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OF LOW-INCOME FAMILIES.

University of North Carolina at Greensboro,  
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**FOOD HABITS AND FOOD PURCHASING PRACTICES  
OF LOW-INCOME FAMILIES**

by

**Eva Elliott Moore**

**A Dissertation Submitted to  
the Faculty of the Graduate School at  
The University of North Carolina at Greensboro  
in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Philosophy**

**Greensboro  
1973**

Approved by

  
Dissertation Adviser

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of the Graduate School at The University of North Carolina at Greensboro.

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The major purposes of this study were: 1) to determine food purchasing practices of low-income families before and after participation by the mother in an educational program, and 2) to compare food habits of children from low-income families whose mothers participated in an educational program with food habits of children from low-income families whose mothers did not participate in an educational program.

The data were obtained from an experimental group of fifty-nine children enrolled in an after-school program at The North Carolina Agricultural and Technical State University whose mothers attended at least six of the eight sessions of an educational program, a control group of fifty-nine children enrolled in the same after-school program whose mothers did not attend the educational program, and the thirty mothers of the fifty-nine children in the experimental group.

Two instruments were used to obtain information. One instrument was a questionnaire designed to determine the food purchasing habits of low-income families and the food products used most often. The questionnaire was administered to the thirty mothers before and after the educational program. The second instrument was a daily dietary form. All food consumed by each child in the experimental and control groups was recorded for a five day period before and after the educational program.

The data were analyzed by using percentages, frequencies, means, chi-square and the t-test. The daily food intake of the children in the experimental group was compared with the daily food intake of the children in the control group before and after the educational program for

mothers. The food purchasing practices and foods used by the thirty mothers before and after their participation in the educational program were also compared.

The findings revealed that there were no significant differences in the average number of servings of food from the Basic Four food groups eaten by children in the experimental and control groups in the pretest. The post-test revealed that there were significant differences in the average number of servings of food from most of the food groups eaten by children in the experimental and control groups.

Data on food purchasing practices showed the supermarket to be the source of most food purchases. All families paid cash for their groceries and it was generally the mother who made most food purchases. There was an increase in the percentage of mothers who planned their shopping in advance, read food labels, and compared grades, brands, and prices per unit of food products from the time of the first survey to the time of the second survey. The newspaper and television were the most important factors in influencing food purchasing practices of the mothers. Though there were indications of some changes in food purchasing practices among low-income mothers before and after participating in the educational program, there were not enough significant changes to establish a trend.

Some implications of the study were: 1) an educational program for low-income mothers on nutrition, food preparation, and food buying techniques could be of benefit in improving the nutritional status of their families, and 2) additional study of this problem is needed as a basis for recommending specific programs of consumer and nutrition education for low-income families.

## DEDICATION

This dissertation is dedicated to my husband, Roy; my sons, Roy Jr. and Richard; and my daughter, Valerie.

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## CHAPTER I

### INTRODUCTION

#### North Carolina: Education and Income

In recent years much attention has been focused on reducing poverty in the United States. The fact that one-fifth of our population has been characterized as poor emphasizes the magnitude of this problem and serves as motivation for direct action to seek solutions to this serious situation.

In contrast to the national situation where, in 1959, one-fifth of the nation lived in poverty, approximately one-half of the families in North Carolina were poverty stricken (Institute for Research in Social Sciences, 1965). In 1967-68, North Carolina ranked 43rd in the nation in per capita income; 23.9 percent of the families in the state existed on less than \$2,000 a year. When the income level was extended to \$4,000 a year, 50.6 percent of the families in the state had less than this amount and were considered to be living in poverty (Institute for Research in Social Sciences, 1968).

Even though recent statistics show that North Carolina has made a slight improvement in per capita income by rising to the rank of 42nd in the nation in 1969, and 39th in 1971, the incidence of poverty in the state is still high. A 1972 publication on the general social and economic characteristics of North Carolina reveals that in 1969, 20.3 percent of the population in the state was considered to be below the

poverty level (United States Bureau of the Census, 1972). In 1970, approximately 148,000 families in North Carolina were participating in the Food Stamp Program, and approximately 153,000 families were recipients of commodity foods from the Food Assistance Program (United States Bureau of the Census, 1971).

The basic educational level of the people in North Carolina is also quite low. In 1967-68, one out of every six persons over 25 years of age in North Carolina had less than a fifth grade education (Institute for Research in Social Sciences, 1968). More recent data on educational attainment indicate that in 1970, 10.0 percent of the population of North Carolina had less than five years of elementary school education, 37.2 percent had less than one year of high school education, 38.5 percent had four years of high school or more, and 8.4 percent had four years of college or more. The median school years completed by the population of North Carolina was 10.6 years (United States Bureau of the Census, 1972).

The small expenditures per pupil for education in North Carolina account, to some degree, for the low educational level of the people of the state. The University of North Carolina Newsletter (Institute for Social Sciences, 1967) stated "Of the 45 states for which there are available data on per pupil expenditures, North Carolina ranks 40th." The State Superintendent of Public Instruction, Craig Phillips, in a May 1969 issue of North Carolina Public Schools stated "It is true North Carolina is ranked eighth from the bottom among the 50 states in per capita income but we are even further behind in our educational expenditures per pupil, sixth from the bottom". The 1971 statistics show

North Carolina to be ranked 41st in the nation in per student expenditures, a small increase over the previous rankings (United States Bureau of the Census, 1971).

Whenever the per capita income and educational level in a state are relatively low, the chance of a high percentage of poverty existing among its inhabitants is very great. Therefore, it is not surprising that many families in North Carolina are still existing in extremely limited and undesirable circumstances. If poverty is to be eliminated in our society, means must be identified by which the income level of those in poverty can be increased. However, that is only one-half of the solution. To merely increase the income level of the disadvantaged without working to alleviate some of the major problems involved in the use of their income would be unfortunate. The people would still be subjected to many unscrupulous practices and pressures and would probably act in the manner to which they have been accustomed. Consequently, the poverty cycle would be continuous.

Considering the low-income level and the low educational level of many people in North Carolina, it is apparent that consumer education could be beneficial. Since expenditures for food constitute the major expense for many low-income families, the major purposes of this study were focused on improving food buying practices and food habits of low-income families by means of an educational program.

#### Importance of the Study

The National Goals and Guidelines for Research in Home Economics (Schlater, 1970) indicated many areas in which research was needed.

Among the specific research areas cited as needing further investigation, many were related to the kind of information sought in this study. Some of the areas which had a direct relationship were listed under the section on food patterns as follows:

- (1) Identification of factors which determine food choices and practices with special emphasis on the social, cultural, religious and economic factors.
- (2) Techniques effective in motivating people to change their eating patterns.

Other specific research areas related to this study were listed under consumer choice making and behavior. The specific areas were:

- (1) Assessment of use of consumer information (e.g. grades, standards) by consumers in choice and use of goods.
- (2) Identification of factors associated with choice making by different socio-economic groups.

### Purposes of the Study

The major purposes of this study were: 1) to determine food purchasing practices of low-income families before and after participation by the mother in an educational program, and 2) to compare food habits of children from low-income families whose mothers participated in an educational program with food habits of children from low-income families whose mothers did not participate in an educational program.

### Hypotheses

In relation to the purposes of this study, the following hypotheses were formulated:



- (1) There is a significant difference in food habits among children, ages 10-14 years, whose mothers have been involved in an educational program and children whose mothers have not been involved in an educational program.
- (2) There is a significant difference in food purchasing practices among low-income mothers before and after participating in an educational program.
- (3) There is a significant difference in the extent to which certain foods and food products are used among low-income mothers before and after participating in an educational program.

#### Design of the Study

Three groups of subjects were selected for the study: (1) fifty-nine children, ages 10-14, from low-income families, who were enrolled in an after-school program at North Carolina Agricultural and Technical State University, and whose mothers participated in an educational program; (2) the thirty mothers of the fifty-nine children designated above; and (3) fifty-nine children who were matched with the first group of children on the basis of age and sex, but whose mothers did not participate in an educational program.

Two instruments were developed as a means of collecting the necessary data for the study. One questionnaire was designed to obtain information from the mothers. It was divided into seven major sections in order to secure data on the following areas: (1) family information, (2) housing information, (3) food purchasing practices, (4) food products

used, (5) food preservation practices, (6) income information, and (7) general information.

The second instrument was a daily dietary form that was used for recording the daily food intake of the children. It was used to determine the number of servings of food from each of the Basic Four food groups included in the daily diet of each child.

The data were coded for statistical computations. Percentages, frequencies, means, chi-square, and the t-test were used for statistical analysis.

#### Assumptions of the Study

The basic assumptions made in relation to this study were:

- (1) Poor nutritional habits are frequently associated with low socio-economic conditions.
- (2) Food purchasing practices of low-income families can be improved through exposure to consumer education.
- (3) Parents from low-income families can aid their children in the development of positive dietary habits if they are knowledgeable about good nutrition and consumer education.

#### Limitations of the Study

The following limitations were stated in relation to this study:

- (1) The study was limited to children, ages 10 to 14, who participated in an after-school cultural and

educational program that was conducted at North Carolina Agricultural and Technical State University, Greensboro, North Carolina.

- (2) The children were selected to participate in the cultural and educational program on the basis of their low socio-economic level. They resided in areas considered to be low economic housing as defined by the Office of Economic Opportunity.
- (3) The mothers included in this study were limited to those who had children involved in the after-school cultural and educational program. Only those mothers who agreed to cooperate throughout the study were included in the educational program designed for parents.

#### Definition of Terms

Terms used in relation to this study were:

Basic Four: A general guide for meeting the nutritional needs of individuals and families. This food plan, frequently referred to as the Guide to Good Eating, includes:

- (1) Milk group
- (2) Meat group
- (3) Vegetable and Fruit group
- (4) Bread and Cereal group

Consumer Education: The development of the individual in the skills, concepts, and understandings required for everyday living to achieve, within the framework of his values, maximum utilization and satisfaction

from his resources (Illinois State Office of the Superintendent of Public Instruction, 1968).

Council president: The president of an organized group of residents in each housing development.

Educational program: The program of consumer education and nutrition education planned for the parents participating in the study.

Food Assistance Program: A program involving the distribution of donated foods by the North Carolina Department of Agriculture to families approved by the County Director of Social Services or his designee.

Food habits: The eating patterns of individuals and families.

Food preservation: The process of preparing food to resist decomposition or fermentation through the techniques of canning and freezing.

Meal planning: A consideration of the foods to be purchased, prepared, and served to the family for a given time.

Nutrition: The combination of processes by which all parts of the body receive and utilize the materials necessary for performance of their functions and for the growth renewal of all components (Fleck and Munves, 1964).

Nutritional education: Education which teaches people how to better nourish themselves by learning to make fuller use of the resources available to them in their respective communities, and how to make the most of their family budget (Food and Agricultural Organization of the United Nations, 1971).

Poor nutritional habits: Patterns of eating that do not provide the basic nutritional requirements of the body.

Positive dietary habits: Patterns of eating that provide the basic nutritional requirements of the body.

Series of presentations: Weekly meetings at the housing centers in which the parents were involved in programs of consumer education and/or nutrition education.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

Recent national emphasis on the existence of hunger and malnutrition in the United States has created interest in the nutritional status of low-income families. Numerous studies of nutritional adequacy have been conducted; however, few studies have included persons who were actually living in poverty situations.

