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A study of the effectiveness of the Iowa Governor's Youth Opportunity Program

by

Charles Stevens Greenwood

A Dissertation Submitted to the

Graduate Faculty in Partial Fulfillment of

The Requirements for the Degree of

DOCTOR OF PHILOSOPHY

Department: Professional Studies Major: Education (Educational Administration)

Approved:

Signature was redacted for privacy.

In Charge of Major Work

Signature was redacted for privacy.

For the Major Department

Signature was redacted for privacy.

For the Gradfiste College

Iowa State University Ames, Iowa

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CHAPTER I. INTRODUCTION

The United States can achieve its full economic and social potential as a nation only if every individual has the opportunity to contribute to the full extent of his capabilities, and to participate in the workings of our society. It is therefore the policy of the United States to eliminate the paradox of poverty in the midst of plenty in this nation by opening to everyone the opportunity to work, and the opportunity to live in decency and dignity. (1)

Those words from the statement of program philosophy section of the Economic Opportunity Act of 1964, and the legislated mandates for positive action anti-poverty programs therein established the philosophical and legal framework for the many youth work-experience projects to follow.

The subject of this investigation is the Iowa Governor's Youth Opportunity Program (GYOP). The legal basis within which GYOP is funded, and continues to operate, is found in Senate File 609, passed by the 1st Session of the 63rd Iowa General Assembly in 1969. That bill included a \$100,000 appropriation for each year of the Biennium for community action local aid programs. This appropriation was made to the State Office for Planning and Programming (OPP). For the purpose of receiving available federal funds, OPP delegated the state funds to the State Department of Social Services (DSS). Policy decisions and project approvals during that initial year were made by an evaluation committee composed of representatives from OPP, DSS, the Iowa Employment Securities Commission, the State Office of Economic Opportunity, and the Governor's Office. During 1969 GYOP was limited to summer programming only. The in-school phase

was begun with the start of the school year in 1970. The in-school program had two basic objectives: (1) to provide disadvantaged youth who were potential school dropouts, or who had dropped out of school already, with supervised educational and employment opportunities designed to assist the youth in staying in school; and, (2) to provide local public and non-profit private agencies with an extra supply of manpower so they could better serve their communities.

At the time of that expansion of GYOP services the State Department of Public Instruction (DPI) agreed to coordinate special needs funds, as provided by the 1968 Amendments to the Vocational Education Act, with GYOP programming, when possible.

Local projects were sponsored by a variety of agencies. During the 1972-73 fiscal year for instance, sponsoring agencies consisted of fourteen community action agencies, six school districts, three incorporated non-profit organizations, fourteen cities and counties, and two county departments of social services. For the most part, an agency's decision to apply for GYOP funding was based on its ability to produce the thirtyfive percent local-match necessary. That local-match was required in cash. So-called "soft-match" (providing staff, equipment, transportation, etc.) was not allowed.

Local-match money has been raised in two ways by sponsors of GYOP projects. One method of raising the local-match necessary was to assess the employer of the enrollee thirty-five percent of the enrollee's wages. Normally this was done in the form of a reimbursement to the sponsoring agency at regular intervals throughout the term of employment. This

allowed for a more efficient and centralized payroll procedure. The other type of local-matching was in the form of a lump-sum provided by the sponsoring agency or agencies.

Applications for local projects were approved on the basis of no more than twenty percent of the funds allocated to be used for administrative costs. According to that formula then, eighty percent should be available for students' salaries. However, it was evident from project visitations, and from data collected, that some local projects were utilizing the twenty percent for direct, agency administrative costs, while having access to other agency administrative aid (Neighborhood Youth Corps, school district personnel and supplies, and other governmental departments), thus, enjoying an unreported financial resource. On the other hand, some local projects were able to operate with less than the twenty percent for administrative costs, making more money available for students' salaries.

Table 1 shows the total dollars, state, local, and federal, allocated to GYOP projects through the end of fiscal 1974 (June 30, 1974).

Table 2 shows the number of youth involved in the in-school phase of GYOP only. During each fiscal year there was a summer employment program in each locale that in most cases was meshed with the local Neighborhood Youth Corps (NYC) program and oftentimes with other local efforts to provide summer employment for youngsters. Data concerning summer employment efforts is not treated in this investigation.

Analysis of the data in Table 2 indicates that there was a great deal of diversity in sizes and geographic locations of local GYOP

Source	1969	1970	1971	1972	1973	1974	Totals
Local	\$ 59,13 ⁴	\$162,792	\$171,481	\$ 312,532	\$ 409,152	\$295,603	\$1,410,694
State	59,398	55,244	61,166	108,035	101,811	463,478	849,132
Federal	178,193	654,107	624,758	1,261,702	1,525,258	154,870	4,398,888
Totals	\$296,725	\$872,143	\$857,405	\$1,682,269	\$2,036,221	\$913,951	\$6,658,714

Table 1. Sources and amounts of GYOP funding, 1969 through 1974

		· · · · · · · · · · · · · · · · · · ·	Number of Youth Enrolled			
Project Locale	Sponsoring Agency	1970-71	<u>1971-72</u>	1972 - 73	<u>1973-74</u>	
Ames	City of Ames	20		_ ~ ~ ~		
Boone	Community Action	8	15			
Burlington	City of Burlington	20	11	20		
Cedar Rapids	Community Action	192	440	126	151	
Centerville	Public Schools	13	44	38	36	
Council Bluffs	Local OEO	123	194	140	46	
Davenport	City of Davenport	366	557	320	169	
Delaware, Dubuque and	• –					
Jackson counties	Community Action	207	18	103	120	
Des Moines	Public Schools	172	188	309	251	
Fort Dodge	City of Fort Dodge	35	12	29		
Hamilton, Humboldt, Webster and Wright						
counties	Local OEO	54	18		10	
Iowa City	City of Iowa City	11		61		
Jasper, Marion, Polk	C C					
and Warren counties	Local OEO	97	158	166		
Keokuk	Public Schools	16	25	31	22	
Butler, Cerro Gordo, Floyd, Franklin, Hancock, Mitchell, Winnebago and Worth			-			
counties	Local OEO	88	103	99	75	
Allamakee, Bremer, Chickasaw, Clayton, Fayette, Howard and						
Winneshiek counties	Community Action	36	19	30	33	
Plymouth, Cherokee,	v	-	-			
and Lyon counties	Local OEO	93	123	89	35	

Table 2. Number of youth served by local in-school GYOP sponsors during the 1970-71, 1971-72, 1972-73 and 1973-74 school years.

Ottumwa Van Buren county Monona, Crawford,	Public Schools Public Schools	23 5	37 10	89 10	35
Cass counties	Community Action		16		53
Marshalltown	City of Marshalltown		5		
Audubon, Calhoun, Carroll, Dallas, Guthrie, Greene and			-		
Sac counties	Local OEO	45	59	61	44
Woodbury County	Community Action			92	80
Linn County	Community Action			40	
Madison, Adams, Taylor,					
Adair counties	LOCAL OFO			μз	27
Clarke, Decatur, Lucas,	Local Old			-5	-1
Monroe, and Wayne					
counties	Community Action	` 		15	28
Boone, Hardin, and					
Story counties	Community Action			55	
Palo Alto, Dickinson, Osceola, Buena Vista, O'Brien, Emmett, Pocahontas and Clay					
counties	Local OEO			37	52
Boone, Dallas, Jasper, Marion. Polk. Story					
and Warren counties	Local OEO				181
Waterloo	Public Schools	72	246	188	
		— <u>—————</u> ———			
Totals		1,696	2,298	2,168	1,433

projects. Some projects ran with as few as eight enrollees while others had several hundred. Projects were located generally all over the state.

Statement of the Problem

This investigation was conducted for the purpose of determining whether or not participation in the Iowa Governor's Youth Opportunity Program had an effect on student performance and attendance in school. That program was designed primarily to provide selected secondary students with paid work-experience in an effort to enhance their continuance in school while providing additional, needed manpower to public sector agencies. More specifically, this study examined the extent to which GYOP enrollees experienced satisfactory work situations, the extent to which GYOP deterred dropouts, and attempted to determine the effect the GYOP experience may have had on student grade point averages and attendance.

Hypotheses

Hypotheses tested in this study were:

1. There are no significant differences in the degrees to which students, parents, and project directors perceive students' wages as being commensurate with the type and amount of tasks performed by students. Students, parents, and project directors will perceive students' wages as adequate for the type and amount of work done by the students.

- 2. There are no significant differences in the degree to which students and parents perceive the students' workexperience in relation to his career goals. Students and their parents will view the students' workexperience as being related to the students' career goals.
- 3. There are no significant differences in the degree to which students and parents view wages paid to students in relation to the students' support needs. Students and parents will view the students' wages as being used primarily for "necessary" living expenses.
- 4. There is a significant difference in dropout rates between the experimental and control groups. Students enrolled in GYOP will drop out of school in significantly lesser proportions than students with similar characteristics who are not enrolled in the program.
- 5. There is a significant difference in the grade points earned by the experimental and control groups. Students enrolled in GYOP will achieve significantly higher grade points than will students not enrolled in the program.
- 6. There is a significant difference in the attendance patterns of the experimental and the control groups. Students enrolled in GYOP will attend school with a

significantly lower absentee rate than will students not enrolled in the program.

Delimitations

This study was confined to data accumulated on youngsters in six selected GYOP project locales in Iowa. Information was gathered by questionnaires returned by the students, their parents, and project directors. Additional data were collected from their schools of attendance. Project locales included two each selected at random from the six largest, the six middle-sized, and ten smallest project sites in the state.

Variables included responses to questionnaires returned by 180 (67 percent) GYOP enrollees and 148 (53 percent) parents of enrollees (Appendix A). Additionally, school grade-point averages (GPA) and attendance data were gathered on 186 GYOP enrollees and 165 students designated as the "control" group. Control group students were those who responded to letters sent to 1,200 AFDC households soliciting permission to view the school records of non-GYOP youngsters in the household, ages fourteen through eighteen. All households canvassed were located in the eleven counties in which the experimental projects were located.

Project director questionnaires (Appendix B) were returned by all project directors as were "Comprehensive Report Forms," listing specific data concerning all enrollees in all projects.

CHAPTER II. REVIEW OF RELATED LITERATURE

Evaluating Work-Study Programs

In the U.S. Office of Education's <u>IT WORKS</u> (2) series describing model compensatory education programs for disadvantaged children it was suggested that the "educational significance criterion" for such programs was based on the assumptions that: (1) in the regular classroom, disadvantaged children generally make achievement gains at approximately two-thirds the rate made by average children; (2) as a consequence of that, disadvantaged children tend to fall farther and farther behind their advantaged peers; (3) to eventually bring them to the achievement level of average children, their achievement gains should be greater than their advantaged peers, and; (4) this higher rate of gain should be continued until the disadvantaged children are achieving at the rate of nondisadvantaged children. The authors of <u>IT WORKS</u> postulated that what is true for achievement gains will also hold true for ability gains.

Kunce and Cope (3) wrote that interest in coping with poverty and its ramifications are not new and has been apparent throughout history. They alluded to the political-economic and the social-humanitarian motives generally found within the rehabilitation structure. It would appear that GYOP as currently conceived in Iowa, and NYC as practiced on the national level have elements of both. Developing jobs for youngsters would fall within the political-economic framework while providing counseling and placing a vocational emphasis on program activities would be social-humanitarian.

Kunce and Cope (3) contend that selected rehabilitation projects illustrated that individuals labeled as unmotivated, dependent on welfare, etc., can achieve an independent status through vocationally oriented services. They admit, however, that rehabilitation efforts may be hampered by a circular relationship between educational and employment deficiencies. They posited that educational deficiencies are a cause for unemployment and at the same time, the lack of hope for a decent employment becomes a cause for educational deficiency.

