( ) Go to Q. 48.	Yes ( ) Go to Q. 46. No ( ) Go to Q. 48.	Yes ( ) Go to Q. 46. No ( ) Go to Q. 48.
46)	(If YES to Q. 45). How often did he (she) visit? Please specify.	daily ( ) weekly ( ) monthly( ) other ( ) _____	daily ( ) weekly ( ) monthly( ) other ( ) _____	daily ( ) weekly ( ) monthly( ) other ( ) _____

		MOST RECENT JOB	JOB BEFORE THAT	JOB BEFORE THAT
47)	(If YES to Q. 45). Why did he (she) visit you or your employer while you were on the job? Please explain.	_____ _____ _____	_____ _____ _____	_____ _____ _____
48)	Did you have to get a work permit to work on this job?	Yes ( ) Go to Q. 49. No ( ) Go to Q. 50.	Yes ( ) Go to Q. 49. No ( ) Go to Q. 50.	Yes ( ) Go to Q. 49. No ( ) Go to Q. 50.
49)	Why did you have to get a work permit? Please specify.	Age ( ) Hours Worked ( ) Type of Job ( ) Other ( ) _____	Age ( ) Hours Worked ( ) Type of Job ( ) Other ( ) _____	Age ( ) Hours Worked ( ) Type of Job ( ) Other ( ) _____
50)	Were you ever injured one or more times while working on this job?	Yes ( ) Go to Q. 51. No ( ) Go to Q. 56.	Yes ( ) Go to Q. 51. No ( ) Go to Q. 56.	Yes ( ) Go to Q. 51. No ( ) Go to Q. 56.
51)	(If YES to Q. 50). How many times were you injured on this job?	_____#	_____#	_____#
52)	(If YES to Q. 50). Did you lose two or more days of work or school at any one time due to this injury or injuries?	Yes ( ) No ( )	Yes ( ) No ( )	Yes ( ) No ( )
53)	(If YES to Q. 50). What were the <u>total</u> days of <u>school</u> lost due to this injury or injuries?	_____ total days	_____ total days	_____ total days
54)	(If YES to Q. 50). What were the <u>total</u> days of <u>work</u> lost due to this injury or injuries?	_____ total days	_____ total days	_____ total days

		MOST RECENT JOB	JOB BEFORE THAT	JOB BEFORE THAT
55)	In what way were you injured? (Most severe injury). Explain.	_____ _____	_____ _____	_____ _____
56)	If you are no longer working, did you quit this job or were you fired or laid off?	Still working ( ) Quit ( ) Fired ( ) Laid off( )	Still working ( ) Quit ( ) Fired ( ) Laid off( )	Still working ( ) Quit ( ) Fired ( ) Laid off( )
57)	Regardless of whether you quit, were fired or laid off, could you tell us the reason why?	_____ _____	_____ _____	_____ _____
58)	Would you work for this employer again if you had the chance?	Yes ( ) Go to Q. 60. No ( ) Go to Q. 59.	Yes ( ) Go to Q. 60. No ( ) Go to Q. 59.	Yes ( ) Go to Q. 60. No ( ) Go to Q. 59.
59)	(If NO to Q. 58). Why not?	Pay too low ( ) Working conditions( ) Type of work ( ) Other ( )	Pay too low ( ) Working conditions( ) Type of work ( ) Other ( )	Pay too low ( ) Working conditions( ) Type of work ( ) Other ( )
	Please specify.	_____	_____	_____

D. School Experience

60) Has there ever been a year in school when you were not promoted to the next higher grade? Yes ( ) Go to Q. 61.
No ( ) Go to Q. 62.

61) (If YES to Q. 60). What grade was that? _____ grade.

62) Have you ever been suspended from school? Yes ( ) Go to Q. 63.
No ( ) Go to Q. 68.

63) (If YES to Q. 62). Have you ever been suspended more than once?
Yes ( ) Go to Q. 63. No ( ) Go to Q. 65.

64) (If YES to Q. 63). How many times were you suspended?
_____ # of suspensions

(Interviewer: If more than two suspensions, use an extra page to record.)

	MOST RECENT SUSPENSION	SUSPENSION BEFORE THAT
65) (If YES to Q. 62). When were you suspended?	_____ mo/year	_____ mo/year
66) (If YES to Q. 62). Why were you suspended? Please explain.	_____	_____
67) (If YES to Q. 62). When did your suspension end?	_____ mo/year	_____ mo/year

68) How many days were you absent during the 1971-72 school year, that is, last year? _____ days absent 1971-72.

E. The following questions concern incidents where you may have been arrested or otherwise sentenced by a juvenile court. Let us please assure you that your answers to these questions will be kept in the strictest confidence. In addition, your answers to these questions are strictly voluntary and you do not have to reply if you feel you don't want to. Refused to reply ( ).

69) Have you every been arrested? Yes ( ) Go to Q. 70. No ( ) Go to Q. 75.

70) (If YES to Q. 69). How many times have you been arrested?
_____ # of arrests Could you please tell us about the most recent times when you were arrested?

	MOST RECENT INCIDENT	INCIDENT BEFORE THAT
71) When were you arrested?	_____ mo/year	_____ mo/year
72) What were you arrested for?	_____	_____
73) Was your case brought before a judge, juvenile court or other type of court?	Yes ( ) No ( )	Yes ( ) No ( )

	MOST RECENT INCIDENT	INCIDENT BEFORE THAT
74) What was the decision of the juvenile authorities?	_____	_____

F. Classification Data

75) When were your born? _____ mo/year

76) Sex: Male ( ) Female ( )

77) Ethnic origin: White ( ) Black ( ) Other ethnic group ( ) Please specify_____

78) What kind of work does your father do?_____

79) How many years of school did your father complete? ____ years

80) What kind of work does your mother do?_____

81) How many years of school did your mother complete? ____ years

Thanks very much for your time and help. Again, let me reassure you that all your answers to these questions will be held in the strictest confidence.

APPENDIX C

TEACHER-COORDINATOR QUESTIONNAIRE

I. Background Data

1. Age: _____

2. Sex: Male ( ) Female ( )

3. Marital Status: Married ( ) Single ( ) Other _____

4. Ethnic Origin: White ( ) Black ( ) Other _____ (please specify)

II. Education

5. Where did you attend college or university?

School	Years Attended	Degree and Major
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. Did your training in college include courses in the following areas:

	Yes	No. of Credits	No
Academic guidance and counseling	( )	( )	( )
Vocational guidance and counseling	( )	( )	( )
Psychology	( )	( )	( )
Vocational technical courses such as teaching of machine shop, etc.	( )	( )	( )
Secondary school administration	( )	( )	( )
Other: Please specify	( )	( )	( )

III. Work Experience

7. How many years have you been a teacher? _____ years

Some researchers feel that work experience a teacher gains outside the school is an invaluable aid to WECEP personnel; therefore, we would like to ask a few questions about your non-school work experience.

8. Have you ever held a full-time job outside the field of education for a year or longer within the past five years? Yes ( ) (Please go to Q. 9.) No ( ) (Please go to Q. 28.)

9. Number of such jobs _____

	Most Recent Job	Next Job	Next Job
10. For whom did you work? (Name of company, business, organization)	_____	_____	_____
11. What kind of business or industry was this?	_____	_____	_____
12. What kind of work were you doing? (For example, electrical engineer, baker, typist, tool and die maker)	_____	_____	_____
13. Were you self-employed?	Yes ( ) No ( )	Yes ( ) No ( )	Yes ( ) No ( )
14. What was your job title?	_____	_____	_____
15. When did you start this job?	month/year	month/year	month/year
16. When did you leave this job?	month/year	month/year	month/year

17. Summer or part-time jobs also provide useful experience. Could you please list the title and duration of all such non-teaching summer jobs you may have had in the past five years?

18. Number of such jobs _____

	Most Recent Job	Next Job	Next Job
19. For whom did you work? (Name of company, business, organization)	_____	_____	_____

		Most Recent Job	Next Job	Next Job
20.	What kind of business or industry was this?	_____	_____	_____
21.	What kind of work were you doing? (For example, electrical engineer, baker, typist, tool and die maker)	_____	_____	_____
22.	Were you self-employed?	Yes ( ) No ( )	Yes ( ) No ( )	Yes ( ) No ( )
23.	What was your job title?	_____	_____	_____
24.	When did you start this job?	_____ month/year	_____ month/year	_____ month/year
25.	When did you leave this job?	_____ month/year	_____ month/year	_____ month/year

26. Were any of your non-education jobs listed above especially helpful as background for your teacher-coordinator role?
Yes ( ) (Please go to Q. 27.) No ( ) (Please go to Q. 28.)

27. (If YES to Q. 26.) Which job(s)? In what way was it (were they) helpful?

Job	How Helped
_____	_____
_____	_____

IV. Teacher-Coordinator's Role in WECEP

28. The Work Experience and Career Exploration Program is structured in accordance with several rules and regulations. However, it may be that revisions in program are desirable. Based on your experience as a teacher-coordinator, how do you feel about the following possible modifications?

29. The maximum number of hours per week a WECEP student may work is 28. Based on your experience, what would be your preference as to the maximum number of hours a WECEP participant should work?

_____

30. What would be the most desirable number of hours a student in WECEP should work per week?

_____

31. Maximum number of jobs that may be held by a WECEP member during an academic year.

School rule (if any) _____

Your preference _____

32. In your unit, what aspects are there, if any, which are possible sources of physical danger to the health and welfare of WECEP students?

_____

33. In order to quit a job, must a WECEP student first obtain your permission? Yes ( ) No ( )

34. How long do WECEP students usually remain with the same employer?

( ) a. One semester
( ) b. Full school year
( ) c. Other. Please specify _____

35. What are the principal reasons why students change employers? Please rank in order of importance from 1 to 6. One is most important.

( ) a. To get more varied experience.
( ) b. Inability to adjust to a particular kind of work.
( ) c. Insufficient hours of work.
( ) d. Inability to adjust to a specific employer.
( ) e. Wages are too low.
( ) f. Other. Please specify _____

36. What are the main student difficulties with employment? Please rank in order of importance from 1 to 6. One is most important.

( ) a. Failure to understand or follow instructions.
( ) b. Failure to report on time.
( ) c. Lack of expected skills
( ) d. Insubordination towards the employer or immediate supervisor.
( ) e. Personality difficulites with employer or co-workers.
( ) f. Other. Please specify _____

37. How do you usually resolve student employment problems? Please rank those methods used in order of frequency of use. Do not rank an item if it has never been used. One means most frequent use.

( ) a. Shift to a different employer, same job.
( ) b. Shift to a different job, same employer.
( ) c. Shift to different job, different employer.
( ) d. Provide intensive counseling with student.
( ) e. Mediate differences between student and employer or other co-workers.
( ) f. Other. Please specify _____

38. How many hours of vocational guidance counseling are provided each WECEP student per semester on the average? _____ hours

39. How many hours of personal and educational guidance counseling are provided each WECEP student per semester on the average? _____ hours

40. On the average, how many hours of counseling per semester do you provide for each WECEP participant in your unit? _____ hours per semester

41. How would you judge the vocational guidance counseling provided for WECEP members in your program in terms of time made available by counselors for each student and in terms of quality of counseling?

	Less than Adequate	Adequate	More than Needed
(1) Time	( )	( )	( )
(2) Quality	( )	( )	( )

42. How would you judge the personal and educational guidance counseling provided for WECEP members in your program in terms of time made available by counselors for each student and in terms of quality of counseling?

	Less than Adequate	Adequate	More than Needed
(1) Time	( )	( )	( )
(2) Quality	( )	( )	( )

43. Do you think any changes are needed in the amount of time spent on counseling? Yes ( ) (Please go to Q. 46.)
No ( ) (Please go to Q. 45.)

44. (If YES to Q. 43.) Could you please specify those changes you think are needed?

---

45. Do you think any changes are needed in the type of counseling for WECEP students? Yes ( ) (Please go to Q. 46.)
No ( ) (Please go to Q. 47.)

46. (If YES to Q. 45.) Could you please specify those changes you think are needed?

---

47. Are separate counseling services provided the disadvantaged, handicapped, and drop-out prone? Yes ( ) (Please go to Q. 48.)
No ( ) (Please go to Q. 49.)

48. (If YES to Q. 47.) Please indicate the nature of the separate services.

---

49. On the average, how much time do you spend per student on the phone with employers each semester? _____ hours/semester.

50. On the average, how much time do you spend per student on field visits to employers each semester? _____ hours/semester.

51. Do you think the results of the program would be better if you could spend more time on field visits? Yes ( ) (Please go to Q. 52.) No ( ) (Please go to Q. 53.)

52. (If YES to Q. 51.) Please indicate what you consider desirable results due to more frequent field visits.

V. Implementation of the Program

53. How do you find jobs for WECEP students? Please check as many as apply.

( ) Contacts with Chamber of Commerce or other business groups
( ) Personal calls on employers
( ) Contacts with trade unions
( ) Search newspaper ads for jobs
( ) Contact other counselors
( ) Use of publicity to bring forth offers to the school or hire WECEP students
( ) Other. Please specify _____

54. Have you been able to locate sufficient numbers of jobs for all your WECEP students? Yes ( ) (Please go to Q. 55.)
No ( ) (Please go to Q. 56.)

55. (If YES to Q. 54.) If the program were tripled in size in your school, do you think you could locate sufficient jobs for these students? Yes ( ) No ( ) (Please go to Q. 56.)

56. (If NO to Q. 54.) Why haven't you been able to locate sufficient jobs? Please specify.

_____

57. Do you think the WECEP program should be expanded on a local basis? Yes ( ) (Please go to Q. 58.) No ( ) (Please go to Q. 59.)

58. (If YES to Q. 57.) What do you consider to be a useful expansion of the program in your local area?

_____

59. (If NO to Q. 57.) Why don't you feel the WECEP program should be expanded in your local area?

_____

60. Please indicate the special techniques used, if any, to expose the WECEP students to career opportunities.

_____

61. In your best judgment, how does the WECEP program achieve its goals? That is, how does it work to bring about the desired program objectives?

_____

62. In what <u>positive</u> ways does the WECEP program affect the welfare and educational performance of the student? None ( ) or

a. _____

b. _____

c. _____

d. _____

63. In what negative ways does the WECEP program affect the welfare and educational performance of the student? None ( ) or

a. _____

b. _____

c. _____

d. _____

TEACHER-COORDINATORS IN OHIO SHOULD NOT ANSWER QUESTIONS 64 THROUGH 67.

VI. Selection of Control Group

64. How were members of the control group chosen, that is, in what specific way were the members of it selected? Please describe the method used.

_____

_____

_____

65. What person or group of persons made the decision as to who should join WECEP and who should be considered a control group member?

a. WECEP participation Person _____
Official Title

b. Control group Person _____
Official Title

66. Were all the possible members of the control group and experimental group selected before the experimental group was designated? Yes ( ) No ( )

67. (If YES to Q. 66.) Was the designation of control and experimental membership done randomly ( ) or by judgment ( ) ?

Thank you very much for your time and consideration. Your answers to these questions will be kept strictly confidential.

APPENDIX D

EMPLOYER QUESTIONNAIRE

ID #_____

A. Classification Data

1. Official title of respondent completing the questionnaire, i.e., owner, foreman, personnel manager _____

2. What does your establishment make or do? _____

_____

3. Is the main market for your establishment's products ( ) local, (i.e., entirely within your state); ( ) regional (i.e., Midwest only, South only); ( ) national; or ( ) international (includes Canada or Mexico)?

4. On the average, what was the total number of production (blue collar) employees in your establishment during 1970? _____

5. On the average, what was the total number of salaried (white collar) employees in your establishment during 1970? _____

6. On the average, how many of your employees were between the ages of 16 through 17 during 1970? _____

7. On the average, how many of your employees were between the ages of 18 through 21 during 1970? _____

B. Experience with the Work Experience and Career Exploration Program (In Ohio, the program is called the Occupational Work Adjustment Program--OWA)

8. When did your establishment first begin participating in the Work Experience and Career Exploration Program (OWA)?

_____
month/year

9. What was your main reason for participating in the program? Please explain.

_____

10. Is your establishment still participating in the WECEP (OWA) program? ( ) Yes (Please go to Q. 18.) ( ) No (Please go to Q. 11.)

11. (If NO to Q. 10.) When did your establishment stop participating?

_____
month/year

12. (If NO to Q. 10.) Why did your establishment stop participating? Please explain briefly.

_____

13. (If NO to Q. 10.) Does your establishment anticipate a renewal of its participation in the program? ( ) Yes (Please go to Q. 14.) ( ) No (Please go to Q. 15.)

14. (If YES to Q. 13.) Why? Please explain your reasons briefly.

_____

15. (If NO to Q. 13.) Why not? Please explain your reasons briefly.

_____

16. At the time your establishment stopped participatin in the program, how many WECEP (OWA) participants were employed by you? _____

17. What is (was) the <u>total</u> number of WECEP (OWA) participants who have worked for your establishment since you began participating in the program? _____

18. How many WECEP (OWA) participants are employed by you at the present? _____

19. What types of jobs or occupations have the WECEP (OWA) participants performed while employed by your establishment?

	Job Performed (Job Title)	Total Number WECEPs (OWAs) Employed in That Job	Is the job still being done by a WECEP (OWA) participant? Please check: YES	NO	Wage Rate/ Hour
a.	_____	_____	( )	( )	_____
b.	_____	_____	( )	( )	_____
c.	_____	_____	( )	( )	_____
d.	_____	_____	( )	( )	_____
e.	_____	_____	( )	( )	_____
f.	_____	_____	( )	( )	_____

20. Are (were) these generally the same types of jobs which regular (non-WECEP or non-OWA) employees would perform?
( ) Yes ( ) No

21. Are (were) there any types of jobs in your establishment which you feel WECEP (OWA) participants could perform but which, for legal or other reasons, they are prohibited from doing?
( ) Yes (Please go to Q. 22.) ( ) No (Please go to Q. 25.)

22. (If YES to Q. 21.) What jobs are these? Please list the most important ones.

a. _____ e. _____

b. _____ f. _____

c. _____ g. _____

d. _____ h. _____

23. Are the WECEP (OWA) participants given any special considerations, such as lighter work loads, vis-a-vis your regular employees?
( ) Yes (Please go to Q. 24.) ( ) No (Please go to Q. 25.)

24. (If YES to Q. 23.) Please explain. _____

_____

25. Do trade union rules limit the degree to which WECEP (OWA) participants have access to different jobs in your establishment?
( ) Yes ( ) No ( ) Does not apply. No union.

26. How do (did) you select your WECEP (OWA) employees?

( ) Accept any student recommended by the local school without restriction.

( ) Specify prerequisites such as age, sex, physical size or strength, personality characteristics, etc. Please specify each type of requirement.

a. _____ d. _____

b. _____ e. _____

c. _____

27. Does (did) the WECEP (OWA) student receive any additional formal training from your establishment while he is (was) on the job? ( ) Yes ( ) No (Please go to Q. 29.)

28. (If YES to Q. 27.) Please specify the type of training received.

_____

29. What direct out-of-pocket training costs does (did) your establishment incur for each WECEP (OWA) student it hires (hired)? $_____/WECEP student or ( ) None

30. Even though your establishment incurs no direct out-of-pocket training the typical WECEP (OWA) student, it may experience other costs, such as supervisory time devoted to orienting newly-hired students. Could you estimate the total dollar value per student of these types of costs? $____/student or ( ) None.

31. For the same job or occupation, are (were) the WECEP (OWA) participants paid the same ( ); less ( ); or more ( ) than your regular employees once they completed learning the job?

32. Have any of the WECEP (OWA) participants ever been injured on the job so that they lost a day or more of work or school? ( ) Yes (Please go to Q. 33.) ( ) No (Please go to Q. 34.)

33. Please describe the circumstances for each injury incident involving the loss of work or school attendance of a WECEP (OWA) participant.

	Type of Injury	Amount of Time Lost (Days)	Was an insurance claim filed? Yes	No	Amount of Claim	Did a permanent disability result? Yes	No
a.	_____	_____	( )	( )	_____	( )	( )
b.	_____	_____	( )	( )	_____	( )	( )
c.	_____	_____	( )	( )	_____	( )	( )
d.	_____	_____	( )	( )	_____	( )	( )

34. Have you ever had to suspend, fine or fire a WECEP (OWA) participant for any reason? ( ) Yes (Please go to Q. 35.) ( ) No (Please go to Q. 36.)

35. For each incident, please describe the circumstances which resulted in your having to take disciplinary action.

Infraction (i.e., insuboradination, willful damage of goods, theft, absenteeism):	Type of Action Taken:
a. _____	_____
b. _____	_____
c. _____	_____
d. _____	_____

36. Could you please rate the WECEP (OWA) participant relative to your regular employees on the following characteristics? With respect to the following characteristics, are WECEP (OWA) participants more, the same, or less . . . relative to your regular employees?

	more	the same	less
a. Neatness	( )	( )	( )
b. Courtesy	( )	( )	( )
c. Honesty	( )	( )	( )
d. Attendance	( )	( )	( )
e. Punctuality	( )	( )	( )
f. Calls in when absent	( )	( )	( )
g. Accepts constructive criticism	( )	( )	( )
h. Cooperates with supervisor and co-workers	( )	( )	( )
i. Takes pride in work	( )	( )	( )
j. Completes assigned tasks	( )	( )	( )
k. Understands job procedures	( )	( )	( )
l. Works well without supervision	( )	( )	( )
m. Able to follow directions	( )	( )	( )
n. Accuracy in work	( )	( )	( )
o. Observes rules	( )	( )	( )
p. Uses equipment/supplies properly	( )	( )	( )

37. Would you be willing to hire more WECEP (OWA) participants if the legal minimum wage were lower? ( ) Yes (Please go to Q. 39.) ( ) No (Please go to Q. 38.)

38. (If NO to Q. 37.) Please explain. _____

_____

39. (If YES to Q. 37.) On the average, relative to what you must pay the WECEP (OWA) participant now, what would be a more appropriate wage rate per hour? $_____/hour

C. Possible Experience with Cooperative Vocational Education

40. Has your establishment ever participated in a cooperative vocational education program in conjunction with the public school system in your area? ( ) Yes (Please go to Q. 41.) ( ) No (Please go to Q. 45.)

41. (If YES to Q. 40.) Is your firm now participating in a cooperative vocational education program? ( ) Yes (Please go to Q. 42.) ( ) No (Please go to Q. 45.)

42. (If YES to Q. 41.) How many cooperative vocational students do you now employ in your establishment? _____

43. Would the continuation or expansion of the WECEP (OWA) program affect the employment of the cooperative vocational education students in your establishment? ( ) Yes (Please go to Q. 44.) ( ) No (Please go to Q. 45.)

44. (If YES to Q. 43.) In what way? Please explain. _____

_____

D. Suggestions for Change

45. Independent of the needs of your establishment, do you think the WECEP (OWA) program should be expanded, kept the same, or reduced in size?

a. ( ) Expanded. Please go to Q. 46.
b. ( ) Kept the same. Please go to Q. 48.
c. ( ) Reduced. Please go to Q. 47.

46. (If EXPANDED to Q. 45.) Please explain why. _____

_____

47. (If REDUCED to Q. 45.) Please explain why. _____

_____

48. If you were in charge of running the WECEP (OWA) program, what would be the single most important change you would like to make in it? Please explain. _____

_____

_____

49. What change or changes in the WECEP (OWA) program would have the best affect on the operation of your own establishment? Please explain.

_____

_____

Thank you very much for your time and kind consideration.

We wish to reaffirm that your answers to the questions will be kept in strictest confidence.

APPENDIX E

CHILD LABOR REGULATIONS

CHILD LABOR REGULATIONS

TITLE 29
PART 1500
SUBPART C
OF THE CODE OF FEDERAL REGULATIONS

EMPLOYMENT OF MINORS BETWEEN 14 AND 16 YEAR OF AGE
(CHILD LABOR REGULATION 3)

(This publication conforms to the Code of Federal Regulations as of November 18, 1969, the date this reprint was authorized.)