Income level, education, and nutritional status of individuals appear to be closely related. Low-income and lack of education are frequently considered to be basic reasons for poor dietary habits in a large segment of the low-income population. Without access to ample food and adequate knowledge as to what constitutes a good diet, many low-income persons have little opportunity to be well nourished according to presently accepted standards.

This study was concerned with the food habits and food purchasing practices of low-income families. The review of literature was divided into five parts. Part I includes literature related to the extent of poverty in the United States and its relationship to dietary adequacy; Part II, literature related to food habits and food practices of American families; Part III, literature related to food purchasing practices of American families; Part IV, a review of literature pertaining to the need for consumer nutrition education programs for low-income families; and Part V is an overview of North Carolina's poor as consumers.

### Poverty in the United States

Poverty still exists in the United States to a considerable degree. In 1970, the number of persons in poverty increased for the first time since 1960. There were 25.5 million persons, 5 percent more than in 1969, who were below the poverty line (United States Department of Agriculture, 1971). The poverty line has been described as "a measure of the income needed to provide families that differ in size, composition and place of residence a minimum adequate level of living (United States Department of Agriculture, 1971)". The poverty line is adjusted each year in line with movement of the Consumer Price Index to allow for increasing costs. Data from the Bureau of the Census declared the poverty line to be \$3,968 for a nonfarm family of four and \$3,385 for a farm family of four in the year 1970 (United States Department of Agriculture, 1971).

In 1965, Orshansky stated that an annual income of \$3,000 or less was used to define families in poverty. This was considered an indefinite indication of level of living because families with the same income differ in their levels of living due to family size and other factors. Orshansky (1965) also described a method for obtaining a variable definition of poverty as follows:

Based on the Department of Agriculture's economy food plans costing 70 to 80 percent of their basic low-cost plans and intended for temporary or emergency use, food costs for families of two to seven or more members were calculated. This cost when related to total income, indicated that these families spend about one-third of their income on food. Poverty was then assumed to exist when income available was less than three times the cost of the family's economy food plan.

In spite of the fact that the \$3,000 annual income is an arbitrary method of defining the poverty level, it is startling to realize the vast number of people in our society who have less than this amount per year as an annual income. The 1961 Survey of Consumer Expenditures indicated that 21 percent of the urban families, 34 percent of the rural nonfarm families, and 40 percent of the farm families had an income of less than \$3,000 after taxes had been deducted (Holmes, 1965).

Sherman (1965) stated that "...one-half of all families headed by women are poor." Other pertinent statistics regarding the plight of women and the state of poverty were cited as follows:

One-fifth of the nation's population lives in poverty.

Fifty-four percent of the impoverished live in cities, 16 percent on farms and 30 percent in nonfarm areas.

Forty-one percent of all farm families are poor; yet 80 percent of all non-white farm families live in poverty.

Fourteen million women 21 years of age and over, more than one-fifth of all women in the United States, are living under impoverished conditions. Approximately six million children are growing up in these homes.

Over 60 percent of the women who head poor families have no more than a grade school education.

The above mentioned factors are important because a majority of the low-income families in the study conducted by the investigator were headed by women and included many children. Consequently, conditions that affect vast numbers of women and children must be recognized so that means of overcoming these handicaps can be realistically sought in our present society.



Adams (1970) quoted the following statement made by Dr. Jean Mayer, Chairman of the White House Conference on Food and Nutrition:

At least 15,000,000 people in the United States do not have adequate nutrition because of poverty--a very grave problem that needs to be solved immediately.

Many studies have shown a relationship between poverty and poor dietary intake. Adelson (1968), using data obtained from a study of the changes in household diets from 1955 to 1965, determined that nearly 40 percent of the households with income under \$3,000 per year had poor diets. A study by Miller, Penny, & Elrod (1970) of 160 households in Atlanta, Georgia, over a 5 year period, indicated that Negro households with under \$4,000 per year had the highest incidence of low nutrient intake.

Further evidence of the relationship of income to dietary adequacy was revealed in the preliminary report of Dietary Levels of Households in the United States, Spring 1965, which Adelson & Peterkin (1968) reported on in an article entitled "Quality of Diets in United States Households in Spring 1965." It showed the percent of poor diets in relation to income as follows: 63 percent of the households having less than \$3,000 per year, 57 percent of the households having \$3,000-\$4,999 per year, 47 percent of the households having \$5,000-\$6,999 per year, 44 percent of the households having \$7,000 per year, and 37 percent of the households having \$10,000 per year and over. Another publication by the United States Department of Agriculture (1970), Dietary Levels of Households in the South, reported that among households with annual incomes of over \$10,000, 4 percent had poor diets, while 40 percent with annual incomes under \$3,000 had poor diets.

Even though much data indicate that families with low-incomes tend to have poor diets, a large proportion of their total income is usually spent on food. Jolly (1971) stated that many low-income families still allocate up to 50 percent of their income for food. It was stated that:

The available data indicate that programmatic changes needed to improve nutritional achievements are:

1. Education for households at higher income levels.
2. Income support and education for low-income families.

Statistics reveal that in spite of how the poverty level has been determined, a large percentage of our population continue to live in poverty situations. Though many low-income families spend approximately one-half of their income for food, a positive relationship still exists between poor dietary intake and low-economic status. If the dietary level of this vast segment of our society is to be improved, it appears evident that persons need an increased income and additional knowledge of nutrition.

#### Food Habits and Practices

An article by Adelson and Peterkin (1968) reported on the nationwide survey of household food consumption made by the United States Department of Agriculture in the spring of 1965. Diets that met the recommended dietary allowances set by the Food and Nutrition Board of the National Academy of Sciences - National Research Council for seven nutrients were rated as "good". The nutrients were protein, calcium, iron, vitamin A, thiamine, riboflavin and ascorbic acid. Diets that

furnished less than two-thirds of the allowances for one or more of these nutrients were rated as "poor". Data revealed the following information:

1. One-half of the diets were good and one-fifth were poor in the spring of 1965, in both urban and rural areas.
2. About one-half of the diets in each region were good. Diets were poor in more households in the North Central and Southern Regions than in other regions.
3. More high than low-income households had good diets. However, some had poor diets even at high-income levels.
4. Diets of 15 percent of the United States households were below allowances for three or more nutrients.
5. Diets were most often below allowances in calcium, vitamin A, and ascorbic acid. Few diets were below two-thirds of allowances for any nutrient but these three.
6. Urban diets met allowances for vitamin A and ascorbic acid more often than did farm diets; farm diets met allowances for calcium, iron and thiamine more often than urban diets. Farm diets met allowances for protein and riboflavin more often than urban diets.
7. Relatively fewer United States households had good diets in 1965 than in 1955.

Parrish (1971) reported that the survey of United States diets from 1955-1965 showed a decline of nearly 20 percent in vitamin A value and nearly 10 percent in ascorbic acid in 1965. This is probably the result of the small number of servings from the vegetable and fruit group of foods included in the diets of many Americans.

Studies of the food habits of specific groups within the population have revealed many interesting facts. Eppright (1959) studied seven-day dietary records of 200 boys and 200 girls in Iowa at successive

ages from 6 through 18. The data revealed that teen-age boys and girls with the best diets obtained 26 or 27 percent of their vitamin C at breakfast; those with the poorest diets only 18 or 19 percent. Children with the poorest diets had snacks whose nutritive quality was much below that of those with the best diets. This led Eppright to believe that snacks and breakfast are crucial factors in determining the quality of the diets of children. It was concluded that "Children with poor diets usually need to have more to eat, especially more milk, fruits and vegetables, and to have better breakfasts and snacks."

Brown (1967) conducted a study in which food habits of 101 university students were recorded for the preschool, grade school, high school, and college years. Some of the factors which seemed most important in the development of eating habits among these students were parental influence, especially of the mother; place of residence, income of family, size of family, pressures of life, influence of peers and influence of eating situations beyond the home.

Van De Mark & Underwood (1971) conducted a study of the dietary habits and food consumption patterns of teen-age families. The subjects included 15 families with annual incomes below \$3,000, 41 families whose incomes ranged from \$3,000 to \$4,500 and 44 families whose incomes were greater than \$4,500. The results of the study indicated that the teen-age mothers did not provide their families with adequate amounts of milk, vegetables and fruits, or total calories per day to meet the nutritive standards recommended by the National Research Council. The study of teen-age eating in Ontario, Canada, by Trenholme & Milne (1963) revealed that one-half of the group of adolescents studied had poor diets which contained insufficient amounts of milk, fruit, eggs, and green vegetables.

Mirenda (1966) collected data about the dietary habits of 7th and 8th grade students. Dietary adequacy was determined by comparing the food intake values of their diets with the 1963 Recommended Dietary Allowances of the National Research Council. Findings in the study were as follows:

1. Data revealed a lack of awareness on the part of these young adolescents of basic nutrition and health information.
2. Almost as many diets were rated as "poor" as were "adequate" and "fair" combined.
3. The diets of the 8th grade boys surpassed the diets of all other groups of students both qualitatively and quantitatively.

Pao (1970) engaged in a study of the breakfast patterns of 121 teen-age boys from urban families. The study was conducted in the North Central Region of the United States. Ninety-five percent of the boys ate breakfast on the one day for which the food intake was recorded. Breakfast cereal and milk was the menu chosen most frequently. In the preliminary analysis which Pao (1970) reported on, it did not appear that family income and family size exerted much influence on the breakfast patterns examined. A common breakfast pattern in all income groups was that of ready-to-eat cereal and milk. However, the cooked breakfast cereals, primarily oatmeal, were eaten most frequently by large, low-income families in which the homemaker had no more than a high school education and was over 40 years old. Fruit was served for breakfast less often by homemakers with only a high school education than by homemakers with some college experience.

Methany, Hunt, Patton, & Heye (1962) investigated the dietary habits of 104 preschool children and their families. Each child's

nutrient intake from food for a consecutive three day period was computed. It was determined that 21 percent of the children had diets meeting 100 percent of the National Research Council's Recommended Allowances; 61 percent had diets meeting at least 67 percent of the allowances; and 18 percent had at least one nutrient below 67 percent of the recommendation. The greatest percentage of children with diets meeting the National Research Council's recommendation was from families in the upper-middle income group (\$5,501 to \$7,250) and the greatest percentage with inadequate diets was from the lowest income group (up to \$3,700).

A study of factors influencing the quality of diets of preschool children was conducted by Eppright, Fox, Fryer, Lamkin & Vivian (1970). Mothers of preschool children in 12 North Central states were interviewed about the eating behavior of their children and specific family characteristics. It was found that interrelated factors which influenced the diets of the children were nutrition of the mothers and their attitudes toward meal planning, food preparation, nutrition, and permissiveness. The socioeconomic variable most influential in the quality of the children's diets was the amount of money spent for food. The children whose diets were classified in the lowest 10 percent with respect to nutritional quality had mothers whose nutritional knowledge was relatively low. These mothers also had unfavorable attitudes toward meal planning and food preparation and a highly permissive attitude toward the eating behavior of children.

Warnick & Zaehring (1963) analyzed seven-day diet records of 274 Iowa teen-agers. The purpose was to determine how the food patterns of the 30 percent of the subjects whose diets were deficient in one or

more nutrients differed from the average diet of the entire group. Results indicated that diets deficient in each of the nutrients studied contained 44 to 71 percent of the fruit and vegetable servings in the average diet. When the diets did not include milk as a beverage, deficiencies were present in riboflavin, calcium, and usually vitamin A. The children with the poorest diets ate fewer snacks than the group as a whole, skipped more meals, and ate smaller quantities of food at the meals when they did eat.