Manpower Magazine (4) reported that Welford W. Wilers, of the Center for Research and Development in Higher Education at the University of California in Berkeley found that neither private nor public post-high school vocational programs were making any substantial headway in helping disadvantaged students overcome barriers of class and income.

Reubens (5) indicated that only twenty-five to thirty percent of high school seniors currently go to work right out of high school, that vocational education dropout rates seem to be higher than those of other high school programs, and that she would support the view that general training in vocational skills be preferred to specific skill-training at the high school level.

Brubaker's (6) study completed in 1974, contains an excellent review of literature concerning work-experience and work-study programs for the disadvantaged. His study focused on a work-experience program in Des Moines, Iowa that included GYOP funding. Due to the comprehensive nature of his review of literature, and the similarity of GYOP and

Neighborhood Youth Corps (NYC) programming over the state, the literature review here will concentrate on studies done of NYC.

Brubaker's dissertation alluded to the confusion revealed by his search of the literature regarding the value and meaning of work-study programs. He pointed out, however, that the use of work-study programs to serve the disadvantaged is a relatively new concept.

> The sudden proliferation of work-study programs after 1960 can be attributed largely to the threat of poorly prepared youth to a highly industrial country, an increased acceptance that everyone has a right to an education which will prepare them for employment, the passage of the Vocational Education Act of 1963 and a new interest in providing more effective programs for culturally deprived children.

Brubaker pointed out the differences in definition and in practice between work-study, work-experience, cooperative education, and career education. Work-study was defined as a student assistance program primarily for the purpose of providing financial aid through part-time employment. Work-experience, according to Brubaker, differs from workstudy in that there is a greater effort to help students understand the world of work through related educational curriculum and counseling practices. Cooperative education, on the other hand, is directed more toward actual occupational education, emphasizing the relationship between training on the job and school study. Career education was defined as being a broader concept with emphasis on the preparation of all students for economic responsibility spread throughout the school experience from kindergarten through graduation.

Brubaker found a wide range of evaluations of work-experience programs. Some researchers praised the effectiveness of such programs for

keeping youngsters in school and as a motivational device for improving grades and attendance while others found work-experience programs ineffectual in those areas.

Using a quasi-experimental design (no random assignment of students to control and experimental groups) Brubaker employed an analysis of covariance technique to control statistically for initial differences in the groups. Using analysis of variance he then tested for differences in group means on the variables of attendance, tardiness, grade point average, teacher ratings, achievement, personal and social adjustment, self concept, and study habits and attitudes. His was a four year longitudinal study of a special work-experience program for disadvantaged youngsters in the Des Moines public schools in grades seven, eight, nine, and ten. Essentially, Brubaker found no significant differences between groups on any of the variables included in the study. He concluded that the program had no effect on students' performance, achievement, and attitudes. He also concluded that the program was not successful in deterring dropouts.

The Neighborhood Youth Corps (NYC) Experience

NYC, since its inception in 1966, has used over 1.5 billion dollars in federal funds, administered through the Department of Labor, Manpower Division, to serve thousands of dropouts with economic disadvantages. The NYC emphasis has been on education and employment of youngsters designated as dropouts or potential dropouts from families that fall within poverty guidelines as defined by the Department of Labor. These

guidelines are adjusted on an annual basis to compensate for cost-ofliving fluctuations. In general, determination for eligibility under the guidelines is based on the family's income and the number of people in the family. Those same guidelines were applied to GYOP participants.

Summative evaluation of NYC has ranged from findings of extreme success to extreme failure, with some reports showing some degree of both. The editors of Manpower (7) reported in 1972 that they believe that Manpower programs have been doing a good job of preparing the disadvantaged for steady work and better pay. On the other hand, Rawlins (8), writing in Industrial Relations that same year, reported that despite all the increased attention given the problem of unemployment among minorities and certain disadvantaged segments of our society, their situation seems to be worsening relative to the population as a whole.

Bennett (9) attempted to build a rationale for public sector workexperience programs by pointing out that one-fifth of all salaried people in the United States work for the federal government. Additionally, he stated that one-fourth of all new jobs created are in the public sector. "These two areas of national concern--the expanding need for important public services and the requirements of the disadvantaged for more and better work opportunities--may each carry the solution to the other." He offered five reasons why public employment programs can be expected to improve the economic welfare of the disadvantaged:

1. Public services is growing much faster than private industry.

- 2. Government jobs pay substantially higher wages than the poor are currently earning.
- 3. Government jobs carry important non-wage benefits, particularly job security.
- 4. Public work sites are usually in the central city where the poor are, thus, being readily accessible to the poor.
- 5. Historically, those jobs have been for whites, and there is an urgent need to break that tradition.

In May, 1975 the editors of Manpower Magazine (10) reported that of the 7.5 million persons unemployed in this country at the outset of 1975, blue-collar workers, adult women, teenagers, black workers, and veterans aged 20 to 24 were the hardest hit. The rate for teenagers rose from .14.3 percent in the fall of 1975, while that for blacks approached 13 percent by December, 1974, remaining about twice as high as the rate for whites.

> Public service employment programs undertaken since the new deal are assessed in terms of their impact on national unemployment rates, their role in providing tide-over income to experienced labor force members, and their effectiveness in providing work experience to the economically disadvantaged.

An important distinction can be established between the work-support programs of the depression years, whose primary goal was to provide income to job losers, and the work-experience efforts of the 1960's, which attempted to improve the job skills and subsequent employability of those with labor market handicaps. However, the programs undertaken in the 1970's, ..., have tended to combine both approaches. Reporting on the Business Management Fellowship Program in the June, 1975 issue of Manpower (11), the editors of that magazine state that although seventeen percent of our country's population are minority groups that total business receipts accounted for by minority owned business is a scant 0.7 percent.

In a study of NYC enrollees in New York City the following rationale for such a work-experience program was developed (12).

> It was believed that such young people might be helped to perceive new alternatives for themselves and might plan and work differently if they could be given a worthwhile experience with work in a setting recognizing their handicaps and problems of transition, yet which dealt with them in a respectful and instructive way. Such an approach also offered an acceptable rationale for getting money into the pockets of needy youth and their families. It seemed to offer the chance of reducing their need for dollars sufficiently, so that young people would not be forced to leave school to go to work, and at the same time, avoid the restrictive implications of a dole.

McNamara and Kamen (13) and Leviton, et al., (14) concluded that NYC was obviously helping poverty-line youngsters stay in school. The March, 1972, <u>Manpower Report to the President</u> (15) stated that federal manpower programming can help reduce the number of jobless youth and give those who have dropped out of school another chance to equip themselves for a life of productive work.

Finding work is often as critical for students as it is for out-ofschool youth; it frequently determines whether they can manage to stay in school. For a substantial number of youth, particularly among the disadvantaged, early work-experiences that are haphazard and discouraging can establish a pattern very difficult to overcome in later life.

Rees (16) was specific in her reference to helping the deprived child. "... for it appears to be the nature of the situation that hopelessness and desolation over a still longer period of time tend to breed even greater hopelessness and desolation, and it is this which our country cannot afford." She did not advocate money as the only solution to correcting poverty, but the providing of a plan for the release of the people so that they may become the types of citizens desired in our democracy.

Levin (17) found that the cost to our nation of failure to attain a high school diploma of males 25 to 34 years of age in 1969 was: (1) 277 billion dollars in real income to them during their lifetime, and (2) 71 billion dollars in revenue for federal, state and local governments. The cost of having provided that education would have been 40 billion dollars. It should be pointed out that Levin's research was correlational in nature, and did not establish cause and effect. Rawlins (8) indicated that in the case of NYC "successes" (graduates) society will retrieve its investment in the individual in a four-to-seven-year period.

In a 1973 Labor Department Study, summarized in a subsequent report to Congress (18), it was pointed out that NYC was numerically the largest manpower training program in the nation at that time. Office of Economic Opportunity data reported in that study indicated that there were about one million youth who could benefit from NYC. In 1971 the Department of Labor allocated \$59.1 million to finance participation of 95,000 youth in in-school NYC programs.

Ozgediz's (19) study, published in 1973, was one of the few which attempted to assess the strengths and weaknesses of NYC in-school programs over the nation. He was careful to explain that his report was not an "evaluation," as such, but only a summarization and discussion of data concerning operating practices and procedures of local NYC programs. Ozgediz found that in-school NYC enrollments accounted for only about nine percent of all eligible youth, that income seemed to be the major criteria for selecting youth for the programs, and that there were no systematic or formal methods for assessing the abilities, interests, goals, or personal circumstances of enrollees. He found that the majority of employers used by NYC were schools and school systems and that almost eighty percent of the jobs held by enrollees fell into custodial, clerical and museum aide categories.

Ozgediz's report contained the following analysis of success of a program as it related to the individual:

It is our opinion that directly underlying success are five elements. Based on close empirical observation and experience in the field, we propose that the employability and dropout probability of a young person is a multiplicative function of five categories of factors. This means that, in order for a program to be successful, all five of these factors must adequately be effectuated (via program activities,...).

These factors are related to:

- ability
- motivation
- knowledge
- work experience
- personal circumstances

The authors of the Department of Labor Study (18) concluded that the effect of the NYC in-school program had not changed over the years. Their reference to previous, similar research indicated that the program had no significant effect on whether or not a youngster from a low income family continued in school. From their research it was pointed out that NYC youth from Harris County, Texas and Washington, D.C., dropped out at the same rate as those who were eligible for the program but did not enroll.

The relative ineffectiveness of the NYC to eliminate dropouts seemed to result, in part, because the concept of the program involved too simplistic an approach to bring about dramatic results, given the complexity of the dropout problem and the variety of social and personal factors involved in causing a student to drop out.

Manpower Research Monograph No. 13 (20) portrayed NYC as an "aging vat," to help youth through a difficult transition period. It is because of the many variables involved, it was concluded, that there can be no such thing as a "representative" NYC program. For instance, there were special problems found with regard to rural youth. Some local programs were totally for rural youth, some were for city youth, while others had elements of both. It was pointed out in that report that work assignments for girls were more varied and closer to professional status, whereas most boys were placed in custodial and menial positions. On the average, however, enrollees did evaluate the programs favorably.

The review of research regarding the economic needs of enrollees and reported in Manpower Research Monograph No. 13 showed that most NYC enrollees spent their money in a responsible way; the largest single expenditure going for household expenses. The hardship of continued

school attendance was lessened because of the increased income. More than half of the enrollees felt that the money they earned was beneficial in helping them stay in school.

Singell (21) pointed out that ghetto youths make rational economic decisions in terms of their own, and their family's point of view, by <u>not</u> investing in education. For instance, the decision to drop out might have been based on the youth's ability to contribute a significant sum to the family income. That sum may be as much as \$2,000 per year. That alone might have made dropping out a rational decision on his part, as he might not have seen the long-term advantage of staying in school.

Goodman, et al., (22) found that the largest expenditure made by NYC errollees was for household maintenance. Clothing was the second largest. In-school enrollees spent fairly large amounts on educational expenses. There was substantial evidence that NYC participation facilitated the enrollees' ability to meet those expenses, which according to other studies, were likely to be far beyond the means of disadvantaged youth, and constituted a major reason for dropping out of school.

Not all authorities believe more money will keep poor youth in school. According to Jencks, et al., (23) dropouts often say they quit school because of money problems. He suggests that we have no evidence that students who report money problems have appreciably less money than students who report no such problems. He contends that no one has compared the amount of money students actually receive from home with the amount of schooling they get.

In the words of Jencks:

We would be surprised if money <u>per</u> <u>se</u> explained more than ten or fifteen percent of the overall difference in attainment between students from different class backgrounds. This seems to leave at least half the gap unexplained. The usual response to this finding is to attribute the remaining difference to motivation. We are not sure, however, exactly what this means.

In another section of the book, Inequality, the following conclusions are offered regarding the dropout:

> First, economic origins have a substantial influence on the amount of schooling people get. Second, the difference between rich and poor children is partly a matter of money. Third, cultural attitudes, values, and taste for schooling play an even larger role than aptitude and money. ... Children with working-class parents evidently assume that if they dislike school they can and should drop out.

Dropout prevention aside, manpower programs have done a good job over the years of preparing the disadvantaged for steady work and better pay, according to the editors of Manpower magazine (7). However, those programs have been less successful in changing the institutions that can help the poor gain economic security. They argue that people who complete Manpower programs and get better jobs show improved attitudes toward society and themselves.

In spite of the generally inconclusive results of youth workexperience programs such as NYC, most scholars agree that the answer to the reduction of poverty lies somewhere within the financial support and introduction-to-work framework. Jablonsky (24) put it aptly in her statement, "Money and a sense of accomplishment are of short supply among the poor. Pre-vocational work-experience and entry jobs should

be viewed as steps in preparing the student for ultimate identification of satisfying employment situations."

Summary

NYC, as conducted since 1966, has been the major federal manpower program for disadvantaged youth with emphasis on employment and education. The program was predicated on a growing need for public service employees, the need for an incentive for those who were historically prone to drop out of school to stay in school, and the need for a "sheltered" work-experience for those youngsters who were often denied access to the labor market due to social, economic, and cultural disadvantagements.

Since the early days of Johnson's "Great Society" administration many billions of dollars have been put into social reform and antipoverty programs. That effort has been continued with little revision up to the present. Evaluation of such programs has shown both positive and negative results. Without more efficient and reliable cost analysis of such programs and without a more systematic approach to the measurement techniques so badly needed for good evaluation of such programs, their effectiveness as a solution to the poverty problems that plague the country will remain purely speculative.

One of the factors that was reported to have been critical in influencing students to drop out of school was the economics involved in such a decision. Oftentimes, the youngster chose the immediate financial rewards of employment over the unpredictable rewards of a high school education. Substantial evidence has been accumulated showing that NYC participants used their earnings for "essentials."

Researchers have reported mixed findings in regard to NYC as a dropout deterrent. Although some have been able to show some positive effects of NYC participation on enrollee's grades, attendance, and general school performance, there is certainly no unanimity of opinion on the question of whether or not the program provides the basis for high school completion. The similarities between NYC and GYOP are such that those same conclusions may be inferred to GYOP. In practice there are virtually no differences between the two programs except that GYOP involves greater numbers of youth within this state and is administered through the Iowa State Youth Coordinator's Office while NYC is administered through a city, county, or regional Economic Opportunity agency. Additionally, NYC does not require a local match while GYOP requires a thirty-five percent local match.

CHAPTER III. METHODOLOGY

Data Collection

Sample Projects

Due to the large number of GYOP projects in Iowa and the fact that they were present in every section of the state, a stratified random sampling technique was employed to obtain a smaller number of projects to investigate. The method employed allows the development of findings based on data obtained from a few sample projects, theoretically representative of <u>all</u> projects in a given stratum, and then to infer or generalize findings to those other projects in the same stratum.

Six localities were chosen as subject-projects for this study. Projects were divided into three strata: rural, middle-sized, and large, according to the size of the population center of the area they served. That seemed a reasonable selection criterion in terms of the demographic characteristics of this state. Large projects were defined as those located in metropolitan areas of 75,000 people, and over; medium-size projects were in areas with population centers of 25,000 to 75,000; and small projects were those in areas with no population center of greater than 25,000 people. Using this classification scheme, the GYOP projects in Iowa fell into the following groups:

 Large projects: Des Moines Greater Opportunities (seven counties), Des Moines School District, Cedar Rapids, Waterloo, Davenport, and Sioux City

- Medium-sized projects: Iowa City, Dubuque, Ottumwa, Council Bluffs, Mason City and Fort Dodge
- 3. Small projects: Decorah, Keokuk, Carroll, Leon, Centerville, Emmetsburg, Remsen, Chariton, Creston and Denison

The six projects (two from each strata) chosen at random were: Large - Cedar Rapids and Davenport; Medium-sized - Council Bluffs and Fort Dodge; and Small - Carroll and Centerville. Table 3 shows the total number of GYOP enrollees in each locality during the 1973-74 school year, the number responding to questionnaires, the percent the respondents represented of the total, and the number of control cases selected.

Table 3. Number of GYOP enrollees, number and percent responding to questionnaire, number of parent responses, and number in control group in each study project

Project Site	Enrollees	Respondents	Percent	Parent	Control
	5/31/74	(Exp. Group)	Response	Response	Group
Cedar Rapids	69	40	58	35	40
Davenport	98	67	66	52	38
Council Bluffs	30	18	60	16	38
Fort Dodge	22	18	82	17	10
Carroll	32	25	78	23	35
Centerville	19	12	63	8	4
Total	279	180	67	151	165

The Survey

A variety of techniques were necessary to gather data for the study. Questionnaires were administered to program participants and their parents (Appendix A) in May, 1974. With the help of project directors, these were distributed and collected through the local GYOP office. A total of 180 questionnaires were completed and returned representing sixty-seven percent of the 270 enrollees in the six projects at the time of the survey. Parents returned a total of 151 (54 percent) completed questionnaires. Questionnaires were administered to students and parents soliciting responses that might indicate the degree to which they viewed the students' work experience activities as being related to their career choice, the adequacy of wages received, the use of wages received, and other information related to their participation in the program. Similar questions were asked both students and parents utilizing a Likert-type scale so that responses could be compared statistically for similarity.

Each project director was asked to complete and return a "Comprehensive Report Form," which provided a substantial amount of objective data on each individual who had participated in the local project during the 1973-74 school year. Comprehensive report forms were solicited from all projects, including those not in the sample. Only Des Moines (School District Project) and Keokuk failed to respond to that request. The Comprehensive Report Form was used to gather information regarding the type of work the enrollee performed, his duration in the program, the amount he earned, and family income and occupational status.

Project Director's Questionnaires (Appendix B) were received from seventeen projects. Those questionnaires solicited comments and data that could be tied into the analysis of the student and parent questionnaires.

Additionally, data concerning the school achievement and attendance records of each GYOP enrollee (for whom parents' permission could be obtained) was sought. Parent's permission to view school records was solicited for all GYOP enrollees resulting in a total of 245 sets of school data for the "experimental" group. School achievement (gradepoint averages) and attendance information was gathered on each experimental and control student to compare changes observed in the two groups that might be a result of program participation.

To obtain school achievement and attendance data on the control group, letters soliciting parents' permission to view their student's school records were sent to 1,200 AFDC families in the six areas. An AFDC family was one that had received a welfare subsidy known as "Aid to Families with Dependent Children" during the 1973-74 school year. That criterion was chosen since almost eighty percent of the program participants that year were known to be from AFDC families. Although almost 300 responses were received giving the required permission, the control group was limited to 165 non-GYOP students due mainly to two predominant factors. First of all, quite a number of the responses received involved students too young to be representative of the 14 to 18 years-of-age range required for participation in GYOP. Second, some of the schools did not respond well to the requests for information. The information requested was for the 1972-73 and the 1973-74 school years. Generally speaking, if a student had moved from a junior high to a high school, no attempt was made by the school receiving the request to get the appropriate data from the other school.

Limitations

Other problems were incurred in the data collection stage of the investigation which should be recognized as potential limitations on the findings reported. Most of the problems were due to constraints and limitations inherent in studies of this type. These limitations are not offered as an excuse for the quality of data collected, for similar problems are usually encountered in social-action research, (25), but to enable the reader to interpret the results in their proper perspective. Limitations found in the data analysis for this study included:

- 1. The data were <u>unbalanced</u>, i.e., different projects served varying numbers of students. Moreover, the number of control students is different from the number of GYOP students in each project. That aspect of the data complicated the analysis (26).
- 2. The data may yield biased results due to <u>non-response</u>. About sixty-five percent of the students and a somewhat smaller percentage of parents responsed to the questionnaire.
- 3. The data may yield biased results due to <u>incomplete</u> records. Some parents did not agree to allow the school to release their child's records. In some cases records made available were lacking data on some variables of interest.

4. The data are <u>non-experimental</u>. Randomization was not feasible. Strictly speaking, no causal relationships (e.g., between grade-point average and the program) may be inferred.

Discussing the evaluation of compensatory education programs the authors of the U.S.O.E.'s <u>IT WORKS</u> (2) series posed some interesting but unresolved questions concerning methodology:

- 1. Should control groups consist of disadvantaged children (i.e., children with characteristics similar to the experimental group), or average peers of the experimental group?
- 2. To be educationally significant, should the gain by program children be greater than that made in a comparable period of time in the regular classroom by disadvantaged or advantaged children?
- 3. Should post-test scores be greater than those made by non-treatment disadvantaged children or equal to those made by average children?

In another government sponsored research project Underhill (27) reported that it was his judgement that the problem of evaluating the effects of a federal program upon its participants was no different in principle from the more general problem of making causal inferences in other non-experimental research. His specific methodological recommendations included:

- 1. A control group is needed to evaluate the effects of government programs.
- 2. The control group should be representative of the population served.

- 3. The control group should be sufficiently inclusive in its coverage to allow for shifting definitions of poverty and shifting eligibility criteria for program entry.
- 4. The control group should be large enough to permit reliable application of statistical controls.
- 5. The study design should be longitudinal.
- 6. The sample design should include explicit controls over poverty composition, location, age, and sex.
- 7. The program participation sample should be representative on two levels; the level of individual participation, and the level of local programs.
- 8. The programs should be stratified when the danger of oversampling in a strata exists.

Except for not being longitudinal each of Underhill's methodological recommendations have been incorporated in this investigation. However, it is important to note that caution is suggested when assuming that the control and experimental groups employed in this study were comparable in all respects. Retrospective examination of the control group selection process revealed some very evident limitations. Parents were asked to give permission to view the school records of their youngsters. At least three assumptions can be made about the representativeness of the group that subsequently responded to that request.

- 1. They were probably parents of youngsters who had done reasonably well in school; or, at least parents whose children had not dropped out.
- 2. They were most likely parents who could read and write.
3. They were parents who were not suspicious of the motives of the investigator and/or the State Department of Social Services (under whose letterhead permission was solicited).

Acceptance of anyone of those assumptions would tend to bias the control group data, increasing the probability that the control group represented greater numbers of "high achievers." To substantiate that assumption, it can be noted that only four actual school dropouts were included in the data received on the 165 members of the control group. One would suspect that there would be several times that number of dropouts represented in that size of sample of youngsters from AFDC families.

The control group selection along with the rather poor quality (and to some extent quantity) of data received from projects and schools regarding school leaving by enrollees made it an impossible task to test the hypothesis that GYOP acted as a dropout deterrent for disadvantaged youngsters.

Selection bias is another limiting factor found in evaluation of programs such as GYOP. Underhill (27) discusses the dangers of spurious effects inherent in evaluation of federal programs. The two most common of those, and two for which complete control is essentially unavailable, involve programs selecting participants who are most <u>likely</u> (or most <u>unlikely</u>) to succeed and/or participants who are most <u>likely</u> (or most <u>unlikely</u>) to succeed and/or participants who are most <u>likely</u> (or most <u>unlikely</u>) to succeed choosing the program. He points out that in nonexperimental research this problem lacks a completely satisfactory

solution. Two partial solutions, neither of which solves the self- or program-selection dilemma, were found in the processes of identifying a control group who met program-selection criteria, but were not admitted to the program, and drawing large enough sample for the control group using statistically controlled techniques to equalize the control and experimental groups on measured causes of success other than program participation. Selection bias definitely existed in this investigation, although the solutions suggested by Underhill were attempted.

Data Analysis

Because of the qualitative and quantitative nature of the data collected an exploratory and multi-operational approach was taken to analyze the data. When available, feasible, and appropriate, several techniques were employed to treat the data. That approach offered the best chance for obtaining accurate information from quantitative data.

Students were selected for GYOP in a non-random fashion. Strictly speaking, then, no causal inferences could be drawn about the effects of the program. Inferences drawn are <u>correlational</u> rather than <u>causational</u>. Moreover, the limited scope of the study precluded any longitudinal or time-series type of analysis.

Questionnaire Data

Student, parent, and project director questionnaire data were analyzed a variety of ways. The first test employed the use of analysis of variance (ANOVA) to test the hypothesis that there were no differences

in the responses given by either students or parents among projects, schools, or size groups. The model for that analysis took the form:

$$Y_{ijkl} = \mu + \alpha_i + \beta_{ij} + \gamma_{ijk} + e_{ijkl}$$

where

$$Y_{ijkl} = observation on student (or parent) l inschool k within project j within sizegroup i .
$$\mu = overall grand mean$$

$$\alpha_i = size effect$$

$$\beta_{ij} = project (within size) effect$$

$$Y_{ijk} = school (within project) effect$$

$$e_{ijkl} = random error associated with lth studentin school k within project j withinsize group i .$$$$

Additionally, the student and parent responses were analyzed in terms of their "paired difference" scores. That technique involved essentially the same model illustrated for the preceding analysis except that the test was made for difference scores that resulted when the quantitative value of the student's response (Likert Scale score) was subtracted from the value of his parent's response. The test statistic used was:

$$F = \frac{N(\overline{y}_d)^2}{\text{residual M.S.}} \sim F(1, \text{ residual d.f.})$$

The rationale for using a "paired difference" technique was simply to offer another analysis of the data. The ANOVA done on all data in the data set included responses by both students for whom there was not parent response and vice versa. The "paired difference" technique refined the data to include only those sets of responses representing individual students and their parents.

A third treatment given to questionnaire data was a Chi-square test to determine if a difference exists between the responses given by parents and those given by students. Chi-square calculations were manually computed according to the following formula:

$$\chi^{2} = \Sigma \frac{(\text{observed frequency} - \text{expected frequency})^{2}}{\text{expected frequency}}$$

One other method of treatment was employed in the analysis of the project director's questionnaire item concerning the means they used to resolve student problems occurring on the job. That analysis is known as the Friedman Rank Sums (28), (29), and took the form:

$$X_{r}^{2} = \frac{12n}{Nk(k+1)} \sum_{j=1}^{k} (R_{j})^{2} - 3N(k+1)$$

where

N		number of rows in ranking distribution
k	=	number of columns in ranking distribution
Rj	=	sum of ranks in jth column
k Σ j=1	=	directs one to sum the squares of ranks over all of k

School Achievement and Attendance Data

Differences between the 1972-73 grade-point averages and the 1973-74 grade-point averages and days absent (attendance) in 1972-73 and in 1973-74 were computed for each experimental and control student for whom complete records were available. These were known as "difference scores." Difference scores were analyzed by the ANOVA technique using two separate models:¹

(1) The crossed-nested model:

DIFFSC = MEAN + SIZE + PROJECT(SIZE)

- + SEX + RACE + TENTH + TRT
- + TRT*SIZE + TRT*PROJECT(SIZE)
- + TRT*SEX + TRT*RACE + TRT*TENTH + ERROR.

(2) The nested model:

DIFFSC = MEAN + SIZE + PROJECT(SIZE)

- + SEX + RACE + TENTH + TRT(PROJECT*SIZE)
- + SEX*TRT(PROJECT SIZE)
- + TENTH*TRT(PROJECT SIZE) + ERROR

The above notation is similar to that used in writing programs in Statistical Analysis System (SAS) programs for computer use. It tends to simplify and make more understandable the usual notation using Greek symbols. The Statistical Analysis System was developed at North Carolina State University in the early 1970's and is particularly adaptable to Social Science research employing Analysis of Covariance, Analysis of Variance, and regression techniques.

The underlying assumption for the crossed-nested model was that all GYOP projects were similar insofar as the variables under consideration were concerned, whereas the nested model assumed each project was unique.

where

DIFFSC = difference score (GPA 72 minus GPA 74 or ATT 72 minus ATT 74)

$$A(B)$$
 = factor B is nested within factor A

A*B = interaction between A and B

As noted earlier, the data were unbalanced. That complicated that analysis somewhat, even with modern statistical computing packages (26), (30). When interaction terms were not significant "partial" F statistics were used to test hypotheses about main effects. (That seemed to be consistent with Kutner's recommendations.) On the other hand, when interaction was significant a "simple effects" ANOVA was performed and the table of subclass means was investigated (31).

All factors in the models were regarded as fixed. Technically, "projects" is random, since projects were sampled from size groups. However, the introduction of that random term tended to complicate the analysis more than it was worth in terms of generalizability, hence a completely fixed effects model was utilized.

The assumptions underlying the fixed effects ANOVA included:

- 1. Independence of within-cell errors
- 2. Normally distributed within-cell errors

3. Homogeneity of within cell variances

Analysis of Covariance on School Data

A two-stage screening procedure was employed in order to select a most appropriate subset of covariates to utilize in the covariance analysis (ANOCOVA). Step one tested the homogeneity of the regression of the criterion variable and covariate between the experimental and control groups. Step two utilized all possible regressions to select the best possible subset of covariates from among those covariates passing step one.

The initial model (crossed-nested) was of the form:

Y = MEAN + SIZE + PROJECT(SIZE) + SEX
+ RACE + TENTH + TRT + TRT*SIZE
+ TRT*PROJECT(SIZE) + TRT*SEX
+ TRT*RACE + TRT*TENTH +
$$\sum_{i=1}^{4} \sum_{i=1}^{4} x_{i}$$

+ ERROR

where

Y = criterion variable (GPA 73-74 or ATT 73-74)
X_i (i = 1,2,3,4) = covariates to be considered for
the analysis
B_i = regression coefficients to be estimated

The test in step one of the screening process is accomplished by incorporating the following variables into the model:

$$Z_i = X_i \delta$$

where

 $\delta = 0$, if observation was in the control group 1, if otherwise

Blalock (32) interprets the variable Z_i as an "interaction" between the treatment and the covariate X_i . The test is an F test based on the "extra sum of squares" principle (33).

To illustrate the principle employed in step one assume the hypothetical model:

$$Y_{ij} = \beta_0 + \beta_1 T_i + \beta_2 X_{ij} + \beta_3 Z_{ij} + e_{ij}$$

 $j = 1, 2, ..., n$

where

 $\begin{aligned} \mathbf{Y}_{ij} &= \text{criterion (dependent) variable} \\ \boldsymbol{\beta}_0 &= \text{control group-Y intercept} \\ \boldsymbol{\beta}_1 &= \text{treatment effect} \\ \boldsymbol{\beta}_2 &= \text{regression coefficient for the covariate in the control group} \\ \boldsymbol{\beta}_3 &= \text{regression coefficient for "interaction" variable (Z_{ij}) \\ \mathbf{T}_i &= 1, \text{ if } i = 1 \text{ (experimental)} \\ 0, \text{ if otherwise} \\ \mathbf{Z}_{ij} &= \mathbf{T}_i \mathbf{X}_{ij} \\ \mathbf{X}_{ij} &= \text{ covariate} \end{aligned}$

Step one seeks to test the null hypothesis, $H_0: \beta_3 = 0$, (i.e., the treatment and control groups have equal regression clopes). The "extra sums of squares" principle makes use of the sums of squares resulting

from the addition of the interaction term $(\beta_3 Z_{ij})$ to the model. Essentially, the SAS program solves the least squares ("normal") equations for a "reduced model" (i.e., the model above <u>without</u> the interaction term, and then solves for the full model. The differences between the sums of squares for the two models is found and subsequently used as the numerator for the F statistic used to test $H_0: \beta_3 = 0$ (i.e., no significant differences between slopes). The denominator of the F statistic is the error mean square generated by the program for the full model.

If, in step one, no significant difference is found (acceptance of $H_0: \beta_3 = 0$) and it was concluded that regressions were homogeneous across the two groups (treatment and control) a "further reduced model" was utilized to test the hypothesis of no treatment effect after adjusting for the covariable. Once again ANOVA tables are generated and an F statistic is formed. The F statistic employs the "extra sums of squares" calculated by finding the difference between the sums of squares for the "reduced" model (incorporating the conclusion $\beta_3 = 0$) and the "further reduced model," which included <u>only</u> the β_2 (representing the regression coefficient of the total sample). That difference represents the numerator of the F statistic while the error mean square for the second model (employing β_1 and β_2) is used as the denominator. No significance (acceptance of $H_0: \beta_1 = 0$) is interpreted as meaning there is no treatment effect. In other words, the treatment and control group means, adjusted for the covariate, are not significantly different.

The second stage of the screening process involves the selection of a subset of covariates from among those passing the test in step one.

That was effected by stepwise regression. Where feasible, all possible regressions were investigated and the decision on whether or not to "keep" the covariate was based on R^2 (coefficient of determination) and the partial F statistic.

Covariates passing both stages were used in ANOCOVA. In addition to the three assumptions required for ANOVA, covariance analysis requires the following assumptions:

1. Common regression from treatment to treatment.

- 2. Linear relationship between the covariate and the criterion variable.
- 3. The covariate is measured without error.

It should be noted that the screening procedure is essentially a "model building" technique which uses the same set of data to (1) help specify an appropriate model, and (2) test hypotheses about and estimate parameters of that model. As in most procedures which incorporate one or more preliminary tests, the operating characteristics (size, power, bias, mean squared error) of the final inferences may be disturbed (34), (35), (36).

CHAPTER IV. FINDINGS

Data in this investigation were collected from questionnaires completed by 180 GYOP enrollees and 151 of their parents (either mother or father) in six of the twenty-two project locales in Iowa. Data were collected during the 1973-7⁴ school year. Additionally, school achievement and attendance data were collected on the 2⁴5 program students and a control group of 165 non-GYOP students in the same schools. The control group students were each from a family receiving Aid to Families with Dependent Children (AFDC) during that school year. AFDC was a criterion for participation in GYOP that was met by nearly eighty percent of the participants.

Questionnaire data utilized a Likert-type scale on which respondents were to indicate the extent of their agreement or disagreement with selected questions concerning their work-experience involvement while in the program. Parents were instructed to answer similar questions on a similar scale.

Adequacy of Earnings

Hypothesis (1)

"There were no significant differences in the degree to which students, parents, and project directors perceive students' wages as being commensurate with the type and amount of tasks performed by students. Students, parents, and project directors will perceive students' wages as adequate for the type and amount of work done by the students."

Both students and parents were asked to express their opinions on whether or not the wages were adequate in terms of the type and amount of work the students performed. Project directors were asked to react to that question also. Since data was available from project directors representing seventeen of the twenty-two projects, all project director responses were included in the chi-square analysis. However, this is the only question posed where project director information was deemed both appropriate and adequate for inclusion in the analysis.

Inspection of Tables 4, 5, and 6 reveals no significant difference among students and parents belonging to different schools within projects and projects within size groups regarding their view of wages earned being commensurate with the type of work they performed.

In Table 4 the means by size group and the overall means of responses to the question posed to students and parents concerning the adequacy of wages in relation to the work performed are listed. For the purpose of analysis the responses were given the following quantitative values: strongly disagree = 1, disagree = 2, agree = 3, strongly agree = 4.

Size Group	Students	Parents
Large	3.05	3.10

2.86

2.92

2.94

3.03

3.08

२.08

Table 4. Means of responses¹ to student questionnaire item 6 and parent questionnaire item 12 by size group and overall

1

Small

Overall

Middle-sized

Strongly disagree = 1, disagree = 2, agree = 3, strongly agree = 4.

Examination of the data in Table 4 indicates a positive attitude by both students and parents regarding the adequacy of students' pay in relation to the jobs they held.

