

RELATIONSHIPS BETWEEN LEADERSHIP AND SELF-ESTEEM
CHARACTERISTICS OF PARAPROFESSIONALS AND
NUTRITIONAL CHANGE IN A CLIENT SAMPLE

By

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Thesis submitted to the Faculty of the Graduate School
of the University of Maryland in partial fulfillment
of the requirements for the degree of
Master of Science
1974

APPROVAL SHEET

Title Of Thesis: RELATIONSHIPS BETWEEN LEADERSHIP AND SELF-ESTEEM
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ABSTRACT

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The study investigates the nature of the relationships between leadership and self-esteem attributes of a population of paraprofessionals and nutritional change based on records from a client sample.

Sixty-five nutrition aides serving in the Expanded Food And Nutrition Education Program in Maryland and 397 program families are the subjects of the study.

A survey technique was employed to gather leadership and self-esteem data for the aides and socioeconomic and nutritional data from records on a sample of client families.

Relationships were hypothesized between leadership and nutritional change and self-esteem and between self-esteem and nutritional change.

Non-parametric techniques were used in data analyses. Chi square and gamma coefficient were computed to determine the association between variables. The socioeconomic and nutritional characteristics

of the aides and families and the relationship between family nutritional and demographic characteristics were described.

Findings reveal a client group whose diets have shown improvement. Client demographic and nutritional characteristics seem independent of one another. There is little relationship between the client nutritional levels and aide characteristics. Hypothesis testing showed the leadership and self-esteem attributes of aides to be generally unrelated to the nutritional change of clients.

It is concluded that the variables under study generally bear no relationship to one another. However, the exploratory nature of this study suggests it is an inadequate basis on which to evaluate paraprofessional role performance or the program. Many questions are raised and refinement and re-direction of study techniques are recommended as areas for future study.

ACKNOWLEDGEMENTS

The author gratefully acknowledges the help and support of many people in the completion of this thesis.

I am indebted to Dr. James W. Longest, my major advisor, whose guidance in the development and completion of this thesis has provided an important and invaluable academic experience.

Dr. Clifford L. Nelson and Dr. David L. Kruegel offered many helpful suggestions and guidelines and their willing participation on the examination committee is appreciated.

I am particularly indebted to Eugene Owen for his assistance in the data collection and processing and for his friendship over the last three years.

The experience of Christine Tennant with regard to the entire project was very helpful as various phases of the thesis developed.

I am most grateful to Cathy O'Connor for her rapid and efficient typing job.

The cooperation and assistance of Dr. Dorothy P. VanZandt, Food And Nutrition Specialist, Extension Home Economics and Dr. Harold D. Smith, Associate Director, Maryland Cooperative Extension Service which was crucial and appreciated as was the very willing cooperation of the Supervising Agents - Home Economics and their staffs in each county visited.

Throughout, the support of my family, husband and friends was most meaningful and appreciated.

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CHAPTER I

INTRODUCTION

The nature and dimensions of poverty in contemporary American society have been the subject of popular and scientific investigation for the past decade and a half. The numbers of the poor, their demographic characteristics and life styles, have been reported and analyzed by social scientists, government officials, journalists and laymen. Other discussions have centered on the "causes" of poverty, the "culture of poverty", the impact of the existence of poverty on the social structure and the action required to alleviate poverty.

An extensive array of social programs emerged in the early and middle 1960's designed to deal with the phenomena associated with poverty. Programs such as job training and manpower development, food stamps, medical care for the aged and indigent and those involving the establishment of Community Action Agencies accompanied an expansion of existing programs such as Social Security, Aid to Families with Dependent Children and Public Assistance. These programs met with varying degrees of success, both in reaching their objectives and surviving the changing political climate as the decade ended.¹

The Expanded Food And Nutrition Education Program is one of the surviving anti-poverty efforts. Established in 1968 and implemented in 1969, the program is under the auspices of the Federal Extension Service of the United States Department of Agriculture. Its primary objective is to effect improvement in the nutrition of low income families through the educational approach characteristic of Extension Service philosophy. The program is national in scope, operating in parts of every state. Paraprofessional aides are employed as the primary service delivery personnel.²

In the examination of this or any program designed to change social conditions or perhaps alter social structure, there are many questions which present themselves for scrutiny and answer. A major question involves the effectiveness of programs in reaching their target populations and accomplishing their specific objectives. Another pertinent issue questions whether allocations of human and material resources are valid for both the purposes of a given program and the needs of society. Questions also arise as to practical and efficient means for measuring any of the above mentioned variables.

The purpose of this study is to evaluate certain aspects of the Expanded Food And Nutrition Education Program. The study is an exploratory investigation into the relationships, if any, existing between selected characteristics of a paraprofessional population and changes in client behavior. It is hoped that the investigation will provide insight into the demographic characteristics of the paraprofessional and client groups, the nutritional behavior of clients, the

characteristics of relatively effective and ineffective paraprofessionals and overall program effectiveness.

The study is part of NE-68, a Northeast Regional project entitled, "Paths Out Of Poverty". The project is generally concerned with the analysis and evaluation of existing social services and is designed to develop a theoretical and practical framework to guide and enhance the effectiveness of social intervention efforts.³ The Maryland segment of this project is studying the leadership characteristics of paraprofessionals with the objective of determining leadership types that will maximize efficiency and effectiveness of service delivery. The present study is a part of the Maryland Leadership Study.

The Problem

The complexities of poverty and of efforts to alleviate it form the broad context of the problem central to this study. Social service delivery systems and agencies are the implementors of legislative and policy decisions and, therefore, necessarily become focal points for research and evaluation. Such inquiry seems necessary if programs and the functions they perform are to be continued and improved.

More specifically, the problem investigated here is: the functioning of paraprofessionals in an educationally oriented social service program. In this study, the problem focuses on the role of nutrition aides in the implementation of the Expanded Food And Nutrition Education Program.

Questions regarding the effectiveness of these paraprofessionals in-service delivery and in the accomplishment of program objectives can be posed on two levels:

1. Are paraprofessionals effective in the delivery of services? In the case of the Expanded Food And Nutrition Education Program, are nutrition aides able to effect change in the nutritional behavior of program homemakers?

2. Are there certain characteristics of paraprofessionals that lend themselves to more effective role performance? Do the leadership orientations and self-esteem levels of nutrition aides relate to changes in client nutritional behavior?

To summarize, the problem guiding this study concerns the characteristics of paraprofessionals and the relationship of these characteristics to observed change in program family behavior.

Terminology

The following definitions will be utilized in this study:

Nutrition aide -- an indigenous paraprofessional employed by a county Extension Service to be the primary service delivery agent of the Expanded Food And Nutrition Education Program. The terms "non-professional" and "sub-professional" are often used interchangeably with "paraprofessional". Nutrition aides are also referred to as "aides".

Program homemaker -- an individual enrolled in the Expanded Food And Nutrition Education Program and serviced

by a nutrition aide. The terms "client" and "family" are used interchangeably with "program homemaker".

Family record -- the federal form which records demographic information for families in the Expanded Food And Nutrition Education Program. Twenty-four hour food recalls, taken at six month intervals, are also part of the family record.

Four food groups -- milk, meat, fruits and vegetables and breads and cereals.

Daily Food Guide -- the government standards which recommends the following number of servings from each of the four food groups: milk, 2; meat, 2; fruits and vegetables, 4 and breads and cereals, 4.

Nutrition behavior -- operationally defined as the score assigned to a homemaker's food recall information. The number of servings in each food group is analyzed according to the Daily Food Guide and multiplied by the number of food groups represented in the diet.

Nutritional level -- operationally defined as the average of nutrition scores for the sub-sample of clients corresponding to each aide.

Nutrition change score -- operationally defined as the score representing the difference between the two nutrition scores available for each client.

Nutritional change -- operationally defined as the average of the nutrition change scores for the sub-sample of clients corresponding to that aide.

Leadership functions -- the six dimensions of leadership derived from Bowers and Seashore's four leadership factors.⁴ The functions are: (I) planning and analysis, (II) work facilitation, (III) goal emphasis, (IV) support, (V) interaction facilitation and (VI) communication facilitation. Items pertaining to each function constitute an activity inventory. For the purpose of analysis, functions I to III are combined to form a "task" dimension and functions IV to VI constitute a "social" dimension.

Leadership -- operationally defined as the scores received on a sixty-two item activity inventory derived from an adaptation of Bowers and Seashore's four leadership factors.

Self-Esteem -- operationally defined as the score received on Rosenberg's subjective ten item Likert type scale.

Socioeconomic factors -- characteristics such as age, residence, family size, education, race and income level.

Objectives

This study has seven objectives:

I. To describe the aide population and client sample in terms of demographic and nutritional characteristics.

II. To describe the nature and extent of the relationship between client demographic characteristics and nutritional behavior.

III. To describe the nature and extent of the relationship between the aggregate nutritional levels of clients and the total leadership and self-esteem attributes of the corresponding nutrition aides.

IV. To determine the nature and extent of the relationship between measures of leadership and a measure of client nutritional change in a population of paraprofessional nutrition aides.

V. To compare the nature and extent of the relationships between task oriented leadership scores and socially oriented leadership scores and a measure of client nutritional change in a population of paraprofessional nutrition aides.

VI. To determine the nature and extent of the relationship between a measure of self-esteem and a measure of client nutritional change in a population of paraprofessional nutrition aides.

VII. To determine the nature and extent of the relationship between measures of leadership and a measure of self-esteem in a population of paraprofessional nutrition aides.

Hypotheses

The following hypotheses are tested:

I. For nutrition aides, scores on each of the nine leadership dimensions, as derived from Bowers and Seashore's and Bale's typologies, are associated with a measure of nutritional change derived from client food recalls.

II. For nutrition aides, scores on leadership functions I to III, pertaining to a task orientation, show greater association with a measure of nutritional change than the scores on functions IV to VI which pertain to a social orientation.

III. For nutrition aides, self-esteem scores, as measured by Rosenberg's scale, are associated with a measure of nutritional change derived from client food recalls.

IV. For nutrition aides, scores on each of the nine leadership dimensions, as derived from Bowers and Seashore's and Bale's typologies, are associated with a measure of self-esteem based on Rosenberg's scale.

CHAPTER II

REVIEW OF LITERATURE

The review of literature is divided into three sections: 1) background, including literature relevant to the general nature of poverty, a review of the rationale for and use of paraprofessionals and studies of the Expanded Food And Nutrition Education Program; 2) self-esteem, including a definition of the concept, general theoretical considerations and its relationship to social characteristics of individuals; 3) leadership, including a definition, a discussion of personal characteristics of leaders and of typologies of leadership roles in small groups.

Background

Poverty in this society cannot be seen apart from the overall class structure of American society. Gabriel Kolko reviews the percentage of national personal income received by different segments of the population and concludes that an inequality has characterized American income distributions for most of the century.⁵ Income shares of the high income groups have remained relatively constant, whereas the lower groups have experienced a decline in their share of the

national income. In 1959, the highest tenth of the population received 28.9 percent of the national personal income while the lower 50 percent of the population received a combined 23 percent of the national personal income.⁶

Michael Harrington lends support to Kolko's assertions and reports that in 1958, the lowest fifth of families possessed 4.7 percent of the total personal income and the highest fifth had access to 45.5 percent.⁷ Herman Miller further attacks the myth of widespread affluence and concludes that the social revolution believed to create equalization of resources and opportunities ended twenty years ago. Not only have relative income shares remained basically unchanged, but the gaps existing between racial groups and the various occupational groups have also remained stable at unequal levels.⁸

The number and identity of these who receive a disproportionately small share of America's affluence has proven problematic to social investigators. One difficulty lies in the "invisibility" of the poor. The myth of universal affluence undergirds this invisibility and residential segregation, isolation, political powerlessness, as well as personal characteristics of the poor reinforce it.⁹ Another problem is found in the variety of criteria employed in the formation of definitions of poverty. Louis Ferman et. al. describe four different criteria: income criteria, community resources criteria, negative risk criteria and behavioral or attitudinal criteria.¹⁰ Application of each provides a slightly different perspective from which to view the individuals and structures associated with poverty.

Harrington numbered the poor between forty and fifty million in 1962. His definitional criteria were in terms of lack of access to minimal levels of recognized necessities such as education, health care, employment security and housing. Individuals rendered obsolete by automation, blacks, the aged, farm workers and urban migrants were among those identified as residents of the "Other America".¹¹

Others, using predominately income criteria, have disputed the number of poor but few have argued with Harrington's notions of the groups most vulnerable to and most often in poverty. Oscar Ornati identified four poverty linked characteristics attributable to 70 percent of the abject poor: aged, rural-farm residence, non-white and female head of family. Large families, less than eight years of education and residence in the South were also seen to be poverty linked.¹²

In 1963, using a poverty level of approximately \$3,000 annual income, there were approximately 34.5 million people classified as poor. Mollie Orshansky's "adjusted level", based on the Department of Agriculture's low cost and economy food plans and adjusted to family characteristics such as residence and size, yields a poverty level that ranges from \$1,580 for a single non-farm individual to \$5,090 for a non-farm family of seven or more on the economy food plan.¹³

The President's Commission On Income Maintenance Programs determined that on the basis of a \$3,553 annual income, there were 25 million poor.¹⁴ Reporting in 1968, the Commission found that:

"one half of all poor families live in the South; two fifths of the poor are children under 18; two thirds are white; one fifth are over age 65, . . . over one

third of the poor live in families in which the family head works throughout the year."¹⁵

The specific nature and extent of rural poverty was also documented by a presidential commission which counted 14 million among the nation's farm and non-farm population as poor or destitute. Concentrated in coastal and mountainous areas of the South, on Indian reservations, in New England and along the Great Lakes, these poor were characterized by low educational levels, a scarcity of opportunity for employment or mobility, hunger and a declining population.¹⁶

Thus, regardless of the particular group described or the criteria used, the continued existence of a poverty class is beyond question. It is both pervasive and specific, affecting large numbers of people but tending to cluster in certain age, racial, residential and occupational groups. It should be viewed not only in terms of income inadequacy, but also in relation to an individual's or family's inability to obtain access to the resources that are both available and necessary for social viability in contemporary society.

The life styles and psychological attributes of the poverty population have also been reported widely in the literature. Apart from demographic characteristics, there are seen to exist certain behavioral patterns that are distinctive to the poor population. Harrington described the response to the stresses of poverty in terms of the "twisted spirit". Pessimism, fatalism and depression and the acting out of immediate gratification were seen as the poor individual's adaptation to his environment.¹⁷

The seeming inability of low income individuals to defer the gratification of needs and impulses has become one of the popular cliches of the poverty rhetoric. S. M. Miller et. al. suggest that the absolute nature of this assumption deserves examination. The delay of gratification is seen to have more situational than class correlates; that is, whether an individual delays gratification or not depends on whether he can foresee reinforcement of and value in his delay.¹⁸ This insight perhaps deserves consideration in our investigations of and interactions with the poor.

The personality and behavioral attributes believed to be associated with low income life styles have often been grouped under the general rubric, "culture of poverty". On the individual level, Oscar Lewis finds the following characteristics associated with life in the culture of poverty: fatalism, helplessness, dependency, inferiority, weak ego structure, orality, confusion of sexual identification, a strong present time orientation and a high tolerance for psychological pathology of all kinds.¹⁹ It is further noted that the culture of poverty is not to be seen solely in the negative aspects of disorganization and deprivation but also in positive terms as a sub-group of the larger western culture with its own structure and mechanism for sustaining life. Again it seems that this emphasis on the positive aspects, the possible strengths of a group's or individual's way of life, provides a perspective on the poor and poverty that has been easier to romanticize than realize.