A Teenage Food Survey was conducted by the Guilford County Nutrition Committee in cooperation with the City Schools of Greensboro, North Carolina (Edwards, Hogan, Spahr, 1964). Over 6,000 public school students in grades 7, 9, 10, and 12 were asked to recall and record all foods and beverages consumed during a 24 hour period. Of the students surveyed, 3 out of 4 had the recommended 2 or more servings from the meat group. Most of the students drank milk, but only 1 out of 4 had consumed at least the equivalent of 4 glasses a day. A majority of the students ate more than the recommended 4 servings of bread and cereals per day. Nine out of 10 had 4 or more servings, while only 1 out of 100 ate none. The foods most often omitted by the students were green and yellow vegetables. This was true of all grade levels, all ages, and in all schools. Only 1 out of 5 students reported eating any dark green or yellow vegetables. One out of 2 of the students had consumed no foods rich in vitamin C.

Findings in a study among teen-agers in a Western Region food survey by Lee (1963) disclosed that 6 out of 10 girls and 4 out of 10 boys had inadequate diets. The survey revealed that the teen-agers skipped

breakfast, did not drink enough milk, feared getting fat, and ate poor snacks.

Hootmann, Haschke, Roderuck & Eppright (1967) calculated the nutrient intake of more than 50 children aged 3 to 17 years from selected low-income families in Iowa. Only about one-half of the children had diets that were considered to be excellent. The three nutrients most often found in short supply in the diets were calcium, iron, and ascorbic acid. However, the calculated nutrient intake of these children, estimated from diet histories, did not reveal the presence of any gross inadequacies in the diets of the children.

Hendel, Burk, & Lund (1965) studied the socioeconomic factors which influence children's diets. It was concluded that the major socioeconomic factors which influenced children's diets were income, education of the mother, urbanization, and the number of children in the family. The dietary survey record of 302 Ohio school children indicated that "vitamins A and C were found to be positively related to the major socioeconomic factors of income, degree of urbanization, and education of the mother, but inversely related to the number of children in the family".

Adelson (1967) presented a paper entitled "Changing Food Consumption in the United States" at the 58th Annual Meeting of the American Home Economics Association in Dallas, Texas, June 27, 1967. It was stressed that families with incomes under \$3,000 per year averaged nearly 3 cups less milk, 0.5 pounds less meat, and 1.7 pounds less fruits and vegetables per person a week than families with \$7,000 to \$10,000 per year. The low-income families had 0.8 pounds more bread and cereal.



The lowest users of the meat, milk, and vegetable and fruit groups were said to be the families in the South and those with low-incomes.

Ford (1967) investigated the dietary practices of 109 low-income families in Greenwood, Mississippi. It was found that 50 percent of the diets were rated as poor. During the 24 hours before the interview, citrus fruit was not served in 90 percent of the families and milk was not served in 80 percent of the families. The diets were frequently deficient in one or more nutrients. Diets were lowest in ascorbic acid, calcium, and vitamin A. About one-third of the families were short in calories and nearly 40 percent of the families failed to include 67 percent of the recommended amount of protein. The primary source of calories, calcium, iron, thiamine and protein were the cereal and grain foods. Most families used the suggested amounts of meat, but few families used the suggested amount of milk, citrus fruit, eggs, potatoes, and other fruits and vegetables. Most families exceeded the suggested amounts of salt pork, legumes, cereals, and green and yellow vegetables.

The practice of canning food at home was a relatively common occurrence at one time. However, it seems to be a practice that has diminished among households in the past few years. Bristol, Brown, Craig, & Wise (1965) reported on a study conducted by a management class at the University of Puget Sound, Tacoma, Washington. Results of the investigation revealed that rural areas led in the production of home canned foods; family tradition appeared to be an influence in the decision to can foods; and fruits, vegetables and jams were preserved in the greatest amounts. The reasons listed most frequently for home-canning of foods included family preference, economic advantage and personal

satisfaction. Of the 69.7 percent of the sample that canned foods at home, 48.2 percent learned the technique from their mothers and 33 percent were self-taught. Only 12.8 percent stated that the process had been learned in school.

An article by Redstrom (1970) entitled "Food Canning by United States Households" stated that:

According to the most recent nationwide food consumption surveys conducted by the United States Department of Agriculture, only 34 percent of the United States households canned any food for home use during 1964, compared with 44 percent 10 years earlier.

The data also revealed that more households canned fruits and vegetables than meats. In both years, fewer rural nonfarm and urban households canned foods than did farm households. The Northeast region had fewer urban households that canned food than any other region, 13 percent, compared with 28 percent in the South, 27 percent in the West and 25 percent in the North Central area.

The literature revealed that inadequate diets were relatively common in many United States households and particularly those of low-income families. The nutrients most frequently found to be included in the diet in insufficient amounts were calcium, vitamin A, iron and ascorbic acid. This may possibly be attributed to the low intake of foods from the milk and fruit and vegetable groups. Some major socioeconomic factors which influenced children's diets were income, education of the mother, urbanization, and the number of children in the family.

### Food Purchasing Practices

It is believed that dietary practices and food marketing habits of families are related. In a study by Methany et. al. (1962) the diets of preschool children were observed and related to income level of the family, employment of the mother, and family marketing practices. Data were also collected on sources of the mother's information on how to feed her family and the use of convenience foods.

According to the data collected from the families of the 104 preschool children, most of the families purchased food once a week. The purchases were usually made in a supermarket by the wife. Homemakers relied mainly on printed materials and their own education and experience as information sources for feeding the family. Relatives were rated first as influential sources of information much more than neighbors and friends. Little nutrition information was secured from radio or television. A high percentage of the children requested that certain food items be purchased.

A larger percentage of families in the upper-middle income brackets used convenience foods than did families in other income groups. Most respondents stated that convenience foods were used to save time and energy of the homemaker. Some homemakers felt that convenience foods were less expensive and better than similar products made from basic ingredients.

Garrett (1969) stated that the use of convenience foods has increased at all economic levels. Data from the Household Food Consumption Survey 1965-66 indicated that low-income households increased their use of convenience foods by 47 percent from 1955-1965. Thirty-four

percent was the average increase for all households. Other data indicated that powdered fruitades and fruit punches registered a 200 percent increase, in spite of a multiple cost rise, while fresh commercial fruit juices had a three-fold rise. Consumption of instant coffee rose by 125 percent, even though the price rose only about 35 percent. Increase in quantity use of ready-to-eat cereals was only 30 percent, although the price rose by 90 percent.

Further evidence of the trend toward the use of convenience foods was cited in an article by Clark & Peterkin (1967). Data obtained from the 1955 and 1965 Household Food Consumption Surveys revealed that even though United States households used approximately the same amount of potatoes per person a week in the spring of 1965 as in the spring of 1955, the form in which they were used changed. The 1955 data indicated that about 7 potatoes were used fresh and the equivalent of  $3/4$  potato was used in a processed form - either frozen, canned, chips, sticks or dehydrated. In 1965, approximately 5 and  $3/4$  potatoes were used fresh and 2 were in some processed form.

Adelson (1967) also reported that time and work saving foods increased in use from 1955 to 1965. Frozen vegetables replaced some of the fresh ones; ready-to-eat cereals replaced cereals to be cooked; and bakery products replaced much of the flour. Some foods that increased in use were ades, punches, soft drinks, luncheon meat, peanut butter, crackers, potato chips, cookies, candy, doughnuts, butter, frozen desserts, and frozen and chilled juices. This may be attributed partly to more young people in the society and more snacking in general among the population.

Data were collected in the 1955 and 1965 surveys on the use of iodized salt, an inexpensive safeguard against goiter. This was important because, according to the National Nutritional Survey (United States Department of Agriculture, 1969), the incidence of goiter which has occurred in some low-income areas is quite high. The studies showed that fewer families bought any salt during each week in 1965 than in 1955. The families buying iodized salt decreased from 17 percent in 1955 to 15 percent in 1965. However, in both years, many more families bought iodized than noniodized salt. It was suggested that the decline in the purchase of salt may be attributed, to some degree, to the increased use of ready-to-eat and convenience foods, as well as the increased amount of "eating out" on the part of many families. It was also suggested that the increased use of salt substitutes and seasoned salts may be attributed to the decline in the purchase of salt by many families. Numerous convenience foods are seasoned prior to marketing and much of the salt used is not iodized. If low-income families are using a large number of convenience foods, it is possible that their intake of iodized salt is relatively low.

Ward (1970) stated that "Data from the 1965-66 Household Consumption Survey indicate that families can have better diets by placing greater emphasis on fruits and vegetables, and milk and milk products." It was stated that "households having good diets allocated, on the average, 11 cents more of their food dollar to the two food groups - fruits and vegetables, milk and milk products - than did households with poor diets." Households with good diets allocated about the same proportion as households with poor diets to the flour, cereal, and bakery

products group. In the households with poor diets, low nutrient levels occurred most frequently for ascorbic acid, vitamin A, and calcium. This was attributed to the smaller share of the food dollar being spent for fruits and vegetables and milk products.

A study by Shipman & McCannon (1964) revealed that the number of information sources urban women referred to with homemaking questions related significantly to the availability of two mass media, radio and women's magazines, and to two socioeconomic factors, age and education. The printed media was used for answers to food buying questions by most women, regardless of education. Women under 35 years of age indicated a greater need for homemaking information and sought help from more sources than did older women.

Rees (1959) conducted a study which indicated that homemakers in upper status positions are more likely to give special attention to individual family members in relation to food, and to use time saving food practices and products than homemakers in lower status families. Dickens (1965) studied decision making factors among homemakers in relation to buying dairy products. Fifty-two percent of the white homemakers and 42 percent of the Negro homemakers reported that children or other family members had influenced them to buy certain products. Twenty-two percent of the Negro homemakers and 38 percent of the white homemakers stated that information from relatives and friends had led them to buy certain products. Children were more influential in causing homemakers to buy certain products than were husbands. A total of 884 adults and 608 children were involved in this study.

Another study by Dickens (1962) revealed that low and high income families differ in the use of many foods. Cottage cheese was used more by high-income families and dried milk was used more by low-income families.

Dodson (1966) reported that during a visit by college undergraduates to a Public Housing project in Pittsburgh, Pennsylvania, the students were told, by a minister who worked full time with the families, that many of the homemakers had poor food buying habits. It was stated that many of them were often overcharged for small amounts of food purchased from the mobile grocery store of a huckster. A need was expressed for educating the low-income homemakers to spend their money more wisely from a nutritional standpoint and an economical standpoint.

A consumer-oriented food marketing survey conducted by Mackey, Bowman, Hard, & Zaehring (1968) focused on the factors affecting consumer purchase and utilization of fruits and vegetables. Some factors which significantly influenced the buying practices, home uses, opinions, and preferences of these families were family size and income, wife's education, wife's working status, and husband's occupation. Canned fruits and vegetables were purchased by 75 percent of all the food buyers interviewed in the survey. Sixty-two percent of the buyers purchased frozen fruits and vegetables and 75 percent purchased fresh fruits and vegetables. Convenience and the fact that fresh produce was out of season were given as the major reasons for purchasing frozen and canned products.