Source	d.f.	SS	MS	F
Size Project (size) School (size project) Error	2 3 36 136	0.746 0.664 16.526 70.384	0.373 0.221 0.459 0.625	*1 0.427 0.887

l

Due to the unbalanced nature of the data, F statistics generated for size were not exact enough to be meaningful, hence, they are not reported.

Table 6. Analysis of variance for parent questionnaire item 12

Source	d.f.	SS	MS	F
Project (size) School (size project) Error	3 34 106	0.598 0.948 23.542	0.199 0.116 0.222	0.898 0.523

In Table 7 the data have been analyzed by use of the chi square technique to determine whether any difference existed between the students, their parents and project directors on the issue of wages being commensurate with work done. "Strongly agree" and "agree" responses were collapsed into one category, as were "strongly disagree" and "disagree."

	Agree	Disagree
Students	121 (85%)	22 (15%)
Parents	136 (95%)	7 (5%)
Project directors	17 (100%)	0 (0%)

Table 7. Student, parent, and project director responses to "were wages adequate for work done?"

According to the data in Table 7 there is a significant difference (chi-square = 10.98, P < .01) in the way students, parents, and project directors view the adequacy of wages in relation to the work done by students. That difference appears to be manifested in the view taken by students. Fewer students were willing to agree that their wages were adequate in terms of their work assignments than were parents and project directors.

In addition to the above two methods of analysis (ANOVA and chisquare) an ANOVA utilizing the "paired differences" technique was employed. To perform that analysis the quantitative difference between individual students and their parents responses was found. Using that data the model for the ANOVA was exactly the same as that used for the ANOVA using the raw data. The "paired difference" technique was utilized to provide an analysis of data consisting of only matched sets of response (a student with his parent) while the standard ANOVA's reported utilized all data in the collection. Not surprisingly, no significant differences" technique. Consequently, the tabulated findings of those analyses were not reported.

Work-experience as Related to Students' Career Goals

Hypothesis (2)

"There are no significant differences in the degree which students and parents perceive the students' work-experience in relation to his career goals. Students and their parents will view the students' workexperience as being related to the students' career goals."

Table 8 lists the means by size group and the overall means of responses to the question posed students and parents, "Was the students' work-experience related to his career goals?"

Table 8. Means of responses¹ to student questionnaire item 3 and parent questionnaire item 8 by size group and overall

Size Group	Students	Parents
Large	2.361	2.462
Middle-sized	2.412	2.645
Small	2.461	2.444
Overall	2.430	2.493

Strongly disagree = 1, disagree = 2, agree = 3, strongly agree = $\frac{1}{4}$.

Table	9.	Analysis	of	variance	for	student	questionnaire	item	3
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Source	d.f.	SS	MS	F	
Project (size) School (size project) Error	3 35 131	4.879 24.657 100.348	1.626 0.704 0.766	2.123 0.920	

Source	d.f.	SS	MS	F
Project (size) School (size project) Error	3 32 100	4.271 16.422 48.865	1.424 0.513 0.489	2.914 1.050

Table 10. Analysis of variance for parent questionnaire item 8

The data in Tables 9 and 10 indicate that no significant difference was found among schools within projects, nor projects within size groups regarding the attitude of students about whether or not the workexperience was related to the students' career goals. There was, however, a significant difference (P < .04) among parents in the various projects within size groups. T tests run on project means within the three size groups revealed that the only significant difference was found between the two projects in size group one. Unfortunately, there were only seven parental responses in one of those projects (Centerville), hence, little reliance can be placed on the statistics generated. Scheffe's test (37, p. 271) applied to those two sets of means reveals no significant differences in the views of parents and students on the issue of work-experience being related to career goals, and that both groups of respondents tend to agree that there was a positive relationship.

Students and parents were asked to respond to the question, "Has the student made a definite career choice?". (Student questionnaire item 1 and parent questionnaire item 6.)

Table 11 illustrates responses to the career choice question.

	Agree	Disagree	•
Students	74 (51%)	70 (49%)	•
Parents	71 (49%)	73 (51%)	

Table 11. Student and parent responses to "Has the student made a career choice?"

The data in Table 11 shows that students were evenly divided in their opinions about having arrived at a career choice. Parents were also evenly divided on the issue. No significant difference was found in the opinions of the two groups (chi-square = P < .036).

There is always the question of collaboration between students and parents in surveys of this type. To get a feel for the amount of acrossthe-board agreement that existed on these questionnaires the data in Table 11 have been arranged into another two-by-two matrix (Table 12).

		Parents			
		Agree	Disagree		
Students	Agree	54 (37%)	20 (14%)	-	
	Disagree	17 (12%)	53 (37%)		

Table 12. Student and parent paired responses to "Has the student made a career choice?"

Analysis of the data in Table 12 shows that over one-fourth of the students and parents, when taken as a whole, were in disagreement on the issue of whether or not the student had selected a career. The data in Table 12 represents "paired responses," meaning that only when both a student and his parent responded was the data incorporated into the matrix. The chi-square value of Table 12 is 34.05 (P < .001) which indicates that there is an association between students' and parents' views on the question. Nevertheless, the fact that twenty-six percent of the students disagreed with their parents on this question is strong evidence against collaboration.

On the matter of relation of the job to student's career choice, one must approach the analysis with reservations. Responses were made by all students when, in fact, only half had earlier indicated having chosen a career. It might be plausible to assume however, that students who had indicated disagreement with the earlier question (had not decided on a career) may have responded to this one on the basis of knowing their job was one they would not choose as a career.

Use of Earnings

Hypothesis (3)

"There were no significant differences in the degree to which students and parents viewed wages paid to students in relation to the students' support needs. Students and parents will view the students' wages as being used primarily for "necessary" living expenses."

Students and parents were asked to indicate in general terms the proportions of student wages that went for necessities, extras, and savings. Necessities were described as food, clothing, transportation to school, shelter, and educational expense. Extras were described as

transportation other than to school, dates, recreation, extra clothes, hobbies, etc. Table 13 illustrates students and parents responses to the statement that most of the wages went for necessities, while Table 14 shows responses to a similar statement about extras.

Table 13. Student and parent response to "Most of student's wages went for necessities"

	Agree	Disagree
Students	113 (80%)	29 (20%)
Parents	109 (77%)	33 (23%)

Table 14. Student and parent response to "Most of student's wages went for extras"

	Agree	Disagree
Students	63 (44%)	80 (56%)
Parents	68 (48%)	75 (52%)

An analysis of the data in Tables 13 and 14 suggests some confusion among respondents as to the exact use of student's wages. Although both tables reveal no significant difference (chi-square = .33 and .35 respectively) between the views of parents and students on the issue. The best estimate one can make of the proportion of students who use most of their earnings for necessities is somewhere between fifty-two and eighty percent. In other words, it is probably safe to say that between one-half and three-fourths of the GYOP enrollees were using their earnings for necessities.

Analysis of variance applied to both student and parent responses to the questions of how earnings were used revealed no significant differences across size groups and between projects within size groups.

Another issue contained in the project director's questionnaires not specifically related to any of the first three hypotheses but related generally to the question of whether or not GYOP enrollees were gaining a satisfactory work-experience, was the question of how project directors dealt with student problems on the job (Appendix B, Question 6).

Project directors were asked to rank the methods illustrated in Table 15 in the order they were utilized as solutions to problems students had with their employment. Only one director reported using a solution of referring the student to another agency as a sixth choice among solutions. Nine directors reported using less than the five alternatives and one of those has only the last two on the list. Each cell in Table 15 shows the

Table 15. Number of project directors ranking the methods utilized to solve student employment problems

			RANK		
	(Most often)				(Least often)
SOLUTION	1	2	<u>3</u>	4	2
Shift enrollee to different employer	2	4	5	3	2
Shift to different job, same employer	0	l	2	5	7
Provide intensive counseling with student	5	6	5	l	0
Mediate student-employer differences	10	5	2	0	0
Terminate student from program	0	1	2	8	5

number of directors ranking a particular method of solution on a 1 to 5 scale with 1 representing the method used most often.

Applying the Friedman Two-way Analysis of Variance by Ranks $(33, 3^4;$ Methodology chapter, pp. 3⁴ and 35) to the data in Table 7 indicated that there was a significant (P < .01) difference in the way project directors ranked their choices from among solutions to student employment problems. Further analysis of the data utilizing a weighted-mean technique clearly indicated that directors chose the method of mediating differences between the student and his employer as their first choice from among solutions to student employment problems. Intensive counseling with the student ranked second, shifting the enrollee to a different employer ranked third, shifting him to a different job with the same employer ranked fourth, and terminating the student was the last alternative reported to have been used by project directors.

GYOP as a Dropout Deterrent

Hypothesis (4)

"There is a significant difference in dropout rates between experimental and control groups. Students enrolled in GYOP will drop out of school in significantly lesser proportions than students with similar characteristics who are not enrolled in the program."

Data collected were not of sufficient quality to determine empirically the extent to which GYOP was helping its participants remain in school. The limitations on the data are discussed in Chapter IV. There is some evidence from the data analysis, however, that can be cited as favorable to the program acting as a dropout deterrent. It was found that students with grade-point averages below 3.2 (3.0 = C in this investigation) improved their grades after entering the program. Attendance also improved significantly for certain enrollees. Those two factors (improved grades and better attendance) may well be used as arguments for viewing the program as an inducement to "low achievers" to stay in school. Add to that the incentives provided by the earning of money and learning about work, and the accumulative effect of all such factors may represent the best evidence possible that the program did indeed deter dropouts.

Twenty-two of the 148 students responding to the questionnaires indicated that they had considered dropping out of school at one time or another. Of those twenty-two, fourteen (64 percent) reported that they felt GYOP had been helpful for their remaining in school. Another fiftyfour enrollees reported GYOP as helpful for staying in school, even though they had not considered dropping cut. Almost half of the students reporting said they thought of GYOP as beneficial for staying in school, while less than 20 percent indicated the program was not necessarily a help.

Student Achievement

Hypothesis (5)

"There is a significant difference in the grade-points earned by the experimental and control groups. Students enrolled in GYOP will achieve significantly higher grade-points than students not enrolled in the program."

The data were analyzed by several different techniques for several different models.¹ The models employed were: (1) the "nested" model, where the treatment (GYOP) was nested within the project (i.e., the treatment was project-specific), (2) the "cross-nested" model, where the treatment was crossed with projects and size groups (i.e., a common treatment was applied to all projects), (3) covariance models corresponding to models (1) and (2), above, incorporating one or more covariates (GPA, attendance, grade-level, age, etc.), and (4) a linear regression model in which the criterion variable was GPA 1973-74 and the independent variable was GPA 1972-73 for both the experimental and control groups.

The analysis of variance on paired difference scores technique utilized the data in pairs -- GPA 1972-73 and GPA 1973-74. More specifically, it utilized <u>paired differences</u> -- GPA 1973-74 <u>minus</u> GPA 1972-73. A difference score was found for each student for whom complete sets of data were available. For example, if student Joe Doe earned a 3.6 grade-point average in 1973-74 and a 3.3 in 1972-73, his difference score on GPA was 0.3 (3.6 - 3.3).

Analyses of variance were obtained using the Statistical Analysis System (SAS) at Iowa State University Computational Center. Table 16 depicts data generated by analysis of variance employed in the crossednested design.

The term "model" refers to a mathematical expression describing the <u>structural</u> components of the data.

Source	d.f.	SS	Partial SS	MS	म
Regression size project(size) ¹ sex race tenth trt size*trt project*trt(size) sex*trt race*trt tenth*trt	17 2 3 1 1 2 3 1 1 2	12.5691	0.2856 0.7433 1.5995 0.2570 6.2302 0.3113 0.2534 0.2756 0.1535 0.8679 0.0687	0.7394	2.17 0.42 0.73 4.70 0.75 18.29 0.91 0.37 0.27 0.45 2.55 0.20
Error	314	106.9303		0.3405	

Table 16. Analysis of variance on difference scores for GPA utilizinga crossed-nested design

Project(size) = project nested within size group. Tenth = student was or was not in tenth grade in 1973-74. Trt = student was in treatment or control group. Size*trt = the interaction between size group and treatment.

The purpose of the analysis outlined in Table 16 was to test for significance of interaction and treatment effects. Consequently, the last six factors in the "source" column represent the subject of the analysis. It can be readily determined from the data in Table 16 that no significant effects exist between the variances of the sub-groups where treatment has been included and the variance of the overall group (to which GPA difference score has been assigned as the dependent, or criterion, variable). Restated, the inclusion of the treatment effect adds little, if any, to the GPA difference scores of students (nor does it detract!). That is to say, treatment did not enhance achievement as measured by GPA.

The data in Table 16, when analyzed in a nested design (assumption

was that treatment was project specific) likewise revealed no sifnificant interaction.

Student Attendance

Hypothesis (6)

"There is a significant difference in attendance patterns of the experimental and control groups. Students enrolled in GYOP will attend school with a significantly lower absentee rate than will students not enrolled in the program."

Table 17 illustrates analysis of variance applied to the attendance difference scores of both experimental and control groups.

Source	d.f.	S.S.	Partial SS	MS	F
Regression size project(size) ¹ sex race tenth trt size*trt project*trt(size) sex*trt race*trt tenth*trt Error	17 2 3 1 1 1 2 3 1 312	2859.3401 65949.1933	134.8871 441.6255 1.9682 2.6147 0.4713 18.2102 389.9929 205.3660 106.7953 64.8634 326.5417	211.3756	0.80 0.32 0.70 0.01 0.01 0.00 0.09 0.92 0.32 0.51 0.31 1.54

Table 17. Analysis of variance on difference scores for attendance using a crossed-nested design

¹Project(size) = project nested within size group.

Tenth = student was or was not in tenth grade in 1973-74.

Trt = student was in treatment or control group.

Size*trt = the interaction between size group and treatment.

As in the case of GPA, no significant differences were found in the attendance patterns of students enrolled in GYOP and those who were not.

Covariance Analysis

In an attempt to adjust for initial differences in students' GPA and/or attendance and to reduce the experimental error (32, pp. 419-20) one or more covariates were incorporated into the ANOVA models previously described. The covariates were then "screened" for possible inclusion in the analysis. (See Methodology chapter, pp. 37-40 for a description of the screening process.)

The screening process for GPA indicated that GPA 1972-73 should not be used as a covariate since its coefficient was significantly different (P < .01) for the experimental and control groups. The only covariates passing both stages of the screening process were: (1) attendance 1973-74 for GPA 1973-74 (criterion variable) and (2) attendance 1972-73 and GPA 1973-74 for attendance 1973-74 (criterion variable).

Since GPA 1972-73 was ruled out as a covariate for GPA 1973-74, a covariance analysis was run on the GPA difference scores with attendance 1973-74 as a covariate. The results were similar to the ANOVA for GPA difference scores (no significance) although the race by treatment interaction was marginally significant (P < .10). Table 18 depicts the analysis of covariance for the dependent variable GPA difference scores.

Source	d.f.	SS	Partial SS	MS	F
Regression Att 74 size project(size) sex race tenth trt size*trt project*trt(size)	18 1 2 3 1 1 1 2 3	15.8100	3.2969 0.2695 0.6559 1.2420 0.2554 6.9433 0.3991 0.2340 0.1653	0.8783	2.65 9.94 0.41 0.66 3.74 0.80 20.93 1.20 0.71
sex*trt race*trt tenth*trt Error	1 1 312	103.4972	0.1335 0.9853 0.0117	0.3317	0.40 2.97 0.04

Table 18. Analysis of covariance for GPA difference scores using a crossed-nested design

The adjusted means for the four race/treatment factor combinations are given in Table 19.

Table 19. GPA difference score means adjusted for attendance 1973-74: race and treatment factors

Factor	Adjusted Difference Score Means
Minority/Experimental Minority/Control	-0.009 (N= 51) 0.237 (N= 26)
Caucasian/Experimental	0.041 (N=136)
Caucastan/control	0.010 (N=TTO)

According to the data in Table 19, the program (treatment) seemed to have had a more positive effect on minority participants than on Caucasian participants. The data shows that after adjusting for the attendance factor minority enrollees in the program (experimental) experienced virtually no change in GPA while minority enrollees in the control group suffered a drop of almost .24 in GPA. That difference was significant at the .10 level. No significance was found between the Caucasian experimental and control groups.

The analysis of covariance for the dependent variable attendance 1973-74 reported in Table 20 and utilizing the crossed-nested design yielded statistical significance for the two covariates (Att 72-73 and GPA 74), and marginal significance (P < .10) for: (1) projects within size groups; (2) sex by treatment interaction; and (3) tenth grade by treatment interaction.

Source	d.f.	SS	Partial SS	MS	F
Regression Att 72 GPA 74 size project(size) sex race tenth trt size*trt project*trt(size) sex*trt race*trt tenth*trt	19 1 2 3 1 1 2 3 1 1 2 3 1 1 1 2 3 1 1	34489.3578	9806.1516 9342.0013 259.5130 984.5777 333.1154 106.3289 109.6283 87.8412 297.5214 223.3214 421.2627 124.9329 411.1116	1815.2294	12.02 64.94 61.86 2.17 2.21 0.70 0.71 0.58 0.99 2.79 0.83 2.72
Error	310	46812.7301		151.0088	

Table 20. Analysis of covariance for attendance 1973-74 utilizing a crossed-nested design

The tenth grade by treatment interaction is of interest since it was consistent with the hypothesis that tenth graders would be helped less (if not hindered) by the program because of the difficult transition period they experience moving from the junior high to the high school setting. Adding a work-experience to that transitional period must surely interfere with achievement, if not attendance.

Adjusted means for the tenth grade and treatment factor combinations are given in Table 21.

Factor	Adjusted Means: Attendance 1973-74	
Tenth grade/Experimental Tenth grade/Control Non-tenth grade/Experimental Non-tenth grade/Control	16.270 (N= 53) 13.871 (N= 40) 15.426 (N=133) 18.559 (N=104)	

Table 21. Attendance 1973-74 means adjusted for attendance 1972-73 and GPA 1973-74: tenth grade and treatment factors

The means given in Table 21 are presented graphically in Figure 1. Interaction is illustrated by the non-parallel lines.



Figure 1. Interaction of entering tenth grade and treatment factors

The program appears to be having a slight negative effect on the attendance of tenth graders and a slight positive effect on participants not in the tenth grade. The same could be said for the program effect on males and females, as illustrated in Table 22 and Figure 2. Males seem to be benefiting (attendancewise) somewhat from program participation, while females are showing a very slight increase in absenteeism.

Table 22. Attendance 1973-74 means adjusted for attendance 1972-73 and GPA 1973-74: Sex and treatment factors

Factor	Adjusted Means: Attendance 1973-74
Male/Experimental	13.301 (N= 85)
Male/Control	17.616 (N= 71)
Female/Experimental	17.658 (N=101)
Female/Control	16.907 (N= 73)

Male -



Figure 2. Interaction of sex and treatment factors

In other words, the program is apparently having a slight positive effect on attendance for males and a negligible effect for females.

Using the evidence gathered from the covariance analysis as it relates to hypotheses five and six, it has been shown that GYOP participation may not have an effect on enrollees as a whole, but may effect certain subgroups (race, tenth grade and sex) within the population of participants.

Regression and Scatterplot Analysis: GPA

Since the relationship between GPA 1972-73 and GPA 1973-74 is different for experimental and control groups, a simple scatterplot of the data was obtained (using SAS).¹ The plot is given in Figure 3 on the following page. (Experimental = 0, Control = 2.)

The plot is quite informative if examined closely. First, it is apparent that the relationship between GPA 1972-73 and GPA 1973-74 is stronger (greater correlation and slope) for the control group than for the experimental group. Moreover, there are ten points (0's) from the experimental group in the lower right-hand corner of the graph. This region corresponds to high 1972-73 GPA, low 1973-74 GPA. Thus, ten students improved their GPA's considerably after participating in GYOP during the year 1973-74. The fact that there are no control group points (2's) in this region is also worth noting. (The scatterplot for attendance

¹Since neither "size" nor "projects" are statistically significant for explaining GPA 1973-74, it is legitimate to "pool" the data and analyze the total sample.

Figure 3. Plot of GPA 1974 vs. GPA 1972 for experimental and control groups

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indicated little, if any, differences in the relationship for experimental and control groups.)

A "least squares regression analysis" was performed on the data, yielding the following results:

Group	Sample <u>Size</u>	Intercept	Slope	Error <u>Varian</u> ce
Experimental	187	1.175	0.608	0.339
Control	46	0.550	0.842	0.234

The aforementioned statistics confirm the conclusions from a visual scatterplot analysis. The regression lines were plotted, with the actual data points. The points in the lower right-hand corner show up in the regression analysis as "outliers" (points having large residuals). Moreover, it appears that the program is having a differential effect on GPA, depending on the initial (1972-73) GPA level.

A Z-test of the hypothesis of no difference between adjusted means for experimental and control groups at a given GPA 1972-73 (X) value was conducted using the following formula:

$$Z = \frac{\hat{Y}_{E} - \hat{Y}_{C}}{\sqrt{S_{E}^{2}(\frac{1}{n_{E}} + \frac{(X - \overline{X}_{E})^{2}}{\Sigma(X - \overline{X}_{E})^{2}}) + S_{C}^{2}(\frac{1}{n_{C}} + \frac{(X - \overline{X}_{C})^{2}}{\Sigma(X - \overline{X}_{C})^{2}})}$$

where

$$\begin{split} \hat{X}_{E} &= \text{predicted value of GPA 1973-74 for experimental} \\ &\text{group at a given value of GPA 1972-73 (X)} \\ \hat{Y}_{C} &= \text{predicted value of GPA 1973-74 for control group} \\ &\text{at a given value of GPA 1972-73 (X)} \\ S_{E}^{2} &= \text{error mean square for experimental group} \\ S_{C}^{2} &= \text{error mean square for control group} \\ n_{E} &= \text{number in experimental group} \\ n_{C} &= \text{number in control group} \\ \hline{X}_{E} &= \text{mean GPA 1972-73 for experimental group} \\ \hline{X}_{C} &= \text{mean GPA 1972-73 for control group} \end{split}$$

The results of that test indicate a significant <u>positive</u> program effect for students with initial (1972-73) GPA's below 3.2 (roughly, "C," and below), a significant <u>negative</u> program effect for students with initial GPA's above 1.8 (roughly, "B," and above), and no significant program effect for students with initial GPA's between 1.8 and 3.2.
CHAPTER V. SUMMARY AND CONCLUSIONS

Conclusions

The Iowa Governor's Youth Opportunity Program is a work-experience program for economically disadvantaged youngsters ages fourteen through eighteen. It has operated since 1969 throughout the state of Iowa. The in-school phase of GYOP, the focus of this study, was based on the Neighborhood Youth Corps model, which attempted to create employment opportunities for disadvantaged youngsters in an effort to acquaint them with the world of work while providing financial support. The premise was that those two factors would result in a higher incidence of school continuance for the group.

A review of the literature revealed that economic and social disadvantagement are factors that have been attributed to poor school performance and often lead to a youngster's dropping out. That problem has been given considerable attention by various governmental agencies over the past decade. Efforts to compensate for disadvantagement through governmental funding have not generally been evaluated as successful, although some researchers have found intervention efforts to be worthwhile. One major study recently completed in the Des Moines, Iowa area found no significant improvement in the achievement, attendance, or dropout patterns of junior high school students participating in a funded work-experience program.

Although arguments have been presented for the value of programs such as the Neighborhood Youth Corps on social and humanitarian grounds,

little evidence has been presented to substantiate its success empirically as motivation for its clients to remain in school. However, research on such social action programs has been difficult at best due to the lack of any standardized reporting systems and the unique characteristics of each local program.

This investigation examined the in-school activities of Iowa GYOP enrollees during the 1972-73 and 1973-74 school years. Projects studied were chosen at random using a stratified random sampling technique. Findings based on data collected in large, medium sized, and small projects were generalized to projects over the state. Date were collected by means of questionnaires submitted to enrollees, parents and project directors, and from schools attended by GYOP enrollees and a control group of non-enrollees who were from AFCD families. Limitations on the findings due to the data analyzed included: unbalanced data, non-response, incomplete records, and a non-experimental (non-random assignment of subjects) design. Through analysis of variance and analysis of covariance techniques efforts were made to control statistically for those limitations. Data were analyzed in a variety of ways so that conclusions could be drawn based upon several methodological treatments.

The findings revealed that:

1. The money earned by GYOP enrollees was adequate in relation to the amount of work they did and the types of tasks they performed. Belonging to a specific size group or project within a size group did not effect the respondent's view on that issue. However, chi-square analysis did reveal

that significantly more students felt the wages were inadequate, than did parents or project directors.

- 2. Although not all enrollees had chosen a career there were no significant differences between the views of enrollees and parents on the matter of the GYOP workexperience being related to the enrollee's career goals. Both groups viewed the program as being related to career goals.
- 3. Enrollees and parents agreed that the enrollee was using earnings to provide necessary living expenses.
- 4. In ranking methods used to resolve student on-the-job problems, project directors tended to use the method of mediating differences between the student and his employer as a first choice among solutions.
- 5. Although data were insufficient to statistically test the extent to which GYOP acted as a dropout deterrent, there was some preliminary evidence contained in responses to questionnaires that it may have had a positive effect on keeping certain youngsters in school.
- 6. GYOP enrollment and participation was not associated with grade-point averages of enrollees, except in the case of enrollees belonging to a minority group where there was a slight improvement in grades after joining GYOP. Also, evidence indicated that the program was having a positive

effect on students whose previous grade-point was below average and a somewhat negative effect on those who had been earning above average grades.

7. GYOP participation did not appear to be associated with attendance patterns of enrollees. There was some evidence to indicate that it may have had a slight negative effect on enrollees entering the tenth grade and a slight positive effect on enrollees not in the tenth grade. Additionally, participation was having a slight positive effect on the attendance of male enrollees.

Limitations

In the methodology section, a general approach to data analysis was briefly outlined. It was described as "exploratory" and "multi-operational," emphasizing the importance of viewing the data from several directions and utilizing (when available, feasible, and appropriate) several techniques for treating the data. Implicit in that approach is an unbiased, critical, and scientific attitude. This approach offers the best chance for obtaining accurate information from quantitative data.

School attendance data (number of days absent) and grade-point (GPA)¹ were obtained from GYOP participants (the experimental group) and a group of non-participants from AFDC families (the control group) for

The grading system used was: A=1, B=2, C=3, D=4, and F=5. Music, physical education, and driver education grades were excluded when computing GPA's.

the 1972-73 and 1973-74 school years. Students were selected for the program in a <u>non-random</u> fashion, thus precluding rigorous experimental controls. Strictly speaking, then, no causal inferences can be drawn about the effects of the program. Inferences drawn are <u>correlative</u> rather than <u>causal</u>. Moreover, the limited scope of this study precluded any longitudinal or time series type of analysis. Nevertheless, the data (and the analysis thereof) are informative in that they point to strengths and weaknesses of the program, and thus, provide an empirical basis for recommendations regarding future program directions.

Data collected were not sufficient to determine empirically the extent to which GYOP was helping enrollees stay in school. A comparison of experimental (GYOP) and control group dropout rates would probably have resulted in misleading findings. Retrospective examination of the control group selection process reveals some very evident limitations inherent in the control group data. Parents were asked to give permission to view the school records of their youngsters. At least three assumptions can be made about the representativeness of the group that subsequently responded to that request:

- They were probably parents of youngsters who had done well in school, or at least parents whose children had not dropped out.
- 2. They were most likely parents who could read.
- 3. They were most likely parents who were not suspicious of the motives of the researchers and/or the State Department

of Social Services (under whose letterhead the letter was sent).

Acceptance of any one of those assumptions would tend to bias the control group data, increasing the probability that the control group represented greater numbers of "high achievers." Only four actual school dropouts were included in the school data received on the control group. One would suspect that there would be several times that many dropouts represented in a sample of 165 youngsters from AFDC homes. Based on that knowledge, then, it is safe to assume that all tests of significance involving a comparison of the control and experimental groups were probably conservative comparisons. In other words, tests of significance were made using a fairly representative sample of GYOP and a sample of control subjects who represented a higher stratum in terms of school performance and attendance.

Another limiting factor in determining the dropout prevention potential of GYOP was found in the quality of data received from project directors and from schools. It could not always be determined exactly whether or not an enrollee had actually dropped out of school, or just out of the program, and whether or not he dropped out of school while in the program or after he had left it.

Discussion

A review of literature has indicated that efforts to compensate for certain social and economic disadvantagements of in-school age youth have centered on vocational and/or career training with a work-experience

component to provide economic assistance. The effects of those efforts have not generally been evaluated as successful in terms of helping disadvantaged students achieve and perform better in school. On the other hand, most researchers have agreed that traditional vocational education curriculum has not been the answer either.

Brubaker (6), in his study of a compensatory work-experience program in the Des Moines schools, found virtually no evidence that it was having any effect on the attendance and achievement of its enrollees. In contrast, the findings of this investigation, utilizing more discreet analysis techniques, have indicated that there may be a differential effect of such programs on carefully defined subgroups within the program population.

The review literature shows that there is a definite need for more minority group participation in employment and educational programs. This investigation established that Iowa GYOP is not only serving a goodly number of minority students, but is apparently having a slightly positive effect on their achievement in school. Additionally, GYOP is providing an important economic need for disadvantaged youth by giving them a chance to earn money for necessary living expenses. Levin (17), the Department of Labor (18), Ozgediz (19), Singell (21), and Goodman, et al. (22) found that the decision to drop out of school was often based on economics. However, Jencks, et al. (23) found that students often use the need for money as an excuse to leave school when, in fact, that may only be a small part of the reason. According to Jencks domestic and environmental circumstances are the main contributors to the dropout decision.

In this investigation no empirical evidence was obtained to indicate the extent to which GYOP acted as a dropout deterrent. However, questionnaire responses, along with the findings relative to the improvement in grades and attendance of certain groups of enrollees demonstrated after joining the program, provide tentative evidence that GYOP did act as a dropout deterrent for some of its enrollees.

No cost-benefit analysis was conducted as a part of this investigation. The problems attendant to such an analysis are numerous. Lack of any standardized record keeping and reporting systems, local resources provided that were not directly charged to the program cost, differential terms that students spent in the program, and the use of state monies carried over from (and to) the summer phase of the program are but a few of the problems connected with doing an effective economic analysis of GYOP. To break down the dollars provided to each local project into a per enrollee cost would be an impossible task under existing conditions. Those facts preclude any statement that could be made regarding the use (or misuse) of the 914 thousand dollars allocated to Iowa GYOP during the 1973-74 school year.

Recommendations for Program Operation

 State GYOP officials should take immediate steps to establish a standardized bookkeeping and reporting system across projects. The reporting system should take into account not only the financial aspects of program management for the purpose of enhancing

cost-benefit analyses, but should also be categorized by activities so that outcomes can be measured against program objectives.

- 2. Local project directors should adopt the practice of obtaining needed baseline data on students and their families at the time of entry into the program. This could be done as a part of the pre-entry application procedure.
- 3. Where possible, program directors should provide counselors to serve as liaison between the enrollees school related activities and the work-experience activities provided by GYOP.
- 4. Students with a grade-point average of B or above should be made aware that participation in a workexperience program such as GYOP tends to associate with a somewhat lower grade-point. Although financial assistance may be an important criteria for entry into the program, students, parents, teachers, and counselors should be aware that the addition of a workexperience to the student's other activities can often result in poorer achievement.
- 5. Efforts should be emphasized to correlate, inasmuch as possible, the student's work-experience with his career goals.

Recommendations for Future Research

GYOP, as presently conceived in Iowa, represents a major effort by the public sector to address the needs of socially and economically disadvantaged children. A considerable amount of public funds have been utilized to develop and perpetuate the concept across the state. The lives of thousands of youngsters have been affected in one way or another by participation in GYOP during its five years of existence. Therefore, due to the economic and humanitarian considerations involved with the operation of such a program, carefully designed research procedures need to be applied to the various program components. For those reasons the following recommendations are suggested to enhance future evaluations of GYOP:

- Selected local projects should be chosen to employ a true experimental design for research purposes. In those projects subjects would be assigned to the program on a random basis, and a randomly selected control group would be established simultaneously.
- 2. A longitudinal study of the program should be attempted which would include follow-up on enrollees who have left the program.
- 3. Pre- and post-test strategies should be incorporated into the study design.
- 4. Consideration should be given the idea of conducting a case study approach. Random selection of individual

participants and a longitudinal case study of the activities of those participants should be features of that design.

5. Measures should be sought and/or developed to evaluate affective gains of program participants. Too little has been reported in the area of developing instruments to measure attitudinal and social behavior change in youngsters as a result of participation in programs such as NYC and GYOP. However, research findings are available that have addressed the affective domain and they should be carefully examined for possible use with GYOP participants.

Social action programs, such as Iowa GYOP, are often more effective when local project directors and their advisory councils are allowed flexibility within the program guidelines to make desirable local adaptations. The foregoing recommendations are not intended to standardize GYOP programming across the state to the extent that local flexibility in programming is eliminated. They are meant to serve as a set of general guidelines within which local projects can be evaluated, local projects evaluations can be compared with one another, and a general measure of effectiveness of the state-wide program can be obtained.

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STUDENT AND PARENT QUESTIONNAIRES

GOVERNOR'S YOUTH OPPORTUNITY PROGRAM

Des Moines, Iowa

Dear GYOP Enrollee,

In an effort to determine whether or not the Governor's Youth Opportunity Program is beneficial to the students it serves across the State of Iowa it is important that we get some honest and sincere answers from those who participate. Therefore, I am asking you to take a few minutes to answer these questions as accurately as you can. Your answers will help us determine what changes may be necessary in this program.

Please feel free to obtain help from the person who hands you this questionnaire if you do not understand a question, but be careful to give the answer that reflects YOUR opinion, and YOURS only. Thank you for your cooperation.

Sincerely,

Charles S. Greenwood Program Evaluator

GYOP STUDENT QUESTIONNAIRE

Name	Male	Female					
Address	Telephone						
Parent or guardian	Telephone						
Address of parent or guardian							
School you are attending							
Your birth date							
Your present employer							
Employer's address (at work)							
Type of work you do							
Your hourly wage							
Name of your school counselor							
Grade you are in							

Instructions for Questionnaire (Please read carefully)

It is important that you give an answer to each question that most nearly reflects your own opinion. Your name is requested on the questionnaire for the purpose of identification in matching responses with other groups surveyed. All responses will be held in the <u>strictest</u> of <u>confidence</u> by the Program Evaluator, and no reference to individual students, by name, will be made in reporting the findings.

- -- If you are not precisely sure of hours, days, weeks, dollar amounts, percentages, and so forth, on questions asking for those responses, GIVE YOUR BEST ESTIMATE!
- -- On "Strongly Agree", "Agree", etc., questions, check only <u>ONE</u> response for each question.
- -- Where a question asks for a statement from you, please write as much as it takes for you to make your point. Use margins, or the back of the page if necessary.
- -- Parents, teachers, or counselors might be needed to help explain a question, but BE SURE TO GIVE YOUR OPINION, NOT THEIRS!

STRONGLY

AGREE

(Check one response only)

AGREE

DISAGREE

- 1. I have definitely chosen the career I would like to pursue.
- 2. The part-time job I have held this year is closely related to my career choice:
 - a. in the <u>type</u> of tasks performed
 - b. in working conditions such as number and type of co-workers, machines and materials used, type of building in which work is done, etc.
 - c. in job requirements such as punctuality, attendance on the job, working with others, understanding what to do, etc.
- 3. The part-time work-experience I had this year gave me an opportunity to explore firsthand the kind of work I will do if I get to pursue my career choice.

In regard to the part-time work-experience you have had under GYOP this school year, please answer the following as accurately as you can:

- 4. The wages I received were fair and adequate (enough) for the type of work I did.
- 5. The wages I received were fair and adequate for the <u>amount</u> of work I did each day.
- 6. Overall, considering the amount of work I did for my employer each week, I was paid about the right amount for that work.

STRONGLY

DISAGREE

7.	Most of the wages I have earned this year have gone for <u>necessities</u> such as food, clothing, transportation to school, shelter, or educa- tional expenses.
8.	Most of my wages have gone for "extras" such as trans- portation other than to school, dates, recreation, extra clothes, hobbies, etc.
NOT	E: USE THESE DEFINITIONS OF <u>NECESSITIES</u> AND "EXTRAS" FOR QUESTIONS 9 and 10.
9.	What portion of your wages would you say went to necessities?
	nearly all about half nearly none
10.	What portion of your wages went for "extras"?
	nearly all about half nearly none
11.	What portion of your wages went into some kind of savings?
	nearly all about half nearly none
12.	If you had earned MORE money each week, which <u>ONE</u> of the following would it most likely have been spent on? (check just one)
	a. necessities
	b. "extras"
	c. savings
	d. other (please specify)
13.	My hourly wage last pay day was \$ per hour.
14.	Briefly state the career, or career-field that you have chosen for
	yourself. (Write "none" if no definite choice has been made)
15.	Have you ever seriously considered dropping out of school permanently for any reason? Yes No
16.	Have you ever voluntarily quit school for any length of time? Yes No If <u>yes</u> , how long were you out? months
17.	Do you feel that involvement in GYOP has been helpful to you in stay- ing in school? Yes No Do not know
	If <u>yes</u> , how was it helpful?

- 18. Did you participate in any kind of part-time work-experience program during the 1972-73 school year? (Do not include summer employment.) Yes ______ No If yes, how many months were you employed under that program? _______ months (If less than ONE month, enter "O")
- 19. Did you have any other kind of full or part-time employment before this school year? (Including summer employment) ___Yes ____No If yes, give a brief description Was this under GYOP? ___Yes ____No Was it full-time ____, part-time ____, or some of both ___? How many months were you employed? _____ months. (If less than ONE month, enter "O".)
- 20. About how many times during this school year did you schedule conferences with your SCHOOL counselor (Not your work-experience coordinator)? _____ times
- 21. How many of these meetings were for the purpose of discussing workrelated, or career-related matters? _____ meetings
- 22. How often did you meet with your GYOP work-experience coordinator for the purpose of discussing work-related or career matters?
 - a. one a week e. once a semester
 - _____ b. twice a month _____ f. once during the year
 - _____ c. once a month _____ g. not at all
 - _____d. twice a semester

About how many total hours did these meetings involve? hours

23. Did you have any other group or individual experiences such as field trips, films, lectures, military or college recruiter visits, etc., that emphasized learning about careers and vocational choices? Yes No

If yes, about how many hours did you spend during the year participating in those experiences? approximately hours

- 24. Briefly state some of the things you have liked best about GYOP.
- 25. Briefly state some of the bad things you have experienced in the GYOP program.

GOVERNOR'S YOUTH OPPORTUNITY PROGRAM

Des Moines, Iowa

Dear Parent,

During this school year your son or daughter has had the opportunity to take part in a part-time work-experience program, The Governor's Youth Opportunity Program (GYOP). In an effort to measure the effectiveness of this program it is important that I get some honest and sincere reactions from those involved in it. Therefore, I am asking you to take a few minutes to answer the attached questions as accurately as you can. Your answers will be helpful to me in determining what changes may be necessary in the program.

I will emphasize that these questions are asking only about the time the youngster has spent in GYOP <u>this</u> school year, (starting September, 1973)! In answering, do not consider any previous work-experiences the youngster may have had.

I will assure you that all information collected will be held in the strictest of confidence by me, and no individual will be referred to by name in reporting the findings. Your name is requested only for the purpose of matching your responses with those of the student. Thank you for your cooperation in this matter.

Sincerely,

Charles S. Greenwood Program Evaluator

GYOP PARENT QUESTIONNAIRE

	(To be completed by <u>either</u> father or mother, or guardian.)								
Nam	e Telephone								
(Ch	eck one) - Father Mother Other (specify)								
Add	ress								
Nam	e of child in GYOP								
Not	E: If you have more than one child in GYOP, please indicate above which one <u>this</u> questionnaire concerns.								
1.	Are you familiar with the intents and purposes of the Governor's Youth Opportunity Program? Yes No								
2.	How often do you talk with representatives of the school or agency that was responsible for getting your child his job about progress he may or may not be making? Often Occasionally Hardly ever								
3.	Briefly state the career choice your son or daughter has chosen.								
4.	Has your son or daughter ever seriously considered dropping out of school permanently for any reason? Yes No I don't know								
5.	Do you feel that involvement in GYOP has been helpful to your child in staying in school? Yes No I don't know If yes, how was it helpful?								
	STRONGLY STRONGLY DISAGREE DISAGREE AGREE AGREE								
6.	Your son or daughter in GYOP has definitely chosen a career he or she would like to pursue.								
7.	The part-time job your child held this year is closely related to his career choice.								
	a. in the <u>type</u> of tasks he performed								
	b. in working conditions, such as number and type of co- workers, machines and materials used, type of building in which work is done, etc.								

- c. in job requirements, such as punctuality, attendance on the job, working with others, understanding what to do, etc.
- 8. The part time work-experience your child had this year gave him a first-hand opportunity to explore the <u>kind</u> of work he will do if he gets to pursue his career choice.
- 9. Regardless of career choice, your child received a valuable and realistic picture of what the real world of work will be like when he gets out of school.

In regard to the part-time workexperience your child had under GYOP this year, please answer the following as accurately as you can:

- 10. The wages he received were fair and adequate for the type of work he did.
- 11. The wages he received were fair and adequate for the <u>amount</u> of work he did each day.
- 12. Overall, his wages were about right for the amount of work he did for his employer each week.
- 13. Most of the wages he earned went for <u>necessities</u>, such as food, clothing, transportation to school, educational expenses, and shelter.
- 14. Most of his wages went for "extras", such as transportation other than to school, dates, recreation, extra clothes, hobbies, etc.

15.	Most of his wages we some kind of saving	went into gs	
16.	About what portion Nearly all	of his wages would you say went for <u>nece</u> About half Nearly none	sities?
17.	About what portion Nearly all	of his wages would you say went for "ext About half Nearly none	as?
18.	About what portion Nearly all	of his wages went for savings? About half Nearly none	
19.	Briefly state some liked best about G	of the things that your child has indica YOP.	ed he

20. Briefly state some of the things that your child has indicated that he disliked about GYOP.

Much of the information necessary to make a comprehensive evaluation of GYOP will need to come from the student's records in the school offices. This information will include grades earned by students, their attendance records, and records of disciplinary actions which may be in school records. I am asking your permission as parent or guardian to let me gather information from school files on your child. Please keep in mind that all information will be held in the strictest of confidence by me, and nothing will be published that will link individual students, by name, with any of the information gathered from school records or questionnaires.

I hereby give my permission to Mr. Greenwood to examine all school records regarding my child.

Signature of parent or guardian

PROJECT DIRECTOR'S QUESTIONNAIRE

.

APPENDIX B

GYOP PROJECT DIRECTOR QUESTIONNAIRE

Personal Data

Name	e					
Off:	icial	tit	le			
By v	whom e	empl	.oyed			و ا دې ور
How	long	wit	h this agency			
How	long	in	present capacity			
How	long	has	agency had a GYOP progra	m	<u></u>	
How	long	hav	e you worked with GYOP			
Educ	cation	1:	High school graduate?	Yes		No
			College graduate?	Yes		No
			Undergraduate degree		Major	field
			Graduate degree(s)		Major	field
					Major	field
Plea two	ase in jobs	ndic you	ate the position held and held previous to your pr	the esent	type o t posit	of work you did in the tion:
			Position			Type of work
1.						
2.						
Note ject such to m l.	e: Th ts onl h a th make a Overa	uese y. ning uddi	questions are in regard They concern the general) situation as it evolved tional comments on the ba do you feel that GYOP em	to th , ave in y ck of rolle	ne 1973 erage, your pr f these ees in	3-74 <u>in-school</u> GYOP pro- or typical (if there is rogram. Please feel free e pages if you wish.
	comme	ensu	rate with the amount and	type	of wor	rk they did?
	Stron Agre	igly e	Agree	Stı Dis	rongly sagree	Disagree

.

- 2. On the average, about how often did you, or your work-experience coordinators visit (on the site) employers of your enrollees?
 - a. once a week _____
 - b. twice a month _____
 - c. once a month _____
 - d. twice a semester _____
 - e. once a semester
 - f. once during the year _____
- 3. On the average, how often did you, or your work-experience coordinators visit with parents of enrollees?
 - a. often (at least once a month)
 - b. occasionally (at least twice a semester)
 - c. hardly ever (less than twice a semester) _____
- 4. Which, if any, of the following were required previous to job placement of enrollees who obtained work-experience in your project?
 - a. an interview with the prospective employer

b. a written application for employment

- 5. What was the average number of enrollees each work-experience coordinator supervised during the year?
- 6. How were student employment problems usually resolved? Please rank in order of frequency of use. Do not rank an item that was never used. (1 means most frequent use.)
 - a. shift enrollee to a different employer
 - _____ b. shift enrollee to a different job, same employer
 - _____c. provide intensive counseling with student
 - d. mediate differences between student and employer
 - _____e. terminate student from the program
 - _____f. other (specify) _____
- 7. On the average, how many hours of vocational counseling were provided each enrollee in your project?
- 8. How would you judge the vocational counseling provided GYOP enrollees in your program in terms of the time made available for counseling, and of the quality of counseling they received?

		High	Adequate	Low
1. 2.	Time made available Quality of counseling	()	() · ()	()

9.	To what	extent	do	you f	'eel	GYOP	enrol	Llee	es in	your	program	obt	tained
	related	"world	of	work"	' ins	struc	tions	in	schoo	l to	complime	\mathbf{nt}	their
actual work-experiences?													

a. sufficient amount of related instruction

b. not a sufficient amount of related instruction

c. don't know

10. By which method following is the local match money provided in your project?

a. lump-sum provided by the following agency(s)

b. employers provide 35% of enrollees wages

c. other (specify)

- 11. Which of the methods in Question 10 would you prefer for the 1974-75
 school year? a. _____ b. ____ c. ____
- 12. Assuming the 35% local match will always be necessary, do you have other suggestions for providing it?
- 13. Would you support the notion of a state-wide conference or seminar for idea sharing among GYOP project personnel? Yes No
- 14. This open-ended question is to solicit your frank comments regarding improvements that could and/or should be made in the GYOP structure at either the state or local levels.

ADDENDUM TO GYOP PROJECT DIRECTORS QUESTIONNAIRE

15. Given additional funding, but still assuming the 35% local match, do you feel that there is potential for increasing the number of youngsters you could serve in your locale? Yes _____ No _____

If yes, about how many additional enrollees would you visualize?

(Please feel free to elaborate on your answer to this question if you would want to qualify it on the basis of additional staff needs, expanding or reducing your geographic area, changing requirements for enrollment on the program, or for some other reason.)