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THE RELATIONSHIP OF SELECTED BIOGRAPHICAL AND PSYCHOMETRIC CHARACTERISTICS FOR DISADVANTAGED ADOLESCENT FEMALES TO SUCCESS IN A COMPENSATORY EDUCATION PROGRAM FOR OFFICE OCCUPATIONS.

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Education, vocational

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GRADUATE COLLEGE

THE RELATIONSHIP OF SELECTED BIOGRAPHICAL AND PSYCHOMETRIC CHARACTERISTICS FOR DISADVANTAGED ADOLESCENT FEMALES TO SUCCESS IN A COMPENSATORY EDUCATION PROGRAM FOR OFFICE OCCUPATIONS

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

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BY

BOBBY JOE BROWN

Norman, Oklahoma

1973

THE RELATIONSHIP OF SELECTED BIOGRAPHICAL AND PSYCHOMETRIC CHARACTERISTICS FOR DISADVANTAGED ADOLESCENT FEMALES TO SUCCESS IN A COMPENSATORY EDUCATION PROGRAM FOR OFFICE OCCUPATIONS

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THE RELATIONSHIP OF SELECTED BIOGRAPHICAL AND PSYCHOMETRIC CHARACTERISTICS FOR DISADVANTAGED ADOLESCENT FEMALES TO SUCCESS IN A COMPENSATORY EDUCATION PROGRAM FOR OFFICE OCCUPATIONS

CHAPTER I

THE PROBLEM

Introduction

The advent of typewriting instruction during the 1870's was an important milestone in developing new opportunities for employment of women. Young women trained as "typewriters" began to appear in the offices of business and industry at an increasing rate. The number of women office employees has steadily increased from 8,500 in 1870 to more than 10.2 million in 1970. More women, 34 percent in 1970, were employed in clerical work than any other major occupational group.[1]

There were more than 13.6 million clerical workers, or 17 percent of the total work force, employed in 1970, with an anticipated growth to 17 million by 1980.[2] Because of this growth and the increased emphasis on

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[1] U.S., Department of Labor, Employment and Earnings, Vol. XVII, No. 3 (Washington, D.C.: Government Printing Office, September, 1970), pp. 42-43.

[2] U.S., Department of Labor, Manpower in the 1970's: Opportunity and Challenge (Washington, D.C.: Government Printing Office, 1969), p. 14.

hiring the unemployed and the underemployed, large numbers of disadvantaged young women are being prepared for careers in offices.

Background Information

In spite of the nation's prosperity and wealth, approximately 22 million Americans, 10 percent of all American families, are living in what are described as poverty conditions. This segment of the population is often characterized as the "low-income group," "disadvantaged," "poor," "culturally different," "culturally deprived," and "socio-economically handicapped." Regardless of the classification, they are often poorly prepared to compete effectively in either the dominant society or the modern labor market.

The poverty rates are higher in the rural areas for both white and non-white groups. In 1968, the percentage of persons in poverty in the metropolitan areas included 8 percent of whites and 27 percent of non-whites. These figures contrast with small town and rural areas in which 14 percent of whites and 55 percent of non-whites are living in poverty conditions.[1]

Of the 11.1 million low-income adults (ages 16-64) in 1970, 24 percent or 2.7 million were between 16 and 22 years of age. Sixty-eight percent of low-income adults had less than a high school education with 40 percent having less than an eighth-grade education, as compared to 34 and 15 percent respectively, in the total participating labor force.[2]

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[1] Ibid., p. 23.

[2] Bureau of National Affairs, Inc., Manpower Information Service, III, No. 10 (Washington, D.C., February 2, 1972), 289.

According to the United States Department of Labor, many of those below the poverty line are year-around, fully employed workers.

> In 1968, 1.4 million families with fully employed workers, had incomes below the poverty line.
>
> Out of every ten, seven were white, three were black.
>
> Half the adults had eight or fewer years of education.
>
> Sixty percent of all poor children live in families with fully employed workers.[1]

These data indicate the severity of underutilization of human resources.

Although deprivation should not be equated with specific groups, poverty rates were higher among the minorities, whether racially defined as in the case of Negroes and American Indians or socially defined as in the case of Mexican-Americans and Puerto Ricans. Poverty rates are highest among Indians on reservations.

The problem of unemployment and underemployment is more severe among youth. Youth employment problems that emerged during the decade of the fifties reached major proportions during the 1960's. The number of teenage youth entering the labor force increased from 2 million in 1960 to over 3 million by 1970. This impact of youth on the labor force was accompanied by an increase in the unemployment rate from 10 percent in 1960 to more than 13 percent by 1970. The overall unemployment for teenage youth was more than 12 percent in every year during the 1960's. This problem was compounded for minority youth, as the unemployment rate of teenage black and other minorities ranged from 24-30 percent, or about double that of white youth.[2]

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[1] U.S., Department of Labor, Manpower in the 1970's: Opportunity and Challenge, p. 23.

[2] Ibid., p. 4.

During the 1960's, the ratio of youth-adult unemployment rates progressively widened. In 1960, the youth unemployment rate was 3.3 times that of the adult. By 1970, the ratio increased to 5.5 times that of adult unemployment rates.[1]

Young minorities have continued to close the educational gap during the 1960's; however, the unemployment gap between whites and non-whites who leave high school has not closed. In 1960 the unemployment rate for non-white youth was double that of white youth. Nine years later (1969) the unemployment disparity between white and non-white youth had not changed.[2]

Minority youth are making occupational gains and a larger proportion are in the nation's offices; however, they continue to hold a disproportionate share of the office jobs. In 1970, 36 percent of white females were clerical workers compared to 20 percent of non-white females.[3]

One of the pressing problems of the 1970's is the need to increase the employability of disadvantaged youth. Employability can be improved by preparing disadvantaged youth to be more competitive for jobs. Adequate job opportunities will encourage and enable these young people to enter, make progress in, and form a stronger attachment to the labor force.

The disadvantaged population has often been associated with a history of low productivity. This characteristic is often due to various educational, social, economic, and cultural deterrents and thus creates special kinds of training and education problems.

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[1] Ibid., p. 5.

[2] Ibid., p. 7.

[3] Ibid., p. 43.

These young people are often subjected to social and economic environments that are significantly below the national norms. Among the factors that characterize disadvantaged individuals are:

> . . . (1) low annual income, (2) high rate of unemployment, (3) under-utilization of human resources, (4) poor housing, (5) poor sanitary conditions, (6) large families with inadequate living space, (7) excessive reliance on welfare, (8) inadequate education, and (9) attitudes of hopelessness.[1]

These conditions normally militate against normal growth and development.

When subjected to the school environment, these young people often bring with them all of the anxieties, frustrations, and hostilities that have been instilled in them since birth. These characteristics are often stimulated when exposed to an educational environment that is not designed for their special needs. Kemp lists the following nine educational characteristics that the disadvantaged youth share:

1. Low-level reading ability.
2. Limited formal vocabulary and poor speech construction and diction.
3. Relative slowness in performing intellectual tasks.
4. Poor health and poor health habits.
5. An anti-intellectual attitude.
6. Indifference to responsibility.
7. Non-purposeful activity, much of which is disruptive.
8. Limited experiences of the sort schools assume most of their students have had with their families; for instance, contact with social, cultural, and governmental institutions.
9. A failure syndrome resulting from apathy and lack of self-confidence.[2]

All of these negative factors are not present in every or even any one person. There appears, however, to be an accumulation of social and

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[1]Lester D. Crow, Walter I. Murray, and Hugh H. Smythe, Educating the Culturally Disadvantaged Child (New York: David McKay Company, Inc., 1966), p. 2.

[2]Barbara Kemp, The Youth We Haven't Served (Washington, D.C.: Government Printing Office, 1966), p. 6.

educational disabilities that tends initially to set low ceilings artificially for disadvantaged youth. Deutsch suggests that educational and social disabilities of disadvantaged children increase with age.

> . . . initially artificial, because as age increases it becomes more and more difficult for these children to develop compensatory mechanisms, to respond to special programs, or to make the psychological readjustments required to overcome the cumulative effects of their early deficits.[1]

This lag in achievement, as well as the poor performance on standardized tests, is often mistakenly interpreted as signifying lower-than-average ability. Bloom's[2] studies revealed that disadvantaged adolescents, upon entering high school, often have an academic achievement lag of three to four grade levels.

The emergence of the "War on Poverty" during the 1960's focused much attention on developing manpower education and training programs for disadvantaged individuals. These federally supported work programs and training programs were created by Congress to offer expanded opportunities for improving certain individuals' competitive position in the labor force. States and localities began to use the increased federal funding to strengthen existing programs and to create new administrative and fiscal arrangements to utilize the new resources fully.

According to Mangum and Levitan, the following two major developments combined to generate federal support for these programs:

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[1]Martin P. Deutsch, The Disadvantaged Child (New York: Holt, Rinehart and Winston, Inc., 1965), p. 55.

[2]Benjamin S. Bloom, Allison Davis, and Robert Hess, Compensatory Education for Cultural Deprivation (New York: Holt, Rinehart and Winston, Inc., 1965), p. 34.

> First was the sustained high level of unemployment experienced during the latter part of the 1950's and persisting into the mid-1960's. The second development and perhaps the more significant in the long-run, was the civil rights movement.[1]

The unemployment problem was attacked by stimulating the economy to provide more jobs, and eliminating some of the artificial barriers that were deterrents to many individuals competing for existing jobs. The civil rights movement began expanding from school integration activities to provisions for more training and more jobs.

These developments generated considerable attention to the development of training programs focused on two divergent manpower problems that characterized the American economy during the 1960's: (1) a shortage of highly trained, experienced professional and technical workers; and (2) the large number of disadvantaged citizens who lacked the education and skills necessary for sustained employment.

The federal government's intense commitment to manpower programs was demonstrated by the annual price tag of $3.39 billion in 1971,[2] a 50 percent increase over the $2.2 billion in 1968.[3] This commitment began with the Area Redevelopment Act that was followed by the Manpower Development and Training Act of 1962, the Vocational Education Act of 1963, and the Economic Opportunity Act of 1965. Each legislation was written and later amended with considerable emphasis on employment and employability of the disadvantaged and the unemployed.

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[1]Sar A. Levitan and Garth L. Mangum, Federal Training and Work Programs in the Sixties (Ann Arbor, Michigan: Institute of Labor and Industrial Relations, 1969), p. 6.

[2]Bureau of National Affairs, Inc., Manpower Information Service, p. 238.

[3]Levitan and Mangum, Federal Training and Work Programs in the Sixties, p. 3.

A careful examination of these programs revealed that in 1968 more than 32 categorical programs were involved with job training and related services. Most of these deal either directly or indirectly with the training of women for careers in offices. Major manpower programs supporting occupational training are sponsored by several federal departments. Programs sponsored by the Department of Health, Education and Welfare (HEW) include: Adult Basic Education (ABE), institutional training under the Manpower Development and Training Act (MDTA), Vocational Rehabilitation, the Vocational Education Act, and various health manpower training programs.

The United States Department of Labor programs include the administration or partial administration of such programs as the Work Incentive Program (WIN), Job Corps, Job Opportunities in the Business Sector (JOBS), Public Service Careers (PSC), Operation Mainstream, New Careers, as well as others designated for the unemployed and the underemployed. The Office of Economic Opportunity (OEO) administers the Neighborhood Youth Corps programs, the manpower programs within the Community Action Agencies (CAA), and various other experimental programs for disadvantaged individuals.

The Bureau of Indian Affairs (BIA), the Department of Transportation, the Department of Agriculture, the Department of Housing and Urban Affairs (HUD), and the Department of Interior sponsor manpower programs designed to assist the unemployed or underemployed. In 1971, manpower programs, excluding the programs under the Vocational Education Act of 1963 and other in-school occupational training programs, served 1.8 million adults. Thirty-six percent of the trainees were between 16 and 22 years of age. Female participation represented 46 percent of the total effort.[1] These activities were conducted by both the private and the public sectors.

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[1]Bureau of National Affairs, Inc., Manpower Information Service, p. 238.

The mission of these programs, as they relate to the training of the disadvantaged, is to improve the socio-economic, educational, and occupational levels of thousands of disadvantaged youth and adults. The manpower programs are designed for individuals 16 years of age and older.

Purpose of the Study

The problems associated with training and educating disadvantaged youth for office careers are many, and business educators are hampered because of inadequate methods of meeting their needs. Effective experience has indicated that the many significant variables involved include racial/ethnic origin, economic deprivation, sex, age, stability of home environment, academic achievement, and rural/urban background.

To date, research is inadequate concerning attempts to examine the relationship between academic achievement, aptitude, previous educational experience, racial/ethnic origin, chronological age, and rural/urban background of the disadvantaged adolescent female to success in a compensatory education program for careers in office occupations. The purpose of this study, through statistical comparisons of variables and multiple relationships among factors, was to provide evidence that may be of value in the counseling process, and in developing training activities that will be responsive to disadvantaged students' wants, interests, and needs.

Statement of the Problem

The problem of this study was to examine the relationship of selected biographical and psychometric characteristics of disadvantaged adolescent females to success in a compensatory education program for careers in office occupations. Specifically, the study attempted to measure, through statistical treatment, the relationships between (a) aptitude, (b) academic

achievement, (c) previous education, (d) chronological age, (e) racial/ethnic origin, and (f) rural/urban background to success in a compensatory education program for office occupations.

Limitations of the Study

The limitations of this study were:

1. The sample was drawn only from corpswomen who enrolled in the Business and Clerical Occupations training program at the Guthrie (Oklahoma) Job Corps Center for Women, during the period from April 12, 1967, through April 10, 1968. All subjects must have terminated from the Center before April 10, 1970.

2. Only corpswomen who initially enrolled and remained in the Business and Clerical Occupations training program during their tenure at the Center were considered in the sample.

3. Only those office job classifications offered at the Guthrie Job Corps Center for Women were considered.

Assumptions

This investigation was based upon the following assumptions:

1. Standardized tests tend to set low ceilings artifically for disadvantaged youth.

2. The information in the personal records of each subject was true and up-to-date.

3. Test administrators were capable and consistent in administering the test.

4. Students met the federal criteria for classification as disadvantaged.

5. The Business and Clerical Occupations training program curriculum was individualized and open-ended.

6. The instructors were capable and consistent in evaluating the students' success during training.

7. The students entering the Business and Clerical Occupations training program aspired to office careers at various levels.

Definition of Terms

For the purpose of this study the following operational definitions were used:

Compensatory Education--"A system of education which can prevent or overcome earlier deficiencies in the development of each individual."[1] The educational program at the Guthrie Job Corps Center for Women is compatible with this definition. The curriculum is designed to start the corpswomen at her functional level and allow her to progress at a rate commensurate with her abilities until the desired or prescribed objectives are achieved.