Groom (1966) reported on a study by The Bureau of Labor Statistics on the question of whether stores in low-income neighborhoods charged

higher prices than stores in more affluent areas. It was determined that food prices were generally associated with the kind of store rather than the geographic area in which the store was located. The study revealed that few chain stores are found in low-income neighborhoods. The prices are generally higher in the small independent stores than in the large independent stores and chain stores. Since few chain stores were found to exist in low-income neighborhoods, the poor often resort to buying in the small independent stores and usually pay higher prices. It was noted that in poor neighborhoods, small sizes of items were more popular than the larger sizes which are often cheaper. This may be due to the fact that when money is limited, one has to purchase small sizes of items to have money enough to purchase the variety of foods needed or desired.

Caplovitz (1965) has stated that:

Families who buy at small groceries may do so in part because they feel more at home with the storekeeper; but it is also true that they can get credit there which is not available at the supermarket.

Credit, as we have noted, is of special importance to low-income families. The need for credit and its extensive use colors many facets of their consumer practices. It facilitates the accumulation of goods, affects their decisions about where to shop, and, perhaps most importantly, has a pronounced effect on the cost of what they buy.

Lamkin, Hielscher, & James (1970) engaged in a study of the food purchasing practices of young families. Results of the study indicated that 75 percent of the families shopped once a week for major food purchases. Sales, specials and payday were given most often as the reasons for shopping. More than one-half of the homemakers gave prices and sales or specials as first considerations in the selection of a grocery store,



with kind and quality of products in second place. Though most husbands were interested in food-buying decisions, they shopped for food in only 9 percent of the families and shared the responsibility of shopping in only 15 percent of the families. Generally, it was the homemaker who decided what to buy and she usually purchased the food. Approximately one-half of the homemakers had a few foods delivered to the home on a regular basis. These were primarily older homemakers with higher family incomes and higher levels of education. Fifty-two percent of the homemakers reported that they almost always made a shopping list. Education of the homemaker and the size of her family related significantly to her use of a shopping list. The use of a spending plan was significantly related to the age of the homemaker, family income and the weekly food expenditures. A spending plan was reported by a large number of women under 30 years of age, with incomes under \$10,000, and with weekly food expenditures under \$35.00. Three-fourths of the homemakers used newspaper advertisements as a source of food shopping information. This information was used to help decide what and where to buy and for meal planning ideas. Convenience foods were not used as often as expected. However, a variety of baked products was frequently prepared from basic ingredients. Food buying decisions in regard to kind and quality of food were often influenced by preschool children and specific food requests were usually granted.

A recent study was conducted by Tinklin, Fogg & Wakefield (1972) to determine what convenience foods were used and how demographic factors influenced their use in households where diets were poor.

Thirty percent of the 243 households surveyed had household heads who had graduated from high school, 24 percent had less than 12 years of formal education, and 46 percent had attended college. Twenty-nine percent of the households had income below \$6,000 and 17 percent indicated that their total incomes were unknown. Fifty-five percent of the households had total incomes of \$6,000 to more than \$10,000.

Age, sex, education of household head, and total income were associated significantly with the use of convenience foods. The chi-square values indicated that convenience foods were used more often by households with a male head less than 50 years old, than by households having an older male head. Age was not determined to be a significant factor in households headed by a female. Convenience foods were used often when the household head was a college graduate, and used occasionally in households where the head was a grade school or high school graduate. Convenience foods were used in households at all income levels; however, there were differences in use which were associated significantly with the lower and higher income groups. In households where the total income was \$2,000 to \$3,999, convenience foods were used occasionally, whereas convenience foods were used often in households where the total income was \$6,000 or more.

Preference for the quality of convenience foods was given as the reason for their use by households with total incomes of \$2,000 to \$3,999. Households with a total income of \$6,000 or more listed as their reasons for use of convenience foods the facts that they were handy in an emergency and packaged in convenient sizes.

Education of the household head and total household income were associated significantly with the place where convenience purchases were made. Purchases were made often at both the independent grocery and the chain store by households where the heads were high school graduates or had some college education. Households where the total income was under \$2,000 or more than \$6,000 patronized the chain store most often. Purchases of convenience foods in both chain stores and independent groceries were made by households with a total income of \$10,000 or more. It was acknowledged that the place of purchase of convenience foods may have been influenced by factors other than the type of store. Such factors may have been the location of a household in a given area and personal influence or acquaintance. None of these factors were included in this study.

One of the major problems in assessing grocery expenditures of a family is differentiating between the amount of money actually spent for food and the amount of money spent in the grocery store on nonfood items. This problem has become more acute in recent years because of the vast number of nonfood items which are available in grocery stores throughout the nation. Miller (1962) reported that in 1960, consumers in the United States spent the following amounts in grocery stores on nonfood items: \$1.3 billion on health and beauty aids, \$442 million on housewares, \$176 million on soft goods, \$121 million on magazines, \$66 million for records, and \$54 million for stationery. According to Progressive Grocer--The Magazine of Super Marketing, Annual Survey, April 1961, sales of these items increased 9.8 percent in just one year.

This was said to be twice the gain of total food store sales and the rapid growth was expected to continue.

Miller (1960) also reported that a study made by home economics students at Purdue University revealed that nonfood items made up an average of almost 20 percent of the market purchases made by consumers in Lafayette and Indianapolis, Indiana. The total grocery bill should be analyzed carefully to determine the amount that has been actually spent on food and nonfood items.

The United States Department of Agriculture (1968) published an article entitled "Spending for Nonfood Items in Grocery Stores." It was stated that the annual survey of grocery store sales, conducted by Conover-Mast Publications, showed that one-fourth of the total amount of money spent in grocery stores in 1966 was for nonfood items. The total grocery store sales of \$164.7 billion in 1966 were divided among food and nonfood items as follows:

<u>Food Items</u>	<u>Percent</u>
Total	74.6
Meat, poultry, and fish	26.5
Eggs	1.0
Dairy products	6.9
Fruits and vegetables	17.9
Cereal and bakery products	9.1
Non-alcoholic beverages	5.1
Other foods	8.1
 <u>Nonfood Items</u>	
Total	25.4
Alcoholic beverages	4.9
Tobacco	3.8
Health and beauty aids	3.1
Soaps and laundry supplies	2.5
Housewares and household supplies	2.1

<u>Nonfood Items (Continued)</u>	<u>Percent</u>
Paper products and foil	1.6
Pet food	.9
Magazines, books, and records	.3
Other nonfood items	6.2

Many low-income families have problems of transportation that necessitate shopping in the neighborhood. The neighborhood store carries a variety of products and is often used as a one-stop shopping source, even though the prices are higher. Therefore, the purchase of nonfood items at higher prices may create a tremendous increase in the total grocery bill of many low-income families.

The review of literature indicated that most families made major food purchases once a week. The wife made most of the grocery purchases and she usually shopped in a supermarket. Convenience foods were used by families at all economic levels. Households with adequate diets generally spent more of the food dollar on fruits, vegetables, milk and milk products than households with inadequate diets. Children appeared to influence food purchases more than husbands. Most women relied on the printed media, their own education and experience for answers to food buying questions. Though canning and freezing were not done extensively in most families, canned and frozen foods were frequently purchased by homemakers. Nonfood items constituted a large segment of the purchases made in grocery stores.

#### The Need for Consumer and Nutrition Education Programs for Low-Income Families

Home economists have become quite concerned about ways in which home economics knowledge and skill can be used to help low-income families. It has been recognized that this segment of our population has

not been effectively reached by many of our previous efforts.

Canoyer (1966) stated that "Every consumer meeting and most consumer educators are on record acknowledging that we are not reaching the audience which needs us most - the disadvantaged family." It was stated that if we were to make a real breakthrough in education for the disadvantaged, their buying habits and practices needed to be studied. It is necessary to know more than what is purchased and where it is purchased, it is also important to know why and when products are purchased. Canoyer (1966) also emphasized that before any wholesale program development in improving consumer buying techniques of the disadvantaged can be undertaken, it will be necessary to have more information on the purchasing behavior of different ethnic and socio-economic groups.

Wolgamut (1964) emphasized some of the needs of low-income families in the following manner:

There is no group that needs more urgently to make maximum use of available resources, to manage their homes more effectively, to purchase wisely, to plan and manage food with knowledge and skill, and to improve their housing.

Lotwin (1964) acknowledged that:

People are not born knowing how to be wise shoppers, how to clean a range, how to make a wise decision in nutrition. Most have to be taught. The client who discovers how much she can save on a week's grocery bill by planning meals, considering the best buys, and writing the grocery order is just as proud as anyone else.

Beavers (1965) suggested that:

In order to make the best use of available resources, home economists can carry on educational programs that relate to (1) food selection, storage, preparation, and when feasible, production and preservation and (2) use of donated foods, money management and consumer education.

Wilson (1966) discussed the use of donated food by low-income families by making the following statements:

Two basic facts need to be borne in mind about these donated foods. First, they are excellent quality foods which form a good basis for a nutritious diet. Second, they do not constitute a complete, well-balanced diet. These staples must be augmented with eggs, cheese, vegetables and fruit. Families need to be educated not only in the best use of these foods, but also in the most economical and nutritious ways to supplement them.

Since the above statement appeared in 1966, some changes have occurred in the foods donated to low-income families. Eggs and cheese are two of the foods now issued as donated foods and add considerably to the nutritive value of the diet.

Some additional suggestions as to how home economists might work more effectively with low-income families were made by Davis (1965) and Beach (1966). Davis emphasized that in attempting to help youngsters from low-income families learn more effective habits in buying and preparing food the home economist must study the actual diets of these children and their families. It was also stated that home economists must not be led astray by middle-class prejudice in rejecting types of food which are rich in nutritional value, though not eaten in the home of the home economist.

It was suggested by Beach (1966) that "Teachers might focus their efforts on the problems of preparing tasty, nutritious meals with the facilities and materials available in the home of the culturally deprived". Beach stated that:

Feeding a large family well on the budget and food stuffs provided by most welfare agencies would tax the skill of many professional dieticians. Yet society places this burden on persons whose education and abilities often make them least able to cope with it.

Sadow (1972) observed that nutrition specialists have recognized the reality of inadequate income as a causitive factor of poor diets among low-income families for many years. However, it is believed that ignorance about food, food purchasing, and food preparation contributed greatly to the nutritional problems of the nation. Therefore, nutrition education could result in changes in food practices which would be a basis for improving the nutritional problems of the nation.

Johnson (1965) stressed the necessity for functional nutrition education by saying:

Nutrition education must be geared toward bridging the gap between research and its practical application. The consumer may have rejected nutrition education in the past because it appeared to have greater interest in conveying scientific knowledge than it did in the practical needs of people.

One way of dealing realistically with nutritional problems, suggested by Ritchie (1967), was....

to base education on the foods and practices which people use at present and to suggest the minimum changes necessary to enable the faults in their diets to be corrected. Every diet has its good points and these should be praised and, as far as possible, changes should be built around them.

Since good nutrition has been recognized as being so necessary to all people, many recent efforts have been geared toward making nutrition education available to low-income families. One method has been to use trained nutrition aides who are from low-income families to work with other low-income families.