The culture of poverty is predicated on the "disengagement, the non-integration of the poor with respect to the major institutions of society".²⁰ The poor are outside of, apart from, the structures and processes that are an integral part of America's political and social economy. Yet, they are affected by the nature of and change within those very institutions and organizations. While the question of causation of poverty is a complex one, it seems reasonable to assert that in general, the causes are to be found, not within the personality of an individual, but rather within the political and economic structure of society. Ferman et. al. conclude that mobility of the poor is limited by lack of opportunity rather than an inability on the part of the poor to use or maximize these opportunities. The poor are excluded from the operations and decisions of the political economy by virtue of their lack of organization and collective voice.²¹

Five general features of the current American political and economic climate that influence poverty are: 1) defense spending, which curtails resources for social investment and places emphasis on highly technical skills, 2) a cold war ideology that asserts the advantages of free enterprise and individualism and distrusts efforts of social and economic reform, 3) the increase in corporate power coupled with the rapid rate of technological change, 4) community power relations and 5) the congressional conservative coalitions.²²

It is within this context that the welfare system operates. The inability of traditional as well as "War On Poverty" programs to meet the needs of the poor was emphasized by the President's Commission On

Income Maintenance Programs. The lack of programs for the working poor, the inadequacy of social insurance benefits to low earners and financial, residential and behavioral eligibility requirements were among the inadequacies cited in the study.²³ Richard Cloward and Frances Piven see these inequities as a direct product of a bureaucratic system that has the power to control client behavior via a manipulation of information, services and benefits.²⁴ These bureaucracies and policies are seen as a logical product of the political and economic conditions cited earlier and perhaps are evidence of an unwillingness on the part of the political and economic system to make an investment in programs that could appreciably affect the status of poverty in America.

From a recognition of the inadequacies of the current social service system have sprung numerous reform ideas. They range in scope from a massive guaranteed income program to suggestions for specific programs to meet the health or educational needs of a select group.

One of the ideas falling between these two extremes is the new careers concept. Poverty is viewed, consistent with the previous discussion, as a problem the solution of which necessitates structural and institutional change. The roles of professionals as well as the educational and occupational structures of society are scrutinized and a proposal for their revision forwarded. Arthur Pearl and Frank Riessman, as advocates and expositors of the concept, define its goal as the creation of a large number of entry level jobs for the unskilled and uneducated which would give them opportunity both to advance

through a career progression and to contribute to the well being of society.²⁵

The plan is in response to both the large number of unemployed characterizing the poverty population and also to the large number of professional helping positions that are unfilled. These professional positions, it is argued, could be revised, both to identify functions and activities that could be performed by non-professionals and to maximize the purpose and function of the highly trained professional.

The development of non-professional positions and careers is seen to have a many faceted impact on poverty and the human services. The employment of non-professionals can help meet the new service needs created by both the poor population and program designed to help it. Non-professional positions provide many jobs for the unemployed and thereby transform dependency into socially useful behavior. And finally, non-professionals can provide a bridge between the middle and lower classes and thereby improve service to the poor.²⁶ It is the bridging function of the paraprofessional that is seen as one of his major assets as an agent of service delivery. The non-professional is of the community and is thereby a peer of the client. This status not only enables him to be an adequate and reasonable role model but gives him an intimate knowledge of and ability to deal with the community and its problems that few professionals possess or acquire.²⁷

On a more personal level, the potential exists for paraprofessionals to acquire a new sense of self-respect in the competent performance of a meaningful role.²⁸ Of course, drawbacks and difficulties are foreseen.

Many of these center on the role relationships between professionals and paraprofessionals.²⁹ The reaction of the paraprofessional to agency affiliation and success or failure on the job are also seen as concerns that necessitate continuous and intensive training.³⁰

It seems reasonable to conclude that this concept is adequately defined and represents an important anti-poverty strategy. While it does not offer a comprehensive solution, it offers what appears to be a viable alternative in the crucial area of employment. This area of the social situation is critical to society in general and bears special significance to the problems associated with poverty. It also seems to be based on the principle that the poor have the potential to fulfill meaningful roles in society if given the opportunity. The program proposal seems to emphasize both the needs and strengths of the poor - the need for satisfying permanent employment and the ability of the poor to understand their own community and to interpret its needs to agencies. For these reasons, programs employing paraprofessionals are of interest and seem worthy of investigation and evaluation.

Although several programs utilizing paraprofessionals have been developed and their success generally asserted, empirical evidence of either overall program effectiveness or of particular role performance seems scarce. The Expanded Food And Nutrition Education Program (EFNEP) of the Department of Agriculture is one of the programs employing paraprofessionals in-service delivery. The impact of the program has been evaluated both nationally and locally. The program is oriented to the problems of hunger and nutrition that are known to

exist in many low income families. Educational efforts are directed toward the homemaker and focus on the essentials of nutrition, food purchasing and consumption habits. Nutrition aides also provide information regarding and help in attaining other community resources to improve a family's general well being. By August of 1971, EFNEP had reached a total of 2.9 million persons in 600,000 families nation-wide.³¹

The program was evaluated nationally on the basis of its first nine months of operation. A sample of 10,524 family records was used as the source of socioeconomic and food consumption data. These records are available for every family in the program. Twenty-four hour food recalls are taken every six months. In terms of socioeconomic characteristics, the participating homemakers were found to be predominately from minority groups and largely urban. They averaged 43 years of age and had an average educational attainment of eight years. These figures are seen to be reflective of the poverty population in general. Family size averaged 4.8 people and more than 75 percent of the families had children. More than 60 percent of the families had annual incomes of less than \$3,000 and the average monthly income reported was \$221, with an average food expenditure of \$76 per month, or approximately one-third of the family income. The study concluded that, in general, the target population was reached.³²

Improvement in food consumption practices is also documented by the study. The Department of Agriculture's Daily Food Guide of recommended servings from each of the four food groups is used as a measure of food consumption practices.³³ The proportion of homemakers

preparing the recommended number of servings increased as did the average number of servings from each food group. Homemakers with more education and higher family incomes as well as those of farm residence had better consumption patterns. Groups having poorer initial diets often showed greater improvement than those with better initial diets. Intensity of education received from the aide was also positively related to change.³⁴

Aides were found to be fairly similar to their clientele. Seventy percent lived in the same neighborhood as the families they served, nearly half were black, they averaged eleven years of education and their previous year's income averaged \$4,350.³⁵

A study has also been conducted on the EFNEP operation in Maryland. In 1970, seventy-four paraprofessionals served fourteen counties and Baltimore City.³⁶ Interviews were administered to a sample of 119 homemakers in two counties and to the aides serving those homemakers. The study reported that program target families were being reached as 66 percent of the families were below the 1970 poverty line of \$3,653 for a non-farm family of four. Sixty-eight percent of the homemakers were between the ages of 20 and 44. Homemakers reported being helped by the aide but reports of nutritional practices revealed by a twenty-four hour dietary recall showed generally low levels of attainment and improvement.³⁷ As no comparisons were made, the conclusions drawn as to positive program effectiveness must be regarded as speculative.

A Louisiana study of EFNEP investigated three of the educational variables thought to influence dietary change in homemakers: length of participation, kind of learning experience and intensity of learning exposure. Previous evidence had shown that consumption habits followed a pattern of initial increase followed by leveling and decrease. The study proposed to determine if this pattern persisted over a one year time period and furthermore if differences in dietary levels were related to whether a homemaker was reached through visits, meetings or a combination of visits and meetings and the frequency with which contact occurred. Homemakers were randomly divided and assigned to treatment groups. Aides followed a planned instructional sequence. Data were collected from homemakers via the Family and Food Record forms and were gathered by the aide. Recalls were taken at two month intervals and information gathered regarding the number of meetings and visits.

Results showed that, initially, homemakers consumed the recommended number of servings only for the meat group. The greatest improvement was in the consumption in the fruits and vegetable group. The first two to four months was the period of greatest change. Analysis of variance showed no significant difference between homemakers in the various learning groups as to consumption in the four food groups. Slight increases in consumption of milk and fruits and vegetables were noted for homemakers receiving only visits and those who attended meetings and received visits. Those who only attended meetings recorded greater increases in consumption of the meat and breads and cereals groups. The frequency of visits was significantly associated

with the consumption of milk and breads and cereals whereas the number of meetings attended was significant only in relation to consumption in the fruits and vegetables group.

The study concludes that the diets of Louisiana low income homemakers were generally inadequate and, therefore, that a need exists for a nutrition education program. A hypothesis that consumption levels increase early in the educational effort was substantiated and it was suggested that EFNEP be directed to the recruitment of new homemakers as well as to the development of new methods for maintaining educational contact with program families after their peak change periods. Furthermore, the study concluded that both visits and meetings should continue as program methods as each meets different client and agency needs. Finally, the limitations of the twenty-four hour food recall as an index of overall program effectiveness was noted and the need for methods to further investigate other aspects of the program was stressed.³⁸

This program clearly seems to have a potential as an anti-poverty effort and as a program utilizing paraprofessionals. The previous research leads to further questions on three different levels: would a state-wide sample in Maryland yield a distribution of socioeconomic characteristics similar to previous state and national research; has there been a measurable change in consumption habits and can these changes be related not only to characteristics of the families themselves but to the aides who deliver the nutrition education?

In conclusion, poverty must be viewed as a structural and institutional phenomenon the solution to which is highly complex and far

from being achieved. While the characteristics of individuals in poverty have been amply recorded, much more effort needs to be expended in the investigation of the programs that are part of the anti-poverty effort. To this end, programs employing paraprofessionals seem particularly worthy of research.

Self-Esteem

The nature and origin of the self and the development of an individual's self-image captured the interest and concern of many of social psychology's early thinkers and practitioners. Charles Cooley, advancing the concept of the "looking glass self", believed that the attainment of self-image was a process of imagination. One imagines his appearance to another, imagines the judgement of that appearance and thereby gains a self-feeling. George Mead furthered this interactional approach to the study of the self with the notion that one's self perceptions are contingent on the views of generalized and significant others. "Taking the role of the other" was the mechanism by which one saw himself.³⁹ Harry Sullivan and Karen Horney also emphasized the interpersonal aspects of self-evaluation and stressed the importance of parental and sibling relationships in the development of self-esteem. Carl Rogers viewed the self-image as arising from interaction with the environment, reflecting the individual's background and serving as a guide to maintain the individual's adjustment to the external world.⁴⁰

Attempts have been made to investigate and define the vague "other" of early theorists and these fall within the general scope of reference group theory. The term "reference group", while expressing ancient ideas of man's relation to his group, came into sociological usage with the work of Herbert Hyman. Hyman found the standards people set for themselves to be determined by the groups to which they relate and furthermore that an individual's judgement of his own status shifts as his reference groups change.⁴¹ In a general sense, Muzafer Sherif summarizes this finding and defines reference groups as "those groups to which the individual relates himself as a part or to which he aspires to relate himself psychologically". The norms of the reference group are the major anchorages in relation to which an individual's experience of self-identity is organized.⁴²

The organizational quality of the reference group has been noted by Tamotsu Shibutani who sees the reference group as the major component of the individual's frame of reference. The perspectives of an individual's reference groups serve to organize his experiences and thereby enable him to cope with the plurality of social worlds, each with their own range of perspectives and specifications of role performance, which confront individuals in a modern society.⁴³

Reference groups have also been conceptualized to be of different types and to perform different functions in relation to the individual. Theodore Kemper defines three types of reference groups: the normative group, the comparison group and the audience. Normative groups are those entities that provide the individual with a guide to action by

explicitly setting norms and espousing values. The second type of group, the comparison group, provides a frame of reference which facilitates judgements regarding the many issues facing the individual. The comparison group provides information as to the legitimacy and adequacy of behavior. Role models are a part of this type of reference group. Audience groups place no normative constraint on the individual but rather serve as a focus for his behavior.⁴⁴

Harold Kelley's outline of the two major functions that reference groups perform in the development of attitudes parallels Kemper's typology of groups. Kelley proposed that reference groups perform normative function as they set standards and induce conformity by reward and punishment systems. A comparison function is achieved as the individual views the reference group or individual as a standard against which he may evaluate his behavior or other personal attributes or circumstances. These two functions can often be served by a single group. Often, however, one or both of the functions are served by a group of which the person is not a member.⁴⁵

The various reference groups that constitute an individual's social world at a particular time must be seen as important influences on the perspectives, attitudes and behaviors which he manifests. The theory of reference groups places the individual in the context of the groups to which he belongs or aspires and thereby provides a more complete picture of behavior than could be achieved from an individualistic perspective.

The reference group concept has been both the tool and subject of research. In Theodore Newcomb's Bennington study, the change in attitudes over time of a college population was attributed directly to the influence of various reference groups on the individuals. The general trend showed a predominately conservative freshman group change over the four years of college to a predominately non-conservative senior group. The relative influence of the family and the college community on the outlooks of individuals were seen to be the crucial difference with respect to the degree of conservatism of an individual's political and economic views.⁴⁶

Robert Merton and Alice Kitt used the concept of reference group in a reconsideration of the data gathered by Samuel Stouffer et. al. in The American Soldier. The studies were originally designed to investigate attitudes and sentiments of American soldiers. Findings consistently revealed attitudinal differences between soldiers of differing statuses. The notion of relative deprivation was introduced as the intervening variable, an explanation for the status variation in attitudes.

Merton and Kitt saw the concept of relative deprivation as an indirect but relevant application of reference group theory. An example of their utilization of the available data in the interest of reference group theory can be found in the information regarding soldier's evaluation of promotion opportunities. It was found that less opportunity for promotion for everyone in the group was associated with generally more favorable opinions of the promotion system. Merton and Kitt theorize that one's opinions represent a relationship between his own

expectations and achievements relative to others in the same situation. Therefore, a high rate of mobility, where the hopes of some must necessarily outreach achievements, would yield a generally less favorable attitude toward the promotion system. On the other hand, if an individual views others of similar rank, experience and education and finds them to be progressing at the same rate as he, he will express satisfaction with the system.

The same sort of rationale was used to account for many similar attitude variations between men and groups of differing status. The relative influence of each of several possible reference groups is weighed to determine the group that is most salient in a given situation.⁴⁷ This evidence also supports the "significant other" notion of earlier theorists.

That reference groups are often groups in which the individual is not a member and that these groups serve a mobility function is also highlighted by Merton and Kitt. Conformity to the values of a non-membership group was related to incidence of promotion. Positive orientation to a non-membership group seemed to foster an anticipatory socialization in the aspiring individual, a situation which could both aid attainment of normative conformity and presumably hasten advancement and adjustment once a new status is acquired.⁴⁸ These extensions of reference group theory on the basis of empirical data lend credence to the definitions and conceptualizations cited earlier and illustrate the utility of the concept in the explanation of a wide variety of behavior.

Given the evidence that reference groups are an important determinant of an individual's attitudes, it would also follow that reference groups influence the attitudes toward the self. It also seems plausible that these self-attitudes affect the entire range of behavior, including the effectiveness of one's functioning.

Self-esteem as a social-psychological concept has been variously defined and measured. As a point of departure, Stanley Coopersmith's definition describes self-esteem as:

"The evaluation which the individual makes and customarily maintains with regard to himself; it expresses an attitude of approval or disapproval and indicates the extent to which the individual believes himself to be capable, significant, successful and worthy . . . a subjective experience which the individual conveys to others by verbal reports and other overt expressive behavior."⁴⁹

In Coopersmith's study of adolescents, four major factors are seen to contribute to the development of self-esteem: the nature and quality of an individual's interaction with significant others, the individual's history of success, the individual's values and aspirations and the way in which he responds to devaluation.⁵⁰ These elements are clearly related to the reference group theory discussed earlier.

While the major focus of Coopersmith's investigation was the nature of the relationship between the individual and his social milieu, hypotheses were advanced as to the individual attributes associated with different levels of self-esteem. Individuals with high levels of self-esteem were expected to approach tasks and persons with the expectation of success, to express a confidence in their own judgements and generally be assertive. In contrast, individuals of low self-esteem

were expected to express a lack of confidence in themselves and an apprehension regarding the exposure of self or ideas in a social group.⁵¹ The sample consisted of white, middle class, pre-adolescent males who were selected to represent different levels of self-esteem. Subjects were clinically evaluated on ability, projective and personality measures, as well as laboratory observations. Both the subject and his mother were given interviews and questionnaires relevant to the antecedents of self-esteem.

Results showed the relationship between self-esteem and social background to be weak. While those designated as upper middle class subjects tended to have higher measures of self-esteem and those in the lower middle class group lower measures, these influences were seen as weak and distant. The study suggested that the more relevant determinants of self-esteem exist within the close interpersonal environment of the family group wherein conditions of acceptance, respect of individuality and clearly defined limits were crucial factors.⁵² It seems reasonable to conclude that the family is a major and highly influential reference group.

Coopersmith's conclusions lend support to Morris Rosenberg's earlier work which was also with an adolescent sample and based on a similar theoretical framework. Rosenberg investigated how different social experiences would bear on levels of self-esteem and self-value. The sample consisted of 5,024 high school students randomly selected from ten New York State high schools.

The instrument used to measure self-esteem was a ten item Guttman type scale which was found to have a 92 percent reproducibility and 72 percent scalability. Other measures of socioeconomic background were also gathered.

Results showed that, while adolescents from higher social classes were somewhat more likely to accept themselves than those from lower social strata, the relationships were not strong. The relationship between self-esteem and religious affiliation was also weak. In combination with the class factor, there was a slightly stronger effect noted. With regard to racial characteristics, Rosenberg found little basis for concluding that the level of self-acceptance of a group member is reflective of the social prestige of that group in general society. It is finally concluded that, for adolescents, sub-cultural norms are possibly a more important determinant of self-esteem than the general social membership or the prestige generally accorded a certain group.⁵³ The studies of Coopersmith and Rosenberg agree that social class membership per se is a less than adequate determinant of self-esteem and, furthermore, that the determinants of self-esteem are more likely to lie within the framework of the closer interpersonal relationships of the individual.

The argument of class as relatively unimportant in its impact on self-esteem is contrary to certain previous research. John McDavid and Herbert Harari cite the works of Kenneth and Mamie Clark, Eugene Hartley et. al. and Warren Haggstrom as evidence to suggest that one's class position may be related to his self-conception and self-esteem.⁵⁴ Clark

and Clark studied 250 Negro children and found that, when presented with dolls representing different racial groups, preferences were consistently expressed for, and positive values assigned to, the white dolls.

Hartley et. al. found ethnic identification to be used with greater frequency as children matured rather than the name identification of younger children. Haggstrom's study compared residents of segregated and desegregated areas and found Negroes living in segregated areas to have lower levels of self-esteem. In this study, the environment was seen as a depressing factor, a point relevant to evidence cited earlier regarding the debilitating effects of poverty on the poor.

While discussions of the relevance of class in the determination of self-esteem diverge, other evidence supports the important role that reference groups play in the determination of both general and self-attitudes.

E. L. Quarantelli and Joseph Cooper attempted to test Mead's notion that the self is the product of the individual's imagination of the response of others. The general subject of investigation was the professionalization of dental students. Both students and presumed significant academic others placed the student on various scales of opinion and expectation. It was generally found that the perceived rather than actual responses of others are more important in the formation of self-conception. In most cases, those with high self-ratings saw the response of others as more positive than did those with low self-ratings. 55

Harold Milford and Winfield Salisbury investigated the self-definitions of a sample of the adult population in Iowa. The responses to the open-ended Twenty Statements Test were analyzed to determine how adults define themselves in terms of salient roles and statuses. Four categories had high rates of mention: marital status and role, nuclear family status and role, religious identity and occupation. Females were found to be more concerned with family oriented definitions and also with anchoring themselves in non-family groups. They were also more religiously oriented. Males, on the other hand, mentioned sex and ethnic identity more often than females. Females seemed to view the status of mother more as an anchoring point than males did the father role. Occupations of all groups received high rates of identity.⁵⁶ These findings lend support to evidence presented earlier that family and other primary groups have influence on an individual's view of himself. The prominence of occupational orientation in individual self-perceptions also seems important for this study.

Theodore Kemper studied the self in relation to the perceived expectations of others of biographical significance to the individual. A sample of business executives responded to an open-ended instrument regarding their self-images and identifications. They also recorded their perceptions of other's expectations regarding themselves and the attendant roles and behaviors associated with them. The results were only moderately favorable to the anticipation that other's expectations could be reflected in the self-perceptions of the individuals.

It was found that the significance of another person decreases as the distance from the individual increases. For this group, the wife and boss were seen to be more influential than colleagues or fathers. Furthermore, the relationships observed between perceived expectations and self-expectations were found to depend on the relative importance of a given other to the respondent. Some attributes, such as intellect, independence, rationality and creativity had definite negative relationships between self-view and perceived expectation and this result is accounted for by the introduction of the notion that for such attributes the individual is more likely to view himself as the source of expectations rather than another.⁵⁷ The idea of an individual's inner resources as a source of self-concept seems an important adjunct to the obvious contribution of significant others in the self-development process.

Joseph Woelfel and Archibald Haller investigated the relationship between three major sources of information and influence on the individual and his attitudes as expressed in educational and occupational aspirations. The individual was seen to have three sources of information on which to base his attitudes: interpersonal influence, including those who hold expectations and those who serve as models; self-reflexive activity, where the individual makes an inference about himself on the basis of his response to some object and other attitudes held by the individual.

The sample consisted of 100 high school seniors in a socioeconomically mixed Wisconsin city. Data were also gathered from 950 designated

significant others. Measures of intelligence, the family's sociostructural position, the educational and occupational expectations of others, the individual's aspirations, self-reflexive measures of grade point average, leadership and activities were also analyzed.

The authors conclude that the three influences hypothesized did, indeed, exercise a strong causal influence over the formation of attitudes and that these attitudes influenced behavior. The social and structural characteristics affected attitudes as they were mediated through significant others; that is, the expectations of significant others were influenced by the sociostructural characteristics they observed. These others then affect the individual in terms of his attitudes and these attitudes related to both performance and similar attitudes.⁵⁸

The conclusions of this study seem to join both the tenets of reference group theory as well as the argument of social class determination of self-concept. The two sources seem to be supportive of each other with sociostructural variables exerting an indirect but nevertheless important influence on both the world view of the individual and the opinions and expectations others come to hold for him. The opinions and expectations of significant others then form a large part of the individual's attitude repertoire, including the attitudes through which one judges himself.

It can be assumed then that, in the current study, the attitudes expressed by individuals on a measure of self-esteem will reflect a variety of influences. For the paraprofessionals who serve as the subjects of this study, it is of interest to inquire which others or groups are the most influential in their self-conceptions. The aide

could easily be seen to be in a marginal position, oriented both toward the expectations of her paraprofessional co-workers and professional supervisor and toward the expectations of the low income community. The notion of role model is a component of reference group theory and has a direct link with earlier discussions of the paraprofessional potential. The effectiveness of the paraprofessional as a role model is not part of this study but its influence as an explanatory possibility should not be neglected. Self-esteem has also often been linked with the general effectiveness of an individual and seems an important variable to consider in any study of role performance. Questions as to the nature and level of self-esteem as well as the possible impact of this most important attitude on role performance and effectiveness will guide this study.

Leadership

Group dynamics, as a field of interest and study, has gained a great deal of momentum and popularity in recent years. As an integral aspect of the study of the structure and function of groups, the source and nature of leadership behavior has emerged as a focal point for thought and research. The concept of leadership, however, remains subject to great variation in definition, measurement and conceptualization.

Leadership is a social-psychological concept, therefore, it necessarily involves the study of both the individual and the group milieu, a factor which no doubt accounts for much of the difficulty and variability which seems to characterize its study. The concept has been

approached from both a trait and a situational point of view, reflecting the full range of its nature. While the situational approach has become prominent and is seen to give a more complete perspective on the function of leadership within a group, it seems useful to consider some of the conclusions of trait studies.

Since the study of leadership cannot be seen apart from the context of a social group and since both "leadership" and "group" are terms of common usage, the definition of each seems to be necessary as a foundation for further discussion.

Cecil Gibb, in attempting to review and consolidate many of the notions and definitions of the group, poses the definition of the functional group as "two or more organisms interacting, in the pursuit of a common goal, in such a way that the existence of many is utilized for the satisfaction of some needs of each".⁵⁹ This definition incorporates many of the aspects which appear to be critical when considering group behavior. The interaction among individuals as well as both goal direction and need satisfaction of members seem to be equally represented and thereby to provide a useful definition. That the group should serve to accomplish a task and, furthermore, to fulfill individual needs indirectly related to the task was emphasized by Joan Criswell.⁶⁰

In a more structural sense, Dorwin Cartwright and Alvin Zander classified group objectives into those related to goal achievement and those related to the maintenance or strengthening of the group itself.⁶¹ Raymond Cattell introduced the concept of group synergy the amount of energy available for expenditure by the group and on the basis of factor

analysis concluded that energy expenditures fell into two general categories: energy to maintain the group and energy expended in the execution of the group's task.⁶² Both of these aspects, task achievement and maintenance for the fulfillment of individual needs, seem to be important in the consideration of groups and, by extension, to the behavior of individuals in those groups.

The question of how a group structures itself and the members and roles within it in the effort of goal achievement leads directly to a discussion of leadership. A leader can be seen as the occupant of an office or formal position, the possessor of the most power in a given situation, the choice of peers or the person representing the ego-ideal for other group members. Gibb, however, while acknowledging the contributions of all of these notions, concludes that Pigor's 1935 definition remains the most adequate: "leadership . . . describes the situation when a personality is so placed in the environment that his 'will, feeling and insight direct and control others in the pursuit of a common cause'."⁶³

More recent definitions emphasize that leadership is essentially a matter of an individual's ability to influence the behavior of others in directions reflective of the group's goal and purpose. Fred Fiedler asserts that leadership is "a process of influencing others for the purpose of performing a shared task".⁶⁴ Bernard Bass defines leadership as an effort to obtain a goal or more specifically, to effect change in another's behavior. On the basis of this definition, Bass includes both teaching and psychotherapy within his definition of leadership, an

inclusion bearing directly on this research.⁶⁵ These definitions are compatible with the view of the group as a functional social-psychological entity with its base in goal directed interaction. The leader, or the performance of leadership roles and functions, exists in and of the group environment.

In the past, research efforts were directed toward the individual who emerged as the group leader. Interest was in the characteristics that differentiated the leader from the other group members. A multitude of physiological and psychological factors have been investigated and the cumulative conclusions appear as diverse as the methods and measures employed.

From reviews of trait studies, however, some generalizations have emerged. Ralph Stogdill reviewed studies bearing on the personal traits of leaders and found fifteen or more of the studies reviewed in agreement that those in leadership positions exceeded fellow group members with respect to intelligence, scholarship, dependability in exercising responsibility, activity and social participation and socioeconomic status. An additional, yet complimentary, series of ten factors emerged when traits reported in ten or more studies were considered. These were: sociability, initiative, persistence, knowing how to get things done, self-confidence, alertness to and insight into situations, cooperativeness, popularity, adaptability and verbal facility. It was also noted that the characteristics and qualities required of a leader are dependent on the demands of the situation.⁶⁶

Gibb also stresses the need to view even highly and positively correlated traits in the context of the group situation and the particular leadership role. The characteristics he found to be most often typical of leaders were intelligence, surgency, dominance, self-confidence and social participation.⁶⁷

Leadership, then, must be seen as more than the personality traits of individuals. This is not to deny the impact of personality factors but to stress that these factors exist and operate within the context of the group situation and the dynamics operating between members in the accomplishment of the task.

Many of the attempts to delineate and define the factors that result in the task accomplishment or the emergence of leadership have been conducted in small groups.

The Harvard laboratory studies of Robert Bales and associates analyzed the interaction of small groups of undergraduates in a controlled setting. The research was designed to explore the questions of whether people develop different roles through interaction and, furthermore, what kinds of roles emerge and why. Randomly composed groups of five members were presented with a human relations problem and assigned the task of organizing the information presented, discussing the behavior patterns, and recommending a solution to the problem. Observers recorded each unit of interaction and classified it into one of twelve predetermined role and behavior categories. Participants also completed questionnaires in which they rated one another and indicated which member had contributed the best ideas and which had done the most to guide the discussion.

In reaching his conclusions on the nature of role differentiation within the small groups, Bales rejects both the single status order hypothesis and the complimentary leaders hypothesis. The first holds that the leader and followers within a group fall into a hierarchy which has the leader as the best all around member and the other members ranked beneath him. The hypothesis of two complimentary leaders is questioned as to whether the complimentary nature often observed is due to the emergence of particular role types or rather to tendencies forced by the group situation.

Launor Carter's three orthogonal factors of individual prominence and achievement, aiding attainment of the group and sociability were re-named by Bales on the basis of his data and termed "activity", "task ability" and "likeability". It was concluded that these three factors were neither mutually exclusive nor supportive; therefore, they should be dealt with as three distinct dimensions. On the basis of evidence of these three factors in the group interaction analysis, Bales delineated a classification of role types in small groups. The member who was high on activity and task ability ratings but lower on likeability was termed a "task specialist" whereas, the member who received high ratings on likeability but lower scores on activity and task ability was called a "social specialist".⁶⁸

The work of Philip Slater, conducted under the same conditions with groups varying in size, generally supported Bales' conclusions and typology. Recognizing that groups are generally faced with two problems, the achievement of a purpose and the satisfaction of member needs and employing Bales' labelling of these problems as "adaptive-

instrumental" and "integrative-expressive", Slater concludes that the basic role differentiation in small groups is that between the task function and the socio-emotional function.

He further defines the leader as that individual who is seen by others to possess the qualities which serve both the task and social-emotional needs of the group and, therefore, the person with the highest combined rating. In the problem solving group that served as the basis of this research, liking seldom coincided with leadership. The seemingly low valuation placed on socio-emotional skills observed in these groups is explained by the demands of the experimental situation as well as a cultural emphasis placed on achievement.

Slater's elaboration of the typology also seeks to explain the position that most often a single individual could not perform both specialties. The roles of task specialist and social specialist are felt by Slater to be incompatible, requiring different personality orientations.⁶⁹

The classification of leadership roles proposed by Bales seems to be based on a large number of experimental cases. Although the data were gathered in a laboratory situation, the typology seems to be a useful one and in accordance with the definitions of the group and leadership given earlier.

Peter Burke has challenged Bales' and Slater's notions of the incompatibility of task and social-emotional roles. The legitimation of high task performance was found to lessen the likelihood that separate and definitive task and social roles would emerge. If the task is acceptable to the group members, the inequality of participation

associated with the emergence of a task leader will not foster hostility and frustration nor necessitate or facilitate the emergence of a social-emotional leader. In groups where high task legitimation is not present, the social-emotional role develops as a mechanism for coping with the hostilities directed toward the task leader. Burke suggests that the condition of legitimacy be added to Bales' and Slater's conceptualizations and, furthermore, that these two roles could be integrated within the same individual.⁷⁰

This notion seems to have some relevance to the study of leadership in a paraprofessional-client relationship. Since leadership is studied on an individual level, as opposed to a group situation, the possibility that roles may be effectively integrated within the same person reinforces the notion that the total leadership attribute should be viewed as well as the particular roles and functions performed in a leadership position.

Small group research has also been conducted in military and industrial settings and many typologies have been forwarded to describe leader development and behavior. David Bowers and Stanley Seashore propose a four dimension typology of leadership consisting of: 1) support, which is behavior enhancing someone else's feeling of personal worth and importance, 2) interaction facilitation, which is behavior encouraging the development of close, mutually satisfying relationships among group members, 3) goal emphasis, which relates to behavior that stimulates enthusiasm for goal achievement and 4) work facilitation, which includes behavior such as resource allocation, provision of technical knowledge and coordination which aid goal attainment.⁷¹

The typology was developed in review of several other studies and the conceptualizations developed therefrom and was applied to the structure and roles of a large insurance firm.

The authors draw on the data and constructs emerging from the early Ohio State Leadership Studies. A. W. Halpin and J. Winer employed a revised Leader Behavior Description Questionnaire with Air Force crews as subjects. Four factors emerged to describe different leadership orientations: 1) consideration, which is behavior of friendship, mutual trust, respect and warmth, 2) initiating structure, which is behavior that organizes and defines relationships or roles in the effort of job accomplishment, 3) sensitivity or social awareness, which refers to the awareness of the leader to interrelationships within the group and 4) production emphasis, which involves group motivation. "Consideration" and "initiating structure" accounted for the most variance and constitute a widely referred to classification.⁷²

The Survey Research Center of the University of Michigan conducted research on leadership as a supervisory style and developed two concepts: employee orientation and production orientation. The first is more human relations oriented while the latter concept is concerned with the technical aspects of production. R. L. Kahn enlarged upon this conceptualization and developed four supervisory functions which were: 1) providing direct need satisfaction, 2) structuring the path of goal attainment, 3) enabling goal achievement and 4) modifying employee goals.⁷³ Direct need satisfaction is seen to parallel Halpin and Winer's "consideration" factor as well as the Survey Research

Center's "employee orientation". "Enabling goal achievement" relates to "initiating structure" and "structuring the path to goal attainment" and "modifying employee goals" resembles the Ohio State "production" factor.

Still other research was conducted at the Research Center for Group Dynamics. Leadership was described on the basis of group functions and was seen to consist of group maintenance functions and goal achievement functions. Group maintenance describes behavior that fosters good interpersonal relationships and interdependence among members and direct the action of the group toward its goals.⁷⁴ This classification obviously parallels the employee - production orientation concept proposed by Katz et. al. and seems to encompass elements of previously mentioned classifications fairly consistently. Halpin and Winer's "consideration" and "sensitivity" factors, for instance, appear to fit within the scope of "group maintenance functions". The "goal achievement" function likewise seems to encompass the elements described as "production emphasis" and "initiating structure".

On the basis of these and other conceptualizations, Bowers and Seashore derived their four factor concept of leadership presented earlier. While the dimensions themselves were theoretically derived, the authors attempted to test the validity of the concept by operationalizing the four elements of the concept and relating them to criteria of organizational effectiveness. The investigation proposed that leadership, as described in terms of the four functions,

could be either mutual or supervisory and could, therefore, be provided by any member to any other. The results, while not conclusive in any given direction, were generally found to support the usefulness of the concept presented. Of the four factors, only interaction facilitation on the peer or mutual level was found to be essentially irrelevant to the study. A relationship between managerial and peer leadership characteristics was supported by the data as was the fact that both levels of leadership are generally important to the effectiveness of an organization. The authors also conclude, however, that the role of leadership characteristics in the prediction of effectiveness, performance and satisfaction seem to vary with the situation and, furthermore, that other factors not necessarily leadership related seem to have a relationship to effectiveness.⁷⁵

The study of leadership has no deficit of description and conceptualization and the task becomes one of selecting descriptive variables and criteria that effectively meet the needs of a particular research situation. In this case, it seems useful to employ a combination of both the trait and functional approaches. The relationship of variables such as self-confidence and socioeconomic status to leadership is hypothesized and measured. Since many of the conceptualizations of leadership seem to converge, it is also pertinent to look at behavior both from the perspective of a role division as well as from a more differentiated view such as that of Bowers and Seashore. A problem conceivably exists in the sense that most of the previous research has been with groups while the current research

involves two persons in a service delivery relationship. From this standpoint, some of the small group research, such as that of Bales and associates may be more relevant than work conducted in a military or industrial setting although these may have a general application. It is assumed, however, that a two person entity possesses the essential qualities of a group and, in this case, is certainly in a problem solving, goal directed situation; therefore, it is somewhat comparable to the subjects of other research.

The paraprofessional, however, should not be viewed completely as a solitary actor. The structure of the paraprofessional role provides for working relationships with co-workers as well as with supervisory professionals. These group contexts are surely a source of influence on the attitudes and behaviors that are manifested by the aide in her role performance.

While the role relationship in the paraprofessional-client dyad is inherently structured, it nevertheless seems useful to explore the strength of leadership exerted as well as the nature of that leadership. Many researchers have pointed to leadership behavior as either reflecting a task or social orientation. Some doubt exists as to whether these roles are or can be integrated within the same individual. In a situation where one individual is placed in a leadership role with respect to another, the question arises as to whether one orientation will emerge and dominate or whether the two orientations are balanced. It is also useful to determine whether

results can be attributed to specific leadership functions as well as whether there is a relationship between levels of leadership and change in client behavior. Through these investigations, the leadership behavior of a group of paraprofessionals is described and related to client change to yield a general measure of program effectiveness.

CHAPTER III

METHODS OF RESEARCH

Introduction

The study is exploratory in nature and investigates the relationships between four major variables in a paraprofessional population. The variables under study are leadership, self-esteem, nutritional behavior and nutritional change. Relationships are hypothesized between both leadership and self-esteem and the measure of nutritional change. In addition, the relationship between the leadership and self-esteem variables is examined separately for both theoretical and methodological purposes. A survey technique was employed to gather data both from the population of aides and from a sample of program families. Prepared questionnaires and available records served as the sources of data. The study was conducted in two phases. Data pertinent to the leadership and self-esteem attributes, as well as to other variables of the nutrition aides were collected in the Spring of 1971. The family data from which measures of nutritional change were derived were gathered in the Spring of 1973.

Assumptions

The study is predicated on the following two assumptions:

1. That the paraprofessional-client relationship, being of an interactional nature, can be said to have the properties and characteristics of a small group.
2. That the paraprofessional engaged in service delivery, especially service of an educational nature, takes on a position of leadership with respect to the client community.

Populations Studied And Sampling Procedures

At the time of the original data collection, questionnaire responses were gathered from the entire population of nutrition aides employed in Maryland. This population consisted of seventy-two aides employed in fourteen counties and Baltimore City. The present study is based on those sixty-five aides for whom family data were also available. The few situations in which family data were not available for a given aide arose either when aides had left their positions or when clients had been transferred between several aides.

A total of 397 Family Records were selected to provide socioeconomic and nutritional information on program homemakers and their families. In each county, a sample of Family Record data forms from the client group corresponding to each aide was selected. To be considered eligible for inclusion in the sample, the Family Record had to meet three criteria: 1) the family named on the Record was served by the aide at the time the aide data were gathered, that is,

1971; 2) the record was generally complete and 3) at least two food recalls, approximately one year apart, were available. The eligible cases were located and numbered and the cases to be included were selected via a random numbers table. Although slight variations in filing systems and record keeping were encountered, this general procedure was repeated for each aide in each county. A goal of thirty cases from each county was set in the anticipation of analysis on a county basis at a later date. These thirty cases were to be evenly distributed between the aides in that county. For example, in a county with five aides, it was desirable to obtain a total of six families from the case load of each aide. In seven of the fifteen areas studied, it was not possible to obtain the total desired subsamples. In these cases, however, all available eligible records were selected and in no case did the number of records gathered total less than fifty percent of the goal.⁷⁶

Instrumentation

Data were gathered from the aide sample by means of a written questionnaire. The questionnaire, entitled "Views Of Extension Aides On Their Roles And Activities In The Nutrition Program", sought information regarding the activities, job orientation and satisfaction, self-esteem, attitudes toward supervision, training needs, program methods and social characteristics of the aides. The questionnaire was pretested on a small group of nutrition aides in the District of Columbia. The questionnaires were administered to the aides in each

of the fourteen counties and Baltimore City during in-service training sessions held weekly in each county. Trained research assistants administered the questionnaires and were available to answer questions.

Of the information gathered in the overall questionnaire, the leadership and self-esteem variables are used in the present study. Selected socioeconomic characteristics of the aides are used as descriptive material in this study.

Leadership

Leadership is measured by a sixty-two item activity inventory based on a derivation of the four factor theory of leadership developed by Bowers and Seashore. The four dimensions of leadership defined by Bowers and Seashore are: goal emphasis, work facilitation, support and interaction facilitation.⁷⁷ For the purposes of the Maryland Leadership Study, two additional dimensions, "planning and analysis" and "communication facilitation" were created to form a total of six leadership functions. The six functions, briefly defined, are:

- I. planning and analysis - activities concerning
 problem and resource analysis as well as
 methods for dealing with problems
- II. work facilitation - activities concerning work
 completion, coordination, scheduling and
 the acquisition of necessary resources
- III. goal emphasis - activities regarding the promotion
 of understanding and acceptance of agency
 goals

- IV. support - activities providing encouragement and motivation to promote confidence in individuals and cohesion within agency and community
- V. interaction facilitation - activities promoting social interaction and functional interdependence both between the agency and client and the agency and the community
- VI. communication facilitation - activities regarding the establishment of communication between agency and client, articulation of needs and the establishment of feedback mechanisms.⁷⁸

Items relevant to each of these functions in the context of the nutrition aide's role constitute the activity inventory. In one set of items, respondents estimated the number of families in which a certain activity was performed. Another set of items provided the subject with a structured response set on which she indicated how often she performed a given activity. There is, therefore, a score for each of the six functions. In addition, Functions I, II and III are combined to form a task dimension and Functions IV, V and VI constitute a social dimension. Scores of the component functions are summed to obtain scores for these summary dimensions. The scores of all six functions are summed to obtain a total leadership measure. There are, therefore, nine leadership scores for each aide.

Analysis indicated that all of the nine leadership scores are intercorrelated. The Spearman Correlation Coefficients for each

function in relation to every other are significant at the .001 level (Table 1). A correlation coefficient of .72 or higher is present for each of the functions in relation to the total score. The two function sub-totals, Functions I to III, the task dimension and Functions IV to VI, the social dimension, have a correlation coefficient of .76. These highly significant correlation coefficients suggest that each of the functions as well as the two combined dimensions are closely related elements of the total leadership characteristic.

Function I, planning and analysis, appears to be more highly correlated with Functions IV, V and VI, support, interaction facilitation and communication facilitation, respectively, than with Functions II and III, work facilitation and goal emphasis. Although planning and analysis is part of the task domain, it seems to bear a special relationship to the social functions perhaps revealing the interrelationship between the two domains in the sense that planning and problem solving are essential components of activities concerned with interaction and communication facilitation. Function II, work facilitation, is correlated with goal emphasis, Function III, at the .72 level, a reflection of the complimentary nature of the activities central to each function. It follows that goal emphasis, Function III, related most highly to Function II, work facilitation. The support function, Function IV, shows high correlation with Functions I, V and VI, planning and analysis, interaction facilitation and communication facilitation, respectively. Again, the problem solving aspect of the

TABLE 1. Spearman Correlation Coefficients Between Nine Leadership Dimensions For Maryland Nutrition Aides^a

Function	I	II	III	IV	V	VI	I-III	IV-VI	Total
I		.41	.48	.73	.59	.72	.75	.78	.81
II			.72	.49	.58	.44	.83	.56	.72
III				.51	.51	.50	.86	.56	.74
IV					.61	.66	.68	.85	.82
V						.63	.67	.86	.82
VI							.66	.88	.83
I-III								.76	.91
IV-VI									.95

^aAll coefficients are significant at the .001 level.

planning and analysis function seems applicable to support activities. That activities concerned with support should be closely related to interaction and communication facilitation is logical although each function deals with relationships on a different level. This rationale also accounts for the high correlations observed between Functions V and VI, interaction and communication facilitation and between each of these and the support function.

Functions I, II and III correlate highly with the sub-total for Functions I to III which reflect a task orientation. Similarly,

Functions IV, V and VI are highly correlated with the sub-total for Functions IV to VI representing a social orientation. That each of the function scores correlates highly with its respective task or social orientation sub-total is expected since the sub-totals are summations and reflect the combined strength of the component functions. It is probable that these interrelationships were anticipated in the original planning and structuring of the instrument.

Self-Esteem

Self-esteem is measured by Rosenberg's ten item subjective scale presented in Likert form. The scale, developed in a study of adolescent self-esteem and mentioned previously in the review of literature, was originally of a Guttman type and was reported to have a 92 percent reproducibility and 72 percent scalability.⁷⁹ In this study, subjects responded by placing themselves in one of four available statuses of agreement or disagreement with statements pertaining to self-opinion.

The questionnaire sections pertinent to this study are found in Appendix A.

Client Data

Data for the randomly selected sample of program families were gathered from the Family Records which are available for each family enrolled in the Expanded Food And Nutrition Education Program. The Family Record is a federal data form which has two major sections. The first part is recorded as the family enters the program and

provides information on demographic characteristics such as residence, welfare and food stamp status, the ages and sexes of family members, the homemaker's education, living arrangements and facilities, general shopping habits and access to stores, race and income. The second part consists of a dietary recall of the food consumed in the previous twenty-four hour period and is taken every six months by the paraprofessional. The number of servings consumed in each of the four food groups is analyzed and recorded by the supervising home economist. The information recorded on the Family Records was transferred to data collection sheets and the confidentiality of the information assured. For the purposes of this study, the socioeconomic information available will be used to describe the sample, as with the aide information. A sample Family Record is found in Appendix A.

Limitations

Each of the instruments used to gather data and test hypotheses has certain limitations which could affect both the nature of the findings and the conclusions reached on the basis of the analysis. They are noted here and will be considered in subsequent interpretation of the findings.

The leadership typology forwarded by Bowers and Seashore was developed from an extensive review of the literature and tested in an organizational setting. Although service delivery agencies are organizations and it is assumed that these nutrition aides are in leadership roles, the possibility exists that the four factor typology may not be applicable in the case of paraprofessional aides delivering

a nutrition education program. Two additional functions, planning and analysis and communication facilitation, were added to Bowers and Seashore's four factors. These were seen to be relevant aspects of leadership especially as it exists in an organizational setting. Whether or not the integration of these factors into the conceptualizations and instrumentations of this study is valid or distorts the original typology is problematic and a question for later study. Furthermore, the items which constitute the activity inventory on which the leadership dimension is based are not, at this point, of proven validity or reliability. Perhaps the analysis of data from the other participant states will validate the activity inventory as a measure of leadership in this particular setting.

The self-esteem scale employed in this study was developed in the study of adolescents. The suitability of this scale to measure the self-esteem of adults who are generally middle aged and of low income backgrounds is questionable. On the other hand, the items are general and may be an accurate reflection of self-esteem for diverse age and cultural groups. The inclusion of negatively worded items, especially when seen in terms of a standard Likert response format, may have been a source of confusion to respondents. While a sound methodological technique, the mixing of positively and negatively worded items could conceivably cause inaccurate response in an individual of limited educational experience.

The adequacy of the twenty-four hour food recall as a measure of either nutrition or program effectiveness has been questioned previously.

Its availability and the current absence of alternate methods are its chief assets. The fact that the recall is taken regularly only once in a six month period opens the question of whether it is indicative of a homemaker's general nutritional levels and, furthermore, if significant change in consumption habits can be noted on this basis. There seem to be many variables beyond the control of this study and perhaps of the paraprofessional who originally collects the data that could have an impact on a homemaker's nutritional level and report at a given time. A family's income, as well as size and composition would be a major determinant of food consumption patterns. Family income, in turn, is often affected by the employment and wage conditions prevalent in a given community or region. In addition, the timing of the food recall collection may be important. If, for instance, the recall is taken soon after the payment of wages or purchase of food stamps, the reported diet might be more adequate than if the recall were taken shortly before the arrival of income or assistance. An additional intervening condition revolves around the paraprofessional-client relationship. Previous negative experiences, distrust of governmental agencies and programs and fear of benefit withdrawal may bias the homemaker and increase the likelihood of an inaccurate response. If, on the other hand, the client trusts the aide as well as the agency, the likelihood of accurate response increases.

Treatment Of Data

Scores for each of the six leadership functions were computed by summing the coded responses to the activity inventory items pertinent

to each function. A total score was computed as well as sub-scores for Functions I through III and Functions IV through VI. Functions I through III were designed to coincide with Bales' "task" dimension and Functions IV through VI with the "social" dimension of the same typology. There are, therefore, a total of nine leadership scores available for each aide. Scores for each of the leadership dimensions were standardized on the basis of the total sample drawn from the four states participating in this segment of the Northeast Regional Project, NE-68. Standardization was undertaken to normalize the various score distributions available for the four groups of nutrition aides. The z score was the unit of standardization. To eliminate the negative values and small range of values inherent in z score transformations, a desired mean and standard deviation were established for the scores.⁸⁰ These constants were applied to the original z score to obtain the standardized scores used in the analysis in this study. The formulæ used in the standardization procedures are found in Appendix B. The sub-totals and total leadership scores are summations of the standardized scores of the component functions.

Self-esteem scores were computed by summing the coded response values.

The measure of nutritional change was derived in three operations. On the basis of information obtained in the food recall, the number of servings per food group for each homemaker was scored in relationship to the recommended number of servings for each food group. This score was multiplied by the number of food groups represented in the recall and became the "nutrition score" for the homemaker. There are two

nutrition scores available for each homemaker, one on the basis of a recall taken in 1971 and one on the basis of a recall taken in 1972, approximately one year apart. The nutritional level of the families corresponding to a given aide was determined by averaging the scores for each food measure. The difference between the two nutrition scores available for each client constitutes the nutrition change over time. The average of the nutrition change scores for the families of a given aide constitutes the "nutritional change score" for the families of that aide. An example of this scoring procedure is found in Appendix B.

In ascertaining the presence, if any, and nature of the relationships between the three major variables, measures of association were chosen. The data were considered to be ordinal and, therefore, the use of non-parametric statistics seemed appropriate. The MARGINALS, CROSSTABS and NONPAR CORR programs of the Statistical Package for the Social Sciences computer system were the vehicles of analysis.⁸¹ Frequency distributions for the family demographic variables were prepared as were distributions and descriptive statistics for the two nutrition scores available for each family. The chi square statistic was computed to determine the presence of association between variables and the gamma statistic or Goodman and Kruskal's Coefficient of Ordinal Association, to ascertain the degree of association between variables.⁸² For the family sample, these measures of association were applied to determine the presence and degree of association between each of the demographic characteristics and each of the nutritional levels. The average nutritional levels were treated statistically in relation to the total leadership and

self-esteem attributes of the nutrition aides. In testing the hypotheses, the chi square and gamma statistics were computed to determine the presence and degree of association between each of the nine leadership functions and the measure of nutritional change and between the self-esteem measure and the measure of nutritional change. The relationship between the two independent variables, leadership and self-esteem, was also examined statistically. Spearman Correlation Coefficients, as cited earlier, were computed to establish the degree of relationship between the leadership functions.

CHAPTER IV

RESULTS

Description Of The Aides

Three general socioeconomic characteristics are examined to obtain an overview of the nature of the aide population. These three characteristics are: age, income and education.

Over 60 percent of the aides are between the ages of 31 and 50, with 30.8 percent of the aides in both the 31 to 40 and the 41 to 50 age groups. A small 13.8 percent are over sixty and 24.6 percent, nearly a quarter, are under 30 years of age (Table 2). The wide range of ages represented could be an indication of the program's attraction to many types of individuals, from a younger woman with a possible career orientation to an older woman, who, having raised a family, seeks both employment and to be of service to the community.

TABLE 2. Age Distribution Of Maryland Aides

Age	n	Percent
Under 20	0	0
21-30	16	24.6
31-40	20	30.8
41-50	20	30.8
Over 50	<u>9</u>	<u>13.8</u>
TOTAL	65	100.0

The distribution of family incomes for the previous year shows 4.6 percent with incomes under \$3,000. The largest percentage of aides, 29.2 percent, fall within the \$3,000 to \$4,999 income range for a total of 34 percent of the group with family incomes below the \$5,000 level. An additional 26.2 percent of the aides reported incomes at the \$5,000 to \$6,999 level and 21.5 percent place their incomes between \$7,000 and \$9,000 annually. Only 12 percent of the aides had incomes in excess of \$9,000 (Table 3). The variation in reported incomes is probably reflective of both the length of employment of the particular aide and the presence or absence of additional incomes within the family.

TABLE 3. Family Annual Income Distribution For Maryland Aides

Income	n	Percent
Less than \$3,000	3	4.6
\$3,000 - \$4,999	19	29.2
\$5,000 - \$6,999	17	26.2
\$7,000 - \$9,000	14	21.5
Over \$9,000	<u>12</u>	<u>18.5</u>
TOTAL	65	100.0

Almost half of the aides, 49.2 percent, reported completion of high school. Nearly 30 percent completed at least part of high school and only 6.2 percent report an educational attainment of eighth grade or less. With regard to educational attainment beyond high school, 15.4 percent had some college or post high school vocational training. There are no college graduates (Table 4). It

seems plausible that the requirements of the paraprofessional position, both for administrative ability and the capacity for effective communication with clients could necessitate the selection and employment of relatively highly educated individuals.

TABLE 4. Educational Attainment Of Maryland Aides

Number Of Years	n	Percent
Less than eight	2	3.1
Eight	2	3.1
Less than high school	19	29.2
High school	32	49.2
Some college	10	15.4
College graduate	<u>0</u>	<u>0</u>
TOTAL	65	100.0

Description Of The Client Sample

The social characteristics chosen to describe the client sample include: age, race, residence, family size, educational level and income.

For the sample of program homemakers, the largest number of individuals are between the ages of 30 and 34 and 58.8 percent of the sample is under 40 years of age. The age group between 20 and 29 years contains over a quarter of the sample and 30 percent are in their thirties. The age class between 40 and 49 years accounts for 12.3 percent of the sample and 9.8 percent are found in the 50 to 59 years age group. A total of 13.6 percent of the sample is over 60 years of

age (Table 5). These data reveal a clientele that is both younger and older than the aide sample. The percentage of homemakers under the age of 40 is only slightly larger than the percentage of aides. A much lower percentage of homemakers than aides are in the age group between forty and sixty years of age.

TABLE 5. Age Distribution In A Sample Of Maryland
EFNEP Homemakers

Age	n	Percent ^a
Under 20	13	3.3
20 - 24	47	11.8
25 - 29	55	13.8
30 - 34	68	17.1
35 - 39	51	12.8
40 - 44	24	6.0
45 - 49	25	6.3
50 - 54	22	5.5
55 - 59	17	4.3
60 +	54	13.6
No response	<u>21</u>	<u>5.3</u>
TOTAL	397	99.8

^aTotal of percentages does not equal 100.00 due to rounding.

Racially, 71.8 percent of the sample is Negro while 26.4 percent is white (Table 6). This distribution differs markedly from the racial distribution within the State of Maryland in which 17.8 percent of the population is Negro and 81.5 percent white.⁸³ That there are large numbers of blacks among the low income population seems confirmed by these distributions.

TABLE 6. A Sample Of Maryland EFNEP Homemakers
By Race

Race	n	Percent
White	105	26.4
Black	285	71.8
No Response	<u>7</u>	<u>1.8</u>
TOTAL	397	100.0

The majority of Maryland EFNEP families were of rural non-farm residence and 35.3 percent resided in urban areas (Table 7). The national sample reported by J. Gerald Feaster was predominately urban, a trend not evident in Maryland.⁸⁴

TABLE 7. A Sample Of Maryland EFNEP Homemakers
By Residence

Residence	n	Percent ^a
Urban	140	35.3
Rural non-farm	220	55.4
Farm	30	7.6
Not available	<u>7</u>	<u>1.8</u>
TOTAL	397	100.1

^aTotal of percentages does not equal 100.0 due to rounding.

As expected, there was a great range in the family sizes reported for program homemakers. Single people or individuals living alone constituted seven percent of the sample while 11.3 percent of the families or household consisted of two individuals. Slightly over

30 percent of the families selected were reported to have three or four members and 24.2 percent reported five or six members. There are fewer large families. While 13.4 percent of the families have seven or eight members, only seven percent reported nine or ten members in residence and only 4.8 percent have more than eleven members (Table 8). The average family size is 5.1 members, slightly larger than the family size reported by Feaster in the national sample.⁸⁵ The average family size is also larger than the average household and family size for both white and black populations within Maryland. The average number of family members for the white population is 3.54 and for the Negro population 4.20 members. For each group, the rural average family size is slightly larger, 3.65 members and 4.65 members respectively for the white and black populations.⁸⁶ The racial, residential and socioeconomic distributions of the sample probably all contribute to the large family size noted.

TABLE 8. Family Size Distribution Of A Sample Of EFNEP Homemakers

Number Of Members	n	Percent ^a
1	28	7.0
2	45	11.3
3 - 4	128	32.2
5 - 6	96	24.2
7 - 8	53	13.4
9 - 10	28	7.0
11 +	<u>19</u>	<u>4.8</u>
TOTAL	397	99.9

^aTotal of percentages does not equal 100.0 due to rounding.

The educational level of the program homemakers is, as expected, below that of the nutrition aides. Educational attainment of less than an eighth grade level was recorded for 29.8 percent of the sample. An additional 12.1 percent acquired an eighth grade education. As mentioned previously, 6.2 percent of the aides received education at an eighth grade level or less. A fifth of the sample, 20.6 percent completed high school and 32.2 percent completed some portion of high school. Of the aides, nearly 50 percent completed high school. A very few, 0.8 percent, of the homemakers received training or education beyond high school (Table 9). The average number of years of schooling for the client sample was 8.8 years, again slightly above the average attainment of eight years cited in the national study.⁸⁷

TABLE 9. Educational Attainment For A Sample Of Maryland EFNEP Homemakers

Number Of Years	n	Percent
Less than 5	34	8.6
5 - 7	84	21.2
8	48	12.1
9 - 11	128	32.2
12	82	20.6
Beyond high school	3	.8
Not available	<u>18</u>	<u>4.5</u>
TOTAL	397	100.0

The Expanded Food And Nutrition Education Program is oriented toward low income families and this emphasis is reflected in the income distribution for the sample. The table following shows that 5.5 percent

of the homemakers report an annual income of less than \$1,000. Another 21.7 percent have incomes between \$1,000 and \$1,999. Thus, a quarter of the sample has incomes below \$2,000. An additional 22.4 percent are in the \$2,000 to \$2,999 income bracket. Nearly half of the sample, then, has incomes below \$3,000. Incomes between \$3,000 and \$3,999 are reported by 21.2 percent of the sample and when these are combined with those at the lower levels, fully 70 percent of the sample is represented. The higher income levels, between \$4,000 and \$4,999 and incomes over \$5,000, share a total of 27.7 percent of the sample (Table 10). There is little doubt, on the basis of this distribution, that the program is addressing itself to a low income clientele.

TABLE 10. Family Income Distribution For A Sample
Of Maryland EFNEP Homemakers

Income	n	Percent
Less than \$1,000	22	5.5
\$1,000 - \$1,999	86	21.7
\$2,000 - \$2,999	89	22.4
\$3,000 - \$3,999	84	21.2
\$4,000 - \$4,999	56	14.1
Over \$5,000	54	13.6
Not available	<u>6</u>	<u>1.5</u>
TOTAL	397	100.0

Description Of Client Nutritional Levels

The mean number of servings of each of the four food groups was computed for both of the food recalls available for each homemaker.

The average number of servings in each food group increased during the year between the two recalls. In each case, however, the meat group was the only food group for which the recommended number of servings was attained. For each recall period, the group that was furthest below the recommended number of servings was the fruits and vegetables group. This was also the group to record the greatest amount of change (Table 11). These data are consistent with the results reported by Verma and Jones in the Louisiana study.⁸⁸ The point at which these changes in nutrition occurred is unknown. Nor is it known if the difference between the means represents the greatest amount of change or the results of a levelling process following greater earlier change.

TABLE 11. Mean Number Of Servings For The Four Food Groups For A Sample Of Maryland EFNEP Homemakers, 1971 And 1972

Food Groups	Recall I (1971)	Recall II (1972)	Difference
Milk	1.4	1.5	0.1
Meat	2.7	2.8	0.1
Fruits Vegetables	2.8	3.1	0.3
Breads Cereals	3.4	3.6	0.2

The summary statistics available for the distribution of nutrition scores also indicate an overall, although slight, increase in the mean scores between the two readings. On the basis of the first food recall, the mean score was 32.4 and the mean for the second recall 34.5. The median scores also showed a slight increase (Table 12). While it appears that some change has occurred, the question of whether the difference in mean scores indicates a real change or improvement in behavior awaits more extensive analysis. As with the food group data presented above, little is known of the dynamics of the change reported.

TABLE 12. Summary Statistics For Nutrition Scores Of A Sample Of Maryland EFNEP Homemakers, 1971 And 1972

Statistic	Recall I (1971)	Recall II (1972)	Difference
Mean	32.4	34.5	2.1
Standard Deviation	11.2	11.3	0.1
Median	34.5	37.0	2.5
Mode	36.0	48.0	12.0

Family Characteristics And Nutritional Levels

In order to further describe the client sample, the family demographic characteristics of age, race, residence, education and income were statistically treated in relationship to the two nutritional measures available for each homemaker. Both the socioeconomic and nutritional information were derived from Family Records maintained by the aide. Two measures of nutrition are available and are based on food recalls taken in 1971 and 1972, approximately a year apart.

In general, the relationships between family demographic characteristics and the nutritional measures available for each family were statistically insignificant and weak.

The chi square values for the relationships between the homemaker's age and nutritional level were not significant at either the .05 or .10 levels. The gamma coefficients were very low (Tables 13 and 14). An inverse relationship between age and nutritional level was expected such that older homemakers would have poorer diets than those in the younger, child-rearing years. This relationship does not seem to be supported by the data.

TABLE 13. Relation Between Age And 1971 Nutritional Level For A Sample Of Maryland EFNEP Homemakers

Age	1971 Nutritional Level			Row Total
	Low	Medium	High	
Under 20	23.1 (3)	38.5 (5)	38.5 (5)	100.1 (13)
20 - 29	35.0 (36)	28.2 (29)	36.9 (38)	100.1 (103)
30 - 39	36.1 (43)	26.9 (32)	37.0 (44)	100.0 (119)
40 - 49	26.5 (13)	30.6 (15)	42.9 (21)	100.0 (49)
50 - 59	30.8 (12)	30.8 (12)	38.5 (15)	100.1 (39)
60 +	24.5 (13)	39.6 (21)	35.8 (19)	99.9 (53)
COLUMN TOTAL	31.9 (120)	30.3 (114)	37.8 (142)	100.0 (376)

$\chi^2 = 5.504$ with 10 degrees of freedom. Gamma = 0.04.

TABLE 14. Relation Between Age And 1972 Nutritional Level For
A Sample Of Maryland EFNEP Homemakers

Age	1972 Nutritional Level			Row Total
	Low	Medium	High	
Under 20	46.2 (6)	15.4 (2)	38.5 (5)	100.1 (13)
20 - 29	39.8 (41)	34.0 (35)	26.2 (27)	100.0 (103)
30 - 39	26.9 (32)	42.0 (50)	31.1 (37)	100.0 (119)
40 - 49	26.5 (13)	30.6 (15)	42.9 (21)	100.0 (49)
50 - 59	30.8 (12)	30.8 (12)	38.5 (15)	100.1 (39)
60 +	39.6 (21)	32.1 (17)	28.3 (15)	100.0 (53)
COLUMN TOTAL	33.2 (125)	34.8 (131)	31.9 (120)	100.0 (376)

$\chi^2 = 12.390$ with 10 degrees of freedom. $\Gamma = 0.07$.

The relationship between race and the first nutritional measure does not reveal a significant association. However, the chi square value for the relationship between race and the second nutritional measure is significant at the .10 level and the gamma coefficient of .13 is one of the highest reported for the relationships under study here (Tables 15 and 16). The presence of a relationship between race and only one nutritional measure is problematic. The 1971 measure seems to bear no relationship to race while the second measure does.

It appears that fairly large segments of the white racial group become concentrated in the lower nutritional levels. The same shift occurs for the black racial group although to a lesser extent. It is possible that this shift and concentration for both racial groups in the lower nutritional levels occurs as nutrition education proceeds.

TABLE 15. Relation Between Race And 1971 Nutritional Level For A Sample Of Maryland EFNEP Homemakers

Race	1971 Nutritional Level			Row Total
	Low	Medium	High	
White	29.5 (31)	34.3 (36)	36.2 (38)	100.0 (105)
Black	32.3 (92)	29.5 (84)	38.2 (109)	100.0 (285)
Unknown	42.9 (3)	14.3 (1)	42.9 (3)	100.1 (7)
COLUMN TOTAL	31.7 (126)	30.5 (121)	37.8 (150)	100.0 (397)

$\chi^2 = 1.791$ with four degrees of freedom. Gamma = -0.009.

TABLE 16. Relation Between Race And 1972 Nutritional Level For A Sample Of Maryland EFNEP Homemakers

Race	1972 Nutritional Level			Row Total
	Low	Medium	High	
White	35.2 (37)	42.9 (45)	21.9 (23)	100.0 (105)
Black	32.6 (93)	31.2 (89)	36.1 (103)	99.9 (285)
Unknown	42.9 (3)	42.9 (3)	14.3 (1)	100.1 (7)
COLUMN TOTAL	33.5 (133)	34.5 (137)	32.0 (127)	100.0 (397)

$\chi^2 = 9.052$ with four degrees of freedom; significant at .10 level. Gamma = 0.13.