The curriculum is grouped into three components: (1) general education that includes mathematics, language arts, and science; (2) vocational education that provides the skill training; and (3) personal, social, and cultural education that provides activities for home and family living, avocational activities, fine arts, and counseling. Special education instructors are available for students with special needs.

Disadvantaged Adolescent Female--The identification given to all corpswomen enrolled at the Guthrie Job Corps Center for Women. All Job Corps enrollees were required to meet the Office of Economic Opportunity

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[1]Bloom, et al., Compensatory Education for Cultural Deprivation, p. 6.

definition of "disadvantaged." The economic criteria included an annual income of $3,000 or less for a family of four.

Rural Area--A community having 2,500 or less population.

Urban Area--A city having more than 2,500 population but less than 50,000.

Metropolitan Area--A city having more than 50,000 population.

Previous Educational Experience--The highest grade level attained by one in either a public or a private elementary or secondary school.

Aptitude--". . . a group of characteristics, native or acquired, deemed to be symptomatic of an individual's ability to acquire proficiency in a given area; examples might be a particular art, school subject, or vocational area."[1]

For this study, the following two scales were used to measure aptitude: (1) the General Learning Ability (G) measure, and (2) the Clerical Perception (Q) measure of the General Aptitude Test Battery (GATB).

Academic Achievement--The grade level equivalency that each corpswoman scored on the following subtests of the Stanford Achievement Test (SAT): Reading (paragraph meaning), Arithmetic (arithmetic computation), and Language.

Racial Origin--Applicable to Negro and Caucasian corpswomen.

Ethnic Origin--The identification given to corpswomen of Mexican-American origin.

Success--The identification given to corpswomen classified in Category I. Corpswomen classified in Categories II and III were identified as being unsuccessful.

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[1]Carter V. Good, ed., Dictionary of Education (New York: McGraw-Hill Book Company, 1959), p. 35.

1. Category I includes the corpswomen who successfully completed the requirements for graduation in the prescribed program and were recommended by a staff committee for graduation.

2. Category II includes the corpswomen who enrolled in Job Corps for more than 90 days but who did not complete the requirements for graduation.

3. Category III includes the corpswomen who dropped out of Job Corps within 90 days after enrollment and who did not graduate.

Hypotheses

Hypothesis 1--There is no significant difference between the training outcomes of Categories I, II, III and the corpswomen's aptitude.

Hypothesis 2--There is no significant difference between the training outcomes of Categories I, II, III and the corpswomen's academic achievement.

Hypothesis 3--There is no significant difference between the training outcomes of Categories I, II, III and the previous educational exposure of the corpswomen.

Hypothesis 4--There is no significant difference between the training outcomes of Categories I, II, III and the chronological age of the corpswomen.

Hypothesis 5--There is no significant difference between the training outcomes of Categories I, II, III and the racial/ethnic origin of the corpswomen.

Hypothesis 6--There is no significant difference between the training outcomes of Categories I, II, III and the rural/urban background of the corpswomen.

Sources of Data

The data for this study were obtained from the following sources: (1) the published and unpublished materials relating to educating disadvantaged youth, (2) the published and unpublished research projects

relating to the achievement of disadvantaged youth in compensatory education programs, and (3) the personal records of corpswomen enrolled at the Guthrie (Oklahoma) Job Corps Center for Women from April 12, 1967, through April 10, 1968.

Population

The population in this study was confined to a sample drawn only from corpswomen who enrolled in the Business and Clerical Occupations training program at the Guthrie (Oklahoma) Job Corps Center for Women, during the period from April 12, 1967, through April 10, 1968. The sample was comprised of 130 disadvantaged females between the ages of 16 and 21. The sample drawn from the population represented 15 states and 96 cities and towns. The local origin ranged from rural to large metropolitan areas.

All corpswomen were recruited for Job Corps by the State Employment Services and the Women in Community Services (WICS) organization. These groups were the only referral agencies approved by the Office of Economic Opportunity for recruiting Job Corps enrollees. Each enrollee was required to meet the Office of Economic Opportunity's criteria for being classified as disadvantaged.

The corpswomen in the sample were selected on the basis of the following criteria established for this study:

1. The enrollees must have selected the Business and Clerical Occupations cluster as their first choice.

2. All required data must have been available.

3. Enrollees must have remained in the Business and Clerical Occupations training program until termination from the Center.

Procedures Used in the Study

The General Aptitude Test Battery (GATB) and the Stanford Achievement Test (SAT) were administered by the counseling personnel within ten days after arrival at the Job Corps Center. Previous educational exposure, racial/ethnic origin, chronological age, and rural/urban background data were obtained from OEO Form No. 16, prepared by the recruiting group that had enlisted the corpswoman.

Each corpswoman's training outcome category was obtained from the Job Corps Termination Report. The report indicated the category in which the corpswoman was terminated. The category results were translated into success for corpswomen terminating as Category I's, and unsuccessful for corpswomen terminating as Categories II and III.

Analysis of variance statistical procedures for the parametric data and chi-square statistical procedures for the nonparametric data were used to analyze the data. Separate means and standard deviations were computed for each of the following continuous variables: (a) aptitude, (b) academic achievement, (c) previous education, and (d) chronological age. A simple, randomized, one-factor analysis of variance was computed from these data to determine the differences between means for each success or failure category. If the F-ratio was significant, t-tests for differences among the three means were computed. Chi-squares were applied to the trichotomous variables of (e) racial/ethnic origin and (f) rural/urban background. If the chi-square test was significant, the contingency coefficient was computed for an estimated degree of relationship.

Organization of the Study

Chapter I consists of the introduction, background information, purpose of the study, statement of the problem, limitations of the study, assumptions, definition of terms, hypotheses, sources of data, population, procedures used in the study and the organization of the study. Chapter II contains the review of literature. Chapter III discusses the Job Corps in general, and in particular, the training program at the Guthrie Center for Women. Chapter IV describes the design and the methodology of the study including the instruments used, data collecting procedure, and the statistical treatment. Chapter V contains the presentation of data. Chapter VI presents a summary of findings, conclusions, and recommendations.

CHAPTER II

RELATED RESEARCH AND INVESTIGATIONS

Introduction

In this chapter a review was made of the related research and investigations pertinent to this study. A search of the literature revealed no studies designed to measure the relationships of aptitude, academic achievement, previous educational exposure, chronological age, racial/ethnic origin, and rural/urban background of disadvantaged adolescent females to success in a compensatory education program for office occupations.

A review of the literature revealed evidence relating to the desirability and the need for instructional change in preparing disadvantaged youth for office employment. There is, however, a paucity of empirical research designed to measure objective data related to the areas of the guidance process, improvement of instruction, and curricular reorganization. A review of the business education prognostic studies revealed research designs limited to utilizing general population samples in traditional secondary and post-secondary educational institutions.

The reports of the investigations of predictive measurement variables most often measured success either on the basis of school grades or grade-point averages. Most business education prognostic studies measure predictive factors of success in business courses such as shorthand, bookkeeping,

and typewriting. Many prognostic studies in the area of business education indicate that there is a relationship between school-related variables and success, as measured by school grades. However, the literature revealed no studies that empirically measured the relationship of psychometric and biographical variables to success in office education programs as evidenced by completion at some level of office competency.

Because of the uniqueness of the educational program utilized in this study, the research and the investigations selected for review are analyzed in two sections. The first section deals with educational and psychometric research related to this study. The second section reviews the investigations related to the Job Corps population.

Prognostic Studies Related to Business Education

There is a national commitment to improving the educational and socio-economic level of thousands of disadvantaged young people. Business education can make a significant contribution to this effort by educating disadvantaged young women for office employment. The paucity of objective data related to the educational characteristics of these young people hinders educators in planning effective programs.

In 1965, Bailey[1] completed a study of 152 regular college females to measure the relationship of high school achievement, socio-economic status, level of aspiration, and intelligence to success in a college business curriculum. The success factor was determined on the basis of the grade-point averages for one semester of work.

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[1]Rubelia J. Bailey, "The Relationship of Educational Background, Socio-Economic Status, Level of Aspiration, and Intelligence to Success in Business Education," (unpublished Ed.D. dissertation, Temple University, 1964).

The findings indicate that high school achievement is a reasonably good indicator of college success for the lower socio-economic quartile. Also of interest was the finding that socio-economic status may be negatively related to I.Q. The investigator concluded that low socio-economic status may act as a depressant on achievement of high I.Q. individuals. The evidence indicated no appreciable difference in the achievement of high I.Q. individuals of low socio-economic status and individuals of high socio-economic status with lower I.Q.'s.

In 1966, Karp[1] reported on a study analyzing the aptitudes, abilities, and high school class rank and the relation of these factors to the academic success of first-year, private business school students. The findings of the seven-year study of 1250 subjects indicated that high school class rank was the best predictor of success in a private business school. Karp's findings, though not measuring the effects of socio-economic status, do support the conclusion by Bailey, that high school achievement may be a good predictor of success in post-secondary business education.

Differential aptitude testing has become increasingly popular with psychologists during the past twenty years. One of the more widely used is the General Aptitude Test Battery (GATB) developed and used by the employment service for employment counseling.

According to Droege,[2] there have been GATB longitudinal maturation studies to provide data on aptitude stability and maturation during the high

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[1]Robert E. Karp, "An Analysis of Aptitudes, Abilities, and High School Class Rank and Their Relation to the Academic Success of First-Year Private Business School Students," (unpublished Ed.D. dissertation, Northern Illinois University, 1966), cited in Dissertation Abstracts, p. 3289A.

[2]Robert C. Droege, "GATB Aptitude Intercorrelations of Ninth and Twelfth Graders--A Study in Organization of Mental Abilities," The Personnel and Guidance Journal, XLVI, No. 7 (March, 1968), 668-672.

school years. These studies have provided data on the validity of the GATB to predicting vocational success in selected high school areas.

Droege,[1] in 1968, reported on his study to determine the validity of the Specific Aptitude Test Battery (SATB) norms in predicting success in the Manpower Development Training (MDTA) programs. Included in the study were 287 females (mean age of 28) in a MDTA training program for Clerk-Stenographers.

The findings indicated that the operational test showed significant cross-reference validity of the SATB aptitude test for predicting success of stenographic trainees.

The MDTA population is similar in socio-economic status to the Job Corps population. Both programs are a part of the federal manpower training activities; however, at the time of the Droege study, not all MDTA trainees were disadvantaged.

In 1968, Sandmann[2] reported on the results of a study involving 2408 ninth-, tenth-, and eleventh-grade students enrolled in seven area vocational technical schools. The purpose of the study was to determine the usefulness of the GATB in predicting the student's probable success in vocational training. The findings indicated GATB validity in predicting success in vocational business education.

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[1]Robert C. Droege, "Validity of USES Aptitude Test Batteries for Predicting MDTA Training Success," The Personnel and Guidance Journal, XLVI, No. 10 (June, 1968), 984-88.

[2]Charles W. Sandmann, "An Evaluation of the General Aptitude Test Battery in Predicting Success in Area Vocational-Technical Centers," (unpublished Ed.D. dissertation, The University of Oklahoma, 1969).

Mathis[1] suggests that aptitude tests can have profoundly bad effects for disadvantaged individuals if scores are used to "screen out" applicants. In his study of the GATB, Mathis demonstrated that all nine GATB aptitudes were correlated with an index of previous environmental experiences. He suggests that aptitude tests are "strongly influenced by general prior experience as well as specific test experience."[2] He continues by stating:

> Culturally deprived applicants are especially handicapped in that they lack the general educational, environmental, and test-taking experience as well as the specific on-the-job experience.[3]

The GATB normative data are based on both worker and trainee samples; however, no evidence was found to suggest that the GATB was being used to screen disadvantaged individuals from training programs.

In summary, the studies reviewed had one common factor--all were measuring success in programs in which the learning time (semester) was static. All students were limited to the same time dimension.

The Bailey[4] and Karp[5] studies suggest that high school academic achievement is one of the better predictors of success in business education at the post high school level. The results indicated that high school academic achievement is positively related to success in business education for either the population groups or the lower socio-economic groups.

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[1]Harold I. Mathis, "The Disadvantaged and the Aptitude Barrier," The Personnel and Guidance Journal, XLVII, No. 5 (January, 1969), 467-72.

[2]Ibid., 468-69.

[3]Ibid., p. 469.

[4]Bailey, "Success in Business Education."

[5]Karp, "Success in Private Business School Students."

The studies of Droege[1] and Sandmann[2] suggest that the General Aptitude Test Battery (GATB) has validity in predicting success in selected areas of vocational office education for a general population group. Mathis,[3] however, questioned the validity of the GATB as an aptitude measure for the culturally disadvantaged population.

Job Corps Investigations

During the initial phases of the Job Corps program, numerous investigations were conducted regarding many aspects of the Job Corps program and population. These investigations were normally contracted to private research groups with demonstrated ability as research specialists. Several reviews of these investigations, related to the problem of this study, are presented.

The Education and Research Division, Morgan Press, Inc., analyzed the Job Corps GATB data to determine

1. The validity of the data.
2. The relationship to GATB normative data.
3. Corpsmember relationships, i.e., examination of data by Center Type, age, educational level, type of termination.
4. The relationship to Occupational Aptitude Pattern (OAP) structure used for job counseling and placement.
5. The capability of pre-training data to serve as a predictor of successful Job Corps experience.[4]

The data base consisted of 4,027 corpsmembers.

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[1]Droege, "Validity of USES in Predicting MDTA Success."

[2]Sandmann, "The GATB in Predicting Success in Vocations."

[3]Mathis, "The Disadvantaged and the Aptitude Barriers."

[4]Analysis of Job Corps GATB Data, OEO Contract 4100, quoted in A & R Report, No. 10 (Washington, D.C.: Evaluation and Research Branch, Plans and Evaluation Divisions, Plans and Program Directorate, Job Corps, Office of Economic Opportunity, July 10, 1968), pp. 138-39.

The findings indicated that, when the corpsmembers' aptitude scores were compared to GATB normative data, corpsmembers' scores were significantly below the general working population norms. An examination of the pre- and post-test aptitude scores of corpsmembers graduating from Job Corps indicated significant differences in certain aptitudes.

An analysis of the data to determine the effects of prior educational attainment is indicated in the following statement:

> . . . pre-test data demonstrated significant effects for 7 of the 9 aptitude scores which indicated that the greater the prior educational level achieved, the higher the aptitude scores. The post-test data on the other hand showed no significant effects by educational level suggesting that Job Corps experience served to improve the youth to the point where prior educational experience was no longer a factor.[1]

The preceding observation did not mention the possibility that test taking techniques could have been a factor in affecting test scores.