Turner and Fleming (1971) described the use of nutrition aides to work in programs for low-income persons. It was stated that over 7,000 aides were working in more than 1,000 cities, counties, and Indian reservations in the 50 states, District of Columbia, Puerto Rico, and the Virgin Islands. The program aides were employed in the Cooperative Extension Services Expanded Food and Nutrition Program. Their job was to help low-income families improve their diets and make the best use of their resources. Homemakers who were being helped by the nutrition aides were asked to make a 24-hour dietary recall once every 6 months. The assumption was that if the homemaker's diet improved, in all possibility the diets of the other family members also improved.

Some indication of the value of these programs may be determined by the fact that when dietary records of 46,000 homemakers were taken in March 1968, only 51 percent had eaten at least one serving of food from each of the Basic Four food groups during the previous 24-hour period. Seven percent had eaten the recommended number of foods from each group. After the aides had worked with the homemakers, two additional nutritional surveys were made. Six months after the first survey, when the second survey was conducted with 34,633 of the original group of homemakers, the percentage of women having had at least one serving from each food group had increased from 51 to 59 percent. The third survey, conducted in March 1970, included 27, 479 homemakers from the original group. It showed that 74 percent of the women reported having eaten at least 1 serving of food from each of the food groups. More than 19 percent

indicated that the recommended number of servings from each food group had been eaten during the previous 24 hours.

Home economists have recognized that many needs of the disadvantaged have not been met in relation to nutrition, food purchasing, and food preparation. One of the most successful efforts in disseminating the needed information to low-income families has been through the use of nutrition aides who worked directly with families in improving their nutritional status.

#### North Carolina's Poor as Consumers

The North Carolina Fund Survey of Low-Income Families in North Carolina, conducted in 1965, was financed by a grant from the Office of Economic Opportunity. It consisted of an in-depth survey of 11,600 low-income families in 31 target areas located in counties where community action experiments were supported by the Fund. The purposes of the survey were: (1) the provision of information for use in program planning; (2) the establishment of a baseline for later evaluation; (3) the identification of problems requiring study in greater depth; and (4) the generation of data for the testing of hypotheses about the structure and dynamic processes of the culture of poverty.

Data from the survey were presented in a publication entitled North Carolina's Present and Future Poor (North Carolina Fund, 1968). One section of the publication described the poor as consumers. It presented data quite relevant to this study in relation to food purchasing practices, food sources, and housing practices.

The most important food source of the urban poor was the super-market. Approximately 72.7 percent listed this as the major source of food, 19.3 percent shopped primarily at small stores, 1.7 percent purchased mainly from peddlers or Farmers' Markets and the main food source for 6.3 percent of the families was their own gardens. The main food source for nearly 15 percent of the rural low-income families was their own gardens.

Most low-income households (84.1) paid cash for their groceries. However, one out of four rural low-income households purchased groceries on credit (7.1 percent), and 7.9 percent used both cash and credit.

Data on the use of the food stamp program and the food commodities distribution were obtained in 1964. At that time approximately 90.9 percent of the low-income families in North Carolina were not participating in either of the programs. Only 7.9 percent of the families were participating in the free food commodities distribution program and 9 percent were using food stamps. One percent of the families used both programs and data were not available for .2 percent of those involved in the survey. The number of counties in North Carolina participating in food programs has increased since the time that the survey was conducted in 1965. By 1968, there were twenty-eight counties participating in the Commodities Distribution Program.

Data on home ownership revealed that two out of five low-income households owned their homes outright. The urban poor were less likely to own homes than the rural poor. Mortgage payments were being made by 16 percent of the low-income households and this was more common among

the urban poor than the rural poor. Rent was being paid by 2 out of every 5 low-income households. This was also more common among the urban poor than the rural poor. Houses furnished with stoves and refrigerators were being rented by only 5.4 percent of all low-income households. The rest of the households, homeowners and renters, had to provide these appliances themselves. Among those households who did not own their own home, 6 out of 10 were renting or making mortgage payments. The range of the rent and mortgage payments was from \$20 to \$70 per month.

The overview of North Carolina's poor as consumers should provide a sense of direction in planning meaningful consumer and nutrition education programs for low-income families.

### CHAPTER III

#### PROCEDURE

The purposes of this study were to determine food purchasing practices and food habits of low-income families, and to determine whether either of these factors was affected by an educational program in consumer education and nutrition education. The program was designed for mothers of low-income families.

#### Development of the Instruments

One instrument used in this study was a questionnaire designed to determine the food purchasing practices of low-income families and the food products used most often (see Appendix A). Numerous questionnaires on related topics were reviewed prior to the development of this instrument. The questionnaire included seven major sections as follows: (1) family information, (2) housing information, (3) food purchasing practices, (4) food products used, (5) food preservation practices, (6) income information, and (7) general information.

Family information requested included age, marital status, and educational attainment of the respondent, identification of the head of the household, number of persons in the household presently employed, number of adults and children residing in the household, ages of the children, and number of persons contributing money for food.

Housing information requested included the monthly amount paid for housing, facilities available in the home, and whether the housing was rented or owned.

Information on food purchasing practices was obtained by asking questions pertaining to where food was purchased, why this source was used, distance from home to source of most food purchases, method of transportation to food sources, whether bread or meat was purchased from a source other than the main food source and why, who decided on the amount of money to be spent for food, who decided what to buy, how often someone from the household shopped for food, who did the food buying, how the food purchases were paid for, the average amount spent for food per week, the nonfood items usually bought when shopping for food, and what factors influenced food purchasing practices. Other questions sought to determine whether meals and a grocery list were planned before shopping for food and whether the grocery list was followed closely when shopping. The last question in this section pertained to information found on labels of food products and the extent to which brands, grades, and price per unit of food products were considered when shopping for food.

Respondents who used food from the Food Assistance Program were asked to answer questions pertaining to how often each donated food from the assistance program was accepted, the frequency of use of each donated food, and the reasons for its use or disuse. Another question was also designed to determine the foods used most frequently. Sixty-four foods were listed and the respondents were asked to indicate the extent to which these foods were bought or used each week.

Information on the practice of canning and freezing food was obtained. Respondents were asked whether any foods were frozen or canned, the kinds of foods frozen or canned, and the reasons for freezing or canning food.

Questions used to determine income information asked the family income range, sources of income, and the kind of planning done for the use of family income.

An open-ended section was included on the instrument for additional comments. The questionnaire was submitted to professional personnel in the area of home economics for their critique and suggestions. Revisions were made based on the responses received.

The questionnaire was pilot tested by mothers in a low-income housing development. The pilot study was conducted to determine the ease of administering the questionnaire, the approximate amount of time needed to administer it and the clarity of the questions. Minor revisions of the instrument were made after the pilot study.

The second instrument, based on a review of literature, was a daily dietary form. All food consumed in a given day was recorded for each child included in this study (see Appendix B).

#### Selection of the Subjects

Approximately two hundred children from housing areas designated as low-income areas by the Office of Economic Opportunity were enrolled in an after-school program at North Carolina Agricultural and Technical State University during the spring and summer of 1971. Daily food intake of these children was recorded each day for one week at the beginning of the after-school program.

A meeting was conducted with the parents of children who were enrolled in the program at each of two housing developments. The questionnaire on food purchasing practices and food products used was

discussed. The parents were told about a proposed educational program in consumer education and nutrition education to be conducted through a series of group meetings. The mothers were asked to indicate their willingness to respond to the questionnaire. Interviews were scheduled for those who consented to respond to the questionnaire. The mothers were asked to indicate whether they were interested in attending group meetings as were discussed at the initial meeting. Mothers were personally contacted and notified of the schedule for the series of meetings to be held in the housing development centers. The thirty mothers included in this study attended at least six of the eight meetings held.

The questionnaire completed by each of the thirty mothers included in this study was analyzed to ascertain the total number of children between the ages of ten and fourteen in these thirty families. The number of children in this age range totaled fifty-nine. This established the number of children included in the experimental group.

A second group of fifty-nine children was selected from the original group of approximately two hundred children who were enrolled in the after-school program. The fifty-nine children were matched with the experimental group of fifty-nine children on the basis of age and sex. This group of children was used as the control group.

#### Collection of Data

The mothers who agreed to respond to the questionnaire were personally interviewed by interviewers who had been trained for this task. A five day training session was conducted on the techniques of interviewing. The purpose of the training session was to familiarize the



interviewers with the format of the questionnaire, the technique of administering each item, and the approximate time that would be required for each interview.

During the interview, each question was read by the interviewer. The mother was asked if she understood the question before asking for her response to each item. Responses to lengthy questions were printed on 4 x 6 index cards as an aid to the mothers in making their choice. Mothers were given an opportunity to review the information provided to the interviewers.

The data obtained from the thirty mothers who attended six out of eight weekly educational programs were tabulated and used as the basis for an indication of food products used and food purchasing practices of low-income families before an educational program.

After the educational program was completed, the original questionnaire was administered again to each of the thirty mothers previously designated as subjects in the study. The purpose of administering the same questionnaire to the mothers after the completion of the educational program was to determine if any changes had occurred in the food products used and food purchasing practices of these low-income families.

Data were obtained on food habits of the one hundred eighteen children involved in the study through the use of a daily dietary form. Prior to the educational program for mothers, each child recorded all food eaten each day for a five day period. At the conclusion of the educational program for mothers, the daily food intake for each child was recorded for another five day period. The recall method was used to determine the daily food intake.

The daily dietary form for each child was analyzed to determine the number of servings of food eaten daily from each of the Basic Four groups. The Basic Four food group requirements, established by the U.S. Department of Agriculture, were used as the basis for comparison. Thus, the adequacy of the diets was determined and the food groups where deficiencies occurred most frequently were identified. The dietary records of the children in the experimental group and the control group were compared to determine whether any significant differences existed in their food habits.

#### The Educational Program

Contact was made with the Greensboro Housing Authority to obtain permission to work with families residing in the public housing developments. Conferences were held with the manager of each of two housing developments in which the families resided. The best approach to use in each area for maximum parent participation was discussed. It was decided that in each housing development the Council President would serve as the liaison person between the residents and the instructional team. The instructional team was composed of the investigator and two paraprofessionals.

The educational program was conducted once each week over an eight week period at each of the two housing developments (see Appendix C). Group instruction was provided for the parents of children who were enrolled in the after-school program at North Carolina Agricultural and Technical State University. The instructional team reported to the activity room of the housing development at 6:00 p.m. each week.

Necessary preparations for the presentation of the demonstration lesson were finalized. Posters and displays were placed in the activity room to create interest in the subject for the evening and in the activities planned for the educational program.

Each activity room in which the educational program was conducted was adjacent to a kitchen. This facilitated the task of preparing specific foods to be sampled by those present at the meetings. As a result of tasting the foods demonstrated and seeing the ease with which they could be prepared, many mothers were encouraged to prepare more nourishing, low-cost foods for their families. Each week the foods that were prepared were those that could be made primarily from the donated foods received by many of the families represented in the study. Recipe sheets for the foods prepared, and other foods using the same basic donated foods used in the demonstration, were made available to all parents.

The consumer education phase of the program consisted of demonstrations and role-playing. It focused on learning how to stretch the food dollar by making good food choices in relation to the nutritive value of the food and the amount of money spent. Demonstrations were given on becoming more alert shoppers and developing food purchasing practices that enable individuals to make the best use of the resources of time, money, energy, and available food.