U. S. DEPARTMENT OF LABOR
Wage and Hour and Public Contracts Divisions
Washington, D. C. 20210

AUTHORITY: Sections 1500.31 to 1500.38 issued under sec. 3, 52 Stat. 1060, as amended; 29 U.S.C. 203.

SOURCE: Sections 1500.1 to 1500.38 appear at 16 F.R. 7008, July 20, 1951, 32 F.R. 15478, Nov. 7, 1967, except as otherwise noted. Sections 1500.50 to 1500.68 appear at 16 F.R. 7008, July 20, 1951, except as otherwise noted. Part renumbered, as indicated, 28 F.R. 1634, February 21, 1963.

Section 1500.31 Determination. The employment of minors between 14 and 16 years of age in the occupations, for the periods, and under the conditions hereafter specified does not interfere with their schooling or with their health and well-being and shall not be deemed to be oppressive child labor.

Section 1500, 32 Effect of this subpart. In all occupations covered by this subpart the employment (including suffering or permitting to work) by an employer of minor employees between 14 and 16 years of age for the periods and under the conditions specified in sec. 1500.35 shall not be deemed to be oppressive child labor within the meaning of the Fair Labor Standards Act of 1938.

Section 1500.33 Occupations. This subpart shall apply to all occupations OTHER THAN the following:

(a) Manufacturing, mining, or processing occupations, including occupations requiring the performance of any duties in work rooms or work places where goods are manufactured, mined, or otherwise processed;

(b) Occupations which involve the operation or tending of hoisting apparatus or of any power-driven machinery other than office machines;

(c) The operation of motor vehicles or service as helpers on such vehicles;

(d) Public messenger service;

(e) Occupations which the Secretary of Labor may, pursuant to section 3(e) of the Fair Labor Standards Act and Reorganization Plan No. 2, issued pursuant to the Reorganization Act of 1945, find and declare to be hazardous for the employment of minors between 16 and 18 years of age or detrimental to their health or well-being;

(f) Occupations in connection with:

(1) Transportation of persons or property by rail, highway, air, water, pipeline, or other means;

(2) Warehousing and storage;

(3) Communications and public utilities;

(4) Construction (including demolition and repair) except such office (including ticket office) work or sales work, in connection with subparagraphs (1), (2), (3), and (4) of this paragraph, as does not involve the performance of any duties on trains, motor vehicles, aircraft, vessels, or other media of transportation or at the actual site of construction operations.

Section 1500.34 Occupations in retail, food service, and gasoline service establishments.

(a) This subpart shall apply to the following permitted occupations for minors between the ages of 14 and 16 employed by retail, food service, and gasoline service establishments.

(1) Office and clerical work, including the operation of office machines;

(2) Cashiering, selling, modeling, art work, work in advertising departments, window trimming, and comparative shopping;

(3) Price marking and tagging by hand or by machine, assembling orders, packing and shelving;

(4) Bagging and carrying out customers' orders;

(5) Errand and delivery work by foot, bicycle, and public transportation;

(6) Clean up work, including the use of vacuum cleaners and floor waxers, and maintenance of grounds, but not including the use of power-driven mowers or cutters;

(7) Kitchen work and other work involved in preparing and serving food and beverages, including the operation of machines and devices used in the performance of such work, such as, but not limited to, dish-washers, toasters, dumb-waiters, popcorn poppers, milk shake blenders, and coffee grinders;

(8) Work in connection with cars and trucks if confined to the following: Dispensing gasoline and oil; courtesy service; car cleaning, washing and polishing; and other occupations permitted by this section, but not including work involving the use of pits, racks, or lifting apparatus, or involving the inflation of any tire mounted on a rim equipped with a removable retaining ring.

(9) Cleaning vegetables and fruits, and wrapping, sealing, labeling, weighing, pricing and stocking goods when performed in areas physically separate from those where the work described in paragraph (b) (7) of this section is performed.

(b) Paragraph (a) of this section shall not be construed to permit the application of this subpart to any of the following occupations in retail, food service, and gasoline service establishments:

(1) All occupations listed in Section 1500.33 except occupations involving processing, operation of machines and work in rooms where processing and manufacturing take place which are permitted by paragraph (a) of this section;

(2) Work performed in or about boiler or engine rooms;

(3) Work in connection with maintenance or repair of the establishment, machines or equipment;

(4) Outside window washing that involves working from window sills, and all work requiring the use of ladders, scaffolds, or their substitutes;

(5) Cooking (except at soda fountains, lunch counters, snack bars, or cafeteria serving counters) and baking;

(6) Occupations which involve operating, setting up, adjusting, cleaning, oiling, or repairing power-driven food slicers and grinders, food choppers and cutters, and bakery-type mixers;

(7) Work in freezers and meat coolers and all work in the preparation of meats for sale except as described in paragraph (a) (9) of this section;

(8) Loading and unloading goods to and from trucks, railroad cars, or conveyors;

(9) All occupations in warehouses except office and clerical work.

(27 F.R. 4165, May 2, 1962)

Section 1500.35 Periods and conditions of employment.

(a) Except as provided in paragraph (b) of this section, employment in any of the occupations to which this subpart is applicable shall be confined to the following periods:

(1) Outside school hours;

(2) Not more than 40 hours in any one week when school is not in session;

(3) Not more than 18 hours in any one week when school is in session;

(4) Not more than 8 hours in any one day when school is not in session;

(5) Not more than 3 hours in any one day when school is in session;

(6) Between 7 a.m. and 7 p.m. in any one day, except during the summer (June 1 through Labor Day) when the evening hour will be 9 p.m.

(b) In the case of enrollees in work training programs conducted under Part B of Title I of the Economic Opportunity Act of 1964, there is an exception to the requirement of paragraph (a) (1) of this section if the employer has on file with his records kept

pursuant to Part 516 of this title an unrevoked written statement of the Administrator of the Bureau of Work Programs of his representative setting out the periods which the minor will work and certifying that his employment confined to such periods will not interfere with his health and well-being, countersigned by the principal of the school which the minor is attending with his certificate that such employment will not interfere with the minor's schooling.

(52 Stat. 1061 as amended; 29 U.S.C. 203)

Section 1500.35a Work experience and career exploration programs.

(a) This section varies some provisions of this subpart for the employment of minors between 14 and 16 years of age who are enrolled in and employed pursuant to an experimental school supervised and school administered work experience and career exploration program which meets the requirements of paragraph (b) of this section, in the occupations permitted under paragraph (c) of this section, and for the periods and under the conditions specified in paragraph (d) of this section. With these safeguards, such employment is not found to interfere with the schooling of the minors or with their health and well-being and therefore is not deemed to be oppressive child labor.

(b) (1) An experimental school supervised and school administered work-experience and career exploration program shall meet the educational standards established and approved by the State Educational Agency in the respective State.

(2) The State Educational Agency shall file with the Director of the Bureau of Labor Standards a written application for approval of a particular program as one not interfering with schooling or with the health and well-being of the minors involved and therefore not constituting oppressive child labor. The application must include the information listed in subparagraph (3) of this paragraph. The director of the Bureau of Labor Standards shall approve the application, or give prompt notice of any denial and the reasons therefor.

(3) The criteria to be used in consideration of applications are the following:

(i) Admission. Any student aged 14 or 15 years who authoritative local school personnel identify as being able to benefit from the program shall be eligible to participate.

(ii) Credits. Students shall receive school credits for both in-school related instruction and on-the-job experience.

(iii) Size. Each program unit shall be a reasonable size. A unit of 12 to 20 students to one teacher-coordinator would be generally considered reasonable. Whether other sizes are reasonable would depend upon the individual facts and circumstances involved.

(iv) Time schedule. Except when necessary to accommodate to State law requirements of equivalent instruction, on each school day there shall be (a) a minimum of two classroom hours in instruction devoted to job-related and to employability skill instruction, and (b) a minimum of two classroom hours of instruction devoted to regularly required subjects which meet State standards for graduation.

(v) Teacher-coordinator. Each program unit shall be under the supervision of a school official to be designated for the purpose of the program as a teacher-coordinator, who shall generally supervise the program and perform the following specified duties:

(a) Select and place students.

(b) Choose work stations for the students.

(c) Coordinate the work and education aspects of the program.

(d) Maintain records and prepare reports.

(e) Conduct in-school related class instruction.

(vi) Physical facilities. The school will furnish adequate classroom facilities and supplies.

(vii) Written training agreement; administration. The program shall provide that no student shall participate in the program until there has been made a written training agreement signed by the teacher-coordinator, the employer, and the student. The agreement shall also be signed or otherwise consented to by the student's parent or guardian. The program shall require the employer to have on file a copy of this

training agreement for each student employed by him for the duration of the program.

(viii) Permissible occupations. The program shall permit the assignment of students only in work in those occupations permitted under paragraph (c) of this section.

(ix) Reports and records. The program shall provide that all records and reports made and kept by each program unit for the purposes of this section shall be made available for inspection to representatives of the director of the Bureau of Labor Standards.

(x) Other provisions. Any other provisions of the program providing safeguards ensuring that the employment permitted under this section will not interfere with the schooling of the minors or with their health and well-being may also be submitted for use in consideration of the application.

(c) Employment of minors enrolled in a program approved pursuant to the requirements of this section shall be permitted in all occupations except the following:

(1) Manufacturing and mining.

(2) Occupations declared to be hazardous for the employment of minors between 16 and 18 years of age in Subpart E of this part.

(3) Occupations other than those permitted under §§ 1500.33 and 1500.34, except upon approval of a variation in individual cases or classes of cases by the Director of the Bureau of Labor Standards after notice to interested persons and opportunity to be heard. Any such variation of general application shall be published as an amendment to this subpart. Applications for such approval may be included with the application for approval of the program; or filed specifically under § 1500.38. Such applications shall be processed under § 1500.38.

(d) Employment of minors enrolled in a program approved pursuant to the requirements of this section shall be confined to not more than 28 hours in any 1 week when school is in session and not more than 4 hours in any day when school is in session, any portion of which may be during school hours. Insofar as these provisions are inconsistent with the provisions of § 1500.35, this section shall be controlling.

(e) This section shall terminate and have no force and effect after August 31, 1972.

(34 F.R. 17804, Nov. 5, 1969)

Section 1500.36 Certificates of age; effect. The employment of any minor in any of the occupations to which this subpart is applicable, if confined to the periods specified in section 1500.35 shall not be deemed to constitute oppressive child labor within the meaning of the act if the employer shall have on file an unexpired certificate, issued in substantially the same manner as that provided for the issuance of certificates in Subpart A of this part relating to certificates of age, certifying that such minor is of an age between 14 and 16 years.

Section 1500.37 Effect on other laws. No provisions of this subpart shall, under any circumstances, justify or be construed to permit noncompliance with the wage and hour provisions of the act or with the provisions of any other Federal law or of any State law or municipal ordinance establishing higher standards than those established under this subpart.

Section 1500.38 Revision of this subpart. Any person wishing a revision of any of the terms of this subpart may submit in writing to the Secretary of Labor a petition setting forth the changes desired and the reasons for proposing them. If, after consideration of the petition, the Secretary of Labor believes that reasonable cause for amendment of the subpart is set forth, he shall either schedule a hearing with due notice to interested parties, or shall make other provision for affording interested parties an opportunity to be heard.

Codification: Former Sections 1500.34 through 1500.37 were redesignated Sections 1500.35 through 1500.38, respectively, and a new Section 1500.34 was added, 27 F.R. 4165 May 2, 1962.