The pre-test data regarding age effects indicated that younger corpsmembers were more likely to achieve higher aptitude scores than the older corpsmembers. The fact that the post-test did show these differences, seems to support the theory that the Job Corps experience may be positive.

An examination of intercorrelation matrices of corpsmember aptitudes indicated homogeneity of the sample. The report of the investigation includes the following statement:

> The matrix structure suggests that the aptitude tests are measuring a single factor, highly correlative with intelligence, instead of 9 aptitudes. Since it is an open secret that intelligence measures are culturally bound, the question of the relevancy of the GATB was again indicated.[2]

The preceding statement, if valid, reinforces the theory that selected psychometric measures are culturally biased.

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[1] Ibid., pp. 141-42.

[2] Ibid., p. 142.

The investigation concluded that the GATB pre-test scores were not an adequate predictor of successful completion of a Job Corps program. The investigation also indicated that the value of the GATB for the Job Corps population was limited.

In 1967, Smith[1] reported on an investigation of the differences in ethnic learning styles of Job Corps youth. The study utilized the Job Corps sample as the experimental group and youth from two vocational high schools as the control group. The observations resulted in no discernible differences in learning styles between ethnic groups. The institution in which the learning takes place was reported as the contributing factor. The youths appeared to exhibit behavior directly related to the demands of the institutions and institutional personnel.

There were differences reported between corpsmembers from rural and urban areas. Corpsmembers from rural areas demonstrated greater difficulty in learning and in adjustment to Job Corps than those from urban areas. These differences extended over all forms of learning under all conditions observed. The urban youth appeared to be more aggressive in their behavior. This tendency was often cited by rural youth as a reason for dropping out of Job Corps.

In 1966, the Behavioral Technology Department, Westinghouse Corporation,[2] investigated the role of age as a variable in the educational

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[1] D. B. Smith, Differences in Ethnic Learning Styles, OEO Contract 1425, quoted in A & R Report, No. 7 (Washington, D.C.: Evaluation and Research Branch, Plans and Evaluation Divisions, Plans and Program Directorate, Job Corps, Office of Economic Opportunity, December 15, 1967, pp. 52-55.

[2] The Effect of Corpsman Age on Personal Adjustment and Program Effectiveness, OEO Contract 685, quoted in A & R Report, No. 7 (Washington, D.C.: Evaluation and Research Branch, Plans and Evaluation Divisions, Plans and Program Directorate, Job Corps, Office of Economic Opportunity, December 15, 1967), pp. 5-9.

development and personal adjustment of Corpsmembers. The results indicated that older corpsmembers showed more interest in previous school efforts than did younger corpsmembers. The older group indicated a preference for educational goals over vocational goals, while the younger group was more interested in vocational goals. The data indicated, however, that younger corpsmembers entered Job Corps with higher educational achievement levels (Stanford Achievement Test scores) than did older corpsmembers. The older corpsmembers demonstrated somewhat greater educational gains than did the younger corpsmembers, as measured by pre- and post-test SAT scores.

The racial attitudes toward education indicated that Negro corpsmembers appear more interested in educational activities than do white corpsmembers. Negro corpsmembers showed greater gains in educational achievement over the same period of time than did white corpsmembers. The greatest educational gains were achieved by older Negroes. These were the only relationships between age and race.

In summary, the investigations conducted with Job Corpsmembers reported findings of comparisons among the effects of aptitude, achievement, age, racial/ethnic origin, and rural/urban background and the Job Corps experience.

The Morgan Press, Inc.[1] study concluded that the General Aptitude Test Battery is not a good predictor of successful completion of a Job Corps program. The findings also indicated that corpsmembers' scores were significantly lower than the normative data.

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[1] Analysis of Job Corps GATB Data, OEO Contract 4100.

Smith[1] reports that learning styles of corpsmembers do not differ significantly among ethnic groups. He also concluded that rural youths are more likely to drop out due to the aggressive behavior of the urban youth, irrespective of ethnic origin.

The Westinghouse[2] study suggested that older corpsmembers are more interested in a total educational experience than just vocational training. The findings also reported that older youth show significantly greater educational gains than do younger corpswomen. The racial attitudes toward education indicated that older Negro corpsmembers are more interested in educational attainment than other groups.

Summary

The reports of research and selected investigations indicate a paucity of evidence directly related to the problem of this study. The reviews, however, do present evidence that will be helpful in the counseling process in office education programs for disadvantaged youth.

The research findings in the first section above, concerning prognostic studies in business education, suggested that high school achievement was the best predictor of success in business education at the post-secondary level. The selected Job Corps investigations neither confirmed nor rejected these findings.

The investigation by Morgan Press, Inc.,[3] on the validity of the GATB as a predictor of success in Job Corps appeared to support the Mathis[4]

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[1]Smith, Differences in Ethnic Learning Styles, OEO Contract 1425.

[2]The Effect of Corpsman Age on Personal Adjustment and Program Effectiveness, OEO Contract 685.

[3]Analysis of Job Corps GATB Data, OEO Contract 4100.

[4]Mathis, "The Disadvantaged and the Aptitude Barriers."

studies that suggest the GATB is not an adequate predictor of success for the culturally deprived. These findings were not necessarily in conflict with the findings of Droege[1] and Sandmann,[2] because the samples came from different populations.

These reviews confirm the need for additional empirical research to determine the relationship of selected psychometric and biographical information that might be related to the successful completion of disadvantaged adolescent females in a compensatory office education program. The problems in dealing with compensatory business education are many, and business educators are hampered by the lack of empirical research available.

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[1]Droege, "Validity of USES in Predicting MDTA Success."

[2]Sandmann, "The GATB in Predicting Success in Vocations."

CHAPTER III

THE JOB CORPS

Introduction

More than 20 federally financed programs are involved in supporting education and training programs to prepare disadvantaged youth for careers in the office occupations. The program activities observed by the writer ranged from a cursory approach to very complex and comprehensive programs. Theoretically, each program has different objectives and criteria for enrollment.

The primary reason for selecting the Job Corps for this study was program comprehensiveness. The broad scope of the Job Corps program is evidenced in the following purpose:

> . . . enrollees will participate in intensive programs of education, vocational training, work experience, counseling, and other activities, ... to become more responsible, employable, and productive citizens; and to do so in a way that contributes, where feasible, to the development of National, State, and community resources, ...[1]

The underlying assumption of the Job Corps mission is that many youth from impoverished backgrounds would respond better to compensatory education and training away from the home environment.

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[1] Economic Opportunity Act of 1964, as Amended, sec. 101, (1969).

More evidence of the comprehensiveness of the Job Corps approach is stated in the following program goals:

a. The minimum, specific vocational skill and knowledge needed at the entry level to a distinct job cluster.

b. The minimum, specific physical, emotional, social skill and knowledge in group and individual living needed to sustain her in an entry level job.

c. The minimum, specific academic skill and knowledge that directly meet the reading, writing, speaking, listening, and arithmetic needs of his entry level job.

d. And ideally, though secondarily, the broader and more generalizable vocational, social, and academic skill and knowledge needed for his future advancement and growth in his chosen occupation and as an individual.[1]

The program parameters established by the above goals can be isolated as potential determiners to assist in counseling and designing programs for disadvantaged youth.

Another reason for selecting a Job Corps Center is the depth of the Job Corps data bank. This factor permits most of the parameters associated with empirical investigation to be ascertained from the existing data bank. Further, where a paucity of data does exist, the data can generally be obtained since Job Corps is directly charged with obtaining all pertinent data.

Historical Background

The Job Corps is one of numerous programs identified with the "Great Society" efforts of President Johnson during the 1960's. An Anti-Poverty Bill was introduced in Congress during March, 1964. In August of

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[1] U.S., Office of Economic Opportunity, Job Corps Instructional Manual, JCH440.4 (Washington, D.C.: Government Printing Office, March, 1968), p. 2.

of the same year, the legislation emerged as the Economic Opportunity Act of 1964. The Office of Economic Opportunity (OEO) was organized as the administering agency for the new "War on Poverty" legislation. On October 8, 1964, as a part of the newly organized agency, Job Corps was organized.

In Title I of the multiprogram Economic Opportunity Act, the Job Corps was described as a residential training program for disadvantaged youth (ages 16 through 21). The first Job Corps Center opened at Camp Catoctin, a conservation center in a national park in Western Maryland. Thirty young men arrived at the Center on January 15, 1965, less than four months after the program came into existence.

The Job Corps was designed to serve youth with special needs resulting from a debilitating environment and educational deficiencies. These youth often find themselves at a competitive disadvantage in the nation's job market.

Types of Centers

The Job Corps escalated its rehabilitation efforts by designing guidelines for three types of Centers. They were identified as Men's Conservation Centers, Men's Urban Centers, and Women's Urban Centers.

Conservation Centers

The Conservation Centers are managed by the U.S. Forest Service and National Park Service of the Department of Interior. The corpsmen do conservation work and often acquire marketable skills in one or more of the following occupational areas: building trades, road construction, heavy equipment, landscaping, and various other skills related to the construction, forestry and transportation industries. Initially most of

the skill training was on the job in connection with improvements and maintenance of federal recreational and conservation reserves. The work program is complemented by basic education, social activities, and cultural experiences. Provisions are made for personal, physical, and emotional needs. Corpsmen could request a transfer to an urban center when they felt that they could profit from the education and training program.

Urban Centers

The urban centers, both men's and women's, are designed specifically for education and occupational training. The urban centers normally accommodate more corpsmembers than the conservation centers and are located either in or near urban areas. Another difference is the type of contractor chosen to administer the individual urban Centers. Levitan reports, "In May, 1967, universities or nonprofit organizations operated only seven of the 28 urban Centers."[1] Private contractors have included some of the most prominent names in "blue-chip" corporations such as Burroughs Corporation, General Electric Company, Radio Corporation of America (RCA), Philco-Ford Corporation, Litton Industries, Thiokol Chemical Corporation, and International Business Machines Corporation (IBM).[2]

The Office of Economic Opportunity (OEO) was receptive to corporate interest in this new educational market. Levitan states, ". . . it gave the Job Corps and the rest of the war on poverty an image of respectability and acceptance by the business community."[3] Private industry's involvement

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[1]Levitan and Mangum, Federal Training and Work Programs in the Sixties, pp. 170-71.

[2]Sar A. Levitan, The Great Society's Poor Law (Baltimore: The John Hopkins Press, 1969), p. 279.

[3]Ibid.

was obviously motivated by profit. Under OEO's cost-plus-fixed-fees (CPFF) contract regulations, the profits are smaller than that generally expected from investments by the private sector. Normally the CPFF contract stipulated a 4.7 percent profit as compared with industry's average of 6 percent profit on defense contracts.

Emphasis on Enrollment of Women

The efforts of Congresswoman Edith Green resulted in a 1966 amendment to the Act calling for an increase in female enrollment to 23 percent of the total Job Corps population. Again in 1968 Congress instructed OEO to expand female enrollment to 50 percent of the total population. The equalization of enrollment forced OEO to close 16 men's centers and convert one to a women's center to meet budgetary limitations. In May, 1968, there were 18 women's centers with an enrollment of 9,200 corpswomen out of the total enrollment of 32,954.[1]

There is no evidence that indicates efforts to "cream" applicants. The Job Corps welcomed all eligible applicants as evidenced by the heterogeneity of the population regarding race, educational achievement, age, and other biographic and demographic characteristics.

On July 1, 1969, the operation of Job Corps was transferred from OEO to the U.S. Department of Labor. The intent of Congress was to shift OEO programs to permanent agencies for operation.

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[1] Ibid.

Guthrie (Oklahoma) Job Corps Center for Women

The Guthrie, Oklahoma Center is in the seventh year of operation as a residential education and occupational training center for disadvantaged young women. The Tech Rep Division of the Philco-Ford Corporation was awarded a contract by the Office of Economic Opportunity on March 31, 1966 to operate the Center. Philco-Ford Corporation has operated the Center continuously from 1966 to present (1973). The success of the Guthrie Center is evidenced by the tenure of continuous operation. In 1972, there were only 11 women's centers operating as compared to 28 in 1968.

The Center is located two miles west of Guthrie, Oklahoma, a community of 10,000 people, 35 miles north of Oklahoma City. The buildings for 75 years housed a Roman Catholic school for girls, operated and owned by the Benedict Order of Catholic Nuns. In 1966, the citizens of Guthrie voted by a majority of more than 80 percent of the popular vote to purchase the 308-acre site. The property was then updated and leased back to Philco-Ford Corporation for the operation of the Center.

The Center facilities were designed to accommodate 425 corpswomen. In 1968, Philco-Ford was authorized to expand enrollment to 600 corpswomen.

On October 20, 1966, the first 76 enrollees arrived at the Center. At that time, the Guthrie Center was the only such facility owned by the host city.

Education and Training Program

The program of the Guthrie Job Corps Center is organized into a complex, 24-hour-per-day activity. An attempt is made to articulate each

component of the total program. The complexity is further complicated by the diverse backgrounds of the corpswomen and the biweekly input of enrollees.

In response to the mission and the goals of Women's Urban Job Corps Centers, the Tech Rep Division of the Philco-Ford Corporation proposed the following objectives:

1. To receive the incoming young women and to administer immediately to their basic needs in a manner which will minimize their qualms and enhance the development of a positive, comfortable attitude toward their new life in the Center.

2. To provide a comprehensive 24-hour-per-day program which will instill in the Corpswomen, through its integration, an understanding of the interrelationships of home, family, vocation, education, social life, and cultural growth in life outside the Center.

3. To furnish counseling and guidance throughout the Corpswoman's stay at the Center. Counseling and guidance will, at first, be directed toward assuring the young woman's adjustment to her new environment. As she becomes increasingly self-sufficient emotionally, additional counseling and guidance will be directed toward assisting her to prepare for placement after her stay at the Center is completed.

4. To assist the Corpswoman, through planned exploration, to make a realistic evaluation of her interests, aptitudes, and abilities, so that appropriate choices of educational and vocational activities at the Center can be made. Such periodic evaluations can serve as a yardstick for determining the progress of the individual Corpswoman and the over-all effectiveness of the Center program.

5. To provide, through student government and other student-led activities in the Center, the vital experience of performing a useful and responsible role as a member of the Center community.

6. To furnish, using the most effective instructional techniques available, the best possible pattern of basic education and vocational training for each corpswoman.

7. To make available the best possible pattern of general education and vocational training for each corpswoman making use of the most effective instructional techniques available.

8. To develop, through Center activities and Center community relations, a sense of belonging which is fundamental to a young woman's self-concept as a worthwhile, desirable member of her society.[1]

These goals are transformed into a comprehensive program of Center activities and functions.

Trainee (Corpswomen)

The development of a comprehensive training program for disadvantaged young women should be accompanied by some knowledge of the target population characteristics. Recognizing that the target group exhibits great individual differences, the following generalizations are considered.

Most enrollees are school dropouts, and even more of them function at a level below their grade attainment. In 1967, 55 percent of the 425 Guthrie trainees read below the sixth-grade level.[2] Many of the remaining 45 percent reading at the sixth-grade level and above, increased their level while at the Center.

The population is relatively non-verbal. Many have limited formal vocabulary, poor speech patterns, and marginal diction. Others are bilingual with identifiable colloquialisms noticeable. These language patterns often militate against their becoming effective office workers.

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[1]Philco-Ford Corporation, "A Proposal for Continuing Operation of the Guthrie Job Corps Center for Women" (a proposal to the Office of Economic Opportunity for continuing operation of the Guthrie Job Corps Center for Women located in Guthrie, Oklahoma, Ft. Washington, Pa., 1967), pp. 4-A-1,2.

[2]Ibid.

Many corpswomen have the normal emotional problems of adolescents, as well as others resulting from a debilitating environment. Many have experienced discrimination and segregation with resulting feelings of hostility, humiliation, inferiority, and self-doubt that impaired their self-esteem and self-development.

The corpswomen's learning styles are generally oriented to the concrete and the practical, rather than the theoretical and the abstract. Most have limited experience in identifying their aptitudes, wants, interests, and needs. They often gravitate to "white collar" and "status" occupations with little regard for realistic career planning.

Many trainees arrive at the Center afflicted with severe health and dental problems. Often these problems resulted from years of neglect and poor nutrition. Frequently more than 50 percent of the entering groups had never received preventive health and dental care.

Program Concerns

The corpswomen are referred from a wide geographic area. In December of 1967, corpswomen represented more than 30 states. Many come from large urban ghettos, others from impoverished rural areas, Indian Reservations and the Hawaiian Islands. The geographic disparity raises questions in planning training standards for corpswomen from such a divergent labor market area.

Recruiters refer from 20 to 80 corpswomen to the Center biweekly. In addition to new referrals, individual curriculum changes complicate a daily scheduling routine. This unique open-entry enrollment practice creates many organizational challenges. Design problems include the following:

1. Not knowing the number of entering corpswomen interested in each of the five occupational clusters.

2. Not knowing the number of entering corpswomen needing developmental programs for severe educational deficiencies.

3. The designing of a flexible scheduling system that will respond to each corpswoman individually.

4. The integration of all components of a comprehensive program.

5. The licensure reciprocity among states.

6. The refinement of correlated instructional techniques.

These items are not intended as an exhaustive list of program concerns. They are intended to demonstrate some of the variables that are recognized in the continuous development of the Center program. Theoretically, the goal of the Center is to design a program that will respond to each corpswoman as an individual with her own set of unique circumstances.

Organization

The education and training program is divided into the following two major functions under the administration of a Center Director: (1) in the Administrative function, the Divisions of Personnel Services, Business Services, and Logistics Services; and (2) in the Program function, the Divisions of Registrar and Placement, Student Services, and Education.

Administrative Function

The administrative services are responsible for corpswomen's ancillary services. Among the services are financial accounting, arrangements for annual and emergency leave, Center enrollment, termination

procedures, clothing and monthly allowances, Center food service, transportation, Center maintenance, housekeeping, procurement, property accounting, and various other logistical services.

Program Function

The program services are responsible for education, student services, health services, socio-cultural activities, and resident living. The design is an integrated approach to programming that includes the various service areas and Center personnel. The Center proposal reflects the integrated approach in the following statement:

> Flexibility adaptability in the administrative process brings Center programs together in a smooth-flowing integrative pattern. This process brings Associate Directors of respective areas together to plan, promulgate, and shape the overall direction and relationship of programs under the supervision of the Director of programs.[1]

Interdepartmental planning and interaction is a prime function to accomplish program integration.

Registrar and Placement Office.--This office is responsible for scheduling, records and reports, work experience, and job placement. The scheduling section prepares the individual class schedules for each corpswoman. The records and reports section is responsible for the accumulation, storage and retrieval of all corpswomen data.

The work experience and placement functions are among the more salient features of the Center program. All corpswomen culminate their training program with a full-time period of six to eight weeks of work experience in the occupation(s) for which they were trained. The placement personnel coordinate the placement of each corpswoman in an acceptable job after graduation from the Center. Direct job development and placement are

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[1] Ibid., p. 4-D-9.

provided graduates desiring to stay in the Oklahoma City area. Those relocating out of state are referred to the appropriate State Employment Office.

The Student Services Office.--Student services are administered by the Associate Director for Student Services. To carry out this aspect of the program, the following four sections are organized: (1) Guidance and Counseling, (2) Center Health Services, (3) Residential Living, and (4) the Personal, Social, and Cultural (PSC) Program.

The Counseling and Guidance program is staffed with counselors trained to work with disadvantaged young women. The primary goal of the program is

> . . . to assist each Corpswoman/enrollee in making effective adjustments to the environment in which she lives. This aim is related to the development of positive personal attitudes, effective interpersonal skills, and constructive patterns of behavior.[1]

The counseling begins immediately upon the corpswoman's arrival at the Center. During the first or second day at the Center, each corpswoman is scheduled for an interview with her assigned counselor.

Personal guidance is clustered into these four broad areas: health, social, recreational, and ethical. Health guidance services are related to observing behavior that is symptomatic of poor physical and/or mental health. When necessary, referrals are made to the Center physician. Social guidance includes observation of noticeable behavior that might depict a need for social recognition. Recreational guidance "is served by clubs and activities, and wise assistance from counselors to help the corpswoman/enrollee find needed recreational activities."[2] Ethical guidance relates to the moral and spiritual values consistent with contemporary social values.

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[1] Ibid., p. 4-E-1. [2] Ibid., p. 4-E-2.

The main areas of educational guidance include appraisal of educational and career goals, achievement and aptitude assessment, motivation, and acquisition of realistic vocational goals. The need for vocational guidance was observed in the corpswoman's concern for occupational information. The Corpswomen have limited knowledge about themselves in relation to the world of work and the variety of job options available to them.

The Center medical program is staffed with a full-time physician, a dentist, and a staff of Registered Nurses at the Center Infirmary. Physical examinations are given each corpswoman upon her arrival at the Center. Preventive and emergency medical care is provided throughout the corpswoman's stay at the Center. Dental care includes emergency, preventive, and asthetic dental work. Appliances are provided when necessary.

The mission of the Personal, Social, Cultural (PSC) Program is to assist in the total development of the corpswoman. The program is designed to provide activities for successful and meaningful learning experiences of personal development, social confidence, and cultural enrichment.

> The program is designed to be meaningful and reflective of the needs and interests of today's young women, and is related to and coordinated with other departments on the Center to ensure the optimum growth of the Corpswoman and all aspects of educational, physical, cultural, emotional and social development.[1]

Included in the PSC program are recreational activities, student government, cultural tours, music and drama activities, and clubs. Additional activities included lectures, movies, talent shows, fashion shows, ethnic history and folklore, and a host of other appropriate experiences as situations demand.

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[1] Ibid., p. 4-N-2.

The Residential Living Program provides the nucleus of the out-of-classroom developmental experiences of the corpswomen. The dormitory is the temporary home for the young women. The program provided the environment and the structure for group living designed to facilitate desirable individual development.

General and Vocational Education

The General and Vocational Education Program is predicated upon an understanding of the characteristics of the target population. On the basis of the stated population characteristics (listed earlier in this chapter) and the special educational problems of the corpswomen, the Center formulated the following perspectives:

1. To provide realistic training which has practical relevance to the girls, both in the present, and in the future.

2. To evaluate thoroughly the learning problems each presents, so that programs can be individually tailored to start at the enrollee's entering level, and lead her step-by-step to the level she must achieve to operate effectively as a worker and home-maker.

3. To emphasize learning through actual concrete experience rather than learning by lecture, or other primarily verbal technique.

4. To provide, from the start, a series of success experiences to enable each student to gain a new pleasure from, and confidence in, her learning ability.

5. To place the responsibility for helping each student to learn upon the Center itself, and to recommend transfer or dismissal only when all reasonable attempts have been made to provide special attention for her needs.

6. To treat emotional problems, problems of discipline, and problems of social adjustment as part of the total learning problem with which the Center must deal, and to utilize the total learning environment to help the young woman benefit from her failures and mistakes.

7. To help the young woman to perceive alternatives so she may gain experience in making responsible choices and learn from the consequences of her acts.

8. To give as much responsibility and freedom as each Corpswoman demonstrates she can effectively handle, consistent with sound operating policy.[1]

To implement these operating perspectives and to transform them from the theoretical to the actual, two instructional divisions were organized--the General Education Division and the Vocational Education Division.

The core of the educational program is the vocational training. The program designers felt that the learning of job skills is relatively easy for the disadvantaged young woman to value. The theory that vocational training can help create a desire for learning the basic foundational skills, is practiced by the method of "Vocationally Correlated Team Teaching." Vocational and general education instructors plan together in an effort to correlate the general education to vocational education. Reciprocally, the vocational instructors attempt to establish utility for the basic education skills. This relationship is illustrated in the following statement of accomplishment:

> Vocational Education instructors visit specific General Education classes, confer with instructors, interact personally with them, and develop close interpersonal, intertraining, and interdepartmental relationships based on apparent needs of Corpswomen. As an example, in Business Education, the Vocational Education instructors channel common error expressions, typing punctuation, and other errors to General Education instructors and, in most cases, a team teaching pattern develops, both vertically and horizontally.[2]

This correlated instructional strategy is defined as the "Functional-Integrated Method of Instruction." The system is functional in that each educational experience can be identified by the corpswoman as having some utilitarian value; the system is integrated in that each component is reinforced by the other through correlating instruction.

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[1] Ibid., p. 4-D-2,3.

[2] Ibid., p. 4-D-9.

Scheduling

The instructional design called for a flexible scheduling procedure, one that could respond to time and individual needs. The scheduling effort is labeled "Modified-Modular-Flexible-Scheduling." The scheduling procedure attempts to provide for individual differences in achievement, ability, and time.

Individual program emphasis is placed on the following principles germane to individualized master scheduling:

1. Vocational area training becomes the time fix for individual students and groups.
2. General education courses assume a prime lead and at the same time a supportive, reinforcive role.
3. Individualization of schedule then permits each young lady to begin where she is and progress at her own rate as rapidly and proficiently as motivation and learning increases.[1]

The pervading philosophy is to make the schedule work for the individual rather than the individual for the schedule.

The scope of the scheduled curriculum embodied vocational, general, and family life education. The time dimension is 50-minute time modules with a ten-minute interval between every two time modules. The range of the scheduled day was 8:00 a.m. to 5:00 p.m.

To maximize flexibility, all courses were reduced to small manageable units of instruction. This technique was described as "unitizing" the curriculum. The individual schedule could then respond more specifically to the corpswoman's achievement level.

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[1]Joe T. Walker, "The Evolvement and Implementation of a Flexible Curriculum within the Framework of a Resident Program such as Job Corps" (unpublished individual study, University of Oklahoma, 1968), p. 8.

Initially, all corpswomen are scheduled into vocational, general, and family life education. The vocational clusters are offered in blocks of time ranging from two to eight modules. As each corpswoman achieves the prescribed competencies in general and family life education, she may increase her time in the vocational cluster. To illustrate: a corpswoman enrolled in the Business and Clerical cluster for four modules daily can be programmed up to a maximum of eight modules as the need for general education decreases.

Career Selection

One of the more important aspects of the Guthrie Job Corps is a realistic selection of a career objective by each corpswoman. This is illustrated in the following statement:

> Enrollees are scheduled into every vocational program on an orientation basis. Testing and individual counseling is utilized to help the enrollee in making a wise and realistic vocational choice, considering her abilities, aptitudes, and interest.[1]

Much of a six- to eight-day orientation period is devoted to assessment, counseling, and career information for each corpswoman.

Observations have shown that deficiencies indicated on test scores may be functional achievement lags, not weakness in innate ability. Upon entering the Center program, some corpswomen show dramatic progress in educational gains as opposed to the test prognosis indicating marginal ability. Every effort is made to neutralize the potential of biased test scores. Generally, corpswomen are allowed to pursue training in their first career choice. Sometimes, however, a recommendation is made that a corpswoman investigate an alternate career objective. Alternate career

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[1]Philco-Ford Corporation, "A Proposal for Continuing Operation of the Guthrie Job Corps Center for Women," p. 4-D-26.

objectives are recommended when success potential is interpreted as marginal. The labor market data for the area in which the corpswoman plans to live is another reason for reconsideration of career choice. For example, if a corpswoman is 21 years of age and a high school graduate, a degree of maturity and educational exposure can be assumed. If the gap between achievement and exposure is several grades, the committee presumes that there is only marginal potential in the more sophisticated programs.

Often, marginal cases are allowed to pursue their selected career objectives for a probationary period of 30 to 60 days after entering the cluster. Corpswomen in this status are observed closely and their progress referred, on 30-day intervals, to a staffing committee. If satisfactory progress is observed, the corpswoman is allowed to pursue her objective. If the Committee interprets her chances for success as decreasing, an alternate objective is recommended. The corpswomen are permitted to change career objectives within 60 days after entering the program.

General Education

The General Education program was first designed and organized to provide two distinct services.

> General education first serves as a supportive instrument to vocational training. The second service is to orient and train Corpswomen for meaningful, active, responsible participation in community life within the framework of a democratic society.[1]

The curriculum areas in general education included Communicative Skills, Mathematics, Science for Living, Social Science, Physical and Health Education, High School Equivalency, Home and Family Life Education, Driver

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[1] Ibid., p. 4-D-3.

Education, and Avocational Education. These curricula areas support and interact with the total Center program, yet remain unique in content and methods.

A phasing system was developed to compensate for the differences in a corpswoman's educational background in the language arts. The phasing system enhances program flexibility and is based on the functional level of the corpswoman as determined by the language section of the Stanford Achievement Test. There are five phase levels ranging from Phase I (non-reader to third-grade level) through Phase V (ninth-grade level and above).

The other curricula in general education are also unique. An example is Science for Living in which corpswomen are scheduled according to their vocational objectives. Science is considered an "exposure" area, in that no specific performance standards are required.

The Social Science segment supports vocational training by teaching one's relationship to work and the community. In this segment, an attempt is made to educate the corpswoman about herself and the world in which she lives. Specialized instruction is available for those preparing for the General Education Development (GED) examination.

The Home and Family Life segment includes an introduction to many aspects of life. How to be a working mother, introduction to the world of work, community resources, human relations, and consumer education are among the units of instruction. Still other areas include units related to personal grooming, foods, clothing, child care, family management, personality development, and sex education. Each corpswoman is required to take this segment of the Center program.

Included in the Physical and Health Education segment are the following goals:

> The unique functions of the department are to provide an understanding of healthful living practices, achievement of physical skills and optimum fitness through participation in physical education activities, and the development of recreational skills and interest for the wholesome use of leisure time.[1]

Some conditions allow waiving portions of physical education.

The mathematics program is designed to respond to the functional achievement levels of each corpswoman by utilizing graded materials. Each corpswoman remains in mathematics until she achieves at a level commensurate with her vocational objective and an adequate competency for personal use. Specialized instruction is available for Corpswomen desiring a more sophisticated level of mathematics, as well as those preparing for the GED examination.

The avocational activities consist of the following segments: Expressive and Creative Arts and Crafts, Music, and Speech and Drama. There are numerous optional activities within each area which are available to each corpswoman based on her individual interest.

Driver Education is organized as a service to the corpswomen. The classroom portion is offered during the regular education week with driving practice conducted on Saturdays. Each corpswoman may take the State Driver's License Test.

Vocational Education

The major function of the Job Corps program is to improve the employability skills of disadvantaged youth. The Guthrie Center declares this objective as follows:

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[1] Ibid., p. 4-F-3.

> One of the Major purposes of this Center is to provide an environment suitable to the acquisition of an employable skill. An employable skill encompasses not only the ability to perform a specific work task, but also includes the positive reaction to life which allows the Corpswomen to be employed in the occupation in which they have received training.[1]

The Vocational Education program provides each corpswoman an opportunity to preview the offerings in each vocational cluster. The training, work environment, job characteristics, and the industry as a whole are discussed in relationship to each vocational cluster.

An extensive search of the manpower supply and demand data resulted in ascertaining the five occupational areas having the highest demand for women employees. The demand information was coupled with corpswomen's interest in selecting the training options offered at the Center.

The five occupational training clusters offered at the Center are as follows: (1) Business/Clerical; (2) Health Occupations, (3) Cosmetology, (4) Electronics Assembly, and (5) Graphic Arts (drafting, lithography, commercial art).

The curriculum of the five occupational clusters is organized as a graded program with varying entry levels . . . "based on the Corpswoman's prior aptitude and existing knowledge, and allows for different exit levels starting with a minimum employable skill and progressing to a more complex skill."[2]

Primarily, the training is designed for entry level occupations. If a corpswoman has the aptitude, interest, ability, and time to progress beyond the entry level, the program has sufficient flexibility to provide this option. Realistic, attainable levels of job training are the basis for the philosophy that permeates the total Center program.

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[1] Ibid., p. 4-D-16. [2] Ibid.

The major concern of this study is specifically with the Business and Clerical training cluster. The program is described in the next section and, in general, is representative of the overall Vocational Education program design and organization.

Business and Clerical Occupations Department

The services of the Business and Clerical Occupations (B/C) Department are congruous with the overall mission of the Center program. "The primary function of the Business and Clerical Occupations Department is to train and qualify the Corpswomen for immediate entry into business employment."[1] Employment information and corpswoman interest are coupled to identify the specific training objectives within the occupational cluster. Employment outlook is evidenced by the supply and demand information discussed in Chapter I. The evidence of corpswoman interest is confirmed by the number selecting office occupations as their career goals. In 1967, from 30 to 40 percent of the total Center population (140 to 175 corpswomen) were enrolled in the B/C cluster.

Design

Corpswomen entering the B/C cluster are scheduled into the appropriate units of instruction. At selected time intervals the corpswomen are scheduled into on-site work experience activities. This technique is used to begin the gradual transition from the artificial setting of the laboratory to actual on-the-job experience. All corpswomen culminate their training program with a full-time, six- to eight-weeks of off-site work experience under the supervision of a participating employer. Most of the off-site work experiences are in Oklahoma City offices.

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[1] Ibid., p. 4-D-18.

Content Sequencing.--The content sequence is organized into the following three levels to accommodate the open-ended curriculum and scheduling procedure: (1) The program is sequenced on a hierarchy of related jobs within the office education career field. (2) A general sequence is based on a reciprocal/unit structure. (3) A more specific sequence is derived from the learning structure. The three sequence patterns progress simultaneously within a competency-based system.

Hierarchy Sequencing.--The overall sequence of the training program is based on a hierarchy of job training objectives within the career cluster. The curriculum is designed as an articulated program progressing from the lower level training objectives to the more sophisticated. The lowest level is learned first, then the next higher, and so on, up the ladder with each rung being a clearly delineated, marketable occupational skill. Every effort is made to encourage corpswomen to pursue skills beyond the lower range of the hierarchy. Many of the lower skilled occupations are less marketable because of marginal demand. However, the lower end of the continuum serves two groups; viz., those unable to achieve at higher levels and those with limited time to pursue training.

By organizing the office education curriculum for one or more distinct training objectives at a time, the corpswoman has a clearly visible goal immediately ahead. Moreover, that goal is an identifiable marketable skill. Even if she is unable to complete the entire curriculum, she has a marketable skill upon completion of any one training objective. This arrangement reduces the curriculum into short-range goals that appear to be more manageable by disadvantaged youth.

The hierarchical sequence also responds to the heterogeneity of the population by allowing confirmation of entry skills and knowledges. The curriculum design allows the corpswoman to confirm her point of entry within the hierarchy of occupations. The beginning point is determined by competency confirmation, rather than previous exposure. In effect, this permits upgrading of any pre-existing job skills and thus makes the system more efficient. Thus a corpswoman entering the program with clerk-typist experience but aspiring to become a stenographer may confirm her pre-existing skills and pursue competency only in the remaining areas needed to become a stenographer.

Reciprocal/Unit Sequencing.--The reciprocal/unit sequence is interactive with the job hierarchical sequence. A common core of units is ascertained as desirable for all occupational training objectives within the cluster. Each common unit has reciprocity with one or more training objectives.

The Center staff identified specific units in typewriting, recordkeeping, filing, office machines, business mathematics, business English and office procedures as being common requirements for each training objective within the B/C cluster. In addition to the reciprocal units, specialized units have been developed. These include the areas of shorthand, keypunch, varityper, offset duplication, and so forth. Specialized areas are constantly subject to either expansion or contraction as determined by corpswoman and labor market demand.

Each curricular area is reduced to smaller units of instruction for greater flexibility in scheduling. The smaller units are more manageable and manipulative in developing individually prescribed training programs. For example, Bookkeeping was reduced to Recordkeeping I, II,

III, and IV; Filing I and II; Typewriting I, II, and III, and so on, with each curricular area. These modulations enhance the program designer's effort to eliminate realistically the extraneous elements of individual programs. To illustrate this technique--a training objective leading to a hand bookkeeper would require competency in all four levels of record-keeping, whereas a clerk typist would need competency in only two levels. Each major segment of the reciprocal units is similarly modulated. Reciprocal/unit sequencing allows the corpswoman to delay selection of specific training objectives until she is relatively secure in her career decision.

Learning Structure Sequencing.--The more specific learning structure sequence is plotted by "working backward" from each training objective to determine each subsequent prerequisite capability--from higher-level training objectives back to the supporting units, then to each task or element. An analysis of office job functions is interpreted into a logical and psychological learning sequence. The Center staff constantly modifies existing curriculum materials to keep them representative of the elements needed for successful employment.

The learning structure sequence was organized to progress in an articulated "step-by-step," "simple to complex" sequence in each curricular unit. Unnecessary repetition was reduced by organizing the curriculum into functional units. An illustration is: by integrating the business machines, business mathematics, and recordkeeping units--duplication and repetition was reduced. The psychological principle of reinforcement was applied in the construction of the curriculum. For example, filing is taught in Phase I and reinforced in Phases II and V.

Phasing System.--The three sequencing principles are unified into one curriculum strategy. The curriculum is organized into sixteen week cycles. All units of instruction for which there is demand are taught a minimum of one time during each cycle. Selected units are taught continuously. Included are all levels of typewriting, shorthand, office practice, and Recordkeeping I and II. Demand is the constant factor that influences the frequency of cycled unit offerings.

The cycles are organized into six progressive phases with five options requiring specialized instruction; viz., shorthand, offset duplication, keypunch, and varityping. The Phase I curriculum is required of all training objectives.

As each corpswoman enters the business and clerical cluster, she begins to specialize with each succeeding phase level. Phase I is a core curriculum required of all training objectives. A corpswoman completing all units in Phase I has two options: she may either progress to Phase II or enter a special phaseout schedule designed to complete the requirements for graduation as an office aide or file clerk. The phase-out schedule includes Phases IV and VI. Phase IV consists of part-time, on-site work experience, coupled with selected experiences needed to overcome recognized deficiencies. Completion of Phase IV is followed by Phase VI, which is a culminating phase designed to review her acquired skills and knowledges. During this phase her total Center performance is reviewed by the Staffing Committee. If she receives a favorable recommendation she is referred to the work experience supervisor for placement on off-site work experience.

All work experience is for six to eight weeks in an office under the supervision of a cooperating employer. The work experience has these

objectives: (1) to provide a full-time experience for each corpswoman in the work environment under the supervision of an employer in a productive role; (2) to evaluate the corpswoman's behavior in the areas of productivity and her affective skills; and (3) to provide feedback to the training system as to the content of the curriculum.

The same process is applicable following Phases II, III, and the specialized phases: A (Duplicating), B (Keypunch), C (Accounting Clerk), D (Varitypist), and E (Stenography).

Trainee (Corpswoman) Flow.--Operationally, each corpswoman entering the cluster is assigned a vocational adviser from the department. The adviser receives a profile sheet on each advisee with pertinent information to be used in planning the corpswoman's vocational program. Upon entering each unit, the corpswoman is pretested to determine her level of competency. If the corpswoman passes the pretest, her adviser records the competency and the corpswoman is rescheduled into the next higher level unit.

Throughout the corpswoman's progression, the adviser is kept appraised of her progress. As each unit is completed, the corpswoman progresses to the next level until she reaches her goal.

The phasing system time allocations are not set time blocks. They represent time estimates for planning and scheduling purposes. Each corpswoman completes each unit at her rate of learning. Her progression is based on the competency principle, not the time dimension. Most corpswomen enter the program with little, if any, competency in business education skills. The phasing system appears to be one way of maximizing staff, time and space utilization.

All corpswomen in the B/C cluster are initially scheduled for a four-hour block of time, either in the morning or afternoon. The remainder of the time is scheduled in General Education and Family Life Education. Procedures are available for corpswomen to schedule into the B/C cluster for more hours as the need for General Education decreases.

Business and Clerical Occupations Curriculum.--The B/C curriculum appears to be sufficiently flexible to prescribe any combination of available units based on identified corpswomen needs. Sometimes pure "job ladder" sequencing is not logical. Whenever such a need occurs, modifications are made.

The total Center curriculum is articulated by allocating the prescribed activities based on the identified needs of each individual corpswoman. The supportive experiences embodied in General Education and Family Life Education become a part of the total curriculum potential available to a corpswoman. The avocational activities, counseling and guidance, and health services are available to support the aspired goals of individual corpswomen. The total Center program is organized into a complex 24-hour per day curriculum dedicated to the needs of the corpswomen.

Summary

The Job Corps was created as a part of the Economic Opportunity Act in order to prepare youths, ages 16 through 21, for responsible citizenship and to improve their employability skills. Rural and urban residential education and training centers were developed for youth from impoverished backgrounds. Three types of centers are available to disadvantaged young people. These were developed as Men's Conservation Centers, Men's Urban Centers, and Women's Urban Centers. The Conservation Centers,

located in rural areas, provided work experience, basic education, and vocational training. The urban centers, located in urban areas, stressed extensive education and training programs.

To operate the urban centers, Job Corps initially solicited private firms--including such corporations as GE, IBM, RCA, and Philco-Ford Corporation. Most of the conservation centers were operated by the Departments of Agriculture and Interior.

In 1966, Congress directed the Office of Economic Opportunity (OEO) to expand the enrollment of young women. By 1968, there were 18 women's centers with an enrollment of 9,200 corpswomen out of the total enrollment of 32,594.

One of the eighteen women's centers established was the Guthrie (Oklahoma) Job Corps Center for Women, initially designed for 425 corpswomen, and operated by the Philco-Ford Corporation. The Center program is organized into a complex 24-hour-per-day program. The Center organization is divided into two major functions under the direction of a Center Director--(1) the administrative function, and (2) the program function.

The administration services are responsible for the business and logistics services. The program functions are responsible for education, student services, health services, socio-cultural activities, and resident living. The program is designed to orchestrate the activities of the various service areas and Center personnel into a unified program.

The Center program demonstrates evidence of being innovative in responding to the individual corpswoman's needs. Some of the unique aspects of the Center program include: (1) an open-entry/open-exit design of curriculum and scheduling, (2) attempts at correlation of instruction,

(3) clustering of occupational training areas, (4) a requirement of work experience for graduation, (5) program comprehensiveness, (6) competency-based instruction, (7) individually prescribed programs, (8) variable time dimension, and (9) the student-centered philosophy.

The Business and Clerical Occupations training cluster offers several training options. The program appears to be sufficiently flexible to respond to a variety of training needs.

CHAPTER IV

DESIGN AND PROCEDURE

Introduction

The major concern of this study was to determine if there is a significant relationship between selected psychometric and biographical characteristics of disadvantaged adolescent females and successful completion of a compensatory office education program. This was accomplished by statistical comparison applied to subjects from the Business and Clerical Occupations cluster at the Guthrie (Oklahoma) Job Corps Center for Women.

Selection of Sample

The population for this study was confined to a sample consisting of 130 disadvantaged females between the ages of 16 and 21 years. The sample was selected from 712 enrollees who entered the Guthrie Job Corps Center for Women during a one-year period from April 12, 1967, through April 10, 1968. Each subject could remain in Job Corps a maximum of two years from date of enrollment. Approximately 25 percent of the total input, the 177 women who initially selected the Business and Clerical Occupations cluster, were considered in the sampling for this study. After additional exposure to the Center program, 42 or 23.7 percent elected to change vocational objectives. Of these, twenty-eight or 66.7 percent

elected to change to the Electronics Assembly. Changing to the Health Occupations and the Graphic Arts (Drafting) clusters were seven or 16.7 percent each. Because of insufficient data on five of the sample group, 130 subjects were retained for this analysis.

The corpswomen included in the sample were selected on the basis of the following criteria:

1. The enrollee must have selected the Business and Clerical Occupations cluster as her first occupational choice.

2. All required data on the corpswoman were available.

3. The enrollee must have remained in the Business and Clerical Occupations cluster until termination from the Center.

The composition of the three sample groups were not determined until each subject had terminated from Job Corps. The range of the subjects' termination dates was from June 7, 1967, to November 26, 1969, for a period of two years, five months and twenty-two days. After the last subject had graduated the sample group sizes were set at 62, 49 and 19 for Categories I, II, and III, respectively.

The study population was representative of 14 states and 96 cities and towns. The local background ranged from rural to some of the nation's largest metropolitan areas.

The mean Job Corps tenure of the subjects was 9.35 months. The graduates remained at the Center for a mean of 13.75 months, whereas the nongraduates had a mean tenure of 5.31 months. The tenure ranged from one to twenty-four months.

The racial/ethnic origin composition of the subjects was 60 percent Negro and 40 percent Caucasian. Of the 40 percent Caucasian, 20

percent were in the ethnic category of Mexican-American. The racial/ethnic composition is shown by termination category in Table 1. The Center had an approximate racial/ethnic ratio during the period of this investigation of: Negro, 75 percent; Caucasian, 10 percent; and Mexican-American, 15 percent.

TABLE 1

RACIAL/ETHNIC ORIGIN

Category	Negro	Caucasian	Mexican-American	Total
I	41	10	11	62
II	25	11	13	49
III	12	5	2	19
Total	78	26	26	130
Percent of Total	60.0	20.0	20.0	100

Almost one-half, or 48.47 percent, of the subjects completed high school prior to enrollment in Job Corps; whereas 16, or 12.31 percent had completed less than the ninth grade, 114, or 87.69 percent had attended high school. The grade level attainment of the subjects is shown by termination category in Table 2.

Table 3 shows the composition of the rural/urban background of the subjects by termination category. Most of the subjects were from communities and cities of more than 2,500 population. Of the 130 subjects, only 29, or 22.30 percent were from rural areas.

Most of the Category I group (graduates) were competent in more than one training objective. For example, all graduates in the Clerk-Typist category could also qualify for employment as an office aide, receptionist and file clerk.

TABLE 2

HIGHEST GRADE LEVEL ATTAINED

Category	Grade Levels							Total
	6	7	8	9	10	11	12	
I	1	1	4	8	5	4	39	62
II	1	4	4	8	7	8	17	49
III	0	0	1	4	3	4	7	19
Total	2	5	9	20	15	16	63	130
Percent of Total	1.54	3.85	6.92	15.38	11.54	12.30	48.47	100

TABLE 3

RURAL/URBAN BACKGROUND

Category	Rural	Urban	Metropolitan	Total
I	16	22	24	62
II	10	22	17	49
III	3	4	12	19
Total	29	48	53	130
Percent of Total	22.30	37.00	40.70	100

Measurement of Variables

Test instruments were used to measure achievement and aptitude. The biographical information was obtained from the individual records of each subject.

Job Corps Testing Program

The Job Corps testing program, as described in the Test Administrator's Manual, PM 400-5,[1] utilized various sections of the Stanford Achievement Test (SAT) and the General Aptitude Test Battery (GATB).

> The sections of the Stanford Achievement Test employed by Job Corps measure skills in reading and mathematics. The General Aptitude Test Battery measures skills related to job performance.[2]

The Testing Program was designed to facilitate appropriate placement of the trainee in the program at the time of entering Job Corps and to collecting progress data, rather than to gauge innate ability of individuals.[3]

The urban centers were instructed to utilize the tests for program placement, progress checking and terminal testing.[4] To accomplish these objectives the Testing Program was organized into three phases: initial testing, interim testing and terminal testing.

The National Job Corps requirements for the initial testing phase were limited to the following five subtests of the SAT battery: Word Meaning Test, Paragraph Meaning Test, Arithmetic Computation Test, Arithmetic Concepts Test and Arithmetic Applications Test.[5] However, additional subtests could be administered at the discretion of the individual Center. During the period of this study, the Language and Social Studies subtests were administered as a part of the initial testing program. The GATB was not recommended by the National Job Corps for initial testing.

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[1] U.S., Office of Economic Opportunity, Job Corps Test Administrator's Manual, PM 400-5 (Washington, D.C.: Government Printing Office, December, 1967).

[2] Ibid., p. 2-2. [3] Ibid., p. 2-1. [4] Ibid., p. 2-3.

[5] U.S., Department of Labor, Manual for the General Aptitude Test Battery Section II: Norms, Occupational Aptitude Pattern Structure (Washington, D.C.: Government Printing Office, 1970), p. 1.

Aptitude Measurement

The aptitude measure selected was subdivided into two aptitude scores--the G-score (Intelligence), and Q-score (Clerical perception) factors of the nine aptitudes measured by the General Aptitude Test Battery (GATB). The GATB Form B of B-1002[1] was administered to all subjects. The test administrators were instructed to follow carefully the exact directions of the GATB Manuals.

The nine aptitudes measured by the GATB are: G--Intelligence, V--Verbal Aptitude, N--Numerical Aptitude, S--Spatial Aptitude, P--Form Perception, Q--Clerical Perception, K--Motor Coordination, F--Finger Dexterity, M--Manual Dexterity.[2] Specifically, the G-score (Intelligence) and the Q-score (Clerical Perception) are defined as:

> G--Intelligence. General learning ability. The ability to "catch on" or understand the instructions and underlying principles; the ability to reason and make judgments. Closely related to doing well in school. Measured by Part Three (Three-Dimensional Space), Part Four (Vocabulary), and Part Six (Arithmetic Reason).
>
> Q--Clerical Perception. Ability to perceive pertinent detail in verbal or tabular material. Ability to observe differences in copy, to proofread words and numbers, and to avoid perceptual errors in arithmetic computation. Measured by Part One (Name Comparison).[3]

The nine aptitudes are converted into standard scores with a mean of 100 and a standard deviation of 20 for adult norms. The maturation process is reflected by ninth and tenth-grade norms with percentile equivalents less than adults. For example: the adult G aptitude (Intelligence) of 100 is equivalent to the tenth grade G aptitude of 96 and the ninth grade G aptitude of 93.[4]

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[1] U.S., Department of Labor, Manual for General Aptitude Test Battery Section III: Development (Washington, D.C.: Government Printing Office, October, 1967), p. 13.

[2] Ibid., p. 1. [3] Ibid., p. 1. [4] Ibid., pp. 5-6.

Achievement Measurement

The academic achievement measure in this study was determined by the following three subtests of the Stanford Achievement Test (SAT): Reading (paragraph meaning); Arithmetic (arithmetic computation); and Language.

The Job Corps Test Administrator's Manual[1] gives the following definitions of the reading and arithmetic subtest:

> Paragraph Meaning Subtest. This subtest consists of a series of paragraphs of increasing difficulty, from which one or more words have been omitted. The enrollee's task is to demonstrate comprehension of the paragraph by selecting appropriate words for the omitted spaces consistent with the meaning of the passage as a whole. Special efforts have been made in developing the test to insure that comprehension rather than word meaning is being measured.
>
> Arithmetic Computation. This subtest measures proficiency in computational skills. The items used reflect basic operations of addition, subtraction, multiplication and division.
>
> In addition to demonstrating these operations with whole numbers, youths are also required to perform these basic operations in the context of fractions, decimals and percents.[2]

The language subtest consists of exercises in capitalization, sentence sense, punctuation, grammar, and language usage. There are five levels of the language test.

The SAT has alternate Forms X, Y, and W available for each test battery. The subtests in each Form are equivalent to one another. The Job Corps used Form X for the initial enrollee testing. Forms Y and W were used for interim and terminal testing, respectively. The SAT has five Batteries, including: Primary I and II, Intermediate I and II, and advanced.

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[1] U.S., Office of Economic Opportunity, Job Corps Test Administrators Manual.

[2] Ibid., p. 3-3.

The Test Administrator's Manual contains the following comment about the credibility requirements of the SAT:

> It has been repeatedly pointed out that the SAT was specifically developed for use with an in-school population and so is limited in its ability to accurately estimate Corpsmember skills.[1]

The Manual provided instructions for procedures to help overcome the limitations of the SAT by developing a retesting procedure based on a table of credibility levels for all 63 subtests of the SAT.

The reading, arithmetic, and language subtests selected for this study were based on the cognitive learning skills required in preparing for an office occupation. A review of the Business and Clerical curriculum and recent studies suggest the cognitive areas of computational and communication skills are significant in successful preparation for an office occupation.

Biographical Measures

The Office of Economic Opportunity's (OEO) Corps Data Sheet (OEO Form 16) contained appropriate biographical data for each corpswoman. The data for the following independent variables were obtained from the Corps Data Sheet, available in each corpswoman's personal records--previous educational exposure, racial/ethnic origin, chronological age, and rural/urban background.

Previous Educational Exposure

The previous educational exposure variable was determined by the highest grade level attained in a public or private school. These data were obtained from the Corps Data Sheet, Item Number 20, "Highest School Grade Completed."

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[1] Ibid., p. 9-9.

Racial/Ethnic Origin

The racial/ethnic origin data were limited to race categories of Negro and Caucasian. The ethnic origin consisted of Mexican-American subjects. The racial/ethnic sampling was limited in that other groups were not available. These data were obtained from the Corps Data Sheet, Items Number 12, "Race," and Number 13, "Ethnic Group." To check for error, the names were compared with the ethnic origin to determine the Mexican-American variable.

Chronological Age

Job Corps policy requires that all enrollees be between 16 and 22 years of age at the time of enlistment. The chronological age was computed by subtracting the date of birth from the Job Corps entry date. These data were obtained from the Corps Data Sheet, Item Number 14, "Date of Birth," and the Guthrie Center "Morning Report," which listed daily the name of each corpswoman entering the Center. The chronological age was converted to months for improvement of statistical treatment.

Rural/Urban Background

The rural/urban background was divided into these three categories: rural--town or community of less than 2,500 population; urban--cities with more than 2,500 and less than 50,000 population; and metropolitan--cities of more than 50,000 population. These data were obtained from the Corps Data Sheet, Item Number 9, "Size of Place." A test for accuracy was applied by obtaining the City and State listed as the subject's address. The population of the town or city was then checked against the 1960 census data.

Another test was applied to the rural/urban background variable by determining if the town or city was in a Metropolitan Statistical Area (SMSA). If the city was within a 50 mile radius of a metropolitan city the subject was classified as having a metropolitan background.

Determination of Success

Success in the Business and Clerical Occupations cluster at the Guthrie Job Corps Center was operationally defined as being a Category I termination from the Center. All subjects in Category I successfully completed the requirements for graduation in a minimum of one prescribed training objective and were recommended for graduation by a Center staffing committee. Because the Center educational program was individually paced, competency based, and practiced open-ended enrollment, the measure of success was limited to graduation.

The time variable for graduation was not considered because of the variability of training time and the flow of the subjects through the individually prescribed curriculum. The only time consideration was the Job Corps regulation of a two year maximum training period. All subjects terminated the Center prior to the maximum time limitation.

Subjects designated as Category II and Category III terminations were defined as being unsuccessful in completing the requirements for graduation. However, the noncompleters might have had sufficient training to obtain some level of employment in an office occupation. Job Corps follow-up data show that some Category II terminations did obtain employment in the areas in which they were pursuing training. This study was not, however, designed to measure success based on successful employment in the office occupations.

Successful employment as a success measure of a training program is questionable. The labor market is the major determinant of employment. The subjects of this study represented a dispersed labor market. Corpswomen returning to areas with a tight labor market would have a distinct advantage for becoming employed as compared to those returning to high unemployment areas. To compensate for the disadvantages of measuring training success in institutional education, the subjects were required to complete successfully six to eight weeks of full-time work experience under the supervision of a cooperating employer. Successful completion of the work experience component was determined by the employer's evaluation of the subject. Following a successful work experience program, the subjects were recommended for graduation. Success, then, was measured by accepted levels of competency in the classroom and on the job.

Data Collection

All of the foregoing information was obtained from the personal files of each subject and recorded on individual data sheets. (See Appendix.) The time involved in the gathering of pertinent data for each subject necessitated cross-referencing the subjects' names and Social Security numbers to assure accuracy of correctly matching data with subjects.

All testing was administered by designated staff from the Guidance and Counseling Department of the Center. The test results were recorded on appropriate results forms and placed in the individual subject's personal folder. The individual Corps Data Sheets (OEO Form 16) were the source of the biographic information. The success measure was acquired from the Job Corps Termination Report.

These data were then transferred to tables organized in tabular form for each variable for each subject. (See Appendix.) All statistical computations were made from these tables.

Statistical Procedures

The research design chosen for this study was analysis of variance statistical procedures for the parametric data and chi-square statistical procedures for the nonparametric data. A simple, randomized, one-factor analysis of variance and chi-square test of significance were computed to compare the effects of seven continuous variables and two trichotomous variables, respectively, to three categories of training outcomes. These statistical techniques were used to determine whether the measures of aptitude, academic achievement, previous educational exposure, chronological age, racial/ethnic origin, and rural/urban background of the subjects differed significantly in the three categories of training outcomes at the .05 level of significance.

The statistical computations were made for the 130 subjects for each variable and the three categories of training outcomes (sample sizes 62, 49 and 19 for Categories I, II, and III, respectively). All three sample groups were measured under the same treatment conditions.

The simple, randomized, one-factor analysis of variance is an appropriate statistical technique that permits an analysis of data contained in three or more samples.[1] Means and standard deviations were computed for each of seven continuous variables identified for investigation in this study.

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[1]James L. Bruning and B. L. Kintz, Computational Handbook of Statistics (Glenview, Illinois: Scott, Foresman and Company, 1968), p. 22.

The seven measures were subdivided into aptitude (General Aptitude Test Battery G and Q aptitudes), academic achievement (Stanford Achievement Test Reading, Arithmetic and Language scales), previous educational exposure, and chronological age.

A simple, randomized, one-factor analysis of variance was applied to data for each of the seven variables to determine any differences between means for each of the three sample groups. If overall F-ratios were found to be significant, all possible t-tests were computed to determine which means were significantly different. The literature warned that this use of the t-test must be planned before the research had been carried out to assure the accuracy of the probability tables for each of the tests. Bruning and Kintz[1] stated, however, that the t-test is an appropriate statistic for multiple comparison if planned in the design phase of the research. This design made possible the statistical testing of the hypotheses stated in Chapter I.

The complex chi-square (X^2) was applied to test the significance of the rural/urban background and racial/ethnic origin to the three sample groups. The subjects in each sample group were reduced to three subcategories of rural/urban background--rural, urban, and metropolitan. The same subjects were then recategorized into three subcategories of racial/ethnic origin--Negro, Caucasian, and Mexican-Americans.

The complex chi-square test is an appropriate statistic to measure frequency data comparing the effects of two variables when there are more than two sample groups.[2] The procedure followed in the analysis of these

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[1] Ibid., p. 112.

[2] Ibid., p. 209.

data was to compute the chi-square by use of two 3 x 3 contingency tables. The resulting chi-square was examined in a chi-square table to determine the significance with 4 degrees of freedom. The size of the chi-square statistic indicated whether to accept or reject the hypotheses stated in Chapter I. The hypothesis was rejected when the value of the obtained chi-square was larger than the .05 level of significance.

CHAPTER V

PRESENTATION OF DATA

Introduction

The treatment of data in this study permits the reporting of results in terms of 13 variables applied to aptitude, academic achievement, previous education, chronological age, racial/ethnic origin, and rural/urban background. Analysis of variance was used for the parametric statistics and chi-square procedures were used with the nonparametric data.

Analysis of Variance

A summarization of the reduction of data provided by a total of 130 subjects from three categories of training program outcomes (sample sizes of 62, 49 and 19 for Categories I, II, and III, respectively) to means and standard deviations for each of seven variables is presented in Table 4, on page 73. The seven measures are subdivided into aptitude--General Aptitude Test Battery G and Q scores; achievement--Stanford Achievement Test, (Reading [R], Arithmetic [A], and Language [L] scores); previous educational exposure; and chronological age by months. A cursory inspection of the standard deviations for the three categories of each variable yields no great discrepancies which would suggest a possible heterogeneity of variances.

TABLE 4

MEANS AND STANDARD DEVIATIONS FOR APTITUDE, ACHIEVEMENT, EDUCATION, AND AGE

Variables			Training Outcome Category I (N=62)	II (N=49)	III (N=19)
Aptitude	G-Score	Mean	82.39	78.73	82.42
		S.D.	13.98	13.06	14.53
	Q-Score	Mean	108.74	107.04	106.95
		S.D.	17.07	20.66	13.49
Academic Achievement	Reading (R)	Mean	6.91	6.66	6.54
		S.D.	1.79	2.12	2.16
	Arithmetic (A)	Mean	6.34	5.71	5.85
		S.D.	1.91	1.83	1.88
	Language (L)	Mean	6.65	6.39	6.70
		S.D.	1.83	2.30	2.49
Previous Educational Exposure		Mean	10.97	10.20	10.63
		S.D.	1.60	1.77	1.34
Chronological Age (Months)		Mean	234.13	224.78	226.47
		S.D.	16.94	19.04	21.11

Note: The aptitude and academic achievement measures were subdivided into two and three variables respectively.

In order to test the hypothesis that the mean of Category I equals the mean of Category II which equals the mean of Category III, a simple, randomized, one-factor analysis of variance was applied to data for each of the seven variables.[1] Because all three categories were measured under

[1] Ibid., p. 22.

the same treatment conditions, this test was really a test of initial equivalence of treatment groups. This is a characteristic that should exist if the subjects had essentially been assigned to groups at random. Tables 5, 6, 7, and 8 summarize results from the application of the analysis of variance procedure to each variable for the three categories of training outcomes.

F-ratios[1] were computed to test the hypotheses presented in Chapter I. The stated hypotheses were as follows:

Hypothesis 1--There is no significant difference between the training outcomes of Categories I, II, III and the corpswomen's aptitude.

Hypothesis 2--There is no significant difference between the training outcomes of Categories I, II, III and the corpswomen's academic achievement.

Hypothesis 3--There is no significant difference between the training outcomes of Categories I, II, III and the previous educational exposure of the corpswomen.

Hypothesis 4--There is no significant difference between the training outcomes of Categories I, II, III and the chronological age of the corpswomen.

For 2 degrees of freedom in the numerator and 127 degrees of freedom in the denominator of the F-ratio at the .05 significance level, a value of 3.07 or larger was required for rejection of the hypothesis.

The results, as shown in Table 5, of the two aptitude measures produced F-ratios of 1.09 and 0.15 for the G and Q scores respectively. Hypothesis 1 was accepted since these F-ratios were not significant at the .05 level.

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[1] Ibid., p. 25.

TABLE 5

ANALYSIS OF VARIANCE SUMMARY TABLE FOR APTITUDE--G-SCORE (INTELLIGENCE) AND Q-SCORE (CLERICAL PERCEPTION) OF THE GENERAL APTITUDE TEST BATTERY (GATB)

Aptitude Measures	Source of Variation	Sum of Squares	df	Mean Square	F
G	Between Groups	409.08	2	204.54	1.09
	Within Groups	23,930.89	127	188.43	
	Total	24,339.97	129		
Q	Between Groups	96.87	2	48.44	0.15
	Within Groups	41,558.74	127	327.23	
	Total	41,655.61	129		

The hypothesis for determining whether or not the subjects' academic achievement was related to the three categories of training program outcomes was, as presented in Table 6, accepted. The F-ratios of 0.35, 1.67 and 0.26 for the Reading (R), Arithmetic (A) and Language (L) respectively, were not significant at the .05 level. Thus, Hypothesis 2 was accepted.

As shown in Table 7, the F-ratio for the previous educational exposure variable was "marginally significant" ($F=3.00$; $df= 2/127$; $p < .06$). Marginally significant here indicates that the empirical F-ratio is only slightly less than the 3.07 required for rejection. The measure is too close in the probability value required, not to warrant further inspection. Hypothesis 3 was rejected at the .06 level of significance.

The F-ratio, as shown in Table 8 for the chronological age variable was significant ($F=3.87$; $df=2/127$; $p < .05$). Since the F-ratio did exceed that required at the .05 level of significance, Hypothesis 4 was rejected.

To determine if the mean of Category I (success) was significantly different from the means of Categories II and III, t-tests were computed for the significant F-ratios. According to Bruning and Kintz,[1] the significance of the overall F indicates only that out of the means of the three groups, at least two differ. The decision was made before the analyses were conducted that all possible t-tests would be computed following significant overall F-ratios.[2] For the two significant F-ratios, t-tests for differences among the three means were computed.

Comparisons among the means for the previous educational exposure variable between Categories I and II (10.97-10.20), Categories I and III (10.97-10.63), and Categories II and III (10.20-10.63) resulted in t-ratios of 2.45, 0.79, and 0.97, respectively. Because a t-ratio of 1.98 at the .05 level for 109 degrees of freedom was required for statistical significance, the difference between Categories I and II was the only significant one.

Similarly, comparisons among the means for the chronological age variable between Categories I and II (234.13 months or 19.51 years--224.78 months or 18.73 years), Categories I and III (234.13 months or 19.51 years--226.47 months or 18.87 years), Categories II and III (224.78 months or 18.73 years--226.47 months or 18.87 years) yielded t-ratios of 2.67, 1.59, and 0.34, respectively. Only the t-ratio of 2.67 between Categories I and II was statistically significant at the .05 level of significance.

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[1] Ibid., pp. 112-13.

[2] Ibid., p. 112.

TABLE 6

ANALYSIS OF VARIANCE SUMMARY TABLE FOR ACADEMIC ACHIEVEMENT--READING (R), ARITHMETIC (A), AND LANGUAGE (L) SCORES OF THE STANFORD ACHIEVEMENT TEST (SAT)

Achievement Measures	Source of Variation	Sum of Squares	df	Mean Square	F
R	Between Groups	2.71	2	1.35	0.35
	Within Groups	495.36	127	3.90	
	Total	498.07	129		
A	Between Groups	11.77	2	5.88	1.67
	Within Groups	447.12	127	3.52	
	Total	458.89	129		
L	Between Groups	2.31	2	1.15	0.26
	Within Groups	569.67	127	4.49	
	Total	571.98	129		

TABLE 7

ANALYSIS OF VARIANCE SUMMARY TABLE FOR PREVIOUS EDUCATIONAL EXPOSURE

Source of Variation	Sum of Squares	df	Mean Square	F
Between Groups	15.96	2	7.98	3.00
Within Groups	338.32	127	2.66	
Total	354.28	129		

TABLE 8

ANALYSIS OF VARIANCE SUMMARY TABLE FOR CHRONOLOGICAL AGE (MONTHS)

Source of Variation	Sum of Squares	df	Mean Square	F
Between Groups	2,616.45	2	1,308.23	3.87
Within Groups	43,226.25	127	337.71	
Total	45,842.70	129		

Chi-Square Procedures

The complex chi-square[1] test of significance was computed to test Hypotheses 5 and 6 presented in Chapter I. The stated hypotheses were stated as follows:

Hypothesis 5--There is no significant difference between the training outcomes of Categories I, II, III and the racial/ethnic origin of the corpswomen.

Hypothesis 6--There is no significant difference between the training outcomes of Categories I, II, III and the rural/urban background of the corpswomen.

A chi-square of 9.49 or larger was required for significance at the .05 level with 4 degrees of freedom to reject the hypotheses.

Subjects in each training outcome category were further categorized into one of three rural/urban background categories--rural, urban and metropolitan areas. These same subjects were then reclassified into three categories of racial or ethnic origin--Negro, Caucasian, and Mexican-American. Final results of these tabulations are presented in Tables 9 and 10.

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[1] Ibid., p. 209.

TABLE 9

CHI-SQUARE ANALYSIS OF RURAL/URBAN BACKGROUND FOR CATEGORIES I, II, AND III

Category	Rural		Urban		Metropolitan		Total Observed
	Observed Frequency	Expected Frequency	Observed Frequency	Expected Frequency	Observed Frequency	Expected Frequency	
I	16.00	13.83	22.00	21.94	24.00	25.28	62
II	10.00	10.93	22.00	17.34	17.00	19.98	49
III	3.00	4.24	4.00	6.72	12.00	7.75	19
Total	29.00		48.00		53.00		130

Chi Square = 5.98

TABLE 10

CHI-SQUARE ANALYSIS OF RACIAL-ETHNIC ORIGIN FOR CATEGORIES I, II, AND III

Category	Negro		Caucasian		Mexican-American		Total Observed
	Observed Frequency	Expected Frequency	Observed Frequency	Expected Frequency	Observed Frequency	Expected Frequency	
I	41.00	37.20	10.00	12.40	11.00	12.40	62
II	25.00	29.40	11.00	9.80	13.00	9.80	49
III	12.00	11.40	5.00	3.80	2.00	3.80	19
	78.00		26.00		26.00		130

Chi Square = 5.80

The chi-square statistic is the appropriate statistic to answer the following questions about the categorical data:

1. Does it help to know a subject's rural/urban background in predicting her category of training outcome?

2. Does it help to know the racial or ethnic origin of the subject in predicting her category of training outcome?

Each 3 x 3 chi-square analysis observed and expected cell frequencies for each of the nine cells in each analysis is provided in Tables 9 and 10. An inspection of these values for both contingency tables reveals very minor discrepancies. As a consequence, the two computed chi-square values of 5.98 and 5.80 for the rural/urban background and racial/ethnic origin analysis are well below the chi-square of 9.49 or larger required for significance at the .05 level with 4 degrees of freedom. Hypotheses 5 and 6 were therefore accepted.

Summary

The F-ratio was significant at the .05 level for chronological age and at the .06 level for previous educational exposure. A t-ratio was applied to the significant F-ratios to determine if the mean of Category I (success) differed significantly from the means of Categories II and III (unsuccessful). The only t-ratio significant at the .05 level for chronological age was between Categories I and II. For previous educational exposure, only the t-ratio between Categories I and II was significant at the .05 level. The subjects do not appear, from these data, to differ significantly in aptitude, achievement, rural/urban background or racial/ethnic origin.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The problem of this study was to examine the relationship of selected biographical and psychometric characteristics of disadvantaged adolescent females to success in a compensatory education program for careers in office occupations. Specifically, this study attempted to measure, through statistical treatment, the relationship between: (a) aptitude, (b) academic achievement, (c) previous education, (d) chronological age, (e) racial/ethnic origin, and (f) rural/urban background to success in a compensatory education program for office occupations.

The following hypotheses were of primary concern to this study:

Hypothesis 1--There is no significant difference between the training outcomes of Categories I, II, III and the corpswomen's aptitude.

Hypothesis 2--There is no significant difference between the training outcomes of Categories I, II, III and the corpswomen's academic achievement.

Hypothesis 3--There is no significant difference between the training outcomes of Categories I, II, III and the previous educational exposure of the corpswomen.

Hypothesis 4--There is no significant difference between the training outcomes of Categories I, II, and III and the chronological age of the corpswomen.

Hypothesis 5--There is no significant difference between the training outcomes of Categories I, II, III and the racial/ethnic origin of the corpswomen.

Hypothesis 6--There is no significant difference between the training outcomes of Categories I, II, III and the rural/urban background of the corpswomen.

The procedure followed in this study was divided into four major steps: (1) a review of research and literature related to the problem, (2) an overview of the Guthrie (Oklahoma) Job Corps Center for Women, (3) the accumulation of the primary data for the study, (4) the presentation and the analysis of the data, and (5) the writing of the research paper.

The primary source of data was the enrollees who had entered the Guthrie Job Corps Center during a one-year period from April 10, 1967 through April 12, 1968. Each subject had a potential of two years' training time. Although the subjects entering the Job Corps in April, 1968, could have remained until April, 1970, the last subject terminated from the Center on November 29, 1969. The data-gathering period had a maximum range of two years, five months, and twenty-two days.

The statistical treatments applied to these data were means, standard deviations, and a simple, randomized, one-factor analysis of variance for each of the parametric data. The chi-square statistic was computed to analyze the nonparametric data.

The analysis of variance applied to (a) aptitude, (b) academic achievement, (c) previous educational exposure, and (d) chronological age produced the following findings:

1. There is no significant relationship between the categories of training outcome I, II, III, and the General Aptitude Test Battery G and Q measures. The small differences among the sample groups were due to chance fluctuations.

2. When the means of the Stanford Achievement Test--Reading, Arithmetic, and Language scores were compared to the three categories of training outcome, the differences were statistically insignificant. The small differences observed among the sample groups were due to chance fluctuations.

3. The hypothesis that there is no significant difference between training outcomes Categories I, II, III, and previous educational exposure was rejected at the .06 level of significance. Therefore, the observed data were not a result of chance fluctuation, but revealed a significant difference among the means of the three sample groups. The test for differences among the means of Categories I, II, III, revealed that only the difference between Category I (success) and Category II was significant. There were no significant differences between (a) Categories I and III and (b) Categories II and III. Therefore, Category I (success) appeared from these data to have attained a significantly higher grade level in formal education than did those who remained in Job Corps for more than 90 days but did not graduate. However, the graduates did not appear to differ significantly in the grade-level attainment for subjects remaining in the program for fewer than 90 days.

4. There was a significant difference between the means of the three sample groups and the chronological age. The test for differences among the means of Categories I, II, and III revealed that only the difference between Category I (success) and Category II (remained more than 90 days, but did not graduate) was significant. There were no significant relationships among the means of (a) Categories I and III and (b) Categories II and III. This finding indicated that Category I appeared to be significantly older than the subjects remaining in Job Corps more than 90 days, but failing to graduate. Subjects remaining in Job Corps for fewer than 90 days did not appear to differ significantly from those in Categories I and II.

5. Application of the chi-square test of significance to racial/ethnic origin indicated no significant differences between origins of Negro, Caucasian, and Mexican-American subjects and their training outcome as measured by graduation from the Job Corps program. The small differences observed were due to chance fluctuations.

6. Application of the chi-square test of significance indicated that there is no significant relationship between Categories I, II, III and the rural/urban background of the subjects. The small differences observed among the means of the sample groups were due to chance fluctuations.

Conclusions

On the basis of the findings of this study, the researcher was able to arrive at the following conclusions:

1. Of the commonly used biographical data, only chronological age and level of previous educational exposure are significant in predicting whether a disadvantaged adolescent female will complete a

Job Corps office occupations training program. This indicates that persistence and maturity are significant factors in the successful completion of such training.

2. Biographical data with reference to rural/urban background and racial/ethnic origin, while helpful in the operations of the training program, are not significant in predicting whether a disadvantaged adolescent female will complete a Job Corps office occupations training program.

3. Currently used aptitude and achievement tests have little value in predicting whether a disadvantaged adolescent female will complete a compensatory office occupations training program. In all probability, the training program design will influence success more than either aptitude or achievement levels.

4. This study corroborates the findings of previous studies of the Job Corps population which indicated aptitude and achievement measures were not valid for prognostic purposes.

Recommendations

The results of this study and the questions which arose during the study revealed several areas which are recommended for further research.

1. A similar study should be designed utilizing disadvantaged female subjects in non-residential programs such as MDTA Skills Centers, Opportunities Industrialization Centers, and Area Vocational Technical Schools.

2. Research projects should be developed to measure the comparability of student retention in office education programs with

open-ended enrollments with office education programs designed for group enrollment.

3. An attempt should be made to repeat the findings of this study utilizing subjects from an in-school population.

4. Similar studies should be designed to investigate the relationship of other measurable biographical variables such as family solidarity, school grades, educational level of parents, and previous work history to success in vocational business and office education programs designed for disadvantaged youth.

5. Studies should be undertaken to determine the proficiency standards for competency-based vocational business and office education for each of the several commonly taught curricular components.

6. Studies should be designed to investigate instructional methodology that might improve the retention of disadvantaged adolescent females in vocational business and office education.

7. The effect on learning by correlating basic education skills with the vocational skills of an office worker should be researched.

8. Research projects should be undertaken to study the learning characteristics of adolescent females from different racial, ethnic, and cultural backgrounds.

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APPENDICES

APPENDIX A

PERSONAL DATA SHEET

Name_____ Soc. Sec. No._____
Last First Middle

Address_____
Street City State

Date of Birth_____ Age_____

Racial-Ethnic Group

Caucasian____ Negro____ Latin American____ American Indian____ Other_____

Site of City: Less Than 2,500____ 2,500-50,000____ 50,000-250,000_____

Entry Date:_____ Departure Date:_____ Length of Stay_____

Category: I_____ II_____ III_____

Educational Potential

Highest Grade Completed_____ GED: Yes_____ NO_____ GED Score_____

Occupational Choice_____ Changes_____ Date_____

SAT Scores

				P.M.	W.M.		Comp.	Cpt.	App.
Entry:	Language_____	S.S._____	Reading	_____	_____	Math	_____	_____	_____
Exit:	Language_____	S.S._____	Reading	_____	_____	Math	_____	_____	_____
Gain:	Language_____	S.S._____	Reading	_____	_____	Math	_____	_____	_____

GATB Scores

Entry:	G._____	V._____	N._____	S._____	P._____	Q._____	K._____	F._____	M._____
Exit:	G._____	V._____	N._____	S._____	P._____	Q._____	K._____	F._____	M._____
Gain:	G._____	V._____	N._____	S._____	P._____	Q._____	K._____	F._____	M._____

APPENDIX B

SUCCESSFUL--CATEGORY I

Subject	General Aptitude Test Battery		Stanford Achievement Test--Grade Level			Educ.		Background			Origin		
	G-Score	Q-Score	Reading	Arithmetic	Language	Level	Age	Rural	Urban	Metropolitan	Negro	Caucasian	Mexican-American
1	96	114	9.2	8.2	8.2	12	19.60	X					X
2	89	109	8.0	4.5	8.4	11	20.11			X		X	
3	97	120	6.5	6.4	7.3	9	21.50		X				X
4	84	97	9.5	9.5	8.9	12	18.00	X			X		
5	91	112	6.9	4.9	5.2	10	18.20			X	X		
6	61	104	6.0	5.0	4.6	12	19.50		X		X		
7	68	87	4.9	7.8	5.1	9	17.40			X	X		
8	114	139	11.0	11.5	11.0	12	18.60			X		X	
9	75	93	5.4	7.9	5.0	8	18.20		X			X	
10	84	97	6.4	3.3	5.4	9	19.11		X		X		
11	79	123	6.9	5.4	6.5	12	21.10	X			X		
12	113	118	9.0	8.2	9.5	12	20.10	X			X		
13	118	133	10.4	12.0	11.4	8	21.80			X		X	
14	75	120	5.8	4.2	7.4	12	18.40			X	X		
15	59	81	5.6	3.8	5.3	9	21.40			X			X
16	79	106	4.4	5.6	4.8	10	18.00		X		X		
17	70	115	5.3	4.4	4.6	12	19.11	X			X		
18	73	93	6.9	4.6	5.6	10	19.20			X	X		
19	71	87	6.6	5.2	6.6	8	16.10		X		X		
20	96	113	8.2	8.4	10.4	12	19.50		X		X		
21	76	115	7.0	5.6	4.2	11	19.00		X				X
22	88	113	5.0	5.0	5.8	12	21.00			X		X	
23	76	97	7.2	6.0	8.6	9	18.10			X		X	
24	63	87	9.5	6.4	6.4	9	21.10		X				X
25	92	113	5.1	5.4	6.1	9	21.11		X		X		
26	103	143	7.8	8.4	3.4	12	20.10			X	X		
27	85	103	6.8	4.9	7.9	12	21.40			X		X	
28	67	104	4.4	5.6	5.5	13	21.40	X			X		
29	78	101	4.9	4.6	4.9	12	17.50	X			X		
30	77	97	6.2	7.4	7.6	9	16.90		X				X
31	64	86	6.0	4.2	6.2	12	20.90			X	X		
32	82	92	5.1	4.5	4.6	8	19.80			X	X		
33	110	110	9.5	6.0	7.1	12	20.10		X				X
34	95	118	8.3	8.2	4.8	10	19.90	X			X		
35	98	110	10.2	9.6	9.6	12	18.60			X		X	
36	74	89	3.6	5.9	4.9	12	19.11			X	X		
37	101	121	11.2	9.6	10.1	12	19.10			X		X	
38	100	131	8.2	8.6	7.5	12	20.80	X			X		
39	84	103	10.8	5.4	10.2	12	19.80			X	X		
40	77	98	6.1	6.0	7.9	12	20.80			X	X		
41	90	100	7.1	5.9	6.9	12	18.60		X		X		
42	82	121	6.3	6.0	4.8	12	17.10	X			X		
43	93	124	8.4	10.5	7.4	12	19.30		X		X		
44	82	123	4.9	6.2	5.8	12	19.50	X			X		
45	79	101	6.6	5.0	7.3	12	17.11		X		X		
46	91	96	9.5	7.7	8.3	12	20.00			X	X		
47	81	113	6.1	7.1	7.1	11	18.00			X			X
48	62	119	6.2	4.6	5.3	12	18.20		X		X		
49	76	131	5.2	6.2	5.5	12	18.10			X	X		
50	75	88	4.2	6.2	4.9	6	17.00		X				X
51	71	114	6.4	6.3	8.0	12	18.10		X		X		
52	95	128	6.8	9.2	7.9	12	21.90	X			X		
53	60	107	6.2	5.8	6.6	12	21.40		X		X		
54	89	110	6.9	5.2	7.1	12	18.90	X			X		
55	83	112	6.2	6.2	6.1	12	20.60	X			X		
56	65	96	5.7	4.4	4.3	11	19.50		X		X		
57	77	182	6.9	6.3	5.9	12	20.00	X				X	
58	60	99	5.2	4.5	5.4	12	20.00			X	X		
59	66	104	6.2	5.4	5.3	12	19.20			X	X		
60	86	96	7.2	6.0	6.3	7	20.20		X				X
61	84	105	7.8	6.4	6.3	10	17.30		X				X
62	77	81	6.4	4.1	5.2	12	21.90	X			X		

UNSUCCESSFUL--CATEGORIES II AND III

Subject	General Aptitude Test Battery		Stanford Achievement Test--Grade Level			Educ.		Background			Origin		
	G-Score	Q-Score	Reading	Arithmetic	Language	Level	Age	Rural	Urban	Metropolitan	Negro	Caucasian	Mexican-American
CATEGORY II													
1	93	114	9.2	10.5	8.2	9	18.90		X			X	
2	85	101	9.2	8.0	9.6	7	17.40		X				X
3	96	110	7.8	6.4	9.8	10	18.10		X		X		
4	94	124	8.0	4.5	7.5	10	19.11			X		X	
5	59	98	4.2	3.6	3.1	9	18.10	X			X		
6	78	101	5.7	5.7	5.0	10	16.50		X		X		
7	57	78	2.4	3.6	3.3	6	16.20			X	X		
8	88	113	9.6	4.5	6.3	12	19.10		X			X	
9	78	105	6.8	4.2	5.8	12	18.20	X			X		
10	96	139	8.6	5.8	3.4	12	20.10		X			X	
11	70	150	6.2	4.6	6.2	12	20.90		X		X		
12	86	120	10.8	6.4	10.1	12	18.00		X		X		
13	78	80	6.9	5.8	6.2	10	19.11			X			X
14	76	126	8.0	6.2	6.3	12	20.70			X	X		
15	89	112	10.6	6.8	9.6	11	20.40			X	X		
16	71	75	3.9	4.0	4.9	10	18.40		X		X		
17	63	86	5.1	4.8	4.7	8	19.11		X		X		
18	84	80	7.7	7.1	5.5	11	16.60		X			X	
19	89	96	7.0	6.2	7.9	9	18.60	X					X
20	77	104	6.3	7.1	5.3	12	20.20	X			X		
21	88	118	7.5	5.8	9.2	12	22.00		X		X		
22	66	105	5.3	4.1	5.6	12	20.00			X	X		
23	73	113	4.3	3.6	3.9	9	21.30			X			X
24	107	94	8.7	8.6	7.1	9	19.30	X				X	
25	74	99	5.0	4.8	4.1	11	16.11		X		X		
26	61	84	3.8	4.1	4.8	9	16.11		X		X		
27	77	72	5.6	3.6	5.2	11	16.10			X	X		
28	61	98	5.4	5.2	4.2	9	18.10		X		X		
29	81	112	7.2	4.8	7.1	11	17.10			X			X
30	73	104	4.4	2.2	6.5	12	16.11	X			X		
31	62	96	5.9	4.8	4.3	8	16.10		X				X
32	70	97	6.6	7.4	8.8	12	19.30			X	X		
33	72	125	5.2	7.2	9.8	12	20.10		X				X
34	81	110	8.4	7.8	6.3	12	16.90		X				X
35	84	109	5.4	5.6	6.5	11	17.11	X					X
36	88	97	5.4	5.6	5.6	11	20.60		X		X		
37	74	105	5.7	6.4	7.4	12	21.20	X					X
38	83	169	6.9	6.8	7.4	11	17.10		X		X		
39	70	96	5.0	4.6	3.6	7	20.00			X			X
40	62	99	5.2	4.4	2.9	8	21.70			X	X		
41	105	134	11.4	11.7	11.0	12	17.90	X				X	
42	64	91	4.2	5.0	3.2	10	17.50			X	X		
43	81	170	5.6	5.8	7.5	7	16.50			X		X	
44	110	114	11.5	8.4	11.7	9	19.40			X		X	
45	90	118	9.6	7.8	9.6	12	19.50		X			X	
46	84	93	5.4	4.5	5.5	7	18.00			X			X
47	65	89	6.0	4.8	4.5	8	16.10			X			X
48	57	109	4.3	3.6	3.1	12	19.90	X			X		
49	88	113	7.5	4.9	7.9	10	19.20		X			X	
CATEGORY III													
1	93	103	8.6	4.5	9.9	11	18.40			X	X		
2	92	119	6.5	6.2	7.2	11	21.70			X			X
3	74	115	7.0	4.6	7.1	12	16.60			X	X		
4	84	115	6.4	5.2	2.0	9	19.70			X		X	
5	95	120	9.0	7.4	8.4	12	17.90		X		X		
6	103	114	8.0	7.9	6.7	11	19.50			X	X		
7	75	116	5.3	3.3	5.2	9	17.10			X	X		
8	71	108	5.0	5.0	3.2	11	20.50			X	X		
9	78	115	5.7	4.8	7.0	12	21.80		X		X		
10	88	78	11.0	8.9	11.0	12	19.80			X		X	
11	69	108	4.6	4.8	4.1	12	18.10	X				X	
12	98	104	7.2	8.6	9.0	10	17.30		X			X	
13	80	89	4.2	4.8	7.2	12	41.60			X	X		
14	79	101	7.2	4.8	6.4	9	17.90			X	X		
15	60	84	2.5	5.0	3.3	10	19.70		X		X		
16	76	108	5.3	3.3	5.2	9	16.40			X	X		
17	72	101	6.4	6.0	5.8	10	17.10			X	X		
18	117	135	10.2	10.0	10.4	12	20.90	X				X	
19	62	99	4.2	6.1	8.2	8	17.60	X					X