Some of the topics included in the discussion and demonstrations of the educational program for mothers were as follows:

1. Preparation of commodity foods in a variety of ways
2. Uses of commodity foods in the daily diet

3. Nutritive value of commodity foods
4. Comparative food shopping in relation to brand, grade, size, price per unit, and form of food purchased
5. What the food label tells the consumer
6. Importance of developing good food habits
7. Advantages of developing wise food purchasing practices

One unusual feature of the program consisted of having a balanced dinner meal served to those in attendance at the meetings by a professional catering service. This was used as a motivational technique to encourage the mothers to attend the meetings, as well as an informal teaching method in nutrition education.

A question and answer period followed each educational program. However, mothers were encouraged to ask questions or participate in the discussion during the presentation. The educational programs were conducted in an atmosphere of informality. Method demonstrations were chosen as the basic teaching technique because educational specialists have indicated that, in most cases, this is an effective means of teaching nutrition education (Wilson & Gallup, 1955).

## CHAPTER IV

### ANALYSIS OF DATA

The major purposes of this study were: 1) to determine food purchasing practices of low-income families before and after participation by the mother in an educational program, and 2) to compare food habits of children from low-income families whose mothers participated in an educational program with food habits of children from low-income families whose mothers did not participate in an educational program.

Two instruments were used to obtain the information. One instrument was a questionnaire designed to collect personal data, determine food purchasing practices of low-income families, and the food products used most often. The second instrument was a daily dietary form. All food consumed in a given day was recorded on an individual form for each child in the study.

The data for this study were obtained from an experimental group of fifty-nine children enrolled in the after-school program at North Carolina Agricultural and Technical State University whose mothers attended six of the eight educational programs; a control group of fifty-nine children enrolled in the after-school program at North Carolina Agricultural and Technical State University whose mothers did not attend the educational program; and the thirty mothers of the fifty-nine children in the experimental group. The data obtained were analyzed and presented as follows:

1. A description of the families of the thirty mothers included in this study in terms of mother's age, marital status, and educational level, household head, number of children and adults residing in the home, number of adults employed, ages of children, income range, sources of income and methods of planning for the use of the family income.
2. A comparison of daily food intake of the fifty-nine children in the experimental group with the daily food intake of the fifty-nine children in the control group.
3. A comparison of some food purchasing practices and food used by the thirty mothers in the study before and after their participation in an educational program.

#### Description of Families

Demographic data from the thirty households surveyed indicated that the total number of adults and children in the thirty families was one hundred and seventy-five. Of the total number, thirty-six (21%) were adults, one hundred and thirty-nine (79%) were children.

Mothers were the head of the household in twenty-four families (80%) and fathers the household head in six families (20%). Sherman's (1965) report stated that one-half of all families headed by women are poor; however, in this study an even higher percentage of families headed by women were poor.

Thirty-seven of the children in these families were boys between the ages of 1 and 9 and twenty-seven were girls between the ages of 1 and 9. Thirty-nine boys and thirty-six girls were 10 years of age or above. Eighteen of the mothers (40%) were age 36 or above. Seven of the mothers (23%) were married at the time of the survey, 4 mothers (13%) were divorced, 4 were widows (13%), 2 were single (7%), and 13 were separated (44%). One of the 30 mothers (3%) had less than a 7th grade

education, 10 mothers (33%) had between 7 and 9 years of formal education, and 19 mothers (64%) had at least a 10th grade education, with 2 of the nineteen having had some college training. Of the 36 adults who were residing in the households of the 30 families surveyed, 10 of them (28%) were employed outside of the home (see Table 1).

Table 1

## DEMOGRAPHIC DATA FROM 30 HOUSEHOLDS SURVEYED

HOUSEHOLD	RESPONDENTS	
	Number	Percent
<b>Head:</b>		
Mother	24	80.00
Father	6	20.00
<b>Number of Occupants:</b>		
Adults	36	20.57
Children	139	79.43
Adults and Children	175	100.00
<b>Age Distribution of Children</b>		
Boys--Age 1-9	37	26.62
Boys--Age 10+	39	29.05
Girls--Age 1-9	27	19.44
Girls--Age 10+	36	25.89
<b>Age of Mothers:</b>		
Age 35-	18	60.00
Age 36+	12	40.00
<b>Marital Status of Mothers:</b>		
Single	2	6.67
Married	7	23.33
Divorced	4	13.33
Separated	13	43.34
Widowed	4	13.33
<b>Education of Mothers:</b>		
Less than 7th grade	1	3.33
7th to 9th grade	10	33.33
10th grade +	19	63.33
<b>Employment of household members:</b>		
Total number of adults in families	36	100.00
Total number of persons employed	10	28.00

Welfare payments were one source of income for at least 60 percent of the families at the time of each survey. Wages and salaries, social security, and alimony were received by a smaller percentage of families (see Table 2). One family (3.5%) had a total yearly income of \$500.00 to \$999.99 and one family (3.5%) had a total yearly income of \$6,000 to \$6,999. Approximately 75 percent of the families had income that ranged from \$500.00 to \$3,999.00 (see Table 3).

Table 2  
SOURCES AND PERCENTAGES OF FAMILY INCOME IN  
FEBRUARY AND AUGUST 1971  
(N=30)

SOURCES OF INCOME*	FEBRUARY Percent	AUGUST Percent
Wages and Salaries	28.00	28.00
Social Security	16.67	10.34
Welfare Payments	60.00	65.52
Veteran's Benefits	3.33	.00
Pensions	.00	.00
Alimony	16.67	17.24
Support from others	3.33	.00

\* - Multiple sources of income

Only 10 percent of the mothers followed a written plan for the use of their income during the first survey; 37 percent used a mental plan and 40 percent said they only planned for the use of money after their bills were paid. In the second survey, 23 percent of the mothers indicated the use of a written plan, 30 percent depended on planning for



Table 3  
 PERCENTAGES OF TOTAL FAMILY INCOME IN FEBRUARY AND AUGUST 1971  
 (N=30)

INCOME	FEBRUARY Percent	AUGUST Percent
\$500 - \$999	3.00	3.00
\$1,000 - \$1,999	21.68	16.71
\$2,000 - \$2,999	27.59	36.78
\$3,000 - \$3,999	24.14	16.78
\$4,000 - \$4,999	13.69	16.78
\$5,000 - \$5,999	6.90	6.95
\$6,000 - \$6,999	3.00	3.00

Table 4  
 PERCENTAGES OF FAMILIES USING VARIOUS PLANS FOR FAMILY INCOME  
 IN FEBRUARY AND AUGUST 1971  
 (N=30)

TYPES OF PLANS	FEBRUARY Percent	AUGUST Percent
No Plan	6.67	10.00
Written general plan	10.00	23.34
Mental plan	36.67	30.00
Plan for saving only	3.33	3.33
Plan for use of money after bills are paid	40.00	30.00
Other	3.33	3.33

the use of income after the bills were paid, and only 30 percent relied on a mental plan (see Table 4). Over 3% of the mothers in each survey indicated the use of other plans, though none were identified.

### Food Habits of Children

Hypothesis one stated that there is a significant difference in food habits among children, ages 10-14 years, whose mothers have been involved in an educational program and children whose mothers have not been involved in an educational program. To test this hypothesis, dietary surveys were conducted with an experimental group and a control group of fifty-nine children each. A five day dietary survey was completed for each group of children before and after conducting an educational program for mothers of the experimental group. The t-test was used to compare the dietary adequacy of the experimental and control groups.

In Table 5, the first five-day dietary survey revealed that more children met the daily requirements of the bread-cereal group of the Basic Four food groups than of any other food group. This was consistent with other data that indicated breads and cereals were foods often consumed in large quantities by low-income families as reported by Adelson (1967). Fewer children met the requirements of the vegetable-fruit group than of any other group. Adelson's (1967) study revealed that Southern families with low-income used few vegetables and fruits. The Teenage Food Survey by Edwards, et. al. (1964), though not limited to low-income students, also showed that the foods most often omitted by the students were green and yellow vegetables.

On three of the five days of the first dietary survey a higher percentage of the experimental group met the daily meat requirement. On four of the five days a higher percentage of the control group met the milk requirements. The requirements of the bread-cereal group and

the fruit-vegetable group were met almost equally by children in the experimental and control groups.

There was an increase in the percentage of children from the experimental group who met the daily requirements of each of the Basic Four food groups from the time of the first dietary survey to the time of the second dietary survey. At the time of the second dietary survey, children in the control group met the daily requirements of the Basic Four food groups less often than did children in the experimental group. The percentages cited in these two surveys were based on the average number of servings of food from the Basic Four food groups eaten by each child in the experimental and control groups during the five days of each dietary survey. Pretest data were collected in February 1971 and post-test data in August 1971 (see Table 5).

Tables 6, 7, 8 and 9 also indicate the average number of servings of food from the Basic Four food groups eaten by children in the experimental and control groups. Table 6 shows differences in the average number of servings of food from the Basic Four food groups eaten by the experimental group during the pretest and post-test. There was a significant difference at the  $p < .01$  level in the servings of milk and meat between the pretest and post-test, and a significant difference at the  $p < .02$  level in the servings of the vegetable-fruit group between the pretest and post-test. The bread-cereal group showed a significant difference at the  $p < .05$  level between the pretest and post-test of the experimental group. Ward (1970) stated that families can have better diets by placing greater emphasis on fruits and vegetables and milk and milk products.

Table 5

PERCENTAGES OF CHILDREN MEETING THE SUGGESTED NUMBER OF DAILY SERVINGS  
FROM THE BASIC FOUR FOOD GROUPS IN FEBRUARY AND AUGUST 1971

DAY	Experimental Group	Control Group	DAY	Experimental Group	Control Group
Feb. 15 (Monday)			August 9 (Monday)		
Milk	8	7	Milk	10	5
Meat	63	59	Meat	68	63
Vegetable-fruit	3	3	Vegetable-fruit	8	2
Bread-cereal	83	83	Bread-cereal	90	83
Feb. 16 (Tuesday)			August 10 (Tuesday)		
Milk	7	8	Milk	10	8
Meat	63	54	Meat	66	61
Vegetable-fruit	3	3	Vegetable-fruit	8	3
Bread-cereal	76	76	Bread-cereal	90	90
Feb. 17 (Wednesday)			August 11 (Wednesday)		
Milk	7	8	Milk	8	8
Meat	63	56	Meat	70	53
Vegetable-fruit	3	3	Vegetable-fruit	5	3
Bread-cereal	83	81	Bread-cereal	92	92
Feb. 18 (Thursday)			August 12 (Thursday)		
Milk	7	8	Milk	8	10
Meat	64	69	Meat	68	56
Vegetable-fruit	7	7	Vegetable-fruit	24	3
Bread-cereal	83	90	Bread-cereal	92	88
Feb. 19 (Friday)			August 13 (Friday)		
Milk	7	10	Milk	10	10
Meat	68	78	Meat	70	56
Vegetable-fruit	7	3	Vegetable-fruit	14	3
Bread-cereal	90	85	Bread-cereal	93	92

Table 6

DIFFERENCES BETWEEN THE EXPERIMENTAL GROUP PRETEST AND  
POST-TEST IN AVERAGE DAILY SERVINGS FROM THE BASIC  
FOUR FOOD GROUPS DURING ONE WEEK  
(N=59)

FOOD GROUPS	AVERAGE DAILY SERVINGS		MEAN DIFFERENCE	t
	Experimental Group Pretest Mean	Experimental Group Post-test Mean		
Milk	.64	1.05	.42	3.36*
Meat	1.66	1.75	.09	3.55*
Vegetable-fruit	2.08	2.28	.21	2.40**
Bread-cereal	3.76	3.91	.15	2.16***

\* - Significant at .01 level

\*\* - Significant at .02 level

\*\*\* - Significant at .05 level

Table 7 shows differences in the average number of servings of food from the Basic Four food groups eaten by the control group during the pretest and post-test. There was a significant difference at the  $p < .05$  level in the servings of milk between the pretest and post-test, and the bread-cereal group showed a significant difference at the  $p < .01$  level between the pretest and the post-test. There was no significant difference in the meat group or the vegetable-fruit group in the pretest and post-test of the control group.