The chi square values for the relationships between residence and both available nutritional levels are not significant at either the .05 or .10 levels. However, the chi square value for the relationship between residence and the second nutritional level is significant at the .20 level and the gamma coefficient of .18, while low, is the highest reported in this section of the analysis (Tables 17 and 18). As with the relationships between race and nutritional level, the inconsistency of the results is puzzling. It appears that the relatively even distribution of nutritional levels within residence categories existing at the time of the first recall shifted toward a heavier concentration of low nutritional levels in urban areas at the time of the second recall.

TABLE 17. Relation Between Residence And 1971 Nutritional Level
For A Sample Of Maryland EFNEP Homemakers

Residence	1971 Nutritional Level			Row Total
	Low	Medium	High	
Urban	33.6 (47)	27.1 (38)	39.3 (55)	100.0 (140)
Rural - non-farm	30.0 (66)	35.9 (79)	34.1 (75)	100.0 (220)
Farm	30.0 (9)	10.0 (3)	60.0 (18)	100.0 (30)
Unavailable	57.1 (4)	14.3 (1)	28.6 (2)	100.0 (7)
COLUMN TOTAL	31.7 (126)	30.5 (121)	37.8 (150)	100.0 (397)

$X^2 = 4.133$ with six degrees of freedom. Gamma = .03.

TABLE 18. Relation Between Residence And 1972 Nutritional Level
For A Sample Of Maryland EFNEP Homemakers

Residence	1972 Nutritional Level			Row Total
	Low	Medium	High	
Urban	39.3 (55)	35.0 (49)	25.7 (36)	100.0 (140)
Rural - non-farm	30.5 (67)	35.9 (79)	33.6 (74)	100.0 (220)
Farm	30.0 (9)	20.0 (6)	50.0 (15)	100.0 (30)
Unavailable	28.6 (2)	42.9 (3)	28.6 (2)	100.1 (7)
COLUMN TOTAL	33.5 (133)	34.5 (137)	32.0 (127)	100.0 (397)

$X^2 = 9.252$ with six degrees of freedom; significant at the .20 level. Gamma = .18.

There seems to be no relation between family size and the homemaker's nutritional level. The chi square values are insignificant and the gamma coefficients are quite low (Tables 19 and 20). It was expected that larger families would have poorer diets than those in small or average size families. A further differentiation of family size may prove helpful in clarifying this relationship.

TABLE 19. Relation Between Family Size And 1971 Nutritional Level For A Sample Of Maryland EFNEP Homemakers

Family Size	1971 Nutritional Level			Row Total
	Low	Medium	High	
Less than four members	28.4 (57)	33.8 (68)	37.8 (76)	100.0 (201)
More than four members	35.2 (69)	27.0 (53)	37.8 (74)	100.0 (196)
COLUMN TOTAL	31.7 (126)	30.5 (121)	37.8 (150)	100.0 (397)

$\chi^2 = 2.967$ with two degrees of freedom. Gamma = -0.06.

TABLE 20. Relation Between Family Size And 1972 Nutritional Level For A Sample Of Maryland EFNEP Homemakers

Family Size	1972 Nutritional Level			Row Total
	Low	Medium	High	
Less than four members	34.8 (70)	34.8 (70)	30.3 (61)	99.9 (201)
More than four members	32.1 (63)	34.2 (67)	33.7 (66)	100.0 (196)
COLUMN TOTAL	33.5 (133)	34.5 (137)	32.0 (127)	100.0 (397)

$$X^2 = .568 \text{ with two degrees of freedom. } \Gamma = .06.$$

Educational attainment is a socioeconomic variable often associated with the characteristics and abilities of individuals. This does not seem to be the case in this study. The chi square values for both relationships between homemaker education and nutritional level are not significant at either the .05, .10 or .20 levels. The gamma coefficients are also very low with one slightly negative and the other slightly positive (Tables 21 and 22). The expectation that education is related to nutrition and that those of lower educational attainment would have lower levels of nutrition is not substantiated. However, the narrow range of educational attainment represented in the sample and the concentration at low levels may account for the lack of differentiation between educational level in relation to nutritional level and, therefore, to the absence of relationship noted above.

TABLE 21. Relation Between Education And 1971 Nutritional Level For A Sample Of Maryland EFNEP Homemakers

Education Years	1971 Nutritional Level			Row Total
	Low	Medium	High	
Under eight	31.4 (37)	32.2 (38)	36.4 (43)	100.0 (118)
Eight	31.3 (15)	27.1 (13)	41.7 (20)	100.1 (48)
Under 12	35.2 (45)	24.2 (31)	40.6 (52)	100.0 (128)
12	26.8 (22)	40.2 (33)	32.9 (27)	99.9 (82)
Over 12	.0 (0)	.0 (0)	100.0 (3)	100.0 (3)
Unavailable	.0 (0)	.0 (0)	100.0 (1)	100.0 (1)
COLUMN TOTAL	31.3 (119)	30.3 (115)	38.4 (146)	100.0 (380)

$X^2 = 13.15$ with 10 degrees of freedom. Gamma = .03.

TABLE 22. Relation Between Education And 1972 Nutritional Level For A Sample Of Maryland EFNEP Homemakers

Education Years	1972 Nutritional Level			Row Total
	Low	Medium	High	
Under eight	31.4 (37)	37.3 (44)	31.4 (37)	100.1 (118)
Eight	29.2 (14)	37.5 (18)	33.3 (16)	100.0 (48)
Under 12	32.8 (42)	34.4 (44)	32.8 (42)	100.0 (128)
12	36.6 (30)	30.5 (25)	32.9 (27)	100.0 (82)
Over 12	33.3 (1)	33.3 (1)	33.3 (1)	99.9 (3)
Unavailable	.0 (0)	100.0 (1)	.0 (0)	100.0 (1)
COLUMN TOTAL	32.6 (124)	35.0 (133)	32.4 (123)	100.0 (380)

$\chi^2 = 3.311$ with 10 degrees of freedom. Gamma = -0.02.

Similarly, the chi square values for the relationship between family income and the homemaker's nutritional levels are not significant. The gamma coefficient for the relationship between income and the first nutritional measure is slightly negative, perhaps indicative of a trend toward an inverse relationship. The coefficient between income and the second measure is at approximately the same level as the first but in a positive direction (Tables 23 and 24). It was expected that those of lower income would have poorer diets than those of higher income but the data do not support this expectation. Low income individuals did seem to be more highly concentrated in the lower nutritional levels at the time of the second recall than in 1971. Perhaps this concentration is indicative of a trend wherein lower incomes would be more highly associated with low nutritional levels.

The above results point to a general independence between family characteristics and the homemakers nutritional level. No particular family or homemaker type emerges as associated with a given level of nutritional behavior. These results are, in part, contrary to those of the national study reported by Feaster in which better consumption habits were seen to be related to high incomes and higher levels of education.⁸⁹ Actual differences in the samples or differences in measurement and treatment techniques may explain the inconsistencies observed in results.

TABLE 23. Relation Between Family Income And 1971 Nutritional Level For A Sample Of Maryland EFNEP Homemakers

Income	1971 Nutritional Level			Row Total
	Low	Medium	High	
Under \$3,000	28.4 (56)	32.0 (63)	39.6 (78)	100.0 (197)
\$3,000 +	35.1 (68)	28.9 (56)	36.1 (70)	100.1 (194)
COLUMN TOTAL	31.7 (124)	30.4 (119)	37.9 (148)	100.0 (391)

$X^2 = 1.983$ with two degrees of freedom. Gamma = -0.10.

TABLE 24. Relation Between Family Income And 1972 Nutritional Level For A Sample Of Maryland EFNEP Homemakers

Income	1972 Nutritional Level			Row Total
	Low	Medium	High	
Under \$3,000	34.5 (68)	37.1 (73)	28.4 (56)	100.0 (197)
\$3,000 +	31.4 (61)	32.5 (63)	36.1 (70)	100.0 (194)
COLUMN TOTAL	33.0 (129)	34.8 (136)	32.2 (126)	100.0 (391)

$X^2 = 2.648$ with two degrees of freedom. Gamma = .11.

Client Nutritional Levels And Overall Aide Characteristics

The aggregate nutritional levels corresponding to each aide were generally not associated with the total leadership and self-esteem measures of the aides. The chi square values for the relationships between the average family nutrition scores corresponding to each aide and the total leadership and self-esteem scores of that aide are not significant at either the .05 or the .10 level. The gamma coefficients are low with no value exceeding .22 (Tables 25 to 28). A small relationship may exist between these variables but it is not statistically significant and at a low level. That these relationships do not attain the expected significance is perhaps a function of the instruments and analytical techniques used in this study.

TABLE 25. Relation Between The Average Of 1971 Client Nutritional Levels And The Total Leadership Score For Aides

Average Family Level 1971	Total Leadership Score			Row Total
	Low	Medium	High	
Low	27.3 (6)	50.0 (11)	19.0 (4)	32.3 (21)
Medium	36.4 (8)	31.8 (7)	42.9 (9)	36.9 (24)
High	36.4 (8)	18.2 (4)	38.1 (8)	30.8 (20)
COLUMN TOTAL	100.1 (22)	100.0 (22)	100.0 (21)	100.0 (65)

$X^2 = 5.527$ with four degrees of freedom. Gamma = 0.06.

TABLE 26. Relation Between The Average Of 1971 Client Nutritional Levels And The Self-Esteem Score For Aides

Average Family Level 1971	Self-Esteem Score		
	Low	High	Row Total
Low	38.2 (12)	26.5 (9)	32.3 (21)
Medium	35.5 (11)	38.2 (13)	36.9 (24)
High	25.8 (8)	35.3 (12)	30.8 (20)
COLUMN TOTAL	100.0 (31)	100.0 (34)	100.0 (65)

$\chi^2 = 1.259$ with two degrees of freedom. Gamma = 0.22.

TABLE 27. Relation Between The Average Of 1972 Client Nutritional Levels And The Total Leadership Score For Aides

Average Family Level 1972	Total Leadership Score			
	Low	Medium	High	Row Total
Low	31.8 (7)	50.0 (11)	23.8 (5)	35.4 (23)
Medium	40.9 (9)	18.2 (4)	33.3 (7)	30.8 (20)
High	27.3 (6)	31.8 (7)	42.9 (9)	33.8 (22)
COLUMN TOTAL	100.0 (22)	100.0 (22)	100.0 (21)	100.0 (65)

$\chi^2 = 4.927$ with four degrees of freedom. Gamma = .14.

TABLE 28. Relation Between The Average Of 1972 Client Nutritional Levels And The Self-Esteem Score For Aides

Average Family Level 1972	Self-Esteem Score		Row Total
	Low	High	
Low	38.7 (12)	32.4 (11)	35.4 (23)
Medium	29.0 (9)	32.4 (11)	30.8 (20)
High	32.3 (10)	35.3 (12)	33.8 (22)
COLUMN TOTAL	100.0 (31)	100.1 (34)	100.0 (65)

$$X^2 = .287 \text{ with two degrees of freedom. } \Gamma = .09.$$

Hypothesis Testing

Hypothesis I predicted an association between the leadership dimensions and the measure of nutritional change. The chi square values for the relationships between each of the nine leadership measures and the measure of nutritional change are uniformly not significant (Tables 29 to 37). The association in every case appears to be very small. The gamma coefficients for each of the relationships are also low and are negative. The presence of very little association and in a negative direction leads to a rejection of Hypothesis I.

Hypothesis II stated that a greater association would exist between Functions I to III, the task dimension and nutritional change than between the social dimension represented by Functions IV to VI and

nutritional change. The chi square and gamma values are not higher for either the sub-total for Functions I to III or the component Functions I, II and III than they are for the other functions. Hypothesis II is, therefore, not supported by the data.

An association between self-esteem and nutritional change is predicted in Hypothesis III. The chi square value for this relationship is not significant and is low. The gamma coefficient, while weak, is positive, indicating a very small association exists (Table 38). Since the association is neither high nor significant, Hypothesis III must also be rejected.

Hypothesis IV deals with the relationship between two of the study's independent variables and suggests an association between the leadership and self-esteem measures. Two of the chi square values are significant. The chi square value for the relationship between leadership Function III, goal emphasis and self-esteem is significant at the .20 level (Table 41). The relationship between leadership Function IV, support, is significant in its relation to self-esteem at the .05 level (Table 42). While these significant values indicate the presence of an association, the gamma coefficient reveals that the relationship between the goal emphasis function and self-esteem is low and negative. The relationship between the support function and self-esteem is positive and has the highest of all gamma coefficients reported. The chi square values for the remaining functions in relationship to self-esteem are not significant (Tables 39, 40 and 44 through 47). The gamma values are generally low and two are negative. Those which are negative are in

regard to the relationships between Function II, work facilitation, and self-esteem and between Function V, interaction facilitation, and self-esteem. As only one value is significant in the direction predicted, Hypothesis IV stands unsupported by the findings.

The general lack of association noted between the variables under study causes not only refutation of the hypotheses of the study but creates a conflict between the results and the pertinent literature.

Bowers and Seashore concluded that their four factor typology was generally useful in an organizational setting and, furthermore, that leadership was important to the effectiveness of an organization. They also determined that the interaction facilitation element of the typology was essentially irrelevant to their study.⁹⁰ The analyses of the leadership functions in relation to nutritional change reveals a low and negative degree of association. These findings are contrary to Bowers and Seashore's general findings. Interaction facilitation follows the pattern and shows no association with client nutritional change, a finding supportive of Bowers and Seashore's conclusions of the irrelevancy of that dimension.

That two general functions are performed by a group and, therefore, by one in a leadership position is generally acknowledged in the literature. These functions, by various names, are those related to the completion of the task and those related to the satisfaction of the needs of group members. These roles, or their parallels, are seen by Bales⁹¹, Slater⁹² and others such as Halpin and Winer and those at the Research Center for Group Dynamics⁹³ to emerge as a group interacts in a

problem solving context. In Bales' work, the task element tended to dominate. In the present study, the leadership dimensions were generally divided along "task" and "social" lines. The findings, however, show no domination of one group of dimensions over the other. In fact, all of the leadership functions were insignificant in their relation to nutritional change regardless of their "task" or "social" orientation.

As noted in the presentations of findings, self-esteem did not show association with the nutritional change measure. The relationship was positive, although weak. Many of the studies of self-esteem consider it an important component of an individual's general effectiveness. In this study, it is assumed that one aspect of a paraprofessional's effectiveness involves the nutritional change experienced by her clients. No relationship appears between these dimensions. Coopersmith and Rosenberg^{94, 95} as well as reference group theorists such as Merton and Kitt⁹⁶ and Sherif⁹⁷, emphasize the importance of an individual's interpersonal relationships in the formation of self-evaluation. In this situation, the reference groups operating on an individual were not a part of the data. This area may be a fruitful focus of other related investigations. Various opinions exist regarding the impact of social class on self-esteem. Coopersmith⁹⁸ and Rosenberg⁹⁹ concluded that social class per se bears a weak association with self-esteem while others such as Clark and Clark¹⁰⁰ and the culture of poverty advocates see behavioral correlates of the poverty milieu that are damaging both to the self-concept and life perspective of an individual. This notion

is not tested directly in this study and the absence of strong association between self-esteem and measures of change fail to support either opinion.

The relationship between leadership and self-esteem was examined in this study because researchers such as Gibb¹⁰¹ and Stogdill¹⁰² see self-esteem as a trait bearing direct relationship to leadership behavior. This is the only segment of the findings in which significant relationships are noted. The leadership functions of goal emphasis and support were both significantly related to self-esteem. However, goal emphasis showed a negative degree of relation to self-esteem. The support function was positively related and at a level which was higher than the other functions. It seems reasonable that an individual with positive self-feelings would be more inclined and better able to provide supportive behavior to others. A possible explanation for the weak and negative associations between self-esteem and the work facilitation and interaction facilitation functions is that individuals of high self-esteem may tend to prefer the greater personal involvement inherent in support activities to the activities involved with task accomplishment.

The lack of concordance between the results of these analyses and the literature presents the questions of whether leadership and self-esteem as defined and measured in this study are relevant to paraprofessional role behavior and, furthermore, if they are important factors in client nutritional change.

TABLE 29. Relation Between Leadership Function I (Planning And Analysis) And Nutritional Change For Maryland Nutrition Aides

Nutritional Change	Leadership Function I			Row Total
	Low	Medium	High	
Low	25.0 (5)	50.0 (10)	32.0 (8)	35.4 (23)
Medium	35.0 (7)	25.0 (5)	44.0 (11)	35.4 (23)
High	40.0 (8)	25.0 (5)	24.0 (6)	29.2 (19)
COLUMN TOTAL	100.0 (20)	100.0 (20)	100.0 (25)	100.0 (65)

$X^2 = 4.183$ four degrees of freedom. Gamma = -0.13.

TABLE 30. Relation Between Leadership Function II (Work Facilitation) And Nutritional Change For Maryland Nutrition Aides

Nutritional Change	Leadership Function II			Row Total
	Low	Medium	High	
Low	36.4 (8)	30.4 (7)	40.0 (8)	35.4 (23)
Medium	27.3 (6)	47.8 (11)	30.0 (6)	35.4 (23)
High	36.4 (8)	21.7 (5)	30.0 (6)	29.2 (19)
COLUMN TOTAL	100.1 (22)	99.9 (23)	100.0 (20)	100.0 (65)

$X^2 = 2.693$ with four degrees of freedom. Gamma = -0.07.

TABLE 31. Relation Between Leadership Function III (Goal Emphasis) And Nutritional Change For Maryland Nutrition Aides

Nutritional Change	Leadership Function III			Row Total
	Low	Medium	High	
Low	35.3 (6)	30.0 (6)	39.3 (11)	35.4 (23)
Medium	35.3 (6)	30.0 (6)	39.3 (11)	35.4 (23)
High	29.4 (5)	40.0 (8)	21.4 (6)	29.2 (19)
COLUMN TOTAL	100.0 (17)	100.0 (20)	100.0 (28)	100.0 (65)

$\chi^2 = 1.946$ with four degrees of freedom. Gamma = -0.11.

TABLE 32. Relation Between Leadership Function IV (Support) And Nutritional Change For Maryland Nutrition Aides

Nutritional Change	Leadership Function IV			Row Total
	Low	Medium	High	
Low	30.4 (7)	35.7 (5)	39.3 (11)	35.4 (23)
Medium	30.4 (7)	35.7 (5)	39.3 (11)	35.4 (23)
High	39.1 (9)	28.6 (4)	21.4 (6)	29.2 (19)
COLUMN TOTAL	99.9 (23)	100.0 (14)	100.0 (28)	100.0 (65)

$\chi^2 = 1.917$ with four degrees of freedom. Gamma = -0.19.

TABLE 33. Relation Between Leadership Function V (Interaction Facilitation) And Nutritional Change For Maryland Nutrition Aides

Nutritional Change	Leadership Function V			Row Total
	Low	Medium	High	
Low	27.8 (5)	40.9 (9)	36.0 (9)	35.4 (23)
Medium	27.8 (5)	40.9 (9)	36.0 (9)	35.4 (23)
High	44.4 (8)	18.2 (4)	28.0 (7)	29.2 (19)
COLUMN TOTAL	100.0 (18)	100.0 (22)	100.0 (25)	100.0 (65)

$\chi^2 = 3.331$ with four degrees of freedom. Gamma = -0.13.

TABLE 34. Relation Between Leadership Function VI (Communication Facilitation) And Nutritional Change For Maryland Nutrition Aides

Nutritional Change	Leadership Function VI			Row Total
	Low	Medium	High	
Low	40.9 (9)	28.6 (6)	36.4 (8)	35.4 (23)
Medium	27.3 (6)	33.3 (7)	45.5 (10)	35.4 (23)
High	31.8 (7)	38.1 (8)	18.2 (4)	29.2 (19)
COLUMN TOTAL	100.0 (22)	100.0 (21)	100.1 (22)	100.0 (65)

$\chi^2 = 3.069$ with four degrees of freedom. Gamma = -0.06.

TABLE 35. Relation Between Leadership Task Dimension
(Functions I - III) And Nutritional
Change For Maryland Nutrition Aides

Nutritional Change	Leadership Task Dimension			Row Total
	Low	Medium	High	
Low	33.3 (7)	34.8 (8)	38.1 (8)	35.4 (23)
Medium	33.3 (7)	30.4 (7)	42.9 (9)	35.4 (23)
High	33.3 (7)	34.8 (8)	19.0 (4)	29.2 (19)
COLUMN TOTAL	99.9 (21)	100.0 (23)	100.0 (21)	100.0 (65)

$X^2 = 1.695$ with four degrees of freedom. Gamma = -0.12.

TABLE 36. Relation Between Leadership Social Dimension
(Functions IV - VI) And Nutritional
Change For Maryland Nutrition Aides

Nutritional Change	Leadership Social Dimension			Row Total
	Low	Medium	High	
Low	39.1 (9)	28.6 (6)	38.1 (8)	35.4 (23)
Medium	26.1 (6)	38.1 (8)	42.9 (9)	35.4 (23)
High	34.8 (8)	33.3 (7)	19.0 (4)	29.2 (19)
COLUMN TOTAL	100.0 (23)	100.0 (21)	100.0 (21)	100.0 (65)

$X^2 = 2.456$ with four degrees of freedom. Gamma = -0.09.

TABLE 37. Relation Between Total Leadership Score And
Nutritional Change For Maryland
Nutrition Aides

Nutritional Change	Total Leadership Score			Row Total
	Low	Medium	High	
Low	36.4 (8)	27.3 (6)	42.9 (9)	35.4 (23)
Medium	31.8 (7)	31.8 (7)	42.9 (9)	35.4 (23)
High	31.8 (7)	40.9 (9)	14.3 (3)	29.2 (19)
COLUMN TOTAL	100.0 (22)	100.0 (22)	100.1 (21)	100.0 (65)

$X^2 = 3.918$ with four degrees of freedom. Gamma = -0.15.

TABLE 38. Relation Between Self-Esteem And Nutritional Change
For Maryland Nutrition Aides

Nutritional Change	Self-Esteem		Row Total
	Low	High	
Low	38.7 (12)	32.4 (11)	35.4 (23)
Medium	35.5 (11)	35.3 (12)	35.4 (23)
High	25.8 (8)	32.4 (11)	29.3 (19)
COLUMN TOTAL	100.0 (31)	100.1 (34)	100.1 (65)

$X^2 = 0.423$ with two degrees of freedom. Gamma = 0.13.

TABLE 39. Relation Between Leadership Function I (Planning And Analysis) And Self-Esteem For Maryland Nutrition Aides

Self-Esteem	Leadership Function I			Row Total
	Low	Medium	High	
Low	45.0 (9)	55.0 (11)	44.0 (11)	47.7 (31)
High	55.0 (11)	45.0 (9)	56.0 (14)	52.3 (34)
COLUMN TOTAL	100.0 (20)	100.0 (20)	100.0 (25)	100.0 (65)

$X^2 = 0.623$ with two degrees of freedom. Gamma = 0.03.

TABLE 40. Relation Between Leadership Function II (Work Facilitation) And Self-Esteem For Maryland Nutrition Aides

Self-Esteem	Leadership Function II			Row Total
	Low	Medium	High	
Low	40.9 (9)	52.2 (12)	50.0 (10)	47.7 (31)
High	59.1 (13)	47.8 (11)	50.0 (10)	52.3 (34)
COLUMN TOTAL	100.0 (22)	100.0 (23)	100.0 (20)	100.0 (65)

$X^2 = 0.634$ with two degrees of freedom. Gamma = -0.12.

TABLE 41. Relation Between Leadership Function III (Goal Emphasis) And Self-Esteem For Maryland Nutrition Aides

Self-Esteem	Leadership Function III			Row Total
	Low	Medium	High	
Low	58.8 (10)	30.0 (6)	53.6 (15)	47.7 (31)
High	41.2 (7)	70.0 (14)	46.4 (13)	52.3 (34)
COLUMN TOTAL	100.0 (17)	100.0 (20)	100.1 (28)	100.0 (65)

$X^2 = 3.742$ with two degrees of freedom; significant at .20 level. Gamma = -0.01.

TABLE 42. Relation Between Leadership Function IV (Support) And Self-Esteem For Maryland Nutrition Aides

Self-Esteem	Leadership Function IV			Row Total
	Low	Medium	High	
Low	52.2 (12)	71.4 (10)	32.1 (9)	47.7 (31)
High	47.8 (11)	28.6 (4)	67.9 (19)	52.3 (34)
COLUMN TOTAL	100.0 (23)	100.0 (14)	100.0 (28)	100.0 (65)

$X^2 = 6.061$ with two degrees of freedom; significant at .05 level. Gamma = 0.31.

TABLE 43. Relation Between Leadership Function V (Interaction Facilitation) And Self-Esteem For Maryland Nutrition Aides

Self-Esteem	Leadership Function V			Row Total
	Low	Medium	High	
Low	38.9 (7)	59.1 (13)	44.0 (11)	47.7 (31)
High	61.1 (11)	40.9 (9)	56.0 (14)	52.3 (34)
COLUMN TOTAL	100.0 (18)	100.0 (22)	100.0 (25)	100.0 (65)

$\chi^2 = 1.842$ with two degrees of freedom. Gamma = -0.03.

TABLE 44. Relation Between Leadership Function VI (Communication Facilitation) And Self-Esteem For Maryland Nutrition Aides

Self-Esteem	Leadership Function VI			Row Total
	Low	Medium	High	
Low	54.5 (12)	42.9 (9)	45.5 (10)	47.7 (31)
High	45.5 (10)	57.1 (12)	54.5 (12)	52.3 (34)
COLUMN TOTAL	100.0 (22)	100.0 (21)	100.0 (22)	100.0 (65)

$\chi^2 = 0.655$ with two degrees of freedom. Gamma = 0.12.

TABLE 45. Relation Between Leadership Task Dimension
(Functions I - III) And Self-Esteem
For Maryland Nutrition Aides

Self-Esteem	Leadership Task Dimension			Row Total
	Low	Medium	High	
Low	42.9 (9)	56.5 (13)	42.9 (9)	47.7 (31)
High	57.1 (12)	43.5 (10)	57.1 (12)	52.3 (34)
COLUMN TOTAL	100.0 (21)	100.0 (23)	100.0 (21)	100.0 (65)

$\chi^2 = 1.112$ with two degrees of freedom. Gamma = 0.

TABLE 46. Relation Between Leadership Social Dimension
(Functions IV - VI) And Self-Esteem For
Maryland Nutrition Aides

Self-Esteem	Leadership Social Dimension			Row Total
	Low	Medium	High	
Low	47.8 (11)	57.1 (12)	38.1 (8)	47.7 (31)
High	52.2 (12)	42.9 (9)	61.9 (13)	52.3 (34)
COLUMN TOTAL	100.0 (23)	100.0 (21)	100.0 (21)	100.0 (65)

$\chi^2 = 1.527$ with two degrees of freedom. Gamma = 0.12.

TABLE 47. Relation Between Total Leadership Score And
Self-Esteem For Maryland Nutrition Aides

Self-Esteem	Total Leadership			Row Total
	Low	Medium	High	
Low	50.0 (11)	54.5 (12)	38.1 (8)	47.7 (31)
High	50.0 (11)	45.5 (10)	61.9 (13)	52.3 (34)
COLUMN TOTAL	100.0 (22)	100.0 (22)	100.0 (21)	100.0 (65)

$\chi^2 = 1.236$ with two degrees of freedom. Gamma = .15.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

This study proposed to investigate the relationships between measures of leadership, self-esteem and client nutritional change in a population of paraprofessional nutrition aides.

The objectives of the study were: 1) to describe the aide population and client samples in terms of demographic and nutritional characteristics and 2) to determine the nature and extent of the relationship between the following sets of variables: leadership and nutritional change, a segment of the leadership dimensions and nutritional change, self-esteem and nutritional change and leadership and self-esteem. Hypotheses were advanced in support of the second set of objectives.

A group of sixty-five nutrition aides serving in the Expanded Food And Nutrition Education Program in Maryland and a sample of 397 program families were the subjects of the research. Leadership and self-esteem measures, as well as selected demographic data for the aides were gathered from written questionnaires. An activity inventory based on Bowers and Seashore's leadership typology was the

measure of leadership and Rosenberg's ten item scale in Likert form was the measure of self-esteem. Data pertinent to the nutritional levels and change as well as socioeconomic characteristics of the homemakers were gathered from a randomly selected sample of family records.

Data were analyzed by techniques appropriate to ordinal data and the chi square statistic and gamma coefficient were computed to determine the presence and nature of association between the variables. Spearman correlation coefficients were computed for interrelationships between the various leadership dimensions.

The aide population and client sample were described in terms of the available socioeconomic characteristics. Nutritional behavior, measured in terms of the average number of servings from each of the four food groups, showed general improvement over the one year period. Analysis of the relationships between family characteristics and nutritional behavior revealed a general independence between the variables. The relationships between aggregate client nutritional levels and the overall aide leadership and self-esteem measures were not statistically significant. Hypothesis testing revealed no significant relationships between any of the leadership dimensions and the measure of nutritional change. The gamma coefficients indicated negative relationships between each of the leadership measures and the measure of nutritional change. Self-esteem also was not significantly associated with the measure of nutritional change. Only the relationship between self-esteem and the support function was significant at the .05 level and positive. The

relationships between the other leadership dimensions and self-esteem were either not statistically significant or significant but in a slightly negative direction.

Conclusions

The findings of the study reveal little or no association between the variables under investigation. As none of the expectations or hypotheses advanced as the basis of the study are supported, the reasonable conclusion seems to be that the variables under study bear no relation to one another.

The nature of this particular study, however, may bear directly on the results of analysis as well as the lack of collaboration between the results and the existing body of literature.

The limitations inherent in the instruments employed in data collection were cited earlier. Scrutinization of the leadership and self-esteem instruments both as to relevancy to and validity in a paraprofessional setting seems imperative. A leadership measure pertinent to the paraprofessional-client dyad may be a more effective measure than those pertaining to groups which dominate the literature. Perhaps a self-esteem measure that has been tested on adults and on a low income population would provide a more accurate assessment of self-esteem and its relation to the other variables. Both leadership and self-esteem seem to be fruitful areas for further research with regard to paraprofessional role performance.

It is acknowledged that the twenty-four hour food recall is a limited measure of nutritional adequacy. The need for an objective tool to gauge both knowledge and practice seems apparent and the development or implementation of such a measure is recommended. An instrument to measure the accomplishment of the other important aspects of EFNEP such as family problem solving and client acquaintance with community resources would also be valuable. The nutritional data gathered in this study was not controlled as to the length of time a family has been in the program. Such control as well as research designed to gather more frequent measures of consumption may yield more conclusive results and answer many of the questions raised in this research.

A further exploration of the relationships existing between the demographic variables and nutrition seems warranted. Different classifications of the variables as well as analysis based on combinations of variables may clarify the relationships existing between variables.

On a more general level, the presence of little or no association between variables raises the question of whether or not the basic assumptions underlying the study are valid. Perhaps leadership is not an integral aspect of the paraprofessional role. Similarly, self-esteem may be an attribute more relevant to interpersonal relationships than to overall role performance.

In summary, the findings do not permit the drawing of broad conclusions regarding the effectiveness of nutrition aides or of the Expanded Food And Nutrition Education Program. The further refinement of the leadership and self-esteem measures and reassessment of the assumptions on which they are based as well as the innovation of instruments to measure the total impact of the Expanded Food And Nutrition Education Program should precede any future evaluation of the program delivery agents or the program itself.

APPENDIX A

INSTRUMENTS

This section of the aide questionnaire presents items pertinent to the leadership dimension under study. The number and name of the leadership function corresponding to each item is recorded after the item.

- I What is your name? _____
- II How many families do you now have enrolled or serve? _____
(for example, if you were currently working with 25 enrolled families and serve 20 others not formally enrolled, the total number would be 45 families.)
- III Listed below are some activities that an aide might perform. Please indicate the NUMBER of the above families that you have served in each activity.
1. Helped homemaker to purchase less expensive but more nutritious foods. (II - Work Facilitation) _____
 2. Asked a homemaker if she knew anyone else who would like help of the type extended to her. (I - Planning and Analysis) _____
 3. Helped homemaker with problems such as care of clothing, storage, child care, etc., in order to help her see that she can do it. (IV - Support) _____
 4. Homemaker prepared a new food under your guidance.
(II - Work Facilitation) _____
 5. Influenced homemaker to want to make use of community services to solve family problems. (III - Goal Emphasis) _____
 6. Included the homemaker in a group you organized to correct a neighborhood condition. (V - Interaction Facilitation) _____
 7. Deliberately worked to improve homemaker's self-respect.
(IV - Support) _____
 8. Homemaker was in a group you took shopping to demonstrate good buying practices. (II - Work Facilitation) _____
 9. Presented a certificate or otherwise gave special praise to a homemaker who had accomplished what she had planned.
(IV - Support) _____
 10. Encouraged homemaker to apply for an aide's job or a similar one. (III - Goal Emphasis) _____
 11. Helped homemaker to obtain food if the family qualifies for one of the programs. (II - Work Facilitation) _____
 12. Explained needs and feelings of homemaker to Extension.
(VI - Communication Facilitation) _____

13. Assisted family in getting services from other agencies such as welfare, health, employment, etc. _____
(V - Interaction Facilitation)
14. Served as a friend to the homemaker. (IV - Support) _____
15. Brought people together to organize a babysitting exchange, or in some other way solve the child sitting problem. _____
(V - Interaction Facilitation)
16. Taught homemaker how to use a wide variety of foods. _____
(II - Work Facilitation)
17. Influenced homemaker to want to know the principles of good nutrition for her family. (III - Goal Emphasis) _____
18. Helped homemaker store food so it wouldn't spoil, get stale, etc. (II - Work Facilitation) _____
19. Informed homemaker about problems or improvements needed in the community. (VI - Communication Facilitation) _____
20. Family was made aware of family planning services available to them. (III - Goal Emphasis) _____
21. Planned with homemaker the ways she could solve her family's problems. (I - Planning and Analysis) _____
22. Guided the homemaker in carrying out her regular household activities. (II - Work Facilitation) _____
23. Homemaker now is working to prepare balanced meals for her family. (III - Goal Emphasis) _____
24. Determined the family's problem areas and assigned priorities to them with the help of the homemaker. _____
(I - Planning and Analysis)
25. Influenced homemaker to work for good health practices for herself and her family. (III - Goal Emphasis) _____

IV For the following activities please indicate how often you have performed them by placing a check in the appropriate column.

	Very Often	Often	Occasionally	Rarely	Never
1. Discussed the program with groups of people other than homemakers. (V - Interaction Facilitation)	___	___	___	___	___
2. Helped in planning of materials given homemakers in the program. (I - Planning and Analysis)	___	___	___	___	___
3. Told a leader in the area about a community problem which affects your families. (VI - Communication Facilitation)	___	___	___	___	___
4. Provided Extension with information on help and services available in the community. (I - Planning and Analysis)	___	___	___	___	___
5. Scheduled and coordinated programs for homemakers with supervisor's assistance. (II - Work Facilitation)	___	___	___	___	___
6. Have encouraged homemakers to believe that because you were able to become an aide that they too can hope to improve their situation. (IV - Support)	___	___	___	___	___
7. Provided Extension with homemakers' attitudes and reactions toward the program for use in future planning. (I - Planning and Analysis)	___	___	___	___	___
8. Accompanied a homemaker to a landlord's office or a similar place. (V - Interaction Facilitation)	___	___	___	___	___
9. Praised homemaker when she made improvements. (IV - Support)	___	___	___	___	___
10. Provide information about community resources and services for your families. (VI - Communication Facilitation)	___	___	___	___	___
11. Planned with the homemaker the things she would do by the time you returned for the next visit. (I - Planning and Analysis)	___	___	___	___	___

	Very Often	Often	Occasionally	Rarely	Never
12. Went with homemaker to and from various activities or agencies in order to teach the procedures, etc., for getting service. (II - Work Facilitation)	—	—	—	—	—
13. Listened to homemaker's problems. (IV - Support)	—	—	—	—	—
14. Stimulated homemaker to tell other homemakers what she has learned in the program. (VI - Communication Facilitation)	—	—	—	—	—
15. Telephoned one or more of the homemakers to arrange for a visit, give information, ask her to a meeting, follow up on previously planned action, etc. (VI - Communication Facilitation)	—	—	—	—	—
16. Brought a number of your homemakers together for learning about nutrition in the group. (V - Interaction Facilitation)	—	—	—	—	—
17. Shared jokes with homemaker or otherwise used humor in relating to her. (IV - Support)	—	—	—	—	—
18. Maintained forms or reports on homemaker and her activities. (I - Planning and Analysis)	—	—	—	—	—
19. Used ads in newspapers to help the homemaker plan shopping trips. (II - Work Facilitation)	—	—	—	—	—
20. Greeted your homemakers as you do one of your friends. (IV - Support)	—	—	—	—	—
21. Met with another aide to discuss mutual problems. (V - Interaction Facilitation)	—	—	—	—	—
22. Were given a recipe by a homemaker who wanted you to share it with your other clients. (V - Interaction Facilitation)	—	—	—	—	—
23. In talking with representatives of other agencies you praised them for help given your families. (IV - Support)	—	—	—	—	—

	Very Often	Often	Occasionally	Rarely	Never
24. Explained attitudes, beliefs and practices of homemakers to Extension. (VI - Communication Facilitation)	___	___	___	___	___
25. Have influenced the homemaker to want to keep a cleaner and neater house. (III - Goal Emphasis)	___	___	___	___	___
26. Helped locate child care or baby-sitting services when needed. (II - Work Facilitation)	___	___	___	___	___
27. Pointed out a health problem in the family that the homemaker was not aware of. (II - Work Facilitation)	___	___	___	___	___
28. Gave homemaker the opportunity to present her concerns or complaints to Extension. (VI - Communication Facilitation)	___	___	___	___	___
29. Helped stimulate participation in groups such as youth groups and community betterment discussion groups. (V - Interaction Facilitation)	___	___	___	___	___
30. Assisted in orientation and training of new aides about the objectives and methods of the program. (III - Goal Emphasis)	___	___	___	___	___
31. Worked to inform community citizens and other agencies to bring understanding of and agreement with the program objectives. (III - Goal Emphasis)	___	___	___	___	___
32. Figured out a way to help families solve a specific problem or need a number of them have in common. (I - Planning and Analysis)	___	___	___	___	___
33. Helped with writing, duplication and/or assemble materials to be used in the program. (II - Work Facilitation)	___	___	___	___	___
34. Sought advice and assistance of community leaders. (V - Interaction Facilitation)	___	___	___	___	___
35. Homemakers telephoned you to ask for advice, arrange another visit, discuss her problems, visit another family in need, get help in an emergency, etc. (VI - Communication Facilitation)	___	___	___	___	___

Very Often	Often	Occasionally	Rarely	Never
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36. Assisted in setting up procedures for all aides on some task such as setting up office files for family records or methods for referrals to other agencies. (I - Planning and Analysis) ___ ___ ___ ___ ___
37. Assisted in notifying and getting people to attend demonstrations or exhibits followed by discussion groups. (V - Interaction Facilitation) ___ ___ ___ ___ ___

This page presents the instrument used to measure self esteem.

XXVII Below is a list of statements dealing with your general feelings about yourself. Put one check mark after each statement to show how you feel MOST of the time.

For example, if most of the time you agree very strongly with a statement, put a check mark in the first column.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. I feel that I have a number of good qualities.	___	___	___	___
2. I feel that I'm a person of worth, at least on an equal plane with others.	___	___	___	___
3. All in all, I am inclined to feel that I am a failure.	___	___	___	___
4. I feel I do not have much to be proud of.	___	___	___	___
5. I am able to do things as well as other people.	___	___	___	___
6. I wish I could have more respect for myself.	___	___	___	___
7. I take a positive attitude toward myself.	___	___	___	___
8. I certainly feel useless at times.	___	___	___	___
9. On the whole, I am satisfied with myself.	___	___	___	___
10. At times I think I am no good at all.	___	___	___	___

The following page gathered demographic information from the aides.

XXXXV About you:

1. County in which you work: _____
2. When did you begin your training as a Nutrition Aide? _____
Month Year
3. Date of birth : _____
Month Day Year

4. What is the highest greade of school that you completed?

- Less than eighth grade _____
- Eighth grade _____
- Less than high school graduate _____
- High school graduate _____
- Some college _____
- College graduate _____

5. List below the different jobs that you have held and the number of years that you held each.

<u>Position Title</u>	<u>Number of years held</u>

6. Approximately what was your family income last year (include all sources of income such as wages, pensions, unemployment compensation, social security, gifts, aid to families of dependent children)?

- Less than \$3,000 _____
- \$3,000 to \$4,999 _____
- \$5,000 to \$6,999 _____
- \$7,000 to \$9,000 _____
- Over \$9,000 _____

6a. How many adults (persons over 18 including yourself) are in your family or household? _____

6b. How many children (persons under 18) are in your family or household? _____

Below is the Family Record Form used to gather demographic and nutritional information from the program homemakers.

Food and Nutrition Education Program
 FAMILY RECORD -- PART I
 DESCRIPTION

- (1) Family ID No. _____
- (a) Name _____
- (b) Street _____
- (c) City _____ (d) State _____
- (e) Urban Rural nonfarm Farm
- (2) (a) Date of first visit: _____
- (b) Date record completed: _____
- (3) Family on welfare (other than donated foods and food stamps): Yes No
- (4) Family receiving food assistance on regular basis (other than donated foods and food stamps): Yes No
- (5) Family gets some food from home garden: Yes No

FAMILY MEMBERS (FIRST NAME) (6)	AGE YRS. (7)	SEX		CHECK IF "YES"	
		MALE (8)	FEMALE (9)	NOW IN SCHOOL (10)	HAD SCHOOL LUNCH LAST WEEK (11)
NO. OF MEMBERS _____	TOTALS				

- (12) HIGHEST GRADE IN SCHOOL COMPLETED BY HOMEMAKER: _____
- (13) HOME: (a) OWNER (b) RENTER OR TENANT (c) MONTHLY PAYMENT \$ _____
- (14) INSIDE HOUSE THERE IS: (a) ELECTRICITY (b) RUNNING WATER (c) ICE BOX (d) REFRIGERATOR (e) FREEZER (f) COOK STOVE (g) OVEN (h) HOT PLATE
- (15) BUY MOST OF FOOD AT: (a) SUPERMARKET (b) SMALL LOCAL STORE
- (16) USDA PROGRAM IN AREA: (a) DONATED FOOD (b) FOOD STAMP

FOOD SOURCES	HOW FAR FROM HOME			HOW USUALLY GET THERE			
	LESS THAN 1 MILE (a)	1-5 MILES (b)	MORE THAN 5 MILES (c)	WALK (d)	OWN CAR (e)	BUS OR TAXI (f)	OTHER (g)
(17) STORE (IN IS)							
(18) DONATED FOOD CENTER							
(19) FOOD STAMP ISSUANCE OFFICE							

(20) Check for home maker:

- (a) White (*other than Spanish-American*)
 (b) Negro
 (c) Spanish-American
 (d) Oriental
 (e) Indian
 (f) Other

(21) Income last year for all family members. Include income from all sources, such as:

Wages and salaries	Pensions
Social Security	Support from others
Welfare payments	Income after expenses from business and farming
Insurance payments	
Veterans benefits	

CHECK ONE:

- | | |
|--|---|
| (a) <input type="checkbox"/> Less than \$1,000 | (d) <input type="checkbox"/> \$3,000 - 3,999 |
| (b) <input type="checkbox"/> \$1,000 - 1,999 | (e) <input type="checkbox"/> \$4,000 - 4,999 |
| (c) <input type="checkbox"/> \$2,000 - 2,999 | (f) <input type="checkbox"/> \$5,000 and over |

(22) Aide _____ (23) State No. _____ (24) Unit No. _____
 (Name)

(25) Family Record No. _____

(Fill out for each family in unit as soon as possible and yearly thereafter. Keep in family file after review by Trainer-Agent)

Food and Nutrition Education Program

FAMILY RECORD -- PART 2
HOMEMAKER FOOD AND FAMILY INCOME AND FOOD EXPENDITURE RECORD

(1) Family ID No. _____ (2) Date _____ (3) Food Record No. _____

(4) Record for _____ (name)

(5) What did you eat and drink in the last 24 hours?

To be filled by Aide

Kind of food and drink (Enter main foods in mixed dishes)

Morning

Midmorning

Noon

Afternoon

Evening

Before Bed

	TO BE FILLED BY TRAINER AGENT			
	MILK	MEAT	VEG/ FRUIT	BREAD CEREAL
Total no. of servings:	(12)	(13)	(14)	(15)
Totals at least -- (16)	1	1	1	1
	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
Totals at least -- (17)	2	2	4	4
	Yes <input type="checkbox"/>		No <input type="checkbox"/>	

(6) What food and drink do you think people should have to keep healthy?

TO BE FILLED BY TRAINER AGENT				
	MILK	MEAT	VEG/ FRUIT	BREAD CEREAL
Total:	(18)	(19)	(20)	(21)
Totals at least --	1	1	1	1
(22)	Yes <input type="checkbox"/> No <input type="checkbox"/>			

(7) Total estimated income for family last month: \$ _____
 (Include wages and salaries, Social Security, welfare and insurance payments, pensions and cash support from others. If family has income from farming, include one-twelfth of last year's income after expenses.)

(8) How much did you spend for food last month, including both cash and credit? _____
 (Do not include value of foods received under Donated Food or other food assistance programs. If in the Food Stamp Program, include only amount spent to purchase food stamps or coupons).

(9) Aide _____ (10) State No. _____ (11) Unit No. _____

(Fill out at earliest visit possible for homemaker in each family and every 6 months after. Keep in family file after review by Trainer Agent.)

(6) What food and drink do you think people should have to keep healthy?

TO BE FILLED BY TRAINER AGENT				
	MILK	MEAT	VEG/ FRUIT	BEVGS GENERAL
Total:	(18)	(19)	(20)	(21)
Totals at least --	1	1	1	1
(22)	Yes <input type="checkbox"/>		No <input type="checkbox"/>	

(7) Total estimated income for family last month \$ _____
(Include wages and salaries, Social Security, welfare and insurance payments, pensions and cash support from others. If family has income from farming, include one twelfth of last year's income after expenses.)

(8) How much did you spend for food last month, including both cash and credit? _____
(Do not include value of foods received under Donated Food or other food assistance programs. If in the Food Stamp Program, include only amount spent to purchase food stamps or coupons)

(9) Aide _____ (10) State No. _____ (11) Unit No. _____

(Fill out at earliest visit possible for homemaker in each family and every 6 months after. Keep all family file after review by Trainer Agent.)

APPENDIX B

SCORING PROCEDURES

The following formulae were used in the standardization of leadership scores:

$$z = \frac{X - M}{\sigma} = \frac{x}{\sigma}$$

transformed z scores with a mean of 50 and a standard deviation of 10:

$$z_1 = (z - 10) + 50$$

Example of scoring procedure for nutrition scores:

I Hypothetical Recall

	Milk	Meat	Fr/Veg	Br/Cer
Group				
Servings	0	2	3	5

	<u>Recommended</u>			
	Milk	Meat	Fr/Veg	Br/Cer
Group				
Servings	2	2	4	4

<u>Standardized</u>	<u>Total</u>	<u>Number Of Groups</u>	<u>Total Nutrition Score</u>
0 2 3 4	9	x 3	27

II Two scores are available for each aide. In this case, the scores will be 27 for the first recall and a perfect 48 for the second recall.

III Depending on the aide, such scores from three to six homemakers are available. They are averaged to determine the "nutritional effectiveness" score.

FOOTNOTES

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- ³¹Feaster, p. 1.
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³³The four food groups and the recommended servings are: Milk - 2; Meat - 2; Fruits and Vegetables - 4; and Bread and Cereals - 4.

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³⁵Feaster, p. 15.

³⁶Counties in Maryland with EFNEP were: Allegany, Anne Arundel, Caroline, Charles, Dorchester, Garrett, Montgomery, Prince George's, Queen Anne's, Somerset, St. Mary's, Washington and Wicomico. The program continues to operate in every county except Queen Anne's.

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⁶³Gibb, p. 882.

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⁷⁵Ibid., pp. 255-263.

⁷⁶The seven counties for which the desired sub-sample of thirty cases was not achieved and the percentage acutally acquired: Charles (50), Somerset (53), Washington (60), Queen Anne's (73), Prince George's (77), Calvert (93) and Montgomery (97).

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⁷⁸Tennant and Longest.

⁷⁹Rosenberg.

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