APPENDIX F

SUPPLEMENTARY TABLES

APPENDIX TABLE 1
AGE-ETHNIC ORIGIN STRUCTURE OF THE WECEP/NON-WECEP SAMPLE

		13	14	15	16	17	18	Row Total
Non-WECEP								
White	N[1/]	2	16	115	35	3	1	262
	Row %	0.8	40.5	43.9	13.4	1.1	0.4	81.9
	Column %	100.0	85.5	79.3	77.8	100.0	100.0	
Black and Other	N	0	18	30	10	0	0	58
	Row %	0.0	31.0	51.7	17.2	0.0	0.0	18.1
	Column %	0.0	14.5	20.7	22.2	0.0	0.0	
Column Total	N	2	124	145	45	3	1	320
	%	0.6	38.8	45.3	14.1	0.9	0.3	100.0
WECEP								
White	N		73	140	27			240
	Row %		30.4	58.3	11.3			77.4
	Column %		83.9	76.1	69.2			
Black and Other	N		14	43	12			69
	Row %		20.3	62.3	17.4			22.3
	Column %		16.1	23.4	30.8			
Column Total	N		87	184	39			310
	%		28.1	59.4	12.6			100.0

Notes: 1/ N = the cell size.

APPENDIX TABLE 2
SEX-ETHNIC ORIGIN STRUCTURE OF THE WECEP/NON-WECEP SAMPLE

		White	Black and Other	Row Total
Non-WECEP				
Female	N[1/]	76	22	98
	Row %	77.6	22.4	30.4
	Column %	28.9	37.3	
Male	N	187	37	224
	Row %	83.5	16.5	69.6
	Column %	71.1	62.7	
Column Total	N	263	59	322
	%	81.7	18.3	100.0
WECEP				
Female	N	49	8	67
	Row %	73.1	26.9	21.6
	Column %	20.4	26.1	
Male	N	191	51	243
	Row %	78.6	21.0	78.4
	Column %	79.6	73.9	
Column Total	N	240	69	310
	%	77.4	22.3	100.0

Notes: 1/ N = the cell size.

APPENDIX TABLE 3
SEX-AGE STRUCTURE OF THE WECEP/NON-WECEP SAMPLE

		13	14	15	16	17	18	Row Total
Non-WECEP								
Female	N[1/]	2	63	74	26	1	1	167
	Row %	1.2	37.7	44.3	15.6	0.6	0.6	29.2
	Column %	25.0	31.8	26.9	30.6	20.0	100.0	
Male	N	6	135	201	59	4	0	405
	Row %	1.5	33.3	49.6	14.6	1.0	0.0	70.8
	Column %	75.0	68.2	73.1	69.4	80.0	0.0	
Column Total	N	8	198	275	85	5	1	572
	%	1.4	34.6	48.1	14.9	0.9	0.2	100.0
WECEP								
Female	N	0	63	61	9	0		133
	Row %	0.0	47.4	45.9	6.8	0.0		20.1
	Column %	0.0	31.3	16.3	11.1	0.0		
Male	N	2	138	314	72	4		530
	Row %	0.4	26.0	59.2	13.6	0.8		79.9
	Column %	100.0	68.7	83.7	88.9	100.0		
Column Total	N	2	21	375	81	4		663
	%	0.3	30.3	56.6	12.2	0.6		100.0

Notes: 1/ N = the cell size.

APPENDIX TABLE 4
CREDITS EARNED DURING THE WECEP YEAR, BY SEX

		WECEP		Non-WECEP	
		Female	Male	Female	Male
English, literature and related courses	M[1/]	0.61	0.65	0.85	0.78
	SD	(0.52)	(0.59)	(0.66)	(0.78)
	N	40	189	83	193
History, social studies, economics	M	0.30	0.30	0.45	0.39
	SD	(0.52)	(0.56)	(0.60)	(0.55)
	N	40	188	83	193
Mathematics	M	0.57	0.65	0.57	0.56
	SD	(0.48)	(0.54)	(0.49)	(0.49)
	N	39	189	83	193
Science	M	0.40	0.40	0.55	0.57
	SD	(0.55)	(0.53)	(0.47)	(0.48)
	N	40	188	83	193
Auto mechanics, auto math, auto science, body shop	M	0.03	0.01	0.01	0.01
	SD	(0.16)	(0.07)	(0.11)	(0.10)
	N	40	188	83	193
Distributive education: retailing, merchandising, store management	M	0.00	0.01	0.01	0.02
	SD	(0.02)	(0.08)	(0.08)	(0.15)
	N	40	188	83	193
Office education: business machines, bookkeeping, accounting, general business	M	0.09	0.06	0.11	0.06
	SD	(0.32)	(0.26)	(0.36)	(0.25)
	N	40	188	83	193
Shorthand, typing, transcription	M	0.13	0.02	0.13	0.03
	SD	(0.34)	(0.13)	(0.33)	(0.15)
	N	40	188	83	193
Electricity and electronics	M	0.14	0.06	0.24	0.21
	SD	(0.47)	(0.23)	(0.49)	(0.41)
	N	40	188	83	193
Machine shop, drafting, machine theory, industrial arts, and related courses	M	0.15	0.07	0.28	0.58
	SD	(0.36)	(0.25)	(0.43)	(0.83)
	N	40	188	83	194

Appendix Table 4
Credits Earned During the WECEP Year, by Sex (continued)

		WECEP		Non-WECEP	
		Female	Male	Female	Male
Total credits, work experience	M	0.00	0.03	0.02	0.01
	SD	(0.00)	(0.17)	(0.15)	(0.07)
	N	40	188	83	193
Total credits, work related courses	M	1.73	1.39	--	--
	SD	(1.05)	(0.96)		
	N	39	174		

Notes: 1/ M is the mean, SD is the standard deviation, and N the cell size.

APPENDIX TABLE 5
CREDITS EARNED DURING THE WECEP YEAR, BY RACE

		WECEP		Non-WECEP	
		Black & Other	White	Black & Other	White
English, literature and related courses	M[1/]	0.88	0.58	0.75	0.78
	SD	(0.80)	(0.54)	(0.58)	(0.75)
	N	28	156	34	217
History, social studies, economics	M	0.33	0.27	0.68	0.34
	SD	(0.77)	(0.49)	(0.73)	(0.54)
	N	28	155	34	217
Mathematics	M	0.91	0.55	0.66	0.54
	SD	(0.80)	(0.47)	(0.47)	(0.49)
	N	27	156	34	217
Science	M	0.83	0.28	0.41	0.57
	SD	(0.55)	(0.47)	(0.47)	(0.47)
	N	28	155	34	217
Auto mechanics, auto math, auto science, body shop	M	0.00	0.01	0.00	0.01
	SD	(0.00)	(0.08)	(0.00)	(0.10)
	N	28	155	34	217
Distributive education: retailing, merchandising, store management	M	0.00	0.02	0.00	0.03
	SD	(0.00)	(0.09)	(0.00)	(0.15)
	N	28	155	34	217
Office education: business machines, bookkeeping, accounting, general business	M	0.16	0.06	0.04	0.09
	SD	(0.49)	(0.23)	(0.19)	(0.31)
	N	28	155	34	217
Shorthand, typing, transcription	M	0.00	0.03	0.02	0.04
	SD	(0.00)	(0.18)	(0.09)	(0.20)
	N	28	155	34	217
Electricity and electronics	M	0.00	0.08	0.34	0.22
	SD	(0.00)	(0.31)	(0.59)	(0.42)
	N	28	155	34	217
Machine shop, drafting, machine theory, industrial arts, and related courses	M	0.04	0.09	0.19	0.52
	SD	(0.19)	(0.27)	(0.39)	(0.55)
	N	28	155	34	217

Appendix Table 5
Credits Earned During the WECEP Year, by Race (continued)

		WECEP		Non-WECEP	
		Black & Other	White	Black & Other	White
Total credits, work experience	M	0.00	0.02	0.03	0.01
	SD	(0.00)	(0.14)	(0.17)	(0.10)
	N	28	155	34	217
Total credits, work related courses	M	1.10	1.41	--	--
	SD	(0.34)	(1.08)		
	N	21	144		

Notes: 1/ M is the mean, SD is the standard deviation, and N the cell size.

APPENDIX TABLE 6
CREDITS EARNED DURING THE WECEP YEAR, BY AGE

		WECEP		Non-WECEP	
		14 and Under	15 and Over	14 and Under	15 and Over
English, literature and related courses	M[1]	0.82	0.59	0.76	0.82
	SD	(0.44)	(0.60)	(0.43)	(0.88)
	N	50	179	103	171
History, social studies, economics	M	0.38	0.28	0.29	0.47
	SD	(0.49)	(0.57)	(0.46)	(0.62)
	N	50	178	103	171
Mathematics	M	0.75	0.60	0.53	0.58
	SD	(0.41)	(0.55)	(0.49)	(0.49)
	N	50	178	103	171
Science	M	0.40	0.40	0.65	0.51
	SD	(0.50)	(0.54)	(0.46)	(0.48)
	N	50	178	103	171
Auto mechanics, auto math, auto science, body shop	M	0.02	0.01	0.01	0.01
	SD	(0.14)	(0.08)	(0.10)	(0.11)
	N	50	178	103	171
Distributive education: retailing, merchandising, store management	M	0.00	0.02	0.02	0.02
	SD	(0.00)	(0.08)	(0.12)	(0.14)
	N	50	178	103	171
Office education: business machines, bookkeeping, accounting, general business	M	0.00	0.08	0.12	0.05
	SD	(0.00)	(0.30)	(0.37)	(0.22)
	N	50	178	103	171
Shorthand, typing, transcription	M	0.10	0.02	0.04	0.07
	SD	(0.30)	(0.13)	(0.20)	(0.24)
	N	50	178	103	171
Electricity and electronics	M	0.02	0.08	0.20	0.23
	SD	(0.16)	(0.31)	(0.39)	(0.46)
	N	50	178	103	171
Machine shop, drafting, machine theory, industrial arts, and related courses	M	0.11	0.08	0.57	0.45
	SD	(0.31)	(0.26)	(1.00)	(0.53)
	N	50	178	104	171

Appendix Table 6
Credits Earned During the WECEP Year, by Age (continued)

		WECEP		Non-WECEP	
		14 and Under	15 and Over	14 and Under	15 and Over
Total credits, work experience	M	0.00	0.03	0.02	0.01
	SD	(0.00)	(0.17)	(0.14)	(0.08)
	N	50	178	103	171
Total credits, work related courses	M	1.15	1.55	--	--
	SD	(0.52)	(1.08)		
	N	53	160		

Notes: 1/ M is the mean, SD is the standard deviation, and N the cell size.

APPENDIX TABLE 7
STRUCTURE OF COURSE CREDITS, DURING WECEP YEAR, BY SEX

		Males		Females	
		WECEP	Non-WECEP	WECEP	Non-WECEP
Academic Credits	M	2.00	2.29	1.81	2.42
	SD	(1.51)	(1.50)	(1.35)	(1.51)
	N	188	193	39	83
Vocational Credits	M	0.23	0.87	0.53	0.79
	SD	(0.47)	(0.78)	(0.61)	(0.75)
	N	188	193	40	83
WECEP-related Credits	M	1.42	--	1.72	--
	SD	(1.00)		(1.09)	
	N	165		36	

Notes: M = Mean of sample cell; SD = Standard deviation of the mean;
N = Number of observations

APPENDIX TABLE 8
ANALYSIS OF EFFECT OF HOURS WORKED PER SCHOOL DAY
ON SELECTED INDICES OF EDUCATIONAL PERFORMANCE, TOTAL SAMPLE

		Hours/Day	$(\text{Hours/Day})^2$	GPA x Hours/Day[1/]
Probability of Being Truant	b	.00348	.00116	-.00155
	(s)	.01374	.00274	.00445
Probability of Being Suspended	b	.05764	.00072	-.01244
	(s)	.04762	.00951	.01533
Days Absent During WECEP Year	b	-19.58802**	1.05078	5.87275**
	(s)	3.11634	.70747	.95103
Days Tardy During WECEP Year	b	-7.41600**	.33031	2.20765**
	(s)	2.46129	.54679	.77001
Grade Point Average: All Courses	b	1.37896**	-.45326	.20193
	(s)	.43973	.08819	.14148
Grade Point Average: Academic Courses Only	b	1.59228**	-.45665**	.13583
	(s)	.45092	.09043	.14508

Notes: 1/ GPA = Grade point average in year prior to WECEP enrollment.

b = partial regression coefficient
(s) = standard error of partial regression coefficient
* = significant at 5% level
** = significant at 1% level

APPENDIX TABLE 9
ANALYSIS OF EFFECT OF HOURS WORKED PER SCHOOL DAY
ON SELECTED INDICES OF EDUCATIONAL PERFORMANCE, MALES

		Hours/Day	$(\text{Hours/Day})^2$	GPA x Hours/Day[1/]
Probability of Being Truant	b	.00310	.00132	-.00136
	(s)	.01686	.00339	.00563
Probability of Being Suspended	b	.06521	.00271	-.01833
	(s)	.05638	.01135	.01881
Days Absent During WECEP Year	b	-22.18444**	.76642	7.40495**
	(s)	3.39958	.77571	1.07900
Days Tardy During WECEP Year	b	-7.40988**	.20873	2.45949**
	(s)	2.73104	.61684	.89620
Grade Point Average: All Courses	b	1.21663*	-.3663**	.15997
	(s)	.48859	.09889	.16290
Grade Point Average: Academic Courses Only	b	1.45528**	-.37816**	.07925
	(s)	.50259	.10173	.16756

Notes: 1/ GPA = Grade point average in year prior to WECEP enrollment.

APPENDIX TABLE 10
ANALYSIS OF EFFECT OF HOURS WORKED PER SCHOOL DAY
ON SELECTED INDICES OF EDUCATIONAL PERFORMANCE, FEMALES

		Hours/Day	$(\text{Hours/Day})^2$	GPA x Hours/Day[1/]
Probability of Being Truant	b (s)	No Cases Cited		
Probability of Being Suspended	b (s)	.09099 .09185	-.01241 .01579	-.01117 .02659
Days Absent During WECEP Year	b (s)	-3.95956 9.34822	1.59295 1.68535	-1.54599 3.13275
Days Tardy During WECEP Year	b (s)	-3.41248 11.48283	.37026 1.54037	.08244 3.60944
Grade Point Average: All Courses	b (s)	.56260 1.24168	-.73685** .21349	.90144* .35941
Grade Point Average: Academic Courses Only	b (s)	.48450 .26933	-.65207** .21825	.87529* .36742

Notes: 1/ GPA = Grade point average in year prior to WECEP enrollment.

APPENDIX TABLE 11

COEFFICIENTS OF DETERMINATION, F-RATIOS AND SAMPLE SIZES FOR REGRESSION ANALYSIS OF EFFECT OF HOURS WORKED PER SCHOOL DAY ON SELECTED INDICES OF EDUCATIONAL PERFORMANCE

	Total Sample			Males			Females		
	$\bar{R}^2$	N	F	$\bar{R}^2$	N	F	$\bar{R}^2$	N	F
Probability of Being Truant	0.01	521	0.76	0.01	405	0.60	No Cases Cited		
Probability of Being Suspended	0.02	522	1.31	0.01	405	1.08	0.06	117	1.46
Days Absent During WECEP Year	0.24	349	17.94	0.27	266	19.37	0.15	83	2.73
Days Tardy During WECEP Year	0.05	275	2.44	0.05	210	2.20	0.07	65	0.92
Grade Point Average: All Courses	0.10	523	9.53	0.07	406	6.39	0.30	117	9.49
Grade Point Average: Academic Courses Only	0.11	523	10.19	0.07	406	6.14	0.32	117	10.31

Notes: $\bar{R}^2$ = Coefficient of determination adjusted for degrees of freedom
N = Number of observations
F = F-ratio for the equation

APPENDIX TABLE 12
ANALYSIS OF EFFECT OF TOTAL HOURS WORKED PER WEEK (EXCLUDING SATURDAY) ON SELECTED INDICES OF EDUCATIONAL PERFORMANCE, TOTAL SAMPLE

		Hours/Week	$(\text{Hours/Week})^2$	GPA x Hours/Week[1/]
Probability of Being Truant	b	.00456	-.00008	-.00073
	(s)	.00265	.00007	.00088
Probability of Being Suspended	b	.01508	-.00023	-.00229
	(s)	.00923	.00026	.00303
Days Absent During WECEP Year	b	-3.97674**	.03524	1.22095**
	(s)	.58902	.01845	.18798
Days Tardy During WECEP Year	b	-1.64408**	.01538	.47270**
	(s)	.46973	.01393	.15023
Grade Point Average: All Courses	b	.25032**	-.01231**	.02033
	(s)	.08559	.00243	.02809
Grade Point Average: Academic Courses Only	b	.27819**	-.01170**	.00862
	(s)	.08791	.00250	.02886

Notes: 1/ GPA = Grade point average in your prior to WECEP enrollment.

APPENDIX TABLE 13
ANALYSIS OF EFFECT OF TOTAL HOURS WORKED PER WEEK (INCLUDING SATURDAY) ON SELECTED INDICES OF EDUCATIONAL PERFORMANCE, MALES

		Hours/Week	$(\text{Hours/Week})^2$	GPA x Hours/Week[1]
Probability of Being Truant	b	.00506	.00006	-.00082
	(s)	.00286	.00008	.00095
Probability of Being Suspended	b	.01517	-.00021	-.00236
	(s)	.00962	.00028	.00321
Days Absent During WECEP Year	b	-3.91983**	.02646	1.27490**
	(s)	.56290	.01875	.17909
Days Tardy During WECEP Year	b	-1.50020**	.01338	.44468**
	(s)	.44706	.01493	.14126
Grade Point Average: All Courses	b	.17552*	-.00837**	.02459
	(s)	.08386	.00248	.02799
Grade Point Average: Academic Courses Only	b	.10791*	-.00789**	.01280
	(s)	.08640	.00256	.02884

Notes: GPA = Grade point average in year prior to WECEP enrollment.

APPENDIX TABLE 14
ANALYSIS OF EFFECT OF TOTAL HOURS WORKED PER WEEK (INCLUDING SATURDAY) ON SELECTED INDICES OF EDUCATIONAL PERFORMANCE, FEMALES

		Hours/Week	$(\text{Hours/Week})^2$	GPA x Hours/Week[1/]
Probability of Being Truant	b	No Cases Cited		
	(s)			
Probability of Being Suspended	b	.02285	-.00091	-.00197
	(s)	.01668	.00048	.00531
Days Absent During WECEP Year	b	-.23412	.03523	-.37449
	(s)	1.68502	.05334	.62590
Days Tardy During WECEP Year	b	-.57461	.00618	.01808
	(s)	1.71179	.04378	.59502
Grade Point Average: All Courses	b	.05105	-.02649**	.19396**
	(s)	.22599	.00654	.07196
Grade Point Average: Academic Courses Only	b	.07480	-.02486**	.18243*
	(s)	.23064	.00668	.07344

Notes: 1/ GPA = Grade point average in your prior to WECEP enrollment.

APPENDIX TABLE 15

COEFFICIENTS OF DETERMINATION, F-RATIOS AND SAMPLE SIZES FOR REGRESSION ANALYSIS OF EFFECT OF TOTAL HOURS WORKED PER WEEK (INCLUDING SATURDAY) ON SELECTED INDICES OF EDUCATIONAL PERFORMANCE

	Total Sample			Males			Females		
	$\bar{R}^2$	N	F	$\bar{R}^2$	N	F	$\bar{R}^2$	N	F
Probability of Being Truant	0.02	521	1.84	0.02	405	1.80	No Cases Cited		
Probability of Being Suspended	0.01	522	1.27	0.01	405	1.07	0.07	117	1.71
Days Absent During WECEP Year	0.25	349	18.54	0.28	266	20.03	0.15	83	2.72
Days Tardy During WECEP Year	0.06	275	3.07	0.07	210	2.89	0.08	65	0.96
Grade Point Average: All Courses	0.08	523	7.81	0.0	406	5.32	0.30	117	9.70
Grade Point Average: Academic Courses Only	0.09	523	8.26	0.06	406	4.81	0.32	117	10.64

Notes: $\bar{R}^2$ = Coefficient of determination adjusted for degrees of freedom
N = Number of observations
F = F-ratio for the equation

APPENDIX TABLE 16

ANALYSIS OF EFFECT OF TOTAL HOURS WORKED PER WEEK (EXCLUDING SATURDAY) ON SELECTED INDICES OF SCHOOL PERFORMANCE, TOTAL SAMPLE

		Hours/Week	(Hours/Week)^2	GPA x Hours/Week [1]	Hours/Week x Saturday Hours
Probability of Being Truant	b	.00358	-.00002	-.00097	-.00153*
	(s)	.00228	.00002	.00082	.00079
Probability of Being Suspended	b	.01125	-.00011	-.00188	-.00263
	(s)	.00751	.00007	.00268	.00260
Days Absent During WECEP Year	b	-3.27960**	.01581**	1.04515**	-.04321
	(s)	.49084	.00435	.17764	.19618
Days Tardy During WECEP Year	b	-1.19526**	.00665**	.34627*	.25723
	(s)	.45042	.00326	.16551	.29045
Grade Point Average: All Courses	b	.00992	-.00035**	.00662	.01373*
	(s)	.01763	.00016	.00628	.00656
Grade Point Average: Academic Courses Only	b	.03722*	-.00027	-.01067	.00464
	(s)	.02082	.00017	.00753	.00651

Notes: 1/ GPA = Grade point average in year prior to WECEP enrollment.

b = partial regression coefficient
(s) = standard error of partial regression
* significant at 5% level
** significant at 10% level

APPENDIX TABLE 17

ANALYSIS OF EFFECT OF TOTAL HOURS WORKED PER WEEK (EXCLUDING SATURDAY) ON SELECTED INDICES OF SCHOOL PERFORMANCE, MALES

		Hours/Week	(Hours/Week)^2	GPA x Hours/Week [1/]	Hours/Week x Saturday Hours
Probability of Being Truant	b	.00445	-.00005	-.00102	-.00166*
	(s)	.00299	.00008	.00103	.00092
Probability of Being Suspended	b	-.01394	-.00019	-.00236	-.00276
	(s)	.00949	.00024	.00325	.00293
Days Absent During WECEP Year	b	-4.08402*	.03110	1.28021**	-.09258
	(s)	.60814	.01922	.19337	.20236
Days Tardy During WECEP Year	b	-1.24186**	.01078	.35524*	.31941
	(s)	.55729	.01502	.18933	.32114
Grade Point Average: All Courses	b	.03662*	-.00197**	.00652	.01934**
	(s)	.02188	.00065	.00682	.00682
Grade Point Average: Academic Courses Only	b	.05151*	-.00101	-.01217	.00876
	(s)	.02544	.00067	.00826	.00684

Notes: 1/ GPA = Grade point average in year prior to WECEP enrollment.

b = partial regression coefficient
(s) = standard error of partial regression
* significant at 5% level
** significant at 10% level

APPENDIX TABLE 18
ANALYSIS OF EFFECT OF TOTAL HOURS WORKED PER WEEK (EXCLUDING SATURDAY)
ON SELECTED INDICES OF SCHOOL PERFORMANCE, FEMALES

		Hours/Week	(Hours/Week)^2	GPA x Hours/Week[1/]	Hours/Week x Saturday Hours
Probability of Being Truant	b		No Cases Cited		
	(s)				
Probability of Being Suspended[2/]	b	.01425	-.00012	-.00270	-.00078
	(s)	.01331	.00008	.00452	.00663
Days Absent During WECEP Year[3/]	b	.27940	.00522	-.37566	--
	(s)	1.62851	.00761	.63958	
Days Tardy During WECEP Year[3/]	b	-.54481	.00623	.01300	--
	(s)	1.60542	.00631	.64921	
Grade Point Average: All Courses[2/]	b	.12909*	-.00085**	-.03199	-.02124
	(s)	.05715	.00027	.02211	.02241
Grade Point Average: Academic Courses Only[2/]	b	.06286	-.00047*	-.01472	-.02667
	(s)	.05962	.00029	.02305	.02337

Notes: 1/ GPA = Grade point average in year prior to WECEP enrollment.

2/ This model includes the following independent variables: age, sex, grade point average in the school year prior to entering WECEP, hours worked per school week, the square of hours worked per school week, the interaction between hours worked per school week and grade point average in the school year prior to entering WECEP, hours worked on Saturday and the interaction between hours worked on Saturday and hours worked per school week.

Appendix Table 18
Analysis of Effect of Total Hours Worked Per Week (Excluding Saturday)
on Selected Indices of School Performance, Females (continued)

Notes: 3/ This model is the same as that described in footnote 2/ except that the interaction between hours worked on Saturday and hours worked per school week is omitted.

b = partial regression coefficient
(s) = standard error of partial regression
* significant at 5% level
** significant at 10% level

APPENDIX TABLE 19.
COEFFICIENTS OF DETERMINATION, F-RATIOS AND SAMPLE SIZES FOR REGRESSION ANALYSIS OF EFFECT OF TOTAL HOURS WORKED PER WEEK (EXCLUDING SATURDAY) ON SELECTED INDICES OF EDUCATIONAL PERFORMANCE

	Total Sample			Males			Females		
	$\bar{R}^2$	N	F	$\bar{R}^2$	N	F	$\bar{R}^2$	N	F
Probability of Being Truant	0.07	543	5.07	0.08	425	4.88	No Cases Cited		
Probability of Being Suspended	0.01	542	0.93	0.01	424	0.78	0.06	118	1.00
Days Absent During WECEP Year	0.25	361	14.84	0.29	278	15.38	0.14	83	2.11
Days Tardy During WECEP Year	0.06	281	2.32	0.07	214	2.16	0.07	67	0.76
Grade Point Average: All Courses	0.27	397	18.24	0.34	308	22.23	0.17	89	2.37
Grade Point Average: Academic Courses Only	0.19	385	10.90	0.21	298	11.20	0.16	87	2.26

Notes: $\bar{R}^2$ = Coefficient of determination adjusted for degrees of freedom
N = Number of observations
F = F-ratio for the equation

APPENDIX TABLE 20
ANALYSIS OF EFFECT OF TOTAL HOURS WORKED DURING THE ENTIRE ENROLLMENT PERIOD IN WECEP ON SELECTED INDICES OF EDUCATIONAL PERFORMANCE, TOTAL SAMPLE

		Total Hours	$(\text{Total Hours})^2$	GPA x Total Hours[1/]
Probability of Being Truant	b	.00017*	-.00000	-.00004
	(s)	.00007	.00000	.00003
Probability of Being Suspended	b	.00053*	-.00000	-.00011
	(s)	.00026	.00000	.00009
Days Absent During WECEP Year	b	-.10307**	.00002	.03349**
	(s)	.01896	.00001	.00637
Days Tardy During WECEP Year	b	-.03995*	.00001	.01203*
	(s)	.01668	.00001	.00558
Grade Point Average: All Courses	b	.00573*	-.00001**	.00037
	(s)	.00241	.00000	.00081
Grade Point Average: Academic Courses Only	b	.00625*	-.00001**	.00020
	(s)	.00246	.00000	.00083

Notes: 1/ GPA = Grade point average in year prior to WECEP enrollment.

APPENDIX TABLE 21
ANALYSIS OF EFFECT OF TOTAL HOURS WORKED DURING THE ENTIRE ENROLLMENT PERIOD IN WECEP ON SELECTED INDICES OF EDUCATIONAL PERFORMANCE, MALES

		Total Hours	$(\text{Total Hours})^2$	GPA x Total Hours[1/]
Probability of Being Truant	b	.00020*	-.00000	-.00000
	(s)	.00009	.00000	.00003
Probability of Being Suspended	b	.00059	-.00000	-.00014
	(s)	.00031	.00000	.00010
Days Absent During WECEP Year	b	-.12190**	.00002	.04171**
	(s)	.02138	.00002	.00722
Days Tardy During WECEP Year	b	-.03946*	.00001	.01248
	(s)	.01921	.00001	.00653
Grade Point Average: All Courses	b	.00607*	-.00000**	-.00014
	(s)	.00269	.00000	.00092
Grade Point Average: Academic Courses Only	b	.00704*	-.00000*	-.00052
	(s)	.00275	.00000	.00094

Notes: 1/ GPA = Grade point average in year prior to WECEP enrollment.

APPENDIX TABLE 22

ANALYSIS OF EFFECT OF TOTAL HOURS WORKED DURING THE ENTIRE ENROLLMENT PERIOD IN WECEP ON SELECTED INDICES OF EDUCATIONAL PERFORMANCE, FEMALES

		Total Hours	(Total Hours)^2	GPA x Total Hours[1/]
Probability of Being Truant	b		No Cases Cited	
	(s)			
Probability of Being Suspended	b	.00064	-.00000	-.00006
	(s)	.00045	.00000	.00014
Days Absent During WECEP Year	b	-.01040	.00004	-.01034
	(s)	.04670	.00004	.01780
Days Tardy During WECEP Year	b	-.02975	.00001	.00538
	(s)	.04004	.00003	.01396
Grade Point Average: All Courses	b	-.00138	-.00002**	.00566**
	(s)	.00616	.00000	.00195
Grade Point Average: Academic Courses Only	b	-.00574	-.00001*	.00669**
	(s)	.00622	.00000	.00197

Notes: GPA = Grade point average in year prior to WECEP enrollment.

APPENDIX TABLE 23

COEFFICIENTS OF DETERMINATION, F-RATIOS AND SAMPLE SIZES FOR REGRESSION ANALYSIS OF EFFECT OF TOTAL HOURS WORKED DURING THE ENTIRE ENROLLMENT PERIOD IN WECEP ON SELECTED INDICES OF EDUCATIONAL PERFORMANCE

	Total Sample			Males			Females		
	$\bar{R}^2$	N	F	$\bar{R}^2$	N	F	$\bar{R}^2$	N	F
Probability of Being Truant	0.02	521	1.97	0.02	405	1.98	No Cases Cited		
Probability of Being Suspended	0.02	522	1.40	0.01	405	1.18	0.08	117	1.89
Days Absent During WECEP Year	0.21	349	15.30	0.23	266	15.65	0.15	83	2.67
Days Tardy During WECEP Year	0.04	275	1.95	0.04	210	1.53	0.07	65	0.96
Grade Point Average: All Courses	0.08	523	7.40	0.06	406	5.18	0.29	117	9.28
Grade Point Average: Academic Courses Only	0.09	523	8.48	0.06	406	5.40	0.33	117	10.67

Notes: $\bar{R}^2$ = Coefficient of determination adjusted for degrees of freedom
N = Number of observations
F = F-ratio for the equation

APPENDIX TABLE 24

ANALYSIS OF EFFECT OF HOURS WORKED PER DAY, HOURS WORKED PER WEEK (INCLUDING SATURDAY), HOURS WORKED PER WEEK (EXCLUDING SATURDAY) AND TOTAL HOURS WORKED WHILE ENROLLED IN WECEP ON DAYS ABSENT DURING WECEP YEAR, TOTAL SAMPLE[1/]

		Hours	(Hours)^2	GPA[3/] x Hours	Hours/Week x Saturday Hours
MODEL A:	b	-13.48124**	.75471	3.37169**	--
Hours/Day	(s)	2.84513	.62092	.85990	
Hours/Week	b	-2.55293**	.03078*	.59769**	--
(Including Saturday)	(s)	.47262	.01568	.14646	
Hours/Week	b	-2.37745**	.01585**	.63108	-.09725
(Excluding Saturday)[3/]	(s)	.44030	.00367	.16010	.16220
Total Hours During	b	-.07636**	.00002	.02115**	--
Enrollment	(s)	.01652	.00001	.00558	
MODEL B:	b	-13.36746**	.70095	3.34571**	--
Hours/Day	(s)	2.83287	.61873	.85612	
Hours/Week	b	-2.55698**	.03016	.59471**	--
(Including Saturday)	(s)	.47042	.01561	.14579	
Hours/Week	b	-2.37978**	.01601**	.62139**	.08995
(Excluding Saturday)[3/]	(s)	.43834	.00366	.15946	.16152
Total Hours During	b	-.07712**	.00002	.02117**	--
Enrollment	(s)	.01645	.00001	.00555	

Notes: 1/ Model A controls for age, sex, grade point average in the school year prior to entering WECEP, days absent in the school year prior to entering WECEP, hours, the square of hours, and the interaction between hours and grade point average in the

Appendix Table 24
Analysis of Effect of Hours Worked Per Day, Hours Worked Per Week (Including Saturday), Hours Worked Per Week (Excluding Saturday) and Total Hours Worked While Enrolled in WECEP on Days Absent During WECEP Year, Total Sample (continued)

school year prior to entering WECEP. Model B controls for these variables plus the square of days absent in the school year prior to entering WECEP.

2/ This model also includes hours worked on Saturday and the interaction between hours worked on Saturday and hours worked per school week.

3/ GPA = Grade point average in year prior to WECEP enrollment.

b = partial regression coefficient
(s) = standard error of partial regression
* significant at 5% level
** significant at 10% level

APPENDIX TABLE 25

ANALYSIS OF EFFECT OF HOURS WORKED PER DAY, HOURS WORKED PER WEEK (INCLUDING SATURDAY), HOURS WORKED PER WEEK (EXCLUDING SATURDAY) AND TOTAL HOURS WORKED WHILE ENROLLED IN WECEP ON DAYS ABSENT DURING WECEP YEAR, MALES [1/]

		Hours	(Hours)^2	GPA[3/] x Hours	Hours/Week x Saturday Hours
MODEL A:	b	-16.40214**	.74329	4.6697**	--
Hours/Day	(s)	3.23463	.70122	1.03136	
Hours/Week	b	-3.03508**	.03321	.80004**	--
(Including Saturday)	(s)	.53764	.01714	.17283	
Hours/Week	b	-3.24636**	.03990*	.82664**	-.11104
(Excluding Saturday)[2/]	(s)	.57726	.01774	.18454	.17338
Total Hours During	b	-.09558**	.00002	.02840**	--
Enrollment	(s)	.01927	.00001	.00655	
MODEL B:	b	-16.25983**	.69784	4.63637**	--
Hours/Day	(s)	3.24127	.70380	1.03283	
Hours/Week	b	-3.02690**	.03256	.79513**	--
(Including Saturday)	(s)	.53807	.01717	.17304	
Hours/Week	b	-3.23048**	.03919*	.81928**	-.10802
(Excluding Saturday)[2/]	(s)	.57787	.01776	.18484	.17351
Total Hours During	b	-.09539**	.00002	.02826**	--
Enrollment	(s)	.01928	.00001	.00656	

Notes: 1/ Model A controls for age, sex, grade point average in the school year prior to entering WECEP, days absent in the school year prior to entering WECEP, hours, the square of hours, and the interaction between hours and grade point average in the

Appendix Table 25
Analysis of Effect of Hours Worked Per Day, Hours Worked Per Week (Including Saturday), Hours Worked Per Week (Excluding Saturday) and Total Hours Worked While Enrolled in WECEP on Days Absent During WECEP Year, Males (continued)

school year prior to entering WECEP. Model B controls for these variables plus the square of days absent in the school year prior to entering WECEP.

2/ This model also includes hours worked on Saturday and the interaction between hours worked on Saturday and hours worked per school week.

3/ GPA = Grade point average in year prior to WECEP enrollment.

b = partial regression coefficient
(s) = standard error of partial regression
* significant at 5% level
** significant at 10% level

APPENDIX TABLE 26

ANALYSIS OF EFFECT OF HOURS WORKED PER DAY, HOURS WORKED PER WEEK (INCLUDING SATURDAY), HOURS WORKED PER WEEK (EXCLUDING SATURDAY) AND TOTAL HOURS WORKED WHILE ENROLLED IN WECEP ON DAYS ABSENT DURING WECEP YEAR, FEMALES[1/]

		Hours	$(\text{Hours})^2$	GPA[3/] x Hours
MODEL A:	b	-.68399	.20383	-.41449
Hours/Day	(s)	7.11459	1.41492	2.56873
Hours/Week	b	-.12388	-.01663	-.11084
(Including Saturday)	(s)	1.26898	.04587	.52058
Hours/Week	b	-.60623	.00947	-.01444
(Excluding Saturday)[2/]	(s)	1.26138	.00561	.50988
Total Hours During	b	.01080	-.00001	-.00997
Enrollment	(s)	.03603	.00003	.01537
MODEL B:	b	-3.21759	.66328	-.96436
Hours/Day	(s)	6.83664	1.35768	2.45232
Hours/Week	b	-.58454	.00507	-.07135
(Including Saturday)	(s)	1.22672	.04464	.49857
Hours/Week	b	-.77945	.01010*	.04105
(Excluding Saturday)[2/]	(s)	1.21938	.00542	.49260
Total Hours During	b	-.00784	.00001	-.00755
Enrollment	(s)	.03523	.00003	.01476

Notes: 1/ Model A controls for age, sex, grade point average in the school year prior to entering WECEP, days absent in the school year prior to entering WECEP, hours, the square of hours, and the interaction between hours and grade point average in the

Appendix Table 26
Analysis of Effect of Hours Worked Per Day, Hours Worked Per Week (Including Saturday), Hours Worked Per Week (Excluding Saturday) and Total Hours Worked While Enrolled in WECEP on Days Absent During WECEP Year, Females (continued)

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school year prior to entering WECEP. Model B controls for these variables plus the square of days absent in the school year prior to entering WECEP.

2/ This model, in addition to the above, includes hours worked on Saturdays.

3/ GPA = Grade point average in year prior to WECEP enrollment.

b = partial regression coefficient
(s) = standard error of partial regression
* significant at 5% level
** significant at 10% level

APPENDIX TABLE 27

COEFFICIENTS OF DETERMINATION, F-RATIOS AND SAMPLE SIZES FOR REGRESSION ANALYSIS OF HOURS WORKED PER DAY, HOURS WORKED PER WEEK (INCLUDING SATURDAY), HOURS WORKED PER WEEK (EXCLUDING SATURDAY), AND TOTAL HOURS WORKED WHILE ENROLLED IN WECEP ON DAYS ABSENT DURING WECEP YEAR, FOR TOTAL SAMPLE, MALES AND FEMALES

	Total Sample			Males			Females		
	$\bar{R}^2$	N	F	$\bar{R}^2$	N	F	$\bar{R}^2$	N	F
MODEL A:									
Hours/Day	0.50	312	42.93	0.49	236	36.36	0.56	76	14.39
Hours/Week (Including Saturday)[1/]	0.50	312	43.20	0.49	236	36.55	0.56	76	14.88
Hours/Week (Excluding Saturday)[1/]	0.51	321	35.30	0.50	245	29.43	0.57	76	12.92
Total Hours	0.49	312	41.47	0.48	236	34.69	0.56	76	14.79
MODEL B:									
Hours/Day	0.50	312	38.38	0.49	236	31.22	0.60	76	14.73
Hours/Week (Including Saturday)[1/]	0.51	312	38.64	0.49	236	31.39	0.61	76	14.96
Hours/Week (Excluding Saturday)[1/]	0.51	321	32.43	0.50	245	26.21	0.61	76	12.89
Total Hours	0.49	312	37.12	0.48	236	29.80	0.60	76	14.82

Notes: 1/ This model also includes hours worked on Saturday and the interaction between hours worked on Saturday and hours worked per school week.

$\bar{R}^2$ = Coefficient of determination adjusted for degrees of freedom
N = Number of observations
F = F-ratio for the equation

Model A controls for age, sex, grade point average in the school year prior to entering WECEP, days absent in the school year prior to entering WECEP, hours, the square of hours, and the interaction between hours and grade point average in the school year prior to entering WECEP. Model B controls for these variables plus the square of days absent in the school year prior to entering WECEP.

APPENDIX TABLE 28

ANALYSIS OF EFFECT OF HOURS WORKED PER DAY, HOURS WORKED PER WEEK (INCLUDING SATURDAY), HOURS WORKED PER WEEK (EXCLUDING SATURDAY) AND TOTAL HOURS WORKED WHILE ENROLLED IN WECEP ON DAYS TARDY DURING WECEP YEAR, TOTAL SAMPLE[1/]

		Hours	(Hours)^2	GPA[3/] x Hours	Hours/Week x Saturday Hours
MODEL A:	b	-3.57787	-.23752	1.29090	--
Hours/Day	(s)	2.31134	.49626	.69756	
Hours/Week	b	-1.07920**	.01223	.25213*	--
(Including Saturday)	(s)	.37509	.01261	.11152	
Hours/Week	b	-.92841	.00523*	.25444*	.04581
(Excluding Saturday)[2/]	(s)	.40437	.00281	.14960	.24427
Total Hours During	b	-.01953	.00000	.00530	--
Enrollment	(s)	.01518	.00001	.00511	
MODEL B:	b	-3.86777	.02794	1.11614	--
Hours/Day	(s)	2.26173	.49203	.68416	
Hours/Week	b	-1.06819**	.01736	.21995*	--
(Including Saturday)	(s)	.36612	.01240	.10927	
Hours/Week	b	-.91976**	.00469*	.26806*	-.04231
(Excluding Saturday)[2/]	(s)	.39489	.00275	.14614	.23998
Total Hours During	b	-.02137	.00000	.00509	--
Enrollment	(s)	.01482	.00000	.00499	

Notes: 1/ Model A controls for age, sex, grade point average in the school year prior to entering WECEP, days tardy in the school year prior to entering WECEP, hours, the square of hours, and the interaction between hours and grade point average in the

Appendix Table 28
Analysis of Effect of Hours Worked Per Day, Hours Worked Per Week (Including Saturday), Hours Worked Per Week (Excluding Saturday) and Total Hours Worked While Enrolled in WECEP on Days Tardy During WECEP Year, Total Sample (continued)

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school year prior to entering WECEP. Model B controls for these variables plus the square of days tardy in the school year prior to entering WECEP.

2/ This model also includes hours worked on Saturday and the interaction between hours worked on Saturday and hours worked per school week.

3/ GPA = Grade point average in year prior to WECEP enrollment.

b = partial regression coefficient
(s) = standard error of partial regression
* significant at 5% level
** significant at 10% level

APPENDIX TABLE 29

ANALYSIS OF EFFECT OF HOURS WORKED PER DAY, HOURS WORKED PER WEEK (INCLUDING SATURDAY), HOURS WORKED PER WEEK (EXCLUDING SATURDAY) AND TOTAL HOURS WORKED WHILE ENROLLED IN WECEP ON DAYS TARDY DURING WECEP YEAR, MALES 1/

		Hours	$(\text{Hours})^2$	GPA 3/ x Hours	Hours/Week x Saturday Hours
MODEL A:	b	-4.31615	-.41660	1.91716*	--
Hours/Day	(s)	2.59056	.56100	.82304	
Hours/Week	b	-1.22338**	.00981	.34888**	--
(Including Saturday)	(s)	.41900	.01372	.12895	
Hours/Week	b	-1.15591*	.00913	.34000	.06925
(Excluding Saturday) 2/	(s)	.51711	.01401	.17248	.27290
Total Hours During	b	-.02241	-.00000	.00737	--
Enrollment	(s)	.01774	.00001	.00605	
MODEL B:	b	-4.44371	-.14520	1.66825*	--
Hours/Day	(s)	2.53918	.55882	.81178	
Hours/Week	b	-1.18572**	.01448	.30728*	--
(Including Saturday)	(s)	.40991	.01351	.12694	
Hours/Week	b	-1.26633**	.01539	.35079*	-.05693
(Excluding Saturday) 2/	(s)	.50621	.01384	.16841	.26987
Total Hours During	b	-.02429	.00000	.00713	--
Enrollment	(s)	.01733	.00001	.00591	

Notes: 1/ Model A controls for age, sex, grade point average in the school year prior to entering WECEP, days tardy in the school year prior to entering WECEP, hours, the square of hours, and the interaction between hours and grade point average in the

Appendix Table 29
Analysis of Effect of Hours Worked Per Day, Hours Worked Per Week (Including Saturday), Hours Worked Per Week (Excluding Saturday) and Total Hours Worked While Enrolled in WECEP on Days Tardy During WECEP Year, Males (continued)

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school year prior to entering WECEP. Model B controls for these variables plus the square of days tardy in the school year prior to entering WECEP.

2/ This model includes Saturday hours and the interaction between Saturday hours and hours per week.

3/ GPA = Grade point average in year prior to WECEP enrollment.

b = partial regression coefficient
(s) = standard error of partial regression
* significant at 5% level
** significant at 10% level

APPENDIX TABLE 30

ANALYSIS OF EFFECT OF HOURS WORKED PER DAY, HOURS WORKED PER WEEK (INCLUDING SATURDAY), HOURS WORKED PER WEEK (EXCLUDING SATURDAY) AND TOTAL HOURS WORKED WHILE ENROLLED IN WECEP ON DAYS TARDY DURING WECEP YEAR, FEMALES 1/

		Hours	$(\text{Hours})^2$	GPA 3/ x Hours
MODEL A:	b	-3.20939	.71243	-.06355
Hours/Day	(s)	10.35850	1.21395	3.61202
Hours/Week	b	-.45675	.02521	-.08145
(Including Saturday)	(s)	1.38869	.03636	.54497
Hours/Week	b	.08922	.00289	-.07125
(Excluding Saturday) 2/	(s)	1.64147	.00503	.71782
Total Hours During	b	-.01008	.00002	-.00305
Enrollment	(s)	.03233	.00003	.01308
MODEL B:	b	-3.01261	.68515	-.10340
Hours/Day	(s)	10.48998	1.23079	3.65077
Hours/Week	b	-.42382	.02386	-.08461
(Including Saturday)	(s)	1.40922	.03717	.55047
Hours/Week	b	.08526	.00293	-.16669
(Excluding Saturday) 2/	(s)	1.65659	.00508	.72457
Total Hours During	b	-.01006	.00002	-.00293
Enrollment	(s)	.09488	.00003	.01322

Notes: 1/ Model A controls for age, sex, grade point average in the school year prior to entering WECEP, days tardy in the school year prior to entering WECEP, hours, the square of hours, and the interaction between hours and grade point average in the

Appendix Table 30
Analysis of Effect of Hours Worked Per Day, Hours Worked Per Week (Including Saturday), Hours Worked Per Week (Excluding Saturday) and Total Hours Worked While Enrolled in WECEP on Days Tardy During WECEP Year, Females (continued)

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school year prior to entering WECEP. Model B controls for these variables plus the square of days tardy in the school year prior to entering WECEP.

2/ In addition to the variables described in footnote 1, this model includes Saturday hours.

3/ GPA = Grade point average in year prior to WECEP enrollment.

b = partial regression coefficient
(s) = standard error of partial regression
* significant at 5% level
** significant at 10% level

APPENDIX TABLE 31

COEFFICIENTS OF DETERMINATION, F-RATIOS AND SAMPLE SIZES FOR REGRESSION ANALYSIS OF HOURS WORKED PER DAY, HOURS WORKED PER WEEK (INCLUDING SATURDAY), HOURS WORKED PER WEEK (EXCLUDING SATURDAY), AND TOTAL HOURS WORKED WHILE ENROLLED IN WECEP ON DAYS TARDY DURING WECEP YEAR, FOR TOTAL SAMPLE, MALES AND FEMALES

	Total Sample			Males			Females		
	$\bar{R}^2$	N	F	$\bar{R}^2$	N	F	$\bar{R}^2$	N	F
MODEL A:									
Hours/Day	0.34	217	15.64	0.30	161	11.22	0.57	56	10.85
Hours/Week (Including Saturday)1/	0.35	217	16.22	0.31	161	11.80	0.57	56	10.86
Hours/Week (Excluding Saturday)1/	0.35	220	12.47	0.31	162	8.68	0.57	58	9.48
Total Hours	0.34	217	15.37	0.29	161	10.53	0.57	56	10.76
MODEL B:									
Hours/Day	0.38	217	15.64	0.34	161	11.07	0.57	56	9.13
Hours/Week (Including Saturday)1/	0.39	217	16.32	0.35	161	11.73	0.57	56	9.14
Hours/Week (Excluding Saturday)1/	0.38	220	12.89	0.35	162	9.05	0.57	58	8.16
Total Hours	0.37	217	15.55	0.33	161	10.69	0.57	56	9.06

Notes: 1/ This model also includes hours worked on Saturday and the interaction between hours worked on Saturday and hours worked per school week.

$\bar{R}^2$ = Coefficient of determination adjusted for degrees of freedom
N = Number of observations
F = F-ratio of the equation

Model A controls for age, sex, grade point average in the school year prior to entering WECEP, days tardy in the school year prior to entering WECEP, hours, the square of hours, and the interaction between hours and grade point average in the school year prior to entering WECEP. Model B controls for these variables plus the square of days tardy in the school year prior to entering WECEP.

APPENDIX TABLE 32
INDUSTRIES AND OCCUPATIONS PROHIBITED OR PERMITTED IN MICHIGAN

Industry/Occupation	Permitted	Prohibited
Manufacturing	Clerical or office	All manufacturing activities Canning operations Bottling operations
Mining	Clerical or office	All mineral extractions Quarrying Open pit mining Drilling for water
Workrooms and workplaces		All work performed in workrooms or workplaces where goods are manufactured, mined or otherwise processed (except as permitted in retail, food service and gasoline service establishments)
Laundries	Clerical or office Stores clerks Clean-up work in office or store areas Counter workers	All processing activities List, sort, mark incoming laundry Sort, fold clean articles Package and wrap bundles Assembling laundry Loading, unloading machines Rug cleaning operations Loading, unloading trucks Clean-up work around machinery
Transportation	Clerical or office sales Selling tickets at terminal In retail food service Gasoline service establishment: Dispense gasoline and oil	All occupations performed on trains, aircraft vessels, motor vehicles, or other media Loading and unloading goods from truck Shoveling salt into hold Driving cars, trucks, etc.

Appendix Table 32
Industries and Occupations Prohibited or Permitted in Michigan
(continued)

Industry/Occupation	Permitted	Prohibited
Transportation (continued)	Wash and polish cars Courtesy services (cleaning windshields) Checking oil Errand and delivery work on foot Bicycle or public transportation	Driver's helper Catching seafood on boat Selling sandwiches on train Work involving use of pits, racks or lifting apparatus at gas stations Changing truck tire
Warehousing and storage	Clerical or office Sales Ticket or tag operations at tobacco auction	All duties performed in warehouses Order filling in warehouse Packaging Shelving Stock-clerk operations Clean-up work
Communications and public utilities	Clerical or office Sales	Switchboard operator Clean-up work Record turntable operator Lineman for telephone company
Construction	Clerical or office Sales (not performed at construction site)	All construction of buildings, bridges, viaducts, piers, highways, streets, airfields, pipelines, railroads, sewers, tunnels, waterworks, river and harbor projects, dams Surveying crew work Demolition work Plumbing Carpentry Electrical work Engineering

Appendix Table 32
Industries and Occupations Prohibited or Permitted in Michigan
(continued)

Industry/Occupation	Permitted	Prohibited
Construction (continued)		Boiler room work All repair and maintenance work Painting
Operating or tending hoisting apparatus or power-driven machinery	Operating office machines. In retail, food service or gasoline service establishments: Operating tagging machines, ticketing Dumb waiters Vacuum cleaners Floor waxers, dishwashers, toasters, popcorn poppers, milk shake blenders, coffee grinders kitchen appliances	Operating elevator Operating power-driven machines Operating power-driven lawn mowers and cutters Operating, setting up, adjusting, cleaning, oiling, or repairing food slicers and grinders, food choppers and cutters and bakery-type mixers
Food processing	In retail, food service establishment: Cooking at soda fountains, lunch counters, snack bars or cafeteria serving counters Cleaning vegetables and fruits, wrapping, sealing, labeling, weighing, pricing, stock goods Hostess Waiter Waitress Bus boy or girl Counterman Pot washer Silverman	Preparation of fish by washing, scaling skinning, filleting, or brining Shrimp heading or pealing Crab processing-cooking, steaming, grading, packing and picking Oyster shucking, grading, draining, cleaning, packing, icing Poultry and game killing, plucking, singeing and drawing, freezing, brining and smoking Fruits, vegetables, meat or seafood Checking and baking in restaurant kitchens and bakeries

Appendix Table 32
Industries and Occupations Prohibited or Permitted in Michigan
(continued)

Industry/Occupation	Permitted	Prohibited
Food processing (continued)	Glasswasher Dish washer Pantryman Salad maker Food checker Clean-up work	Butchering and meat preparation Work in freezers or meat coolers
Public messenger work		Public messenger service
Window washing		In retail, food service and gasoline service establishments: Outside window washing from sills All work requiring use of ladders, scaffolds or their substitutes

Source: Work Experience and Career Exploration Program: Guidelines, Lansing, Michigan: Division of Vocational Education, Michigan Department of Education.

APPENDIX G

PERSONAL INTERVIEW SAMPLE OF WECEP AND NON-WECEP STUDENTS: SUMMARY ANALYSIS AND TABLES

This discussion of the personal interview sample of 100 WECEP and non-WECEP students (50 of each were sampled) is relegated to this appendix since the evidence from this sample is useful mainly to elaborate issues that have arisen in Chapter 2 and elsewhere. Substantive analysis of the WECEP program is not conducted using these data.

As indicated previously, the sample response was 65. Thirty-nine of these students were enrolled in WECEP and 26 were control students.

Apart from the differences in educational and socio-demographic characteristics shown here, it is important to note that the WECEP students were much more likely to be in the labor market prior to their enrollment in WECEP than were the students in the non-WECEP sample. (Appendix Table G-2) Had the two samples been drawn from the same population (and if there were no non-response bias), the characteristics of these two groups would be equal, except for sampling variation. This, however, is clearly not the case.

Of course, one would expect the WECEP students, after leaving WECEP, to have a firmer commitment to the labor market as is suggested by the data in Appendix Table G-3.

Another factor to consider is that the average frequency as well as the dispersion of this frequency is greater for the non-WECEP sample than for the WECEP sample. This suggests again that the two sample groups come from different populations. (Appendix Table G-5)

In short, the additional data gleaned from the personal interview sample increase the awareness of the fact that the study is not based on a pure experimental design with random assignment to the experimental and control groups. However, the analysis in Chapter 2 retains its validity to the extent that the socio-demographic and educational variables in the analysis account for these different population characteristics.

APPENDIX TABLE G-1
COMPARISON OF PERSONAL INTERVIEW SAMPLE AND TOTAL WECEP SAMPLE ON SELECTED SOCIO-DEMOGRAPHIC AND EDUCATIONAL CHARACTERISTICS

		Personal Interview Sample		Total WECEP Sample	
		WECEP	Non-WECEP	WECEP	Non-WECEP
Age in years	M	14.7	14.7	14.8	14.8
	SD	0.47	0.47	0.86	0.81
	N	36	26	690	576
Average number of truancy incidents	M	0.0	0.12	0.11	0.12
	SD	0.2	0.33	0.31	0.32
	N	36	26	668	573
Grade Point Average: prior to WECEP	M	2.69	2.22	2.53	2.38
	SD	0.60	0.67	0.71	0.64
	N	23	11		
Grade Point Average: WECEP year	M	3.00	2.51	2.90	2.35
	SD	0.71	0.63	0.88	0.72
	N	12	14	223	274
Days absent year prior to WECEP	M	17.3	27.6	19.4	23.0
	SD	19.5	26.1	19.2	21.6
	N	21	11	298	239
Days absent WECEP year	M	15.5	28.2	19.1	28.0
	SD	26.7	20.4	18.9	22.5
	N	8	12	200	266
Days tardy year prior to WECEP	M	12.8	11.3	9.0	10.5
	SD	21.0	12.2	13.7	14.7
	N	14	6	215	166
Days tardy WECEP year	M	15.3	11.5	6.1	8.9
	SD	33.5	14.7	9.8	13.0
	N	7	8	160	215
Weeks in WECEP	M	37.6	0.0	36.2	0.03
	SD	19.3	0.0	15.7	0.71
	N	30	26	512	574

Appendix Table G-1
Comparison of Personal Interview Sample and Total WECEP Sample on Selected Socio-Demographic and Educational Characteristics (continued)

		Personal Interview Sample		Total WECEP Sample	
		WECEP	Non-WECEP	WECEP	Non-WECEP
Grade Point Average: non-WECEP courses	M	2.79	2.50	2.59	2.34
	SD	0.85	0.62	0.85	0.72
	N	11	14	206	274
Grade Point Average: WECEP courses	M	3.58		3.54	
	SD	1.73		0.90	
	N	12		196	
Total credits earned in WECEP year	M	2.19	3.84	2.27	3.18
	SD	1.11	1.90	1.58	1.81
	N	12	14	227	276

Notes: M = mean of cell; SD = standard deviation of mean; N = cell size

APPENDIX TABLE G-2
WORK EXPERIENCE PRIOR TO WECEP

		WECEP		Non-WECEP	
		#	%	#	%
Held a Job		12	30.8	2	7.6
Did not Hold a Job		27	69.2	24	92.4
Total		39	100.0	26	100.0
Number of Jobs Held:					
	One	9	23.1	1	3.8
	Two	2	5.1	0	0.0
	Three	1	2.6	0	0.0
	Four	0	0.0	1	3.8
	Did not Work	27	69.2	24	92.4
	Not Ascertained	0	0.0	0	0.0
	Total	39	100.0	26	100.0

APPENDIX TABLE G-3
WORK EXPERIENCE SINCE LEAVING WECEP[1/]

	WECEP		Non-WECEP	
	#	%	#	%
Held a Job	25	69.4	2	7.6
Did not Hold a Job	11	30.6	24	92.4
Total	36	100.0	26	100.0
Number of Jobs Held:				
One	22	88.0	1	50.0
Two	3	12.0	1	50.0
Total	25	100.0	2	100.0
Occupation of Most Recent Job Held:				
Custodial	5	20.0	0	0.0
Clerical	1	4.0	0	0.0
Sales	1	4.0	0	0.0
Food Services	5	20.0	1	50.0
Assistant to Trained Personnel	1	4.0	0	0.0
Stock Room	2	8.0	0	0.0
General Labor	4	16.0	0	0.0
Other	5	20.0	0	0.0
Not Ascertained	1	4.0	1	50.0
Total	25	100.0	2	100.0

Notes: 1/ This table refers to the time period subsequent to the end of the 1971-72 school year up to the time a student was ultimately interviewed, usually the late fall of 1972.

APPENDIX TABLE G-4
MAJOR REASONS FOR LEAVING THE WECEP PROGRAM

	First Reason	
	#	%
Work Interfered with School	3	8.8
Lost Interest in Working	1	2.9
Wages Too Low	0	0.0
Hours Too Long	0	0.0
Didn't Like the Work	0	0.0
Couldn't Get Along with Supervisor or Co-Workers	0	0.0
End of School Year	27	79.5
Other	0	0.0
Not Ascertained	3	8.8
Total	34	100.0

APPENDIX TABLE G-5
FREQUENCY OF SUSPENSION, PERSONAL INTERVIEW SAMPLE

		WECEP	Non-WECEP
Total Sample	M	0.84	1.69
	SD	1.42	4.12
	N	38	26
Age 14 or Less	M	0.60	1.25
	SD	0.97	2.82
	N	10	8
Age 15 and Over	M	1.00	1.89
	SD	1.63	4.64
	N	25	18
Males	M	0.86	2.00
	SD	1.56	5.07
	N	28	15
Females	M	0.80	1.27
	SD	1.03	2.45
	N	10	11

Notes: M = mean; SD = standard deviation of the mean; N = number of observations

APPENDIX TABLE G-6
REASONS FOR SUSPENSION

	WECEP		Non-WECEP	
	N	%	N	%
Most Recent Suspension				
Insubordination	3	16.7	1	9.1
Absenteeism	2	11.1	1	9.1
Misbehavior	12	66.7	9	81.8
Threat	1	5.6	0	0.0
Total	17	100.0	11	100.0
Next Most Recent Suspension				
Insubordination	2	50.0	0	0.0
Absenteeism	1	25.0	1	20.0
Misbehavior	0	0.0	4	80.0
Truancy	1	25.0	0	0.0
Total	4	100.0	5	100.0

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