Data in Table 8 show no significant difference in the average number of servings of food from the Basic Four food groups eaten by the experimental and control groups in the pretest which was conducted prior to the educational program. Table 9 shows a difference in the average number of servings of food from the Basic Four food groups eaten by the experimental and control groups. These differences were significant at

Table 7

DIFFERENCES BETWEEN THE CONTROL GROUP PRETEST AND POST-TEST  
IN AVERAGE DAILY SERVINGS FROM THE BASIC FOUR FOOD  
GROUPS DURING ONE WEEK  
(N=59)

FOOD GROUPS	AVERAGE DAILY SERVINGS		MEAN DIFFERENCE	t
	Control Group Pretest Mean	Control Group Post-test Mean		
Milk	.64	.82	.18	2.22**
Meat	1.65	1.61	.04	1.13
Vegetable-fruit	2.02	2.04	.02	.25
Bread-cereal	3.74	3.87	.13	2.83*

\* - Significant at .01 level

\*\* - Significant at .05 level

Table 8

DIFFERENCES BETWEEN THE EXPERIMENTAL GROUP PRETEST AND  
THE CONTROL GROUP PRETEST IN AVERAGE DAILY SERVINGS  
FROM THE BASIC FOUR FOOD GROUPS DURING ONE WEEK  
(N=59)

FOOD GROUPS	AVERAGE DAILY SERVINGS		MEAN DIFFERENCE	t
	Experimental Group Pretest Mean	Control Group Pretest Mean		
Milk	.64	.64	.00	.00
Meat	1.66	1.65	.01	.00
Vegetable-fruit	2.08	2.02	.06	.727
Bread-cereal	3.76	3.74	.02	.440

the  $p < .01$  level in each of the food groups except the bread-cereal group. Differences in the average number of servings from the bread-cereal group were significant at the  $p < .05$  level. These differences

were revealed in the second dietary survey or post-test conducted after the educational program.

Table 9

DIFFERENCES BETWEEN THE EXPERIMENTAL GROUP POST-TEST AND THE CONTROL GROUP POST-TEST IN AVERAGE DAILY SERVINGS FROM THE BASIC FOUR FOOD GROUPS DURING ONE WEEK (N-59)

FOOD GROUPS	AVERAGE DAILY SERVINGS		MEAN DIFFERENCE	t
	Experimental Group Post-test Mean	Control Group Post-test Mean		
Milk	1.05	.82	.23	3.27*
Meat	1.75	1.61	.14	2.75*
Vegetable-fruit	2.28	2.04	.24	3.55*
Bread-cereal	3.91	3.87	.04	1.36

\* - Significant at .01 level

Data from the post-test indicated that diets of children whose mothers participated in the educational program met the requirements of the Basic Four food groups more often than did diets of children whose mothers did not participate in the educational program. The experience of mothers who were enrolled in the educational program enabled them to develop additional knowledge and skills which facilitated more efficient use of available resources to feed their families nutritious foods, thus accounting for dietary differences in the two groups of children.

#### Food Purchasing Practices

Mothers indicated that most of their food purchases were made at the supermarket. This finding was supported in a study by Methany, et. al. (1962). However, a few of the mothers (3%) in the first survey

indicated that considerable amounts of food were purchased from small, local grocers and door-to-door salesmen. The second survey revealed that even though no mothers were buying large amounts from small, local stores, 3 percent were still buying considerable amounts from door-to-door salesman. It may be that door-to-door peddlers who sell eggs, fresh fruits, and vegetables in the summer offer prices and quality that are reasonable in comparison with prices and quality at the supermarket. Therefore, this is not necessarily a trend to be discouraged at all times. However, it is one which should be evaluated carefully before deciding whether or not to make purchases from door-to-door salesmen (see Table 10).

Table 10  
PERCENTAGES OF SOURCES OF MOST FOOD PURCHASES  
(N=30)

SOURCES*	FEBRUARY Percent	AUGUST Percent
Supermarket	100.00	100.00
Small, local store	3.33	0.00
Door-to-door salesmen	3.33	3.33

\* - Multiple responses

In the pretest, the primary factors considered when shopping were convenience (63%) and prices of products (63%). Quality of the products ranked as a distant third factor (23%) as the reason for selecting a food source. This shows a need for consumer education in relation to food buying which would enable mothers to become more conscious of the value of receiving quality foods for the amount of money spent. Too often,



the overall price of food is the basic concern, with little thought given to the quality of the product. Similar results were obtained in a study of the food purchasing practices of young families conducted by Lamkin, Hielscher, & James (1970). That study indicated prices and sales were the first considerations in the selection of a grocery store, with kind and quality of products in second place.

The post-test showed a greater awareness on the part of the mothers in regard to quality, as 60 percent stated it as one factor which determined their decision concerning where to buy. Eighty percent were still concerned with convenience and 70 percent with prices of products (see Table 11). Realistically, all three factors should be of vital importance to most mothers in determining where to purchase food for their families.

Table 11  
PERCENTAGES OF FACTORS CONSIDERED WHEN PURCHASING FOOD  
(N=30)

FACTORS*	FEBRUARY Percent	AUGUST Percent
Convenience	63.33	80.00
Quality of products	26.67	60.00
Prices of products	63.33	70.00
Other	0.00	0.00

\* - Multiple responses

During the time of the first survey, most of the mothers (67%) lived between 1 and 5 miles from the place where they purchased food, 30 percent of them lived less than 1 mile from the main food source, and

3 percent lived more than 5 miles from the place where they purchased food. Results of the second survey showed that 63 percent of the mothers lived between 1 and 5 miles from the place where they purchased food, 37 percent lived less than 1 mile, and none lived more than 5 miles from where they purchased food. Since none of the mothers had moved, it was apparent that some mothers had changed their food shopping practices to the extent that shopping was done at stores other than those used at the time of the first survey.

As indicated in the first survey, 40 percent of the mothers relied on friends to take them to the food market, 36 percent used their personal cars, 17 percent relied on taxis and 7 percent walked. The second survey showed a greater percentage of mothers (47%) going to the food market with friends, and a smaller percentage using taxis as a means of transportation. The same percentage of mothers were walking (7%) and using their own cars (63%) as in the first survey. Sharing food trips and using fewer taxis could be economical for many of the mothers.

Fifty-seven percent of the mothers bought bread or other baked goods at a place other than the main food source during the first survey, and 60 percent of them did so at the time of the second survey. However, in both surveys, only 23 percent indicated that meat was purchased from a different place. Only 7 percent of the mothers in the first survey, and 13 percent of those in the second survey indicated that food products were delivered to their homes on a regular basis. Most of the mothers who bought bread from some source other than the main food store bought it at a bakery which carried an outlet for day old products at reduced prices. This enabled the mothers to purchase more bakery products of

reasonably good quality for the amount of money spent. The few mothers who purchased meats from sources other than the main food store did so from meat packing companies. In many instances, this was also a method of getting more meat for their money. The basic problem for most low-income families is having enough money to make meat purchases in fairly large amounts as they often must do when purchasing from a meat packing company.

Ninety percent of the mothers, as indicated in both surveys, decided on the amount of money to be spent for food. The number of families in which the decision was made jointly by husband and wife was small in both surveys; 10 percent in the first survey, and 7 percent in the second survey. This was understandable because only 6 of the families (20%) had a male head of the household. Both surveys indicated that 100 percent of the mothers actually decided what foods to buy each week for their families. Therefore, it is extremely important that the mothers be knowledgeable about foods that are nutritious and economical.

In most of the 30 families it was also the wife who actually bought the family groceries. This was true for 93 percent of the families in the first survey and 87 percent of those in the second survey. Neither survey indicated that the husband performed this duty alone; however, shopping was done by all family members in 3 percent of the families at the time of the second survey, and by husband and wife in a small percentage of the families at the time of both surveys. Since the wife usually decides what to buy and does most of the shopping, it is vitally important to the health and well-being of the family that wise food choices be made to provide an adequate amount of nutritious food.

Mothers must be knowledgeable about food shopping techniques that can enable them to get maximum value for the time, money, and energy expended. Data collected on the families of 104 preschool children by Methany, et. al. (1962) indicated it was usually the wife who actually purchased the groceries for the family. Data from the study by Lamkin, Hielscher, & James (1970) also revealed that usually the homemaker decided what to buy and actually purchased the food.

It is generally believed that the more often one goes to the store, the more money one is likely to spend. Therefore, it was important to determine how often these 30 families shopped for food. In the first survey, 3 percent of the families shopped several times a day, 7 percent shopped once a day, 17 percent shopped two to three times a week, 43 percent shopped once a week, 23 percent shopped once every two weeks, and 7 percent had other shopping patterns which were not specified. At the time of the second survey, no family indicated that food purchases were made several times a day. The other food shopping patterns were fairly consistent, with 7 percent continuing to shop once a day, and 17 percent shopping two to three times a week. There was a slight increase of those who shopped once a week to 49 percent and a decline of those who shopped every two weeks to 20 percent.

A decrease in the number of households in which someone shopped for food several times a day, and an increase in the number of families shopping once a week to 49 percent of those in the first survey appear to be positive signs in relation to food purchasing practices. The Lamkin, Hielscher & James (1970) study revealed that 75 percent of the families interviewed shopped once a week for major food purchases.

All 30 families paid for their food with cash. None indicated the use of store credit or bank charge cards. This supports data from the North Carolina Fund Survey of Low-Income Families (1968) that indicated most low-income households paid cash for their groceries. The same study also stated that approximately 7 percent of the rural low-income households purchased groceries on credit and approximately 8 percent of them used both cash and credit.

The total amount spent each week for food ranged from \$5.00-\$9.99, which was spent by 17 percent of the families, to \$30.00 and over, which was spent by 23 percent of the families in the first survey. The second survey showed 10 percent of the families spending in the range of \$5.00-\$9.99 per week, and 20 percent spending \$30.00 or more. The increase was in the middle range between \$15.00-\$24.99 per week. This percentage jumped from 7 percent in the first survey to 17 percent in the second survey. The use of cash for payment of groceries by low-income families is usually beneficial to them. Through the years, because of a lack of cash and the convenience of the corner merchant, poor families often bought food on credit. Frequently, the food purchased at these stores was not only higher in price because of the credit extended, but also inferior in quality. Therefore, the use of cash and the habit of purchasing at large chain stores generally enables the low-income family to make more satisfactory purchases for the amount of money spent.

Shopping for groceries often involves spending money for many nonfood items. Of the nonfood items listed on the questionnaire, those purchased most frequently by the mothers when shopping for food, as

indicated in the first questionnaire, were paper towels (97%), soap (93%), personal items (90.00%) and household supplies (83%). None of the mothers indicated purchases of pet food, beer and wine or notions during their grocery shopping. Data on the second questionnaire indicated that of the nonfood items listed, 96.7 percent of the mothers still purchased paper towels while shopping for groceries, 100 percent purchased soap, 93 percent purchased personal items, and 97 percent purchased household supplies. Of the items listed, those purchased least often by the mothers when shopping for groceries were beer and wine, pet food, books, toys and magazines (see Table 12). With the high percentage of smokers reportedly in our population, it was surprising that only 27 percent of the mothers purchased cigarettes or tobacco products at the grocery store during the time of the first survey. During the second survey, 33 percent of the mothers purchased tobacco products or cigarettes at the grocery store. Purchases of these products should not be considered as being a part of the money spent on food for the family, even though the purchases were made in a food store.

Most of the nonfood items purchased appeared to be those that were necessities such as soap, personal items, paper towels, etc. There was no indication of frivolous buying on the part of the mothers, The United States Department of Agriculture (1968) published data that revealed one-fourth of the money spent in grocery stores in 1966 was for nonfood items. Over 5 percent of these purchases were soap and laundry supplies, paper products and foil, housewares and household supplies.

According to data from the first survey, the newspaper appeared to be the most significant factor in influencing food purchasing

Table 12  
 PERCENTAGES OF MOTHERS PURCHASING SELECTED NONFOOD ITEMS  
 WHILE SHOPPING FOR FOOD  
 (N=30)

ITEMS*	FEBRUARY Percent	AUGUST Percent
Paper napkins or towels	96.67	96.67
Soap	93.33	100.00
Magazines or books	6.67	10.00
Toys	6.67	6.67
Personal items	90.00	93.33
Pet food	.00	3.33
Cigarettes, tobacco products	26.67	33.33
Household supplies	83.33	96.67
Beer or wine	.00	3.33
Notions	.00	3.33

\* - Multiple responses

practices of mothers. Seventy-seven percent of the mothers were influenced by the newspaper, 43 percent by television, and 23 percent by friends and neighbors. The second survey indicated that the food purchasing practices of 93 percent of the mothers were influenced by the newspaper, 83 percent by television, and only 7 percent by friends and neighbors (see Table 13). The increase from 43 percent who were influenced by television in the first survey to 83 percent who were influenced by television in the second survey was significant at the  $p < .01$  level. This data supports the results of Shipman & McCannon's (1964) study that showed the printed media to be used for answers to food buying questions by most women, regardless of education. It also concurred with results of the study by Lamkin, Hielscher, & James (1970) that indicated

Table 13  
 PERCENTAGES OF FACTORS INFLUENCING FOOD PURCHASING  
 PRACTICES OF MOTHERS  
 (N=30)

FACTORS*	FEBRUARY Percent	AUGUST Percent	CHI-SQUARE
Newspaper	76.67	93.33	3.27
Magazines	10.00	13.33	.16
Television	43.33	83.33	10.33**
Radio	13.33	30.00	2.46
Friends or neighbors	23.33	6.67	3.26
Relatives	13.33	6.67	.74
Attractiveness of products	16.67	13.33	.13
Other	6.67	6.67	.00

\* - Multiple responses

\*\* - Significant at .01 level

three-fourths of the homemakers interviewed used newspaper advertisements as a source of food shopping information. The data differs from that of the study by Methany, et. al. (1962) which revealed that little nutrition information was secured from radio or television.

At the time of the first survey, 17 percent of the mothers said that meals were always planned prior to shopping, 37 percent usually planned meals before shopping, and 46 percent never planned meals before shopping. The second survey revealed that 23 percent of the mothers always planned meals before shopping and 67 percent usually planned meals prior to shopping. The mothers who never planned meals before shopping had decreased to 10 percent. Helping mothers to realize the advantages of planning meals prior to shopping enabled them to utilize additional methods of economizing.



In the first survey, 37 percent of the mothers indicated that a shopping list was always made out before shopping, 30 percent usually did so, and 33 percent never made out a shopping list before going to the store. In the second survey, 43 percent of the mothers always made out a shopping list before going to the store, and 57 percent usually did so. None of the mothers indicated that a list was never made prior to shopping.

The question of whether the shopping list was followed closely by the mothers indicated that, in the first survey, 30 percent of the mothers always followed the list closely, 37 percent usually followed it closely and 33 percent never followed it closely. The second survey data revealed an increase in the number of mothers who always followed it closely (47%). It also revealed that the number of mothers who never followed the shopping list closely had declined to 10 percent. These factors tend to indicate greater efforts by the mothers to plan their shopping prior to store visits. The changes in food purchasing practices noted above lend support to the idea that if mothers realize how their families can be fed better and more economically, most of them are willing to do so.

Sixty percent of the mothers in the first survey revealed that labels on food products were always read when shopping, 27 percent usually read labels when shopping, and 13 percent indicated that labels on food products were never read when shopping. The second survey showed that 70 percent of the mothers always read food labels when shopping, 30 percent usually read labels, and no mothers indicated that food labels were never read.

The problem of comparing grades of food products is often difficult. However, at the time of the first survey, 73 percent of the mothers always compared food grades when shopping, 17 percent usually compared food grades, and 10 percent never compared food grades. The second survey revealed an increase in the number of mothers who always compared food grades to 90 percent, and a decrease in the number who usually compared food grades to 10 percent. No mothers indicated that food grades were never compared.

The first survey revealed that 67 percent of the mothers always compared brands of food products when shopping, 23 percent of the mothers usually compared food brands, and 10 percent never compared food brands. In the second survey, those mothers who always compared brands of food products had increased to 83 percent, whereas those mothers who usually compared food brands had declined to 17 percent. None of the thirty mothers indicated that brands of food products were never compared.

Seventy percent of the mothers, as indicated in the first survey, and 90 percent, as indicated in the second survey, always compared prices per unit of food products before buying. Twenty percent of the mothers in the first survey, and 10 percent of those in the second survey, usually compared prices per unit of food products. The mothers who never compared prices per unit of food products decreased from 10 percent of those in the first survey to 0 percent in the second survey.

All of the shopping techniques mentioned above can increase one's effectiveness as a consumer. Since the figures point to a positive change on the part of the mothers to use those techniques which help them to become better consumers, educators have an obligation to make this

kind of information available to low-income families. Many of these adults would like to have help in planning better diets for their families and using their food money more advantageously. In many cases, though low-income individuals are hesitant to make the first approach, assistance is welcomed in helping to achieve these tasks.

#### Use of Donated Foods

Seventy percent of the 30 families used donated foods from the Food Assistance Program. Eighty-six percent of the families indicated that all foods received from the program at the time of the first survey were used. At the time of the second survey, the number of families using all foods from the Food Assistance Program had increased to 95 percent. The families who indicated that most of the food used daily was received from the Food Assistance Program increased from 52 percent in the first survey to 76 percent in the second survey.

Those mothers who indicated that they used donated foods were asked to indicate which of the foods from the Food Assistance Program they "usually accepted", "occasionally accepted" or "seldom accepted" (see Table 14). Of the list of foods available from the Food Assistance Program, those foods usually accepted by at least 90 percent of the families in the first survey were juice (100%), canned vegetables (95%), dry beans (90%), apple sauce (95%), peanut butter (95%), canned pork (90%), butter (100%), cheese (100%), rice (90%), lard (100%), and canned milk (90%).

In the second survey, at least 90 percent of the families indicated that usually they still accepted juice, canned vegetables, dry beans, apple sauce, peanut butter, canned pork, canned milk, cheese, rice,

Table 14  
 PERCENTAGES OF PARTICIPANTS WHO ACCEPTED FOOD PRODUCTS  
 FROM THE FOOD ASSISTANCE PROGRAM

	PRE-TEST			POST-TEST			X <sup>2</sup>
	U	O	S	U	O	S	
Juice	100.00	.00	.00	100.00	.00	.00	.00
Potatoes	79.19	19.95	4.76	85.71	9.52	4.76	.78
Canned vegetables	95.24	.00	4.76	95.24	.00	4.76	.00
Dry beans	90.48	9.52	.00	90.48	.00	9.52	4.00
Prunes	76.19	.00	23.81	80.95	.00	19.05	.14
Apple sauce	95.24	4.76	.00	95.24	.00	4.76	2.00
Raisins	80.95	.00	19.05	90.48	4.76	4.76	2.91
Peanut butter	95.24	.00	4.76	95.24	.00	4.76	.00
Chopped canned meat	85.71	9.52	4.76	95.24	.00	4.76	2.11
Canned pork	90.48	4.76	4.76	90.24	.00	4.76	1.03
Chicken and turkey	80.95	19.05	.00	95.24	4.76	.00	2.04
Beef	57.14	9.52	33.33	76.19	9.52	14.29	2.17
Egg mix	57.14	14.29	28.57	61.90	19.05	19.05	.58
Canned milk	90.48	.00	9.52	100.00	.00	.00	2.10
Instant dry milk	76.19	23.81	.00	90.48	9.52	.00	1.54
Butter	100.00	.00	.00	100.00	.00	.00	.00
Cheese	100.00	.00	.00	95.24	.00	4.76	1.02
Macaroni	85.71	4.76	9.52	85.71	.00	14.29	1.20
Rolled oats	76.19	9.52	14.29	80.95	9.52	9.52	.23
Grits	52.38	14.29	33.33	52.38	33.33	14.29	3.20
Rolled wheat	42.86	4.76	52.38	38.10	38.10	23.81	7.55*
Rice	90.48	4.76	4.76	90.48	4.76	4.76	.00
Flour	76.19	14.29	9.52	85.71	9.52	4.76	.65
Corn syrup	70.00	20.00	10.00	85.71	9.52	4.76	1.48
Lard	100.00	.00	.00	100.00	.00	.00	.00
Meal	85.71	.00	14.29	80.95	9.52	9.52	2.23

U - Usually accepted  
 O - Occasionally accepted  
 S - Seldom accepted

\* - Significant at .02 level

butter and lard. It was noted, however, that at least 90 percent of the families were now usually accepting raisins, canned chopped meat, chicken and turkey. In the first survey, some mothers stated that canned chicken, turkey and beef were not always available. It may be that these were more available at the time of the second survey.

Those foods seldom accepted by at least 10 percent of the families in the first survey were prunes (24%), raisins (19%), canned beef (33%), rolled oats (14%), dry egg mix (29%), grits (33%), rolled wheat (52%), meal (14%) and corn syrup (10%). In the second survey, those foods seldom accepted by more than 10 percent of the families were prunes (19%), canned beef (14%), dry egg mix (19%), macaroni (14%), grits (14%) and rolled wheat (23%). Even though these six foods were seldom accepted by at least 10 percent of the families at the time of the second survey, with the exception of macaroni, the overall percentage of those families seldom accepting them decreased in each instance from the first to the second survey. This indicated that some mothers used these foods more often in planning their family diets.

Meal, raisins, and corn syrup, three of the foods seldom accepted by at least 10 percent of the families in the first survey, did not fall into this category at the time of the second survey. Some of the mothers had indicated a need to learn additional ways of using these "seldom accepted" foods in their diets. The educational program showed the mothers techniques for doing this. Some of the other donated foods included in the class demonstrations were rolled oats, plain flour, macaroni, instant dry milk, powdered egg mix, chopped meat, peanut butter, raisins and dry beans.

The frequency with which rolled oats, corn syrup, flour, instant dry milk, powdered egg mix, chopped meat, and raisins were usually accepted by the mothers increased by the time of the second survey. Macaroni, dry beans and peanut butter remained constant in their frequency of being "usually accepted". Rolled oats were usