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ABSTRACT

This fourth annual report describes the educational progress of students who had been admitted to the College Discovery and Development Program. In general pattern the implementation of the program remained unchanged from the previous year although there were a number of specific changes including those among staff and student personnel and budgetary arrangements. Data on socioeconomic background and previous achievement were collected and analyzed. Students in the different centers participating in the program differed significantly in mother's education, total weekly income, number of rooms in apartment, number of years at present address, and Adjusted Life Chance Scale score. No differences were found in age of students, father's education, monthly rent, and number of persons in apartment. It was found that, on the whole, first year students were performing on grade level in each of the subtests of the Metropolitan Achievement Test; overall academic average was the 70's for the eighth and ninth grades. For all the classes, first to fourth years inclusive, however, the academic average was approximately 72. By June, 1969 fourth year students had completed their first year in college, either in branches of the City University or private colleges. Third and fourth year students viewed on the basis of past achievement and socioeconomic data as students who would most likely not complete high school, went on to reverse this prognosis in a ramarkable manner. (RJ)

DISCOVERING AND DEVELOPING THE COLLEGE POTENTIAL

of

DISADVANTAGED HIGH SCHOOL YOUTH

A Report of the Fourth Year of a Longitudinal Study

on

THE COLLEGE DISCOVERY AND DEVELOPMENT PROGRAM

by

Beatrice Harris

Lawrence Brody

June, 1970

Report No. 70-13

FOREWORD

This volume is the fourth in a series of reports of a longitudinal study of the College Discovery and Development Program, Prong II. The first year of this Program was reported in January 1967 by Daniel Tanner and Genaro Lachica, Discovering and Developing the College Potential of Disadvantaged High School Youth. The second and third year were reported in March 1968, and March 1969, respectively, by Lawrence Brody, Beatrice Harris and Genaro Lachica under the same title.

Reviews of the tutorial and guidance aspects of the program are reported under separate cover:

1) Organization and Administration of a Tutorial Program for Disadvantaged High School Students, 1968-69 by Mildred Kaye and
2) College Discovery and Development Program: Report on Guidance Services 1968-1969, by Florence C. Myers.

ACKNOWLEDGMENTS

The College Discovery and Development Program expresses its gratitude to Chancellor Albert H. Bowker, Vice Chancellor Robert Birnbaum, Dean Benjamin Rosner, Dean Lester A. Brailey, Dr. Irving L. Slade, Mrs. Esther Gordon and Professor Leonard Kreisman for their support and encouragement during a year of urban crisis.

Dr. Bernard Donovan, Superintendent of Schools, and Dr. Nathan Brown, Executive Deputy Superintendent of Schools, have maintained their support and encouragement of the Program despite overwhelming pressures in a year of urban crisis. Dr. Seelig Lester, Deputy Superintendent in Charge of Instruction; Mr. Maurice Hopkins, Assistant Superintendent, Office of High Schools; Dr. Jacob Landers, Assistant Superintendent in Charge of State and Federally Assisted Programs and Mr. Gene M. Satin of that office have contributed advice, and hard work in facilitating solution of the perennial problems of so complex a program. Assistant Superintendent Wayne D. Wrightstone and his staff; Dr. Samuel D. McClelland; Mrs. Daisy K. Shaw and Mrs. Cecilia Sarasohn, Director and Assistant Director, respectively, of the Bureau of Educational and Vocational Guidance; and Mr. Harold Zuckerman, Coordinator of College Guidance and Scholarships for the Board of Education have given invaluable counsel and leadership. Our warmest thanks go to Miss Florence Myers, Coordinator of the College Discovery and Development Program for the Board of Education; she has steadily given of her talents, her experience, and of herself above and beyond any possible professional claim.

Dr. Samuel Malkin and Miss Mildred Kaye of the College Discovery and Development Staff were most helpful in their assistance in administration of the Program. Special thanks are due to Dr. Genaro Lachica and Miss Beatrice Harris for their direction and supervision in the processing and analysis of all data related to CDD students. Miss Simone I. Arons, Miss Martha Feldman, Miss Phyllis Siegel and Mr. Michael Lurie, Research Assistants, devoted much energy to the daily tasks that are necessary to a Program's functioning; we thank them. Miss Ester Katz, Miss Patricia Manning, Miss Helen Mur, Miss Edith Mur, Miss Alice Scharf, Miss Judy Weiss, Mr. Jeff Issler, and Mr. Jeff Glauber were most important in their diligent assistance in the gathering and processing of data. We are most grateful to Mrs. Selma Miller, Miss Paulette Satherswaite and Miss Edith Handlin, project secretaries for their loyalty and able assistance. The consciencious attitude and sense of humor of Miss Edith Handlin while involving herself in the demands of typing this report is warmly appreciated.

Special thanks are owed the College Curriculum Consultants who have stimulated and helped develop a number of means for making productive the innate potential of our students. Professor Florence B. Freedman has been gracious, energetic and effective in her difficult role as Coordinator of Consultants and we thank her for her aid.

We are deeply indebted to the principals, their administrative assistants, the school coordinators, guidance counselors and supervisors, chairmen (heads of departments), class teachers and secretaries of the five host high schools for their active involvement. Their devotion to the students, hard work and concern for the best functioning of the

Program can never be repaid.

We wish also to express our gratitude to the Advisory Policy Committee which has been important to the active participation of students, parents and community.

Finally, we are grateful to the State of New York, the United States Office of Economic Opportunity, the United States Office of Education, and the Human Resources Administration of the City of New York for their financial support.

Lawrence Brody, Director

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1968-1969

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CHAPTER I

INTRODUCTION

The College Discovery and Development Program which had been planned in 1964-65 and initiated on September 1965, completed four years of continuous implementation in June 1969. This fourth annual report describes the educational progress of students who had been admitted to the College Discovery and Development Program. During this academic year, 1968-69, three classes were enrolled in the Program: CDD II, admitted in September 1966; CDD III, admitted in September 1967; and CDD IV, admitted in September 1968. There were also a small number of CDD I students who had not completed their high school studies on schedule. However, the large majority of CDD I students were college freshmen during 1968-69, the fourth year of implementation of the College Discovery and Development Program.

The Fourth Year of the CDD Program

The academic year 1968-69 was unique in the intensity and complexity of the social ferment and conflict which pervaded the local scene in New York. The five high schools which continued this year as hosts to CDD Centers were deeply involved in the ongoing and confused general social revolution. They were especially affected by several components of this erratic change process. Thus, the widespread drive for power being waged by Black and Puerto Rican people, vibrated, flowed and occasionally stormed through the CDD schools in its see-saw battle through the city as a whole. The effects of these struggles upon the schools, their programs, their faculties, and especially upon their students varied somewhat in interaction with the unique social system of each school. To analyze and report these fascinating and probably extremely illuminating micro-histories in detail is outside the purview of this report but several kinds of effects should be indicated.

Considerable number of CDD students became personally involved in and deeply committed to groups bent on transferring power from its formerly established seats toward new ones in the "minority" community. Such students became enmeshed in activities which had economic, political and racial power components or manifestations whose evaluation has varied widely with the viewpoints, attitudes and values of the evaluator.

Strange alliances blossomed in schools and their communities; old loyalties died in a political struggle focussed on this change from a more remote "representative democracy" toward political forms involving

greater personal participation by each citizen. In the process the opportunist and the dedicated self-server could often be found twisting the logic, torturing the semantics and trying to skew the decisions so as to channel events, control, and funds through his power seeking hands into his personal pockets. Perhaps the most constant single factor was confusion; there was confusion of people and their goals, their motives, their actions, and especially confusion regarding the meanings and effects of their actions. Some of the positive and negative aspects of these struggles and confusions for the society as a whole have been discussed in the literatures of the social, the behavioral, and the political sciences; others will be the subject of analysis, investigation and debate far into the future.

The CDD Program, as a smaller but complex sub-system in the New York urban matrix, was deeply affected in a number of ways. The most serious of these was one of the major by-products of the general social power struggle, the series of strikes by the United Federation of Teachers against the New York City Board of Education. The effects of the strike were as complex as its causes. School faculties, students, parents, and the community as a whole were split into partisan factions. Students were torn between conflicting ideologies and antagonistic needs and were often subjected to questionable pressures in much the same way as were teachers, administrators and parents. Thus, CDD students found themselves in the middle of a school strike. Most of their teachers and counselors were on the picket lines outside but some of their faculty were running a "freedom school," either inside the "closed" school, or in the neighborhood with the assistance of other

neighborhood people.

Some protagonists of these freedom schools told the student that his teachers and counselors were on strike because they were uninterested in students, were antagonistic to the poor, and were prejudiced against Blacks or Puerto Ricans. Some said that the school had always been a discriminatory arm of a racist society. Others told him that the school curriculum had no relevance to his heritage, his heredity, his difficult life situation or his real needs. It was said that the schools had failed him, and that, until they were totally responsible to his local leaders and controlled by them, they would continue to defraud him of meaningful and effective education.

On the other hand, some people warned him that education was the key to his future, that drop-outs earned less than graduates, that the more school he finished the better job he could get and the more money he would earn. He had been told that CDD was a program for high potential people who had not discovered or developed their potential and that he was one of these high potential people. Furthermore, CDD teachers and counselors claimed that they believed in him and had volunteered for the CDD program so that they could help him. Yet a majority of his teachers were absent or on the picket line, while the community people were in the school! The tensions, doubts and conflicts became very personal for CDD students: on one occasion during this strike, a CDD counselor was observed marching around the elliptical picket line in front of his school. But he was not alone with his fellow strikers: during one two-hour period, nine CDD seniors joined him singly or in pairs for walking discussions involving their college

applications.

Whether this was a typical situation or not is an interesting but unresolved question: it has been included here only for the kind of insights it provides into the complexities with which the strike and its sources faced CDD students and staff. The strike itself prevented "normal" classes for periods ranging from thirty-five to forty days in the five CDD host high schools. But after the strike was officially settled, some of the divisions, many of the tensions and mutual distrust remained operative in the schools. School data indicates a larger loss of CDD students through this than through previous years. It would seem fair to assume that there is probably a relationship between this increased loss of students and the school strike with its losses of class time and its disruptions of school-teacher-student interaction patterns. A body of firm evidence for CDD has not been elucidated on this question. However, there are also some indications of the maintenance or growth of positive acceptance of CDD among its students and parents during this critical year. There had been several complaints made by speakers at a public hearing on Title I funding in August 1968, regarding the amounts and the control of funding of Title I programs and of this CDD program; it was alleged by several speakers that the community had had no voice in the design, implementation, control or evaluation of the program. On the other hand, after the strike in the Spring of 1969, it was rumored that there might be a decrease in Federal funding (of the Upward Bound segment of CDDP); more than 800 parents and students attended a meeting of the CDD Advisory Policy Committee on the night

that its agenda included recommendations for the 1969-70 program. Violent opposition was expressed by almost all speakers from the floor to any reduction of allocation of funds or of student places to any of the five boroughs of New York City. It may be worthy to note that among the most outspoken protagonists of the program were a guidance counselor and a parent who had been in personal and active opposition during the strike.

In addition, although the Board of Education's College Bound Corporation program (which had been announced as a massive replication of most of the features of CDD) was in full implementation in more than twenty-five other high schools, there was again in 1968-69 a larger number of applicants for CDD than there were available places in the program as budgeted.

Program Purposes

Despite the complex and often bitter social struggles within which it was conducted, the College Discovery and Development Program's purposes remained unchanged in this fourth year of its implementation. This continuity of purposes represents continued agreement between the Board of Education of the City of New York and the City University as represented by the Executive Steering Committee. The Advisory Policy Committee concurred in the continuation of this agreement of the program, as in previous years. The major objectives of the College Discovery and Development Program continued as before:[1]

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[1] Daniel Tanner and Genaro Lachica, Discovering and Developing the College Potential of Disadvantaged High School Youth: A Report of the First Year of a Longitudinal Study on the College Discovery and Development Program, Office of Research and Evaluation, City University of New York, January, 1967, p. 3.

The major objective of the Program is to discover and develop the college potential of disadvantaged youth who, without the benefit of intensive and long-range educational support of a special nature, would be unlikely to enter college.

The specific objectives of the Program are: (1) identify disadvantaged youth who, at the end of the ninth grade, have heretofore been "undiscovered" in their potential for college, (2) to improve their motivation for school work, (3) to improve their levels of achievement in school, (4) to develop their expectations for college entrance, and (5) to improve their chances for success in college.

Setting

The setting within which the College Discovery and Development Program took place remained geographically unchanged; the same five New York City high schools, one per borough, continued as hosts to the five College Discovery and Development Centers.[2]

While there was no change of locus of the Centers, there was some degree of narrowing of the areas in several boroughs from which new students were drawn. This was partially a result of implementation of the College Bound Programs by the Board of Education in a large number of high schools. It was reported by ninth grade counselors in a number of schools which were remote from the College Discovery Center that their students were reluctant to apply to CDD when there was a College Bound Program unit in the local high school. Thus, CDD received practically no applications for Class IV from College Bound Program high schools although in previous years many of these schools had referred ninth graders.

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[2] Thomas Jefferson High School
Theodore Roosevelt High School
Jamaica High School
Port Richmond High School
Seward Park High School

A second factor which somewhat narrowed the areas from which new CDD students were drawn as compared with previous classes was related to one of the criteria for eligibility, residence in a designated poverty area. Formerly CDDP applicants had been accepted on a borough-wide basis; under the poverty area residence criterion some students could not be accepted.

Within the schools there were minor changes in facilities: physical renovations proceeded in several buildings, with occasional unavoidable disruptions; a facility used for tutoring within the school day became unavailable in one school; in another school the opening of an annex reduced facility pressures to some degree; one school continued with inadequate space for counselors and coordinator who shared with their secretary a single unit one third the size of a classroom; in two other schools the offices of the counselors and coordinator continued to be widely dispersed through the physical plant.

Staff

Again in this fourth year of CDDP implementation there were a considerable number of staff changes. At the administrative level two retired principals of host schools were replaced by new appointees, one of whom had served an internship in another CDDP school and was thoroughly familiar with the program. There were also several changes among the department chairmen in the host schools. At teacher level there were a considerable number of changes. These apparently resulted from two sets of factors other than the more usual kinds of reassignment requests of individuals: the first of these was a lower priority of importance of CDDP than of the total population's needs in the

departmental chairmens' views. The maximum possible CDDP population per school was approximately 300 students but the non-CDD population might be as great as 4,500 students (for an English Department). It seemed appropriate to most department chairmen that the larger needs be accorded priority treatment and this sometimes resulted in the reassignment of CDD teachers to fill such larger needs outside the Program. A second force that increased teaching staff mobility was a teacher contract stipulation that required the rotation of teacher assignments in accordance with stated rules. Thus, the administrator of a host school might find it legally necessary to rotate out of CDDP assignment a teacher who was very effective, who had developed considerable specialized skill for CDDP through years of experience and of interaction with CDDP staff and who had not sought reassignment to regular high school classes.

On the other hand, at staff level in the CDD Centers there was almost complete staff retention. There was only one such change; a single guidance counselor left the Program on pre-retirement leave and was replaced by a skilled, trained counselor who had had considerable prior successful experience with disadvantaged students.

Among the CUNY staff there were also a number of changes. While the staff of the CDDP office remained almost completely stable, there were a number of changes among the College Curriculum Consultants. These changes were the result of decisions by chairmen of Education Departments of CUNY colleges on much the same bases as those made by high school departmental chairmen: as the chairmen evaluated their concerns the larger needs of the department as a whole outweighed the

specialized needs of CDDP. These consultant changes were the source of great concern to CDDP staff since they caused a double loss. First there was a serious loss of consultative service; it took a period of some weeks of interaction with school staff for the newly assigned consultant to translate the intellectual messages of the CDDP literature into sound, experientially defined, and mutually accepted bases for actions in the high schools. The time spent by the new consultant in defining the meanings and boundaries of this new role was time not available to the new CDDP teacher and through him to his CDDP students. Second the termination of consultant relationships had a disillusioning effect upon the veteran CDD teachers. They resented such annual rotations; they occasionally reported feelings that they were training consultants, since they continue year after year to orient, explain and interpret while receiving little personal assistance.

Student Personnel

During the fourth year of CDDP implementation 1968-69, there were three classes in attendance in the College Discovery Centers: CDD II, seniors; CDD III, juniors; and CDD IV, sophomores. In addition a small number of CDD I students continued in high school attendance since they had not completed graduation requirements. The large majority of CDD I, which had been graduated in June 1968, were freshmen in college. Detailed information concerning these populations and their progress comprises most of the following body of this annual report.

Funding and Fiscal Matters

There were again, in 1968-69, a number of sources of financial support for CDDP. The largest single source of funds was a Title I ESEA

grant of the U.S. Office of Education to the Board of Education of the City of New York. All of these Title I funds were expended within the school system for personal services of Board of Education staff or for supply, equipment, materials or other consumable overhead costs. None of the Title I funds were paid to CUNY or to any CUNY staff member for any purpose. The Title I budget included in the proposal for CDDP for 1968-69 was $1,334,117.

A second source of funds was a College Work Study Program grant, # OE 4765, by the U.S. Office of Education to the Division of Teacher Education of CUNY. All of the Federal funds of this grant were used for payment of tutors; in addition CUNY contributed funds toward these salaries and paid all administrative costs associated with this grant to a total of 20% of the budget. This College Work Study Grant totalled $80,834 in Federal funds with CUNY contribution of $20,210 in addition.

A third grant supporting CDDP for 1968-69 was an Upward Bound Grant to the Division of Teacher Education of CUNY. This grant paid a fraction of CUNY's costs for staff, consultants, and for a number of expenditures for other than personnel services. As in previous years, a sub-population among CDDP students was selected to participate in PDD. This was again during 1968-69 a consortium project with Columbia University. PDD students participated fully in all CDDP activities during the school year. They also received $5.00 per week stipends and a number of items of additional equipment, materials and supplies during the school year; these stipends were not available to non-PDD students in CDD. Wherever funds permitted, however, these supplementary materials were provided non-PDD students from Title I funds, or, on occasion, from

CUNY funds. The costs of PDD benefits were paid by the U.S. Office of Education's Upward Bound grant to CUNY (CG 1972) in the amount of $95,384, contingent upon CUNY matching funds of $23,845. In addition to the academic year supplements, PDD students attended a residential summer program on the Columbia campus. All costs of the summer program were covered by Columbia University under its independent PDD grant from the U.S. Office of Education.

A fourth source of funds for CDDP was from allocation of City University funds for SEEK and College Discovery. This "CUNY grant" was utilized to pay the major portion of the costs of the CUNY CDDP office. These costs included both personnel and other than personal services expenditures. The personnel expenditures included those for CUNY Director, Assistant Director, Field and Research Coordinators, the Research Assistants, and secretaries as well as those for the College Curriculum Consultants. Expenditures for other than personal services included expenditures for travel, utilities, space rental, communications, educational supplies, equipment and materials (those needed for development of knowledge and skills of teachers and counselors, costs for supplies used for students were normally allocated to Title I ESEA). The total CUNY funds for CDDP for 1968-69 were budgeted at $164,100.

Summary

The College Discovery and Development Program continued for its fourth year of implementation during the 1968-69 academic year. In general the pattern of implementation remained unchanged from the previous year although there were a number of specific changes including those among staff and student personnel and budgetary arrangements. The following chapters will describe the fourth year experience of students in the CDD Centers and of CDD graduates in their first college year.

CHAPTER II

DESCRIPTION OF THE FOURTH POPULATION OF COLLEGE DISCOVERY STUDENTS

This was the fourth entering population (CDD IV) for the College Discovery and Development Program. As in previous years, the students were selected from applications sent from all the New York City public schools, with a ninth grade, and from recommendations of Community Agencies. Students were selected on the bases of economic and academic criteria described in Chapter I. Those chosen were informed in the spring semester of their ninth grade and entered the Program formally in September 1968.

This chapter describes CDD IV in terms of socio-economic and academic data taken from their application forms and elaborates on the following points:

1. the socio-economic background as revealed by family income, living conditions, family structure, occupation and educational history of parents;
2. the academic achievement of students prior to their entering the Program;
3. the aptitude of students as revealed by scores on standardized tests;
4. a comparison of CDD IV with previous CDD populations on socio-economic and academic variables;
5. a comparison of the five Development Centers to determine whether or not the entering CDD groups for the different Centers are the same.

Socio-economic Data

Sex Distribution

The distribution of male and female students for CDD IV in the five Development Centers is presented in Table 1. The percentages indicate that upon entrance into the Program, the number of males and females for all Development Centers was approximately equal. Center V selected more males than females and Center III selected more females than males. This was not done by design but rather by the availability of eligible applicants.

Ethnic Distribution

The ethnic distribution is shown in Table 2. Students were not selected on the basis of ethnicity; therefore the differences in percent represent the relationship between ethnicity and the variables used for selection such as poverty criteria, high potential indicated by standardized tests and low academic performance, etc. The majority of CDD IV students were Black; approximately one-fourth were Puerto Rican and the remaining twenty five percent consisted of White and Oriental students. Most of the Oriental students were in Center III which is situated most closely to an oriental community.

Age in Months

The age in months was computed on the basis of the age of students in September when entering the Program. The overall average for CDD IV students entering the tenth grade was 185 months, which is slightly less than 15.5 years. Table 3 indicates that students were approximately the same age in all the five Development Centers upon entrance.

TABLE 1

College Discovery Enrollment by Center

for the Tenth Year

CDD IV

Center	Male		Female		Both Sexes
	N	%	N	%	
I	52	50.44	51	49.56	103
II	52	50.00	52	50.00	104
III	42	41.67	58	58.33	100
IV	42	50.50	42	49.50	84
V	64	64.17	35	35.83	99
All Centers	252	51.43	238	48.57	490

TABLE 2

Ethnic Distribution

CDD IV

Ethnic Group	N	%
Negro	251	51.22
Puerto Rican	122	24.90
Other	117	23.88
All Groups	490	100.00

TABLE 3

Age in Months - CDD IV

Center	N	Mean	S.D.
I	101	185.98	7.09
II	114	185.41	6.56
III	90	184.72	6.78
IV	83	184.29	5.55
V	102	184.41	5.96
All Centers	490	185.00	6.42

Family Structure

Tables 4 - 7 give an accounting of the intactness of CDD IV students' families and the nature of the households in which the students live. Table 4 shows approximately 59 percent of CDD IV parents to be living together, and 58 percent of the students to be living with both parents. Therefore one percent of the students reporting both parents living together are living elsewhere, e.g., with guardians. The tables do not indicate with whom exactly these students are living.

Of the students who are not living with both their parents, approximately 77 percent are living with their mother or mother and stepfather. This represents 30.2 percent of the population of CDD IV students, as indicated in Table 6. For all five Development Centers combined, 8.4 percent of the students reported their fathers deceased and 1.6 percent reported their mothers deceased. Approximately 25 percent have indicated that their parents are separated. Three percent of CDD IV students are living with foster parents or in institutions.

TABLE 4

Intactness of Family

CDD IV

Center	Together		Separated		Father Deceased		Mother Deceased		Both Deceased		No Information		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
I	48	47.5	34	33.7	10	9.9	3	3.0	2	2.0	4	4.0	101	100
II	65	57.0	36	31.6	4	3.5	3	2.6	2	1.8	4	3.5	114	100
III	54	60.0	21	23.3	7	7.8	1	1.1	1	1.1	6	6.7	90	100
IV	56	67.5	16	19.3	6	7.2	0	0.0	1	1.2	4	4.8	83	100
V	68	66.7	13	12.7	14	13.7	1	1.0	0	0.0	6	5.9	102	100
All Centers	291	59.4	120	24.5	41	8.4	8	1.6	6	1.2	24	4.9	490	100

TABLE 5

Students Living with Parents
CDD IV

Center	Yes		No		No Information		Total	
	N	%	N	%	N	%	N	%
I	48	47.5	52	51.5	1	1.0	101	100.0
II	63	55.3	48	42.1	3	2.6	114	100.0
III	55	61.1	33	36.7	2	2.2	90	100.0
IV	54	65.1	29	34.9	0	0.0	83	100.0
V	65	63.7	30	29.4	7	6.9	102	100.0
All Centers	285	58.2	192	39.1	13	2.7	490	100.0

TABLE 6

Head of Household Where Parents are not Living Together*

CDD IV

Center	Mother & Stepfather		Father & Stepmother		Mother		Father		Guardian		Total Enrollment
	N	%	N	%	N	%	N	%	N	%	
I	4	4.0	0	0.0	38	37.6	1	1.0	7	6.9	101
II	7	6.4	2	1.8	32	28.1	2	1.8	5	4.4	114
III	4	4.4	1	1.1	23	25.6	2	2.2	2	2.2	90
IV	1	1.2	1	1.2	20	24.1	2	2.4	1	1.2	83
V	1	1.0	0	0.0	18	17.6	0	0.0	0	0.0	102
All Centers	17	3.5	4	0.8	131	26.7	7	1.4	18	3.7	490

*Percentages of CDD IV population for each Center and for all Centers

TABLE 7

Students Living with Foster Parents
or in Institutions
CDD IV

Center	Foster Parents N	%	Institutions N	%	Total N	%
I	1	1.0	1	1.0	2	2.0
II	0	0.0	0	0.0	0	0.0
III	1	1.1	0	0.0	1	1.1
IV	4	4.8	0	0.0	4	4.8
V	0	0.0	8	7.8	8	7.8
All Centers	6	1.2	9	1.8	15	3.0

Living Conditions

Tables 8 and 9 indicate the overall living space for CDD IV students. The average number of rooms for a CDD IV family was 5.22 rooms. The average number of people in the household for the entire CDD IV population was 5.43. These two tables indicated that, on the whole, CDD IV students were not living under overcrowded conditions.

Economic Data

The average monthly rent paid by CDD IV families was found to be $104.39. Families in Center IV paid the highest average rent ($121.12) whereas Center I families on the average paid the least ($95.65). These rents corresponded to the average total weekly income obtained for the families of CDD IV students. Center IV families on the average received the highest weekly income whereas Center I families received the lowest. The average monthly rent for each Center was slightly lower than the reported average weekly income, which is the popularly suggested limit for a family's budget.

Dividing the average weekly income for all Centers ($114.02) by the average number of persons in the household (5.43) yielded an average weekly income per person of $21.00, which is far below the Office of Economic Opportunity's criterion for poverty.

Employment of Parents

Fathers of students employed in professional occupations were by far the smallest percent(Table 12). Approximately 2 percent were indicated to be in professional occupations compared to 62 percent in skilled and unskilled jobs. The 36.73 percent of students who did not respond to the question regarding their father's occupation included

TABLE 8

Number of Rooms per Household
CDD IV

Center	N	Mean	S.D.
I	96	5.08	1.27
II	108	5.06	1.08
III	88	4.86	1.28
IV	56	5.64	1.00
V	63	5.81	1.44
All Centers	411	5.22	1.26

TABLE 9

Number of Persons in Household
CDD IV

Center	N	Mean	S.D.
I	99	5.42	2.19
II	113	5.60	2.35
III	87	5.20	1.65
IV	82	5.48	2.32
V	89	5.42	1.56
All Centers	470	5.43	2.05

TABLE 10

Monthly Rent

CDD IV

Center	N	Mean	S.D.
I	95	95.65	73.06
II	107	98.69	68.35
III	79	101.48	124.93
IV	73	121.12	72.47
V	82	109.85	39.80
All Centers	436	104.39	79.58

those students who reported fathers as deceased or not living at home. A very small percent of students responded to the question indicating their mother's occupation; for that reason no table has been shown. It could more likely be inferred that most mothers were unemployed and could be classified as housewives.

Birthplace of Students and Parents

Approximately 77 percent of the students were born in the northern United States or Canada (Table 13). Six percent of the students were reported as born in the South and seven percent indicated Puerto Rico as their country of origin. When this is viewed in relation to the data presented in Tables 14 and 15, it can be seen that most represented the first generation to be born in the North. Approximately 52 percent of the fathers and mothers were reported to have been born in the southern United States or Puerto Rico.

Education of Parents

Both mothers and fathers of CDD IV students had on the average ten years of schooling (Tables 16 and 17). This indicates that most parents did not graduate or go beyond high school. Students entering the College Discovery Program already equalled their parents in education and may represent the first generation to set college entrance as a goal.

Years at Present Address

On the average, CDD IV students lived at their present address approximately seven years. Yet the standard deviation of five years indicates great variability for the students entering the Program, indicating that not all the students exhibited the mobility associated with a population of their socio-economic background.

TABLE 13

Student's Birthplace

CDD IV

Center	U.S. North and Canada		U.S. South		Puerto Rico		Other		No Information		Total
	N	%	N	%	N	%	N	%	N	%	N
I	81	80.2	5	5.0	10	9.9	4	4.0	1	1.0	101
II	70	61.4	12	10.5	10	8.8	19	16.8	3	2.6	114
III	66	73.3	5	5.6	10	11.1	8	8.9	1	1.1	90
IV	69	83.1	6	7.2	0	0.0	5	6.0	3	3.6	83
V	89	87.2	1	1.0	2	2.0	3	2.9	7	6.9	102
All Centers	375	76.5	29	5.9	32	6.5	39	8.0	15	3.1	490

TABLE 14

Father's Birthplace

CDD IV

Center	U.S. North and Canada		U.S. South		Puerto Rico		Other		No Information		Total
	N	%	N	%	N	%	N	%	N	%	N
I	20	19.8	32	31.7	31	30.7	9	8.9	9	8.9	101
II	11	9.6	49	43.0	29	25.4	22	19.3	3	2.6	114
III	9	10.0	32	35.6	30	33.3	13	14.4	6	6.7	90
IV	39	47.0	30	36.1	2	2.4	11	13.3	1	1.2	83
V	63	61.8	12	11 8	5	4.9	10	9.8	12	11.8	102
All Centers	142	29.0	155	31.6	97	19.8	65	13.3	31	6.3	490

TABLE 15

Mother's Birthplace

CDD IV

Center	U.S. North and Canada		U.S. South		Puerto Rico		Other		No Information		Total
	N	%	N	%	N	%	N	%	N	%	N
I	23	22.8	33	32.7	32	31.7	8	7.9	5	5.0	101
II	17	14.9	48	42.1	26	22.8	22	19.3	1	0.9	114
III	15	16.7	31	34.4	28	31.1	13	14.4	3	3.3	90
IV	36	43.4	35	42.2	2	2.4	10	12.0	0	0.0	83
V	63	61.8	16	15.9	6	5.9	7	6.9	10	9.8	102
All Centers	154	31.4	163	33.3	94	19.2	60	12.2	19	3.9	490

TABLE 16

Years of Father's Schooling

CDD IV

Center	N	Mean	S.D.
I	84	10.31	5.56
II	95	9.42	6.39
III	83	10.22	6.89
IV	71	11.18	3.04
V	85	10.93	2.66
All Centers	418	10.36	5.30

TABLE 17

Years of Mother's Schooling

CDD IV

Center	N	Mean	S.D.
I	95	9.85	3.20
II	113	9.18	3.29
III	85	9.13	3.36
IV	80	11.21	2.60
V	90	11.10	2.14
All Centers	463	10.03	3.09

TABLE 18

Years at Present Address

CDD IV

Center	N	Mean	S.D.
I	97	5.76	4.84
II	111	6.10	4.88
III	84	8.18	5.92
IV	78	7.95	5.89
V	93	6.88	4.91
All Centers	463	6.87	5.32

Adjusted Life Chance Scale Score

The score was computed for each student. It is an integration of socio-economic information into a measure indicating the difficulties with which students may have to deal and which may interfere with their chances for successful completion of high school. The scale, an adaption of Dentler's original Life Chance Scale Score[1], scores students on socio-economic variables. The total can range from -2 to +10. The following items are given a score of one point each: father and mother living together, father living, mother living, father born North, mother born North, mother high school graduate, father high school graduate, father professional, mother professional, less than four siblings. Two items are given scores of-1: overcrowding, and welfare or Aid-to-Dependent Children.

The ratio of the number of people in the household to the number of rooms was used as the measure of overcrowding. A score of -1 was given if the ratio were to exceed a value of one.

The mean Adjusted Life Chance score was found to be 3.66 for all CDD IV students. This value was lower than that for Centers IV and V when averages were computed separately. Students in Centers IV and V can be considered to be coming from environments that are more favorable to high school success when compared to those students in Center I. This interpretation would be an application of Dentler's scale as it was conceived by him.

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[1] R.A. Dentler and L.J. Monroe, "The Family and Early Adolescent Conformity," Marriage and Family Living, 1961, 23, 241-47.

TABLE 19

Adjusted Life Chance Scale Score

CDD IV

Center	N	Mean	S.D.
I	89	2.82	1.57
II	101	3.04	1.51
III	76	3.04	1.67
IV	73	4.75	1.91
V	87	4.88	1.97
All Centers	426	3.66	1.94

Summary

A comparison of the five Centers on socio-economic variables by analysis of variance yielded F values shown in Table 20. This comparison was performed in order to determine whether or not the CDD IV groups in the different high schools used as Development Centers could be considered basically the same in socio-economic background. Students from Center to Center differed significantly in mother's education, total weekly income, number of rooms in apartment, number of years at present address and Adjusted Life Chance Scale Score. No differences were found in age of students, father's education, monthly rent and number of persons in apartment.

The examination of the data revealed that, in general, students in Centers IV and V were favored by a better socio-economic background. The families of CDD IV students in these Centers, on the average, had more years of schooling, had better jobs and correspondingly made more money. Students of families in these Centers were born in the Northern United States; this was also true for their parents. As a result, the higher mean Adjusted Life Chance Scale score for these two Centers would be expected.

TABLE 20

F Values Comparing Five Centers on Socio-economic Data for CDD IV

Variable	F	P
Age in Months	1.194	>.05
Father's Schooling	1.443	>.05
Mother's Schooling	10.424	<.01
Total Weekly Income	16.870	<.01
Monthly Rent	1.357	>.05
Number of Rooms in Apartment	7.993	<.01
Number of Years at Present Address	3.793	<.01
Number of Persons in Apartment	0.489	>.05
Adjusted Life Chance Scale Score	29.135	<.01

Comparison of CDD I, CDD II, CDD III and CDD IV on Socio-economic Variables at Intake

Tables 21 and 22 compare the four entering classes on socio-economic variables. Means and standard deviations are given in Table 21 and F values obtained from the analyses of variance are shown in Table 22. Significant differences were found for father's education, total weekly income, monthly rent, number of rooms in apartment and number of years at present address.

Families of CDD IV, when compared to previous classes at intake, received a higher weekly income. This must pay for a higher monthly rent, which in turn, reflects an increase in the average size of apartment. If one were to be interested in the change in socio-economic conditions for entering CDD classes over the years, this comparison responds to that. This analysis does not mean to imply that CDD IV families earn more money or live better than families of CDD I, II or III students. This would necessitate comparison with the present living conditions of the other three CDD classes.

An analysis of variance comparing the four entering classes on the Adjusted Life Chance Scale score was not performed. Since the scale values have changed over the years, as explained in the reports, any comparison could not be interpreted. This should also be taken into account when noting the apparent increase in mean Life Chance score in Table 21.

A comparison of CDD IV to previous entering classes on non-quantitative variables was performed; the resulting chi square values are

TABLE 21

Means and Standard Deviations of Socio-economic Variables for CDD I, CDD II, CDD III and CDD IV at Intake

Variable	CDD I		CDD II		CDD III		CDD IV	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Age in Months	183.83	10.44	183.50	15.60	185.05	7.09	185.00	6.42
Father's Schooling	9.60	3.14	9.88	3.08	9.84	3.13	10.36	5.30
Mother's Schooling	9.70	3.06	9.96	2.90	9.93	3.06	10.03	3.09
Total Weekly Income	97.53	36.37	100.24	34.94	98.94	33.76	114.02	41.53
Monthly Rent	78.24	28.92	83.76	34.49	87.19	34.23	104.39	79.58
Number of Rooms in Apartment	5.17	1.55	4.59	4.74	5.19	3.19	5.22	1.26
Number of Years at Present Address	6.51	5.35	6.96	5.07	7.99	8.69	6.87	6.87
Number of Persons in Apartment	5.24	1.97	5.51	2.39	5.56	2.01	5.43	2.05
Adjusted Life Chance Scale Score	1.98	1.62	2.83	1.82	3.21	1.71	3.66	1.94

TABLE 22

F Values Comparing CDD I, CDD II, CDD III, and CDD IV on Socio-economic Data

Variable	F	P
Age in months	2.574	>.05
Father's Schooling	2.829	<.05
Mother's Schooling	1.135	>.05
Total Weekly Income	18.953	<.01
Monthly Rent	23.527	<.01
Number of Rooms in Apartment	10.470	<.01
Number of Years at Present Address	3.965	<.01
Number of Persons in Apartment	2.020	>.05

reported in Table 23. The results indicate that the entering CDD classes are significantly different in the distribution of students in different ethnic groups, indication of parents alive and living together, father living or deceased, father's and mother's birthplace. The tables showing both obtained and expected frequencies for these distributions are given in Appendix A.

TABLE 23

Chi Square Values Comparing CDD I, CDD II, CDD III, and CDD IV on Socio-Economic Data

Variable	Chi Square	P
Ethnic Distribution	22.818	<.01
Parents Alive and Living Together	16.070	<.02
Father Living or Deceased	34.963	<.01
Mother Living or Deceased	10.395	>.05
Father's Birthplace	85.929	<.01
Mother's Birthplace	67.104	<.01
Student's Birthplace	13.909	>.05

Previous Achievement

This section will describe the previous scholastic achievement for CDD IV students. The eighth grade average and ninth grade mid-term general average will be examined as well as the results of the Metropolitan Achievement Tests. The Differential Aptitude subtests and subtests of the Stanford Achievement Test were not administered as in previous years. The strike of New York City Public School teachers which shut down schools during the fall semester of 1968 so severely curtailed the time available to learning that it was felt unwise to take any more time for the administration of tests.

Several factors should be kept in mind when reading the data. Even though the Metropolitan Achievement Test was in general taken around January of the ninth grade, all CDD IV students did not take the test at the same time or under the same conditions. The fact that CDD IV students come from many different junior high schools or high schools within New York City must also be kept in mind when examing the examining the eighth and ninth grade averages.

The data are presented to give the reader an overview of the general level of achievement of CDD IV students prior to their entrance into the Program but caution must be used in making interpretations.

Tables 24 and 25 present the overall mean general average for CDD IV students in eighth grade and mid-year ninth grade. Students obtained an average of approximately 77 in eighth grade and 76 in ninth grade. Keeping in mind that these averages represent scholastic achievement in predominantly junior high schools, one might make the

TABLE 24

Eighth Grade General Average

CDD IV

Center	N	Mean	S.D.
I	95	76.71	7.28
II	106	77.12	10.61
III	85	77.53	11.21
IV	79	75.59	11.12
V	88	76.35	8.34
All Centers	450	76.69	9.81

TABLE 25

Mid-Year Ninth Grade General Average

CDD IV

Center	N	Mean	S.D.
I	97	75.20	7.49
II	111	77.28	7.18
III	87	78.89	10.25
IV	81	72.91	6.63
V	90	73.89	6.35
All Centers	463	75.75	7.96

inference that these averages are most probably biased upwards.

The results of the Metropolitan Achievement Test are found in Tables 26 through 29. It can be noted that in general CDD IV students were performing on grade level in each of the subtests. The mean overall performance in vocabulary was 9.38; the general average for paragraph meaning was 9.15. For mathematics, the mean score on problem solving was 7.96 and 8.64 for computation. The standard deviations for all subtests as well as performance in eighth and ninth grade indicate that CDD IV students in Development Center III were the most heterogeneous; they showed the greatest variability in prior academic performance.

Table 30 represents the average attendance record of CDD IV students in their first term of the ninth grade. On the average, students were absent 7 days. The reasons for absence were of course multiple and are not listed here. Yet the overall absences were few and indicate that CDD IV students most likely had received grades in ninth grade evaluating their achievement in accordance with the teacher's view of what they learned. In contrast, if absence had been high it might have been inferred that overall general academic averages would have been higher.

A comparison of all Centers (Table 31) on variables measuring previous achievement showed that, in general, CDD IV students in different Centers were alike except in ninth grade attendance and mid-year ninth grade average. Again this comparison has limited interpretability since the measures were not comparable.

TABLE 26

Metropolitan Achievement Test:

Vocabulary - CDD IV

Center	N	Mean	S.D.
I	91	8.92	1.98
II	96	9.20	1.94
III	84	9.92	7.06
IV	72	9.73	1.77
V	65	9.16	2.00
All Centers	406	9.38	3.64

TABLE 27

Metropolitan Achievement Test:

Paragraph Meaning - CDD IV

Center	N	Mean	S.D.
I	91	8.61	1.92
II	96	9.01	2.29
III	84	9.55	6.06
IV	72	9.43	2.03
V	65	9.26	1.61
All Centers	406	9.15	3.29

TABLE 28

Metropolitan Achievement Test:

Problem Solving - CDD IV

Center	N	Mean	S.D.
I	59	7.29	1.25
II	71	7.66	1.22
III	62	8.58	5.61
IV	63	8.38	1.54
V	49	7.86	1.39
All Centers	302	7.96	2.84

TABLE 29

Metropolitan Achievement Test:

Computation - CDD IV

Center	N	Mean	S.D.
I	59	8.03	7.06
II	71	8.18	5.38
III	62	10.30	11.26
IV	63	8.50	1.91
V	49	8.01	1.56
All Centers	302	8.62	6.63

TABLE 30

Number of Days Absent

Fall Semester of Ninth Year

CDD IV

Center	N	Mean	S.D.
I	81	8.22	8.44
II	94	6.63	6.52
III	72	5.38	7.06
IV	67	9.70	6.32
V	87	6.45	5.31
All Centers	398	7.24	6.92

TABLE 31

F Values Obtained From the

Analyses of Variance Comparing Five Centers

on Aptitude and Previous Achievement

Variable	F	P
Eighth Grade General Average	0.480	>.05
Ninth Grade Mid-Year General Average	8.822	<.01
Metropolitan Achievement Tests		
Reading: Vocabulary	1.075	>.05
Reading: Par. Meaning	1.130	>.05
Math: Problem Solving	2.143	>.05
Math: Computation	1.301	>.05
Ninth Year Absences (Fall Semester)	4.338	<.01

CHAPTER III

ATTENDANCE AND ACHIEVEMENT

ALL CLASSES

1968-1969

This chapter will present the data on academic performance and attendance for all CDD classes. Observations can be made on academic attainment for CDD students and Control students but caution must be exercised in the nature of the inferences made in the comparison of these two groups. As stated in the previous report [1], the Control groups are not comparable groups in socio-economic background to the CDD groups and therefore they are not "control groups" as they are classically defined. Members of the Control groups are academic students selected at random from each of the five Development Centers. Their performance represents a norm to be equalled or approached by CDD students since the Control students represent a sample of the population who would typically go on from high school to college.

Control groups were selected for Classes I, II and III. There are no Control groups for Class IV. There are two reasons for this: 1) The teacher strike so interfered with normal school procedure that the availability of records for selection of Control students was made

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[1] L. Brody, B. Harris, G. Lachica, Discovering and Developing the College Potential of Disadvantaged High School Youth: A Report of the Third Year of a Longitudinal Study on the College Discovery and Development Program, Office of Research and Evaluation, City University of New York, March, 1969.

difficult. 2) Control groups had been selected for the previous three classes and had been followed academically through the high school sequence, therefore it did not appear that any additional or useful information could be gained by setting up a Control group for Class IV.

Attendance and achievement data for the three CDD classes for both the fall and spring semesters will be analyzed in this chapter. Data will be discussed separately by semester and by class. Comparisons will be made between Centers within each class. Comparisons will also be made between the performances of Control groups and CDD groups.

Fall Semester

CDD II

General averages for the fall semester obtained by CDD II students ranged from 68.25 to 75.06 (Table 32). The academic students, in general, performed better than the CDD students, but the differences were significant only in Centers I and II. (Center III, as stated previously, had no Control II group). It was in those same two Centers that CDD students in general obtained higher mean academic averages.

Table 33 presents the attendance data for CDD II and Control II, by Center. For the CDD group the mean number of days absent ranged from 5.96 to 10.25. Comparisons between the CDD and Control groups on attendance yielded no significant differences. It appeared that membership in either the CDD group or Control group did not influence the rate of absenteeism. The variability in absenteeism was related to the Center. In those Centers in which absenteeism was slightly higher for the CDD students, it was also high for the Control students.

CDD III

CDD III students in the fall semester of their junior year obtained mean general averages ranging from 68.22 to 74.33. The overall general average for all Centers was 72.22 (Table 34). CDD students were outperformed by the academic students in three Centers. In Center I, CDD students did better academically than the Control students.

TABLE 32

Fall Semester

General Average: Class II

Center	CDD II N	CDD II Mean	CDD II S.D.	Control II N	Control II Mean	Control II S.D.	t#
I	42	73.55	10.05	33	79.03	4.14	-2.94**
II	80	72.99	12.61	34	75.18	9.63	-0.91
III	75	68.25	12.69				
IV	65	75.06	6.75	97	83.16	8.45	-6.46**
V	67	71.43	9.56	63	74.78	12.63	-1.71
All Centers	329	72.07	10.97	227	79.04	10.23	-6.26**

**significant at .01 level

#The t values evaluating the difference between the means for all Centers were based on the four Centers with Control groups. This is the case for all subsequent comparisons for Classes II and III.

TABLE 33

Fall Semester

Absences: Class II

Center	CDD II			Control II			t
	N	Mean	S.D.	N	Mean	S.D.	
I	40	8.73	7.92	31	6.07	4.39	1.68
II	48	10.25	7.69	29	9.10	4.78	0.72
III	68	9.28	8.66				
IV	56	5.96	4.69	91	6.95	3.76	-1.40
V	55	6.29	4.97	56	5.50	4.32	0.89
All Centers	267	8.06	7.14	207	6.73	4.28	1.67

TABLE 34

Fall Semester

General Average: Class III

Center	CDD III			Control III			t
	N	Mean	S.D.	N	Mean	S.D.	
I	45	74.33	8.58	35	67.14	15.10	2.69**
II	55	73.87	11.00	33	80.49	11.20	-2.71**
III	45	68.22	10.69				
IV	45	73.12	6.85	72	81.39	9.53	-4.87**
V	52	71.19	8.09	79	75.92	15.81	-1.99*
All Centers	242	72.22	9.43	219	77.01	14.04	-3.36**

**significant at .01 level
*significant at .05 level

Attendance data are presented in Table 35. There was no overall difference between Control students and CDD students in their attendance records. Here again variability was greater between Centers in absenteeism than between groups.

CDD IV

As indicated previously, no Control groups were selected for Class IV. Table 36 indicates that the CDD IV students obtained a mean general average of 72.43 for the fall semester of their first year in the Program. Averages varied from 68.61 for Center V to 77.24 for Center II. Table 38 shows that students in the five Centers differed significantly from each other in overall performance.

The average number of days absent for the entire CDD IV groups was 6.62. Center V students were absent on the average the least number of days, whereas students in Center I were absent the most.

Table 38, which presents the results of Inter-Center comparisons on academic performance and absenteeism, shows that there was significant variability among the five Centers for all CDD groups.

TABLE 35

Fall Semester

Absences: Class III

Center	CDD III N	CDD III Mean	CDD III S.D.	Control III N	Control III Mean	Control III S.D.	t
I	42	7.29	6.24	34	8.24	5.34	-0.70
II	29	14.21	9.24	30	11.93	8.58	0.98
III	40	9.08	9.69				
IV	40	5.03	2.98	68	6.44	3.19	-2.28*
V	38	4.74	4.10	59	5.31	4.48	-0.63
All Centers	189	7.74	7.51	191	7.27	5.56	0.15

*significant at .05 level

TABLE 36

Fall Semester

General Average: CDD IV

Center	N	Mean	S.D.
I	103	70.10	14.63
II	97	77.24	10.69
III	101	73.91	8.93
IV	84	72.44	8.36
V	94	68.61	12.56
All Centers	481	72.43	11.69

TABLE 37

Fall Semester

Absences: CDD IV

Center	N	Mean	S.D.
I	101	8.43	8.49
II	79	6.85	5.87
III	70	5.61	5.24
IV	70	6.03	5.05
V	84	5.39	4.53
All Centers	406	6.62	6.28

TABLE 38

F Values Obtained From the Analyses of Variance Comparing Five Centers on Fall Semester Academic Performance and Attendance: CDD II, CDD III, CDD IV

Variable	F	P
CDD II		
General Average	4.008	<.01
Absences	3.926	<.01
CDD III		
General Average	3.738	<.01
Absences	10.272	<.01
CDD IV		
General Average	8.337	<.01
Absences	3.389	<.01

Spring Semester

Performance on Regents examinations were included as part of the data on the spring semester academic achievement. Regents examination scores have been used traditionally as standardized measures of achievement. In this case interpretation and inferences drawn from the data by the reader must take into account several cautions. Even though data has been compared on the basis of different subject areas, there was no attempt to analyze the Regents scores under separate subject headings; this would have reduced the number of cases in each analysis so as to preclude any generalities. As a result there is no indication whether different Centers were having CDD students or Control students take, for example, their math Regents in a more or less difficult subject. The Regents performance will be presented as a general indication of class standing but will be interpreted in light of the aforementioned limitations.

CDD II

The academic performance of CDD II and Control II students in the spring semester is shown in Table 39. The means of the general average of CDD students as a total group was 72.48. The Control students significantly outperformed the CDD students, obtaining an overall average of 77.41. This term represented the last term in high school. By this time the Control population had decreased in size, eliminating those students who were no longer in the academic program. This selecting out the more academically qualified Control students may be the

TABLE 39

Spring Semester

General Average: Class II

Center	CDD II			Control II			t
	N	Mean	S.D.	N	Mean	S.D.	
I	38	76.76	10.43	41	74.22	10.37	1.09
II	46	77.50	7.17	38	73.87	10.10	1.92
III	74	68.18	13.08				
IV	65	73.60	6.65	94	79.96	8.33	-5.13**
V	56	69.86	8.55	67	77.85	10.30	-4.62**
All Centers	279	72.48	10.26	240	77.41	11.68	-5.06**

**significant at the .01 level

explanation for the higher mean performance. In contrast to this, CDD students were encouraged to remain in the Program in spite of academic difficulty.

Table 40 shows the results of the three-year English Regents taken by CDD II students in their senior year. The average performance for CDD students and academic track students did not differ significantly. The overall average for CDD students was 71.77 and 72.94 for Control students. Only in Center V did the academic students outperform CDD students.

The results of social studies Regents are shown in Table 41. For the total groups there was no significant difference in average performance. CDD students obtained an overall average grade of 72.22 whereas Control students scored 72.32.

Table 42 gives the performance on the senior math Regents. Average performance on the examination was low for both CDD students and Control students. Although comparisons have been made statistically, interpretations must be limited because of the small number of students in particular Centers. This caution also holds true for Table 41.

Attendance was considered for the entire school year rather than just the spring semester alone. The data are presented in Table 43. The average number of days for which CDD students were absent was 20.49. This did not differ significantly from the attendance of the Control students.

CDD III

CDD III students, in their junior year of high school, obtained a mean academic average of 71.47 (Table 44). When compared to the academic population in all Centers CDD students did not do as well. In Centers

TABLE 40

English Regents

Class II

Center	CDD II			Control II			t
	N	Mean	S.D.	N	Mean	S.D.	
I	27	73.67	8.40	20	71.65	6.78	0.88
II	43	70.42	9.80	33	68.12	9.51	1.03
III	58	72.41	9.90				
IV	61	74.98	6.92	44	75.18	6.68	-0.88
V	53	68.64	8.57	53	74.57	10.46	-3.19**
All Centers	242	71.77	8.90	150	72.94	9.17	-1.40

**significant at the .01 level

TABLE 41

Social Studies Regents

Class II

Center	CDD II			Control II			t
	N	Mean	S.D.	N	Mean	S.D.	
I	37	73.27	9.11	26	72.04	12.86	0.45
II	42	73.14	10.38	19	65.37	9.70	2.76**
III	62	73.40	12.21				
IV	4	68.00	3.46	32	80.72	13.22	-1.89
V	52	69.64	11.39	11	60.55	17.36	2.18*
All Centers	197	72.22	10.98	88	72.32	14.76	-0.38

**significant at the .01 level
*significant at the .05 level

TABLE 42

Math Regents

Class II

Center	CDD II			Control II			t
	N	Mean	S.D.	N	Mean	S.D.	
I	11	55.00	16.56	9	63.22	17.24	-1.08
II	24	41.79	11.83	15	55.67	21.94	-2.57**
III	20	43.60	16.33				
IV	19	53.05	13.69	2	51.00	45.26	0.16
V	13	45.31	23.41	8	67.88	16.20	-2.39*
All Centers	87	46.86	16.36	34	60.27	20.62	-3.28**

**significant at the .01 level
*significant at the .05 level

TABLE 43

Total Absences

Class II

Center	CDD II			Control II			t
	N	Mean	S.D.	N	Mean	S.D.	
I	32	19.34	15.17	24	18.13	11.11	0.33
II	31	21.00	14.90	16	28.63	9.61	-1.85
III	72	29.03	22.76				
IV	62	14.98	9.29	90	18.22	7.82	-2.32*
V	52	15.64	13.51	45	14.62	12.09	0.39
All Centers	249	20.49	17.16	175	18.23	10.28	-0.98

*significant at the .05 level

TABLE 44

Spring Semester

General Average: Class III

Center	CDD III			Control III			t
	N	Mean	S.D.	N	Mean	S.D.	
I	44	74.07	12.40	44	66.75	17.83	2.23*
II	53	71.55	11.46	36	77.97	14.44	-2.33*
III	47	68.72	11.27				
IV	44	70.23	10.58	70	81.69	8.77	-6.27**
V	48	72.81	8.15	65	76.03	12.17	-1.74
All Centers	236	71.47	10.90	215	76.30	13.99	-3.31**

**significant at the .01 level
*significant at the .05 level

II and IV the Control students did much better than the CDD students whereas in Center I this was reversed.

Table 45 indicates the results on the junior year mathematics Regents. Center means for CDD III ranged from 41.53 for Center V to 58.00 for Center I. Only in Center I was the performance of both groups comparable; for Centers II, IV, and V the Control students did better.

The means and standard deviations by Center for the total number of days absent for the entire school year are given in Table 46. The means ranged from 10.73 to 38.50. CDD students and Control students did not differ significantly from each other in their school attendance records.

CDD IV

CDD IV students were in the tenth grade during the year covered by this report. Table 47 describes the academic performance for the spring term in terms of means and standard deviations. The overall general average was 70.42. Center I students obtained the lowest general average but also showed the greatest variability in performance.

Scores on the tenth year mathematics Regents were low. The overall average was only 48.77. Yet this appeared to be a reflection of the difficulty of the Regents examinations in mathematics for the year 1968-69; averages for both the Control students and CDD students at all levels were markedly low.

Table 49 indicates that CDD IV students were absent on the average 17.84 days per year. Data was not able to be obtained from Center V for the spring semester. As a result the total number of days absent for the school year could not be computed for that Center.

TABLE 45

Math Regents

Class III

Center	CDD III			Control III			t
	N	Mean	S.D.	N	Mean	S.D.	
I	22	58.00	18.81	7	62.57	27.60	-0.50
II	27	51.97	16.67	15	75.27	18.24	-4.20**
III	38	46.16	20.80				
IV	27	57.89	12.68	51	70.73	18.61	-5.20**
V	34	41.53	19.11	28	76.21	19.63	-7.03**
All Centers	148	50.05	18.94	101	76.40	19.65	-9.58**

**significant at the .01 level

TABLE 46

Total Absences

Class III

Center	CDD III			Control III			t
	N	Mean	S.D.	N	Mean	S.D.	
I	39	18.10	13.28	28	22.43	12.33	-1.36
II	28	38.50	23.32	17	27.71	14.26	1.72
III	43	22.16	20.65				
IV	42	14.88	7.57	67	17.03	6.99	-1.51
V	45	10.73	9.03	46	13.04	12.53	-1.01
All Centers	197	19.52	17.46	158	17.98	11.54	0.50

TABLE 47

Spring Semester

General Average: CDD IV

Center	N	Mean	S.D.
I	100	67.86	15.49
II	85	73.59	10.46
III	92	72.16	10.46
IV	73	70.88	8.28
V	94	68.17	9.32
All Centers	447	70.42	11.44

TABLE 48

Math Regents

CDD IV

Center	N	Mean	S.D.
I	66	53.44	21.27
II	78	46.73	21.26
III	82	50.37	21.39
IV	62	57.11	20.16
V	89	39.66	20.87
All Centers	379	48.77	21.74

TABLE 49

Total Absences

CDD IV

Center	N	Mean	S.D.
I	86	23.85	19.62
II	55	15.98	12.07
III	83	15.24	17.87
IV	69	14.87	9.12
V			
All Centers	294	17.84	16.21

Summary

Inter-Center comparisons on spring achievement and attendance were made on each CDD population. The F values obtained are presented in Table 50. In general there were no inter-Center differences in academic performance for CDD III, yet variability was significant for CDD II and CDD IV students. There was consistent variability for all CDD groups between Centers in attendance. Only for CDD II, did Centers show no significant differences in performance on the mathematics Regents.

TABLE 50

F Values Obtained From the Analyses of Variance

on Spring Semester Academic Performance and Attendance

CDD II, CDD III, CDD IV

Variable	F	P
CDD II		
General Average	9.857	<.01
English Regents	3.336	<.01
Math Regents	2.265	>.05
Social Studies Regents	1.207	>.05
Total Year Absences	7.870	<.01
CDD III		
General Average	1.710	>.05
Math Regents	4.720	<.01
Total Year Absences	15.755	<.01
CDD IV		
General Average	4.471	<.01
Math Regents	7.732	<.01
Total Absences	5.938	<.01

CHAPTER IV

HIGH SCHOOL GRADUATION AND ADMISSION TO COLLEGE

CDD I, CDD II

In the spring of 1965, the first class was admitted to the College Discovery and Development Program. In September of that year, 550 students enrolled in the program. Although these students belonged to a group whose chances of completing high school were predicted to be small, and also represented a group whose mobility was great, a surprisingly large number completed their high school programs at the CDD schools to which they were initially assigned.

Of the original 550 entering students, 334 received diplomas as of August 1968. This number was augmented by graduates from original Class I in January and June of 1969 so that the total number of graduates from Class I to date is 383.

A similar situation existed with Class II to which 523 tenth grade students were admitted in September of 1966. Of the 523 entrants, 301 received diplomas as of August 1969. This number in turn, was also augmented by graduates from original Class II so that the total number of graduates from Class II to date is 311. It is anticipated that a small number of additional students from that class will be graduated in June, 1970.

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* Written by Sam Malkin

TABLE 51

Diplomas Issued

CDD I

School	June 1968 & August, 1968 Gen.	Aca.	Feb., 1969 Gen.	Aca.	June & Aug. 1969 Gen.	Aca.	Total Gen.	Aca.
Seward Park	17	39	6	1	1	1	24	41
Theodore Roosevelt	34	35	9	2		2	48	39
Thomas Jefferson	25	55	3		1		29	55
Jamaica	18	58*				1	18	59
Port Richmond	24	50				1	24	51
Total	118	237*	18	3	2	5	138	245

* Includes 1 commercial diploma

TABLE 52

Diplomas Issued

CDD II

	June 1969 & August, 1969 Gen.	Aca.	Feb., 1970 Gen.	Aca.	Total Gen.	Aca.
Seward Park	24	37	-	-	24	37
Theodore Roosevelt	13	33	3	2	16	35
Thomas Jefferson	22	46		4	22	50
Jamaica	5	59			5	59
Port Richmond	27	35	1		28	38
Total	91	210	4	6	95	216

A number of College Discovery students received additional help as a result of a consortium arrangements between the City University and Columbia University - Project Double Discovery, an Upward Bound project (PDD). Following is a comparison of PDD graduates with non-PDD graduates of CDD:

TABLE 53

PDD Graduates

	Tot. CDD Ent. in Sept. 1965	Tot. PDD Ent. in Sept. 1965	Tot. CDD Grads.	Tot. PDD Grads.	% of Ent. CDD to Grad. CDD (non-PDD only)	% of Ent. PDD to Grad. PDD	% of Ent. PDD to CDD	% of Grad. PDD to CDD
Class I	550	155	383	95	73.8	63.3	28.2	24.8
Class II	523	180	311	82	66.7	45.6	34.4	26.4

For Class I PDD comprised 28.2% of the total class population and contributed 24.8% of its graduates. For Class II PDD comprised 34.4% of the total class population and contributed 26.4% of its graduates. Furthermore, for both Class I and Class II, a smaller percentage of PDD students (63.3% and 45.6%, respectively) were graduated than were non-CDD graduates (73.8% and 66.7% respectively).

- 75 -

Although a smaller percentage of CDD-PDD students were graduated than their non-PDD counterparts, a significantly larger percentage of PDD students entered state or private colleges than did the non-PDD. In Class II, for example, 31.3% of the Upward Bound graduates entered private colleges as compared with 2.1% of the non-PDD population, and 14.9% of Upward Bound graduates entered State University of New York colleges as compared with 8.0% of the non-PDD population. Tables 54 and 55 present these findings.

TABLE 54

College Programs of CDD I Graduates

Program	CDD I Total N	CDD I Total % of Grads (Base 383)**	CDD I Total % of Intake (Base 550)	UB I Total* N	UB I Total* % of Grads (Base 99)	UB I Total* % of Intake (Base 155)
4 year CUNY	44	11.49	8.00	16	16.16	10.32
2 year LAT	82	21.41	14.91	15	15.15	09.68
2 year Prong I LAT	83	21.67	15.09	18	18.18	11.61
2 year Career AA	55	14.36	10.00	15	15.15	09.68
Urban Center	35	9.14	6.36	9	9.09	5.81
SUNY	25	6.53	4.55	7	7.07	4.52
Private Colleges	45	11.75	8.18	13	13.13	8.39
Total Liberal Arts	279	72.85	50.73	69	69.70	44.52
Total	369	96.34	67.09	93	93.93	60.00

* Includes only UB students who are also CDD.
** Graduated June 1968 = 353, total graduates as of Sept. 1969 = 383.

TABLE 55

College Admissions of CDD II Graduates

Program	CDD II Total N	CDD II Total % of Grads (Base 300)**	CDD II Total % of Intake (Base 523)	UB Total* N	UB Total* % of Grads (Base 67)	UB Total* % of Intake (Base 114)
4 year CUNY	22	7.3	4.2	2	3.0	1.8
2 year LAT	86	28.66	16.44	16	16.44	14.0
2 year Prong I LAT	7	2.33	1.33	2	3.0	1.8
2 year Career AA	78	26.00	14.91	13	19.4	11.4
USC	6	2.0	1.14	3	4.4	2.6
SUNY	24	8.0	4.58	10	14.9	8.8
Private College	63	2.1	12.04	21	31.3	18.4
Total Liberal Arts	202	67.33	38.62	51	76.12	44.74
Total	286	95.29	54.64	67	92.44	58.8

* Includes only UB students who are also CDD.
** Graduated June 68 = 353, subsequent total as of Sept. 69 = 383.

Class I, June and August graduates who filed applications for college received the following acceptances. This total number of acceptances was increased by students who were admitted to college after having graduated at a later date.

TABLE 56

Acceptances to College

CDD I

		Sept. 1968	Later Grads.	Total
To City University Component Colleges				
Liberal Arts	206		3	
Career	46		9	
Urban Center	21		14	
Sub-Total		273	26	
To State University Colleges and		25		
Private Colleges		45		
Total		343	26	369

Students entering Liberal Arts programs of CUNY were assigned to either four year senior colleges, community colleges with transfer programs, or College Discovery Units (Prong I), located at the community colleges. Determination as to which units a student was assigned was based on two kinds of factors. One of these was high school average, the other was an assessment of each student's need for tutorial, financial, guidance, or other supportive services offered in each program.

A similar situation applied to CDD II when its graduates submitted applications to college in June of 1969. Table 57 summarizes the disposition of that class.

TABLE 57

Acceptances to College*

CDD II

		Sept. 1968	Later Grads.	Total
To City University Component Colleges				
Liberal Arts	115		5	
Career	78		5	
Urban Center	6			
Sub-Total		199	10	
To State University Colleges		24		
Private Colleges		62		
Total		285	10	295

* It is expected that several more students from CDD II will be graduated from High School and will be admitted to College in June, 1970.

CHAPTER V

SUMMARIES OF ADJUNCT STUDIES*

During the year a number of investigations were undertaken by members of CDD staff and have been completed or are presently in progress.

The abstracts in the following pages summarize the aforementioned projects and span the following topics: prediction of college performance, student's perception of the adequacy of preparation for college, college admission and retention, and motivational factors related to achievement.

In all cases, CDD students were the subjects of investigation with the intent that the results would give added understanding to the variables determining success in the Program.

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* The papers were also presented at the ERANYS Conference at the Concord Hotel, New York, November 6, 1969.

MOTIVATIONAL FACTORS RELATED TO ACHIEVEMENT*

Introduction

The College Discovery and Development Program has at the focus of its effort a large group of students for whom possibilities for successful high school academic achievement and college entrance are small. Social inequities have made academic striving for some groups an unfruitful way to expend energy. For these individuals who experience repeated failure, defense mechanisms must be employed which will enable them to avoid or cope with the pain of a failure experience. For students, for whom academic success brings no reward at home or in society, it may well be that the primary motive operating in an academic setting is one to act out failure avoidance rather than to achieve success.

This study of a sample of CDD students was undertaken to determine the relationship of motivational variables to academic achievement. The motives looked at specifically were the need to achieve and fear of failure. These two motives were chosen for examination because of their use in decision-making models and theoretical role in risk-taking behavior as well as apparent applicability to a school setting.

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*Written by Beatrice Harris

Problems

The specific problems which the study seeked to answer were the following:

1. Are CDD students different from students in the regular academic mainstream either in the strength of the need to achieve or fear of failure motive?
2. Has the College Discovery Program effected any changes in these motivational variables?
3. Is there a relationship between need-achievement, fear of failure and intelligence?
4. Is there a relation between need-achievement, fear of failure and academic achievement?

Definition of Terms

The term motivation as used here will refer to the aroused state of a person to strive for some goal. (Atkinson, 1964, p. 263). Motive is a general and stable personality disposition which is assumed to be one of the determinants of motivation.

Atkinson (1957, p. 360) defines the achievement motive as a disposition to approach success. Conversely, the motive to avoid failure is considered a disposition to avoid failure or a capacity for experiencing shame and humiliation as a consequence of failure.

The need to achieve was measured by a group form of the TAT, administered under neutral conditions, and scored according to a method devised by McClelland, et. al. (1953). The Mandler-Sarason Test Anxiety Questionnaire was used to measure fear of failure (Mandler and Sarason, 1952).

Background

McClelland (1953, p. 237) found that the correlation between the need-achievement score and college grades was .51 ($p<.01$) for a sample of 30 Wesleyan male students. He also reported the correlation between the combined SAT score and n-achievement to be .42. In contrast, Lowell (1952) reported a correlation of .05 between need achievement and grade point average for a group of 40 students at Trinity College. McClelland explains the difference by stating that subjects in his Wesleyan group were more highly selected for co-operativeness. Morgan (1951) administered a six-picture measure of need-achievement to 40 "achievers" and 30 "non-achievers" at the University of Minnesota; holding scholastic aptitude constant he found that those individuals with high academic grades obtained significantly higher need-achievement scores than those with low academic grades.

Subjects

Subjects in this study were 91 male College Discovery students and 77 male students in the regular academic track of high school.

Procedure

Four pictures projected on a screen, one at a time, provided the stimuli to which subjects responded by answering four open-ended questions given to guide their story writing. Stories were scored for achievement imagery by scorers trained to obtain high reliability.

The Mandler-Sarason Test Anxiety Questionnaire consists of 52 items which contain statements, in the first person, about reactions to testing situations. Subjects responded by placing an X on the line closest to their experience. Items were scored on a 9 point scale.

The split-half reliability has been reported to be .91.

The term average following the measure of level of motivation was used as the measure of academic achievement. The scores were taken from school records.

Reading scores were also taken from the school records and were used as a measure of intelligence. Research has established these scores as highly correlated with IQ scores.

Method of Analysis and Results

Analysis for Problem 1: A one way analysis of variance was used to determine the significance of the difference between the means of the CDD and non-CDD students on the measure of fear of failure and the need to achieve. The differences were found to be nonsignificant. Table 1 indicates the means for the two groups and obtained F values.

TABLE I

Mean Need to Achieve and Fear of Failure Scores

	CDD N=91	Non-CDD N=77	F
Need to Achieve	$\bar{X}$=7.75	$\bar{X}$=7.35	0.41 N.S.
Fear of Failure	$\bar{X}$=265.58	$\bar{X}$=264.57	0.02 N.S.

Analysis for Problem 2:

The CDD students were categorized by the number of years they had been in the Program, either 1, 2 or 3 years. The means and standard deviations were computed for each group on fear of failure and the need to achieve and are listed in Table II.

TABLE II

	FF	N-Achievement
CDD II	$\bar{X}$=247.7 S.D.=52.9	$\bar{X}$=8.1 S.D.=4.6
CDD III	$\bar{X}$=263.1 S.D.=45.2	$\bar{X}$=7.9 S.D.=4.6
CDD IV	$\bar{X}$=273.9 S.D.=46.0	$\bar{X}$=7.8 S.D.=3.7

The F value was computed for each measure. The mean need-achievement scores were not found to be significantly different from each other even though the means do indicate a trend upward. The differences between the mean fear of failure scores were significant at the .05 level ($F=3.5$, $p<.05$) indicating a decrease in fear of failure scores with more years in the College Discovery Program.

Analysis for Problem 3:

A matrix of correlation coefficients was computed to determine whether or not a relation existed between need-achievement, fear of failure and a measure of intelligence. The r obtained between fear of failure and the need to achieve was - 0.13 ($p>.05$). For

89 degrees of freedom the critical value for the .05 level of significance is approximately .20. The r between the need to achieve and reading score was -.09 indicating only a random relationship. The r obtained between the reading score and fear of failure was .08 which was also nonsignificant.

Analysis for Problem 4:

Subjects were divided on the bases of median scores into high and low fear of failure groups and high and low need achievers. This was also done for term averages. Two, two-by-two contingency tables were set up and χ^2's were computed to determine whether or not a relation existed between each motivational variable and achievement.

A significant Chi square value (χ^2=5.8, $p<.05$) was obtained between fear of failure and term grades; whereas a nonsignificant value (χ^2=0.51, $p>.05$) was obtained between levels of the need to achieve and term grades. High fear of failure scores were related to low academic achievement.

Subjects were also divided into four groups based on where they fell in relation to the median on both fear of failure and the need to achieve. The four groups were: 1) high need-achievement-low fear of failure 2) high need-achievement-high fear of failure 3) low need to achieve-high fear of failure 4) low need to achieve-low fear of failure. Means for academic achievement were obtained for each group (72.9; 70.2; 69.4; 68.4). Even though differences in mean scores were observed they were not significantly different. (F=1.2, $p>.05$).

Summary and Conclusion

College Discovery students were not found to be different from the other academic students tested in the measure of fear of failure or the need to achieve. The need-achievement score requires that students respond seriously to the pictures, that they are cooperative in their writing of a complete story. It is possible that the picture or situation did not elicit a measurable response from some students who were in fact high in the need to achieve.

Even though the data indicated an increase in the need to achieve for CDD students with increased time spent in the Program the differences were not significant. What was an interesting outcome was the definite decrease in the fear of failure with increased time in College Discovery. Fear of failure is learned and therefore not immutable. Since College Discovery has in effect provided a supportive environment for students; given them success experiences through classwork geared to their abilities; and promised them college entrance upon successful completion of the Program, it might be easily understood why the strength of the fear of failure motive decreased. This may also suggest that programs of this sort should look to variables other than achievement for evaluation. It may well be that the greatest changes for students taken into compensatory programs so late in their academic experience occur in the areas of motivation, level of aspiration, attitudes and self concept rather than academic attainment.

The motives, fear of failure and the need to achieve, were found to be independent of each other. This has been borne out in previous studies. Both fear of failure and the need to achieve were not related

to the subject's reading score.

Students do not achieve success in school often because of lack of skill. Failure experience may act to increase fear of failure. As a result the student avoids future learning situations which could add to his competency. Thus the cycle continues.

Knowing that fear of failure is related to achievement, future studies must explore the ways in which the motive is strengthened at home and the ways in which the fear of failure and need-achievement motives are learned. With greater insight into the learning of motives there can be greater understanding of what can contribute to change in motivation.

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PREDICTORS OF COLLEGE PERFORMANCE OF CDD GRADUATES*

The problem of making available a more equitable distribution of resources to the so-called economically disadvantaged is beginning to be accepted as a societal responsibility. This issue can be approached educationally, as well as financially, as educators assume the responsibility of training students from ghetto areas for a more productive and profitable life style.

We know of many reasons why students from the lower socio-economic level are not performing according to their potential. College may be seen as an alien or unreal possibility or simply a vocational training ground rather than as a source of intellectual growth. Their siblings and friends are unlikely to attend college. Their immediate environment does not tend to reinforce the essentially middle class, upwardly mobile values implicit in the school system. Previous experiences of failure have encouraged low self esteem and a self fulfilling prophecy of low achievement.

The College Discovery and Development Program has attempted to tackle this problem by offering a select group of students more intensive preparation for college, including an enriched academic and

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* Written by Martha Feldman

tutorial program, counseling in strategies for applying to college, and the commitment that if they successfully complete the program, they will be admitted to a branch of the City University. Our goals have been to raise the achievement and motivational level of gifted students from lower socio-economic levels who previously were not considered college material.

Now that our first class has completed its freshman year in college, we have a chance to examine their progress in light of our goals. This study was undertaken to consider the achievement of College Discovery students, their ability to complete their freshman years, and to determine the relationship between their progress and achievement, aptitude, and socio-economic variables. By considering these relationships, we are in a better position to evaluate the validity of our selection criteria, the effects of our intervention, and at what stage we can make meaningful prediction as to future success of lower socio-economic level students.

The best predictors of success on a given criterion are those variables which require similar abilities. In studying achievement in college, it would be expected that high school achievement and standardized aptitude tests which are similar in form to instruments used to assign grades would be reliable predictors of future performance.

Passons, in a study of freshmen at Fresno State College found that the verbal portion of the Scholastic Aptitude Tests was the best overall predictor of achievement in college although high school grades were slightly superior as a predictor of first semester average in

college (Passons, 1967). Pickle in a study at the University of Arkansas College of Education found that entrance test data is a valid predictor of quality point ratios from semesters one through seven with regression coefficients ranging from .56 to .38. Also of interest is the fact that a student's grades increase systematically from the first to last semester of college at the same time as the variability of these grades decreases (Pickle, 1967). The sample for these studies, students at state teachers colleges in Vermont and California, was drawn from a college-oriented, middle socio-economic level population. This study will consider whether the variables of college entrance examinations and, to a lesser degree, high school average are as effective in predicting the success in college of students of lower socio-economic backgrounds.

The problem of predicting academic success is of concern to anyone helping either students select appropraite colleges or college select future students. A high school counselor, helping a student decide where he is likely to be admitted and where he might have a successful college experience as well as the college admissions department, interested in maximizing its resources, need to make inferences about a student's future performance from his past achievements.

The sample for this study includes the first class of College Discovery and Development students who completed their freshman year at college and about whom information has been obtained. Of the total graduating class of 355 students who expressed the intention of going on to college, approximately 10, for personal or academic reasons, reversed this decision. Another 15%, although scheduled to

begin college, simply did not register. The sample is further reduced by the fact that many colleges require a student's written consent before they will release his transcript. The College Discovery and Development Program has lost contact with students who are scattered to different colleges and, for personal reasons, have not responded to several requests for transcript authorization. At this time, the sample includes 155 college freshmen who met our original criteria for entering the program, that is, students from ghetto areas whose family income does not exceed the poverty standards of the Office of Economic Opportunity and who, for reasons of poor achievement and because they come from an environment that does not place a high value on educational achievement, were not likely to complete high school.

Transcripts were obtained and the quality point ratio for each student was computed by semester and cumulatively for the year. The number of credits completed each semester and during the entire freshman year was tabulated for each student, as well.

At the high school level, each student's overall average and, in an attempt to make these grades comparable across schools, his rank within his graduating class was obtained. Most students took the College Entrance Examination Boards; verbal, math, and total scores were included as measures of scholastic aptitude. Goslin, in his monograph on the measurement of ability, indicates that a composite of high school average and Scholastic Aptitude Test scores is a more reliable predictor of academic success than either measure taken independently.[1] For this purpose, a scale of scores designed by

[1] Goslin, David A., The Search for Ability New York: Russell Sage Foundation, 1963, p. 158.

Educational Testing Service and used to set admission criteria for different units of the City University of New York was used.

At the junior high school level, each candidate's average for the first half of his ninth year was collected. These averages may be slightly inflated as these students were then frequently considered unable to follow an academic program and were scheduled for general subjects or were attending vocational schools. The standardized aptitude measure selected at this level was the combined score on the verbal reasoning and numerical ability subtests of Differential Aptitude Tests, generally considered a stable aptitude measure over time. At this time, socio-economic data on these students who were then applicants to the College Discovery and Development Program was also collected. Such factors as total family income, total number of persons in the family, and the Life Chances Scale of Dentler and Monroe were considered to be variables that might bear a significant relationship to the success or failure of College Discovery students.

The Life Chances Scale is an instrument designed to gauge the socio-economic advantages and hardships a student faces. Factors thought to raise a student's life chances are that he comes from an intact family, small in size (less than four siblings), that his father and/or mother are high school graduates, and that his father holds a skilled, managerial or professional job or is self employed. This scale was modified to include the crowdedness of the dwelling (more than 1 person per room) and the parents' birthplace. A person whose father an/or mother are born in the north as opposed to the south or

Puerto Rico is considered to have a higher life chances rating.[2]

In all, a total of 13 academic and socio-economic variables at three levels of education were compared with each other in a correlation matrix. The main focus was to consider the relationship of academic aptitude, achievement at the junior high school and high school levels, and socio-economic information with academic achievement, quality point ratio and number of credits completed, in the first year of college. The intercorrelations of these variables are examined to the extent that they shed light on the interpretation of the main findings.

As a general indicator of academic success, the average QPR of the 155 students who completed their freshman year was 1.94 or slightly below a C and the average number of credits completed was 23.5 or slightly less than 12 credits per semester.

Of the eleven other variables studied, six were significantly related to QPR and four were significantly related to total number of credits completed. The relationships of overall high school average, composite of high school average and Scholastic Aptitude Test scores, and percentile rank in class were significantly related to QPR at the .001 level, with correlation coefficients ranging from .44 to .33. High school average and percentile rank in class were also significantly related to number of credits completed during the freshman year

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[2] Tanner, Daniel and Lachica, Genaro, Discovering and Developing the College Potential of Disadvantaged High School Youth, A Report of the First Year of a Longitudinal Study on the College Discovery and Development Program, 1967, p. 4.

of college, again at the .001 level. The variables most significantly related to grade point average and total amount of work completed are measures of high school achievement: overall high school average and rank in class. Those students obtaining the highest grade point averages tend also to complete the greatest number of credits ($r = .39$).

The ninth grade average of the students studied is significantly related to both QPR and credits completed ($p < .01$). At this level of significance, composite scores are positively related to the number of credits completed. A significant relationship between QPR and total SAT scores as well as verbal SAT score was found at the .05 level.

Standardized tests such as the Scholastic Aptitude Test and Differential Aptitude Test are less effective predictors of academic scucess than are achievement measures. The correlation of total and verbal SAT scores with QPR is approximately half that of high school average and QPR's. While math SAT scores are highly related to high school average and percentile rank in class ($r = .49$ and .38 respectively), they fall just short of the critical value for significant correlation with QPR's. The verbal reasoning and numerical ability subtests of the Differential Aptitude Test show a significant correlation with the verbal and math sections of the Scholastic Aptitude Test at the .05 level ($r = .24$). The correlation of DAT and total SAT scores is also significant at the .05 level. However the DAT does not show a significant relationship to the achievement measures at the junior high school, high school or college level.

Of particular interest is the fact that student's ninth grade average bears as strong a relationship to his achievement in college as it does

to his achievement in high school. While students continue their education and achievement to a higher education level, those who excelled in junior high school perform the best while in College Discovery and Development Program and continue this achievement in college. The superiority, however, of high school average as a predictor of future academic achievement indicates that a student's experience in high school, whether a consequence of maturation or of the intervention of College Discovery and Development Program tends to stabilize his achievement at a level that more closely approximates his achievement in college.

The socio-economic variables studied are essentially unrelated to a student's progress in college. His family's total income, the size of his family, and his "life chances" rating again show no significant relationship to his progress in junior high school and high school. It should be remembered that this sample is relatively homogeneous with respect to socio-economic variables as our selection criteria required that College Discovery students be at the lower socio-economic level. This homogeneity tends to reduce correlations which might be significant if a wider socio-economic range were studied. Within the range of socio-economic status tapped by this program, we cannot use these measures to predict academic achievement in junior high school, high school or college.

The first class of students of the College Discovery and Development Program, a program designed to raise the educational level of underachieving high school students from lower socio-economic level homes, has completed its freshman year in college and, obtained slightly

less than a C average over slightly less than 12 credits a semester. Of the aptitude, achievement, and socio-economic variables compared with each other in a correlation matrix, it was found that measures of academic achievement at the high school and junior high school level were the best predictors of academic achievement at the college level. This finding differs from previous research where standardized aptitude tests were found to be the most reliable predictors of college achievement. Socio-economic variables, within the limited range of socio-economic status included in this program were unrelated to future college performance.

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COLLEGE ADMISSION AND RETENTION OF CDD GRADUATES*

The College Discovery and Development Program, jointly sponsored by the City University of New York and the Board of Education of the City of New York, is now in its fifth year of implementation. Five classes have been enrolled successively in the tenth grade, one each Autumn since 1965. Two of these classes have moved on from high school to other activities; this paper reports briefly on admission of these students to college and on their persistence in college study.

High School Graduation

The first class, CDD I, enrolled in tenth grade in September 1965, had consisted of 550 students when it had "shaken down" in October 1965. Three years later, in September 1968, 355 of these students had earned high school diplomas on schedule; 236 (55.5%) of these graduates received academic diplomas, 118 (33.2%) general diplomas and 1 (0.3%) earned the commercial diploma. Forty-nine other students remained in active high school enrollment at that time, although unable to complete their studies on time; thus, a total of 73.4% of the original group completed twelfth grade. All except a very small number (±7) applied for admission to institutions of higher education: these graduates entered the armed forces, took full time jobs or became housewives.

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* Written by Lawrence Brody

The second class, CDD II, admitted in September 1966 followed a very similar pattern, with 300 of its original active enrollment of 523 graduated on schedule in June 1969; in CDD II 64.8% have earned high school diplomas to date and a small number (39) continue active in senior class studies in the high schools at this time.

College Admissions

The admissions of these students to colleges show a number of interesting features. Upon acceptance into the program all CDD students had been guaranteed admission to some program in the City University provided they completed the twelfth grade satisfactorily.

> "...admission to one of its units (a community college or a senior college) is guaranteed any student who completes the Program and is recommended by the High School Development Center."[a]

This university includes elements of both a centralized enterprise and of a confederation of autonomous colleges; in the course of events, this admission guarantee became operationally defined to include criteria for admission of CDD graduates to the various kinds of programs offered. These criteria were summarized in the third annual report of this Program:

"Students were classified as eligible for one of the following four categories:

1) Category I: This includes all the four-year programs leading to a baccalaureate degree. The general academic average required to be considered for this program is 82 or better.

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[a] Daniel Tanner and Genaro Lachica, "Discovering and Developing the College Potential of Disadvantaged High School Youth": A Report of the First Year of a Longitudinal Study on the College Discovery and Development Program, p. 3.

2) Category II: This refers to the two-year transfer programs in the community colleges. These two-year programs prepare students for entry into a four-year college in the junior year. Graduates of transfer programs receive the Associate in Arts or Associate in Science degree and are automatically admitted to the junior year of a four-year college of their choice in the City University.[1] The general academic average required to be considered for this category ranged from 77 to 81.99.

3) Category III: This category includes two kinds of programs - the two-year terminal program or career program and Prong I.. The career programs combine technical preparation with a firm grounding in general education. Upon graduation, the student receives the Associate in Applied Science degree and is prepared to enter the world of work on a semi-professional level. If he chooses, a student may be able to transfer certain course credits toward a baccalaureate program.[2] Prong I of the College Discovery and Development Program provides supportive services for the student so that upon completion of the two years at the community college level, he will be able academically to transfer to a four-year program leading to a baccalaureate degree. The academic average required for consideration for this category ranges from 70 to 76.9.

4) Category IV: This category refers to the Urban Skills Centers. Here the student is provided with training for a particular occupation or is provided with remedial services so that he can later be eligible to meet entrance requirements for college admission. Students with academic averages below 70 were considered for this category."[b]

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[1] The University Application Processing Center, Information for Applicants to the City University of New York, 1969, p. 5.

[2] Ibid. P. 5

[b] L. Brody, B. Harris, and G. Lachica, Discovering and Developing the College Potential of Disadvantaged High School Youth: A Report of the Second Year of a Longitudinal Study on the College Discovery and Development Program, Office of Research and Evaluation, City University of New York, March, 1968.

It should be noted that these general criteria were used for initial sorting of CDD applications by a joint CUNY - Board of Education committee: considerable variation of placements from these criteria occurred in a number of specific cases where waiver was urged by the CDD counselor and agreed by this joint committee.

College Admission of CDD Students

Acceptances to colleges received by CDD I graduates are summarized in the table below.

TABLE I

College Admissions of CDD I Graduates

as of August 1968

Program	N	Per Cent of Graduates (base 355)	Per Cent of Original Population (base 550)
4 Year CUNY Liberal Arts	43	12.1	7.8
2 Year CUNY Transfer	81	23.0	14.7
2 Year Career Program	48	13.5	8.7
2 Year Prong I	92	26.2	16.7
Urban Skills Centers	16	4.3	2.9
State University of New York	25	7.0	4.6
Private Colleges or Universities	47	13.2	8.6
Other	3	0.7	0.6
All Programs	355	100.0	64.6

One other note may be of interest: seventy-one college freshman places were offered to CDD I graduates by institutions other than CUNY. It will be noted that only 47 of these 71 students accepted these offers: in almost every case these student decisions were based on financial need and the inadequacy of aid in the collegiate institutions. Although these students were our academic best in traditional terms, economic realities demonstrated the "insurance value" of CUNY's guarantee of acceptance.

It may be of interest to note that 48 of the CDD I graduates were admitted to two-year "career" (terminal, with AAS degree) and 16 to "skills centers" (college adaptor or remedial) programs: these groups composed respectively 13.5% and 4.3% of the graduates. The remainder, 81.5% of the graduates, were admitted to liberal arts programs: 115 of the graduates (32.%) were admitted directly to four-year baccalaureate programs; 173 (49%) of the CDD I graduates were admitted to two-year liberal arts transfer programs in community colleges. These two-year liberal arts transfer programs were the first priority recommendations of counselors for many students for several reasons summarized here:

> In 1968 CUNY was able to provide stipends to all CDD I graduates who were enrolled in these two-year transfer programs. Since these students had been selected as economically impoverished, this was a most important consideration. A second important factor was the provision in these transfer programs of counselling, tutorial and remedial services (which were not automatically available in the 4 year colleges). A third reason had to do with the characteristics of the student populations in the two kinds of institutions: the 4 year senior colleges accepted, at that time, only the most proficient academic students: it was felt that, CDD students would face tougher competition, with less support in such colleges than in the transfer programs which provided two more years for student motivation and academic conditioning (do you read this as "training for competition for academic grades?")

College Admissions of CDD II Graduates

The college admissions of CDD II graduates for September 1969 followed the same general pattern as that for CDD I. Table II summarizes these admissions:

TABLE II

College Admissions of CDD II Graduates

as of Sept. 1969

Program	N	% of Graduates (base 300)	% of Original Population (base 523)
CUNY			
4 year Baccalaureate	22	7.33	4.20
2 year Liberal Arts Transfer	86	28.66	16.44
2 year Prong I	7	2.33	1.33
Sub. Total: CUNY Liberal Arts	115	38.33	21.98
2 year Career	78	26.00	14.90
Urban Skill Center	6	2.00	1.14
Sub. Total: CUNY, non-Liberal Arts	84	28.00	16.06
SUNY	24	8.00	4.58
Private Colleges	63	21.00	12.04
Sub. Total: Liberal Arts, non-CUNY	87	29.00	16.63
Total Liberal Arts	202	67.33	38.62

Only two differences of any consequence seem to have occurred in this second year: a considerably larger number of CDD II than CDD I students accepted freshman places outside CUNY. This is not a reflection of higher achievement by the students, as far as can be seen from analysis of their school records. It reflects, instead, considerable increase in funding available for financial aid to students in the private colleges. Examination of Tables I and II would seem to indicate that the additional number of CDD II students who went on to private colleges came from among those who would otherwise have gone on to 4 year baccalaureate programs in CUNY senior colleges. This would seem to indicate a continuance of the old practice of "cream skimming," but it seems to the writer to be a healthier situation in that more aid is becoming available to students of largely minority sources who are seen as "cream".

A second difference is a somewhat heavier attrition rate for CDD II than for CDD I in their high school years.* A number of sources for this increased loss are possible. These have not been verified to date, but seem to include: loss of stipends by CDD II (because of funding difficulties); very serious loss of school time through the school strikes of the fall of 1968 (senior year in H.S. for CDD II); the extensive inter-faculty, and inter-student conflicts left over from the strikes as well as those based in other aspects of the ongoing social revolution.

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* CDD I lost 146 (26.5%), CDD II lost 184 (35.1%) during their respective three year periods in high school.

College Retention

We have had a great deal of difficulty in following up the graduates of CDDP in college. This difficulty has a number of sources: in the first place our graduates are now distributed among a considerable number of institutions, including 16 CUNY colleges, 7 SUNY colleges and some thirty-seven or thirty-eight private colleges; secondly, almost every college seems to have its own regulations, procedures and/or forms for release of information about its students; there have been considerable number of students who changed colleges either immediately before or during their freshman year - most often without notifying us or their high school counselor. Finally, a small number of students outside the City University have ignored or refused requests for release of transcripts to us.

Table III summarizes the follow-up data on college freshman year retention of CDD I students as verified to 10/31/69. Total responses verified to date were 299: of these 223 (74.6%) had completed a full year in the program in which they had enrolled.

Although firm data for the country as a whole are difficult to come by we believe that this is a freshman retention record excelled only perhaps in ivy league colleges. Although we must wait until 1972 to finally know, we are looking at a trend towards acceptable college performance for a group for which 90% high school dropout had been anticipatable in May of 1965.

At this time we are beginning to assemble enrollment data for sophomore year for CDD I and freshman year for CDD II, which we hope to be able to report at another time.

TABLE III

College Follow Up Data*

CDD I

Category**	no info whole yr	no info sem 1	no info sem 2	did not register	with-drew sem 1	with-drew sem 2	completed whole year
1	2	-	6	8	7	3	44
2	2	1	4	17	7	4	81
3	1	-	3	14	2	2	23
4	1	1	6	26	4	7	75
5	-	-	-	-	-	-	-
Total	6	2	19	65	20	16	223

N = 299

* as confirmed to 10/31/69

** Category 1 = 4 year baccalaureate program

2 = 2 year liberal arts transfer

3 = 2 year terminal (AA degree) "junior college"

4 = College Discovery Prong I

5 = Urban Skills Centers

THE CDD GRADUATE SPEAKS: THE STUDENT'S PERCEPTION OF THE ADEQUACY OF HIS PREPARATION FOR COLLEGE*

This paper is based on the responses of students to three open-ended questions, namely: 1) In what ways do you think the College Discovery and Development Program prepared you for your present college work? 2) In what ways do you think the Program did not prepare you well enough? 3) Please list any recommendations you wish to make to your high school counselor for ways in which he might better help CDD students. The questions were asked in a questionnaire sent in June 1969 to the first CDD graduates who were in their freshman year of college. The tabulation of responses is found in Appendix B.

Although the small percentage of returns (187 out of 344) and the unquantifiability of the responses precluded the use of statistical analysis and the drawing of probabilistic inferences, an analytical reading of the student responses yielded 3 interesting observations:

1. There was a remarkable consistency in need patterns revealed by answers to all 3 items.
2. There was differential perception of the compensatory aspects of the program.
3. The suggestions flowed naturally and logically from the perceived needs of the students.

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* Written by Genaro M. Lachica

The CDD graduate saw needs related to curriculum and instruction as most pressing in college. When asked as to adequacy of their preparation for college, the students gave 107 positive and 89 negative responses related to academic needs. Eighty-nine suggestions for curricular and instructional improvement were also recorded. The students felt greatly the need for better study habits and skills and for mastery of subject matter areas especially science, mathematics, and English writing and reading skills were cited most often as essential to success in college.

Needs related to articulation between high school and college came a close second to academic needs. Answers to all three items stressed the need for adequate information about college life and work and guidance in the choice of course of study as well as college. Students were beset with the problems of fitting into the life of an essentially middle-class institution which became more acute if one came from a minority group in addition to being financially handicapped.

The third constellation of needs can be described as motivational and attitudinal. Although more students saw the program as having improved their self-concepts and level of aspiration, there were a number of responses to the second and third questions showing a need for motivation and positive attitudes toward self and education.

The guidance and counseling services as well as the tutorial program of the program was seen to be a positive factor in preparing the students for their work in college. On the other hand, the social and cultural aspects of the program were only seldom mentioned as having helped them in college.

The differential perception of the CDD program by the students in

terms of adequately meeting their college needs is of more than passing interest. While many of the students perceived the program as having helped them in both academic and affective preparation for college work, quite a number saw the program as having minimally helped them, if at all, in increasing their chances of success in college.

Salient among the suggestions of the CDD graduates in college towards improvement of the program are:

1. The program should focus on improvement of study habits and skills, especially reading and writing skills.
2. There should be more training for independence, hard work, competition, commitment to study.
3. The students should be given more realistic information about college and its demands.

To conclude this synthesis of student responses, three recommendations seem to be in order for the CDD program in particular and for other programs for disadvantaged youth in general:

1. The focus of the program should be on the academic and affective factors of preparation for college.
2. The high schools and the colleges should work out jointly strategies in meeting the needs of disadvantaged youngsters.
3. The factors underlying the differential perception of the various aspects of the program in relation to college preparation should be investigated.
4. Provisions should be made towards understanding individual needs and more differentiated approaches to meeting these needs.

PROJECT OPEN

Twenty-five CDD girls were accepted as the total student body of Project OPEN (Opportunities for Professional Education in Nursing). This was a special program of the Bellevue-Hunter School of Nursing, funded by the Sealantic Fund. OPEN provided each of its enrollees with a broad array of special experiences and services. These were, in summary, weekend experiences organized on the following general plan:

Friday 4:45 - 8:30 p.m.

Nursing, Health Science, Communications
Counselling and Planning with Directors

Saturday 10 a.m. to 4:30 p.m.

Class Instruction

- Science
- Communications Skills
- Mathematics Skills

Conferences - student - faculty

- Counselling
- Communications Office Hours
- Mathematics Office Hours

Lunch and Planning

An intensive guidance and counseling process was implemented on both individual and group bases. This included standardized testing (Gordon Personality Inventory, Gordon Personal Profile, Nelson-Denny Reading Test. NLN Pre-Nursing and Guidance Examination.) Data from these instruments were one of the bases for counseling students. School and Project OPEN class experiences, conferences between Project OPEN and CDDP counselors, and student-counselor conferences were other bases for the educational, professional and personal guidance provided the Project OPEN students.

The areas in which instruction was provided included nursing and health, science, mental hygiene, communications, mathematics and physical education. Instruction in these areas was greatly varied. Evaluation of student progress and program effectiveness was based upon formal quizzes, personal and individual conferences and self-evaluation by students and staff.

It is noteworthy that at the end of this first year, the eleven Project OPEN students who completed high school in June 1969 applied for and were accepted into nursing programs in seven different schools of nursing. The fourteen remaining students, who were to be high school seniors in 1969-70, all elected to continue with the program for the next year. (A complete report of Project OPEN for the year 1968-69 is available from Dean Holmes or Mrs. R.S. Parris, Director, Project OPEN, at the Hunter-Bellevue School of Nursing, 440 E. 26 Street, New York 10010.)

CHAPTER VI

SUMMARY

At the time of writing of this report, the College Discovery and Development Program had completed its fourth year and was well into its fifth year of functioning. In spite of a time marked by overwhelming social change and periods of educational crises, College Discovery maintained its position as a program geared to identifying underachieving disadvantaged youngsters with college potential, to increasing their motivation for academic success, to improving their scholastic achievement, and to developing their acceptance of college study as a realistic expectation for themselves.

The entering class, CDD IV, consisted of 490 students in their sophomore year; CDD III students who were in their junior year and CDD II students who were in their senior year of high school. At the completion of the academic year 1968-69, CDD I students had completed one year of college whereas CDD II students had been admitted to various branches of the City University and private colleges.

The same criteria were used in the selection of CDD IV students as were used in the selection of previous populations. As a result there were no consequential differences between this fourth class and the previously enrolled populations. The higher weekly income and higher monthly rent paid by families of CDD IV students reflected changes in the economy rather than changes in any selection criteria.

Some changes were made during this fourth year among the College Discovery staff at the central offices and at the Centers as well;

yet these did not cause any major changes in the nature of the implementation of the program.

As in past years, data on socio-economic background and previous achievement were collected and analyzed. Because of the upheaval felt in the school system by the strike in the Fall semester, and the view that adequate information had been collected on previous classes, a Control group for the fourth population was not seen to be necessary and was not formed. Control groups for the previous classes were still maintained. Attendance and academic achievement were then analyzed for each class to determine whether there were significant differences between the five Development Centers. Comparisons were made between the CDD groups and Control groups in those classes in which Control groups existed.

Characteristics of CDD IV at Intake

Students from Center to Center differed significantly in mother's education, total weekly income, number of rooms in apartment, number of years at present address and Adjusted Life Chance Scale Score. No differences were found in age of students, father's education, monthly rent and number of persons in apartment. In general, students in Centers IV and V were favored by a better socio-economic background.

Families of CDD IV students, when compared to previous classes at intake, received a higher weekly income. The entering CDD classes over the four years were also significantly different in the distribution of students in different ethnic groups, indication of parents alive and living together, father living or deceased, father's and mother's birthplace.

CDD IV: Previous Achievement

In general, CDD IV students in different Centers were alike except in ninth-grade attendance and mid-year ninth-grade average. It was found that on the whole CDD IV students were performing on grade level in each of the subtests of the Metropolitan Achievement Test, and obtained an overall academic average in the 70's for the eighth and ninth grades.

Achievement and Attendance

In the Fall term of the 1968-69 school year, all CDD classes, CDD II, CDD III and CDD IV, obtained an overall academic average of approximately 72. CDD II and CDD III students were performing lower than their counterparts in the Academic Program, yet the reader should keep in mind all the variables mentioned previously that may have contributed to this difference.

The Control students again outperformed CDD II, and CDD III students academically in the Spring semester. Again CDD IV students who had no academic comparison group maintained a general average in the low 70's. CDD II students who as seniors were required to take Regents examinations in English and Social Studies equalled the Control students in performance. Scores on the mathematics Regents were markedly low for all students but were much lower for CDD students.

Graduation and College Acceptance

By June 1969 CDD I students had completed their first year in college, either in branches of the City University or private colleges. CDD II students, just completing their senior year of high school, were also being accepted to institutions of higher learning both at the City University and private colleges. Of the 523 CDD II students who entered

the program in 1966, 301 received diplomas as of August 1969.

Both classes, CDD I and CDD II, were viewed on the basis of past achievement and socio-economic data as students who would most likely not complete high school. The percentage of CDD I and CDD II students who had completed high school to go on to college represented a remarkable reversal of this prognosis.

Comments on Evaluation

The College Discovery Program as it was conceived and as it has been implemented is an action program. Any research that has been done has been for the purposes of gaining additional understanding of the variables contributing to the successful progress of students through the Program. In spite of the possible inferences that have been made from data collected on CDD students, no analyses have been identified as an evaluation of the Program. This has occurred for various reasons: 1) There is an obvious ethical question as to the appropriateness of a program evaluating its own effectiveness; this should rather be done by an outside agency. 2) At present there exists no actual control group on which data has been collected which is identical in background to CDD students. Students who were eligible for the CDD Program were accepted; those who were not accepted could not be viewed as an identical population. The Control group which has been discussed in the report represents an academic norm group of students selected at random within each Center and acts as a basis of comparison for the CDD students. Yet comparisons made do not imply any evaluation of the Program's success.

Classically, evaluation has looked toward academic grades and scores on standardized tests as its criteria; one would have to ask whether

this is still appropriate. It may be that what needs to be looked at are variables such as attitudes, motivation, self image, etc.. Certainly not to be ignored is the social context in which Programs such as College Discovery are taking place. The times are marked by transition and commitment to young people who previously were not given opportunities to which they were entitled. It is hoped that any evaluation of College Discovery's effectiveness will have a perspective which considers all of these aforementioned variables.

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-APPENDIX A

Comparison of CDD I, CDD II, CDD III, and CDD IV

on Parents Alive and Living Together

All Centers

Class	Yes	No	No Information	Total
I	318* (329.5)**	241 (228.4)	19 (20.1)	578
II	291 (291.3)	213 (201.9)	7 (17.8)	511
III	166 (165.9)	110 (115.0)	15 (10.1)	291
IV	291 (279.3)	175 (193.6)	24 (17.0)	490
All Classes	1066	739	65	1870

Chi Square = 16.070, $p < .02$
*Observed frequency
**Expected frequency

Comparison of CDD I, CDD II, CDD III, and CDD IV

on Mothers Living or Deceased

All Centers

Class	Mother Living	Mother Deceased	No Information	Total
I	538 (536.9)	22 (20.4)	18 (20.7)	578
II	484 (474.7)	17 (18.0)	10 (18.3)	511
III	263 (270.3)	13 (10.3)	15 (10.4)	291
IV	452 (455.1)	14 (17.3)	24 (17.6)	490
All Classes	1737	66	67	1870

Chi Square = 10.395, $p > .05$

Comparison of CDD I, CDD II, CDD III and CDD IV

on Fathers Living or Deceased

All Centers

Class	Father Living	Father Deceased	No Information	Total
I	468 (493.9)	53 (51.3)	57 (32.8)	578
II	461 (436.4)	39 (45.4)	10 (29.0)	510
III	249 (248.5)	27 (25.8)	15 (16.5)	291
IV	418 (418.5)	47 (43.5)	25 (27.8)	490
All Classes	1596	166	107	1879

Chi Square = 34.963, $p < .01$

Comparison of CDD I, CDD II, CDD III, and CDD IV

on Student's Birthplace

Class	U.S. North	U.S. South	Puerto Rico	Other	No Information	Total
I	429 (429.3)	34 (34)	50 (43.9)	53 (57.2)	12 (13.6)	578
II	(367) (379.6)	33 (30.1)	33 (38.8)	65 (50.6)	13 (12.0)	511
III	218 (216.1)	14 (17.1)	27 (22.1)	28 (28.8)	4 (6.8)	291
IV	375 (364.0)	29 (28.8)	32 (37.2)	39 (48.5)	15 (11.5)	490
All Classes	1389	110	142	185	44	1870

Chi Square = 13.909, $p > .05$

Comparison of CDD I, CDD II, CDD III, and CDD IV

on Father's Birthplace

Class	U.S. North	U.S. South	Puerto Rico	Other	No Information	Total
I	165 (182.1)	123 (147.4)	99 (102.3)	96 (95.5)	95 (50.7)	578
II	186 (161.0)	117 (130.3)	83 (90.4)	102 (90.4)	23 (44.8)	511
III	96 (91.7)	82 (74.2)	52 (51.5)	46 (48.1)	15 (25.5)	291
IV	142 (154.3)	155 (125.0)	97 (86.7)	65 (81.0)	31 (43.0)	490
All Classes	589	477	331	309	164	1870

Chi Square = 85.929, $p < .01$

Comparison of CDD I, CDD II, CDD III, and CDD IV

on Mother's Birthplace

Class	U.S. North	U.S. South	Puerto Rico	Other	No Information	Total
I	198 (204.0)	144 (155.5)	103 (105.7)	74 (82.2)	59 (30.6)	578
II	209 (180.4)	110 (137.5)	89 (93.5)	87 (72.7)	16 (27.1)	511
III	99 (102.7)	86 (78.3)	56 (53.2)	45 (41.4)	5 (15.4)	291
IV	154 (172.9)	163 (131.8)	94 (89.6)	60 (69.7)	19 (25.9)	490
All Classes	660	503	342	266	99	1870

Chi Square = 67.104, $p < .01$

Comparison of CDD I, CDD II, CDD III, and CDD IV

on Ethnic Distribution

All Centers

Class	Negro	Puerto Rican	Other	All Groups
I	236 (263.8)	128 (126.3)	194 (167.9)	558
II	235 (239.7)	102 (114.7)	170 (152.6)	507
III	145 (131.9)	63 (63.1)	71 (84.0)	279
IV	251 (231.6)	122 (110.9)	117 (147.5)	490
All Classes	867	415	552	1834

Chi Square = 22.818, $p < .01$

APPENDIX

Tabulated Responses of CDD Graduates

November 1969

Ways in Which CDD Students Were Prepared for College

I Personality & Attitudes
- A. Self Image
  - Self Confidence - 12
  - Self Acceptance & Criticism - 2
  - Maturity & Leadership - 2
- B. Achievement Motivation
  - General Need to Achieve - 12
  - Orientation Toward College - 12
  - Orientation Toward Education - 5

II Social and Cultural
- Cultural Activities - 6
- Knowledge of Other People - 4
- Other - 4

III Articulation
- Information About College - 11
- Admission to College - 6
- Choice of Courses - 4
- College Level Instruction - 3
- Choice of College - 1
- General - 4

IV Curriculum & Instruction
- A. Study Habits & Skills
  - General - 10
  - Reading - 13
  - Writing - 2
  - Scheduling - 2
  - Independent Study - 1
- B. Subject Areas
  - General Academic - 13
  - Science - 10
  - Math - 8
  - English - 8
  - History - 2
  - Language - 2
- C. Instruction & Management
  - Tutorial Services - 16
  - Better Teachers - 7
  - Double Periods - 7
  - Smaller Classes - 4
  - Small Study Groups - 1
  - Less Competition - 1

V Guidance & Counseling
- General - 12
- Individual Counseling - 7
- Moral Support - 1
- Help in Decision Making - 1

VI Financial - 5

VII None - 21

VIII In all ways - 4

Ways in Which CDD Students Were
Not Prepared Well Enough

I The CDD Program
- Nothing Beyond Regular Programs - 3
- Program Unreal - 1
- Too Confined - 1
- Stressed Unessentials - 1

II Personality & Attitudes
- a) Need to Achieve
  - Guarantee of College Proved Harmful - 1
  - CDD Served As Crutch - 2
  - Program Developed Programmed Negroes - 1
  - Conditioned Me Not To Rely On Whites - 1
  - Did Not Develop Incentive - 1
  - Did Not Push Students to Capacity - 1
- b) No Change in Attitudes - 1
  - Did Not Develop Independence - 7
  - Inferiority Complex - 1
  - No Sense of Responsibility - 1
  - Racial Attitude - 1
  - Lack of Sociability - 1
  - Did Not Know Interests - 1
  - Unawareness of Obligations to Community - 1
  - No Future Plans - 1

III Financial
- Unexpected Financial Pressures - 2

IV Guidance & Counseling
- a) No Attempts to Know Students - 1
- b) Counselor in Accessibility - 1

V Articulation
- a) General - 8
- b) Lack of Information About College - 4
- c) Unrealistic View of College - 3
- d) Unprepared for an All White College - 2
- e) Gap between High School & College - 2
- f) Not Prepared for Competition - 1
- g) Not Prepared For College Level Teaching - 1
- h) First Day Problems - 1
- i) Choice of Program - 1

VI Curriculum & Instruction
- a) Study Habits & Skills
  - General - 11
  - Deficient writing Skills - 6
  - Lack of Discipline & Independent Study - 6
  - Lack of Reading Skills - 4
  - Scheduling & Organization - 4
  - Understanding Not Emphasized - 1
  - Use of Library - 1
  - Test Taking - 1
- b) Subject Areas
  - General Academic Deficiency - 8
  - English - 4
  - Math - 2
  - Science - 2
  - Business Courses - 2
  - Music Theory - 1
- c) Instruction & Management
  - No Competition in All - CD Classes - 4
  - Watered Down Courses - 4
  - Subjects Not College Level - 3
  - Teachers Not Qualified - 2
  - Tutors Not Qualified - 2
  - Double Periods Wasted - 2
  - Marks Unrealistic - 1

VII CDD was Nothing Special - 4

VIII None - 14

Recommendations for Improvement of the Program

I The CDD Program & Policies
- a) More Realistic Expectations - 3
- b) Clarification of Goals & Offerings - 3
- c) Enlargement of Program - 2
- d) More Students in Upward Bound - 1
- e) Selection of Better Students - 1
- f) Better Teachers & Staff - 1
- g) Voluntary Membership - 1

II Curriculum & Instruction
- a) Study Habits & Skills
  - Development of Study Habits & Skills - 11
  - Writing Skills - 11
  - Reading Skills - 6
  - Independent Study - 3
  - Note Taking - 3
  - Work Organization - 2
  - Understanding Rather Than Memory - 1
- b) Subject Areas
  - a) Mathematics - 8
  - b) General - 9
  - c) Individualized Programs - 5
  - d) English - 4
  - e) Science - 2
  - f) Language - 2
  - g) Steno & Typing - 1
- c) Instruction & Management
  - Need to be With Non-CD - 10
  - More Tutorial Services - 5
  - No Double Periods - 2
  - Enrichment & College Level Teaching - 3
  - Interracial Discussions - 1

III Personality & Attitudes
- a) Self-Concept
  - Knowledge of Potential & Interests - 2
  - More Positive Self Concept - 1
  - Self in Relation to College - 1
- b) Need to Achieve
  - Aspiration Level - 5
  - College Should Not Be Guaranteed - 3
  - Hard Work - 3
  - Utilization of Potential - 1
  - CDD Scholarships for high achievers - 1
  - Don't let them Get Discouraged - 1

c) Independence
   Training for Independence - 6
   Don't Baby CDD Students - 5
   Decision Making - 3
   Less Attention - 1
   Need To Be Different - 1
d) Need To Be Understood - 2
e) Discipline
   Be strict Academically - 3
   Be gentle But Firm - 1
   Keep Scaring Them - 1

IV Articulation
a) Admission & Career Choice
   Help in Choice of Field - 5
   Help in Choice of College - 5
   Scholarship & Aid - 3
   Help in Application - 1
   Contact with College - 1
   College Not The Only Option - 1
   Don't Channel to Some Urban League - 1
b) College Life & Work
   General Information - 10
   Information About Academic Demands - 11
   Visits From Graduates - 7
   Information About College Personnel - 6
   Visits to Campuses - 4
   More Realistic Information - 4
   Simulation of College Classes - 3
   Orientation Sessions - 2
   Observation of College Classes - 2
   Information on Financial Demands - 1
   Poverty Programs in College - 1

V Guidance & Counseling
Greater Confidentiality - 4
More Individual Attention - 3
Help in Personal & Domestic Problems - 3
Awareness of Needs & Interests - 3
Try to Know Student Abilities - 1
Counselor Accessibility - 2
Out of School Contact - 1
Emphasis on Academic Problems - 1
More black & P.R. counselors - 1

VI Social & Cultural.
- More Cultural Activities - 2
- Integration With Non-CDD - 2
- Social Consciousness - 2
- Group Consciousness - 1
- Don't Break Up Friends & Gangs - 1

VII Financial
- Continuation of Stipends - 2
- Training in Marketable Skills - 1
- Not To Rely on Aid - 1
- Work-Study Program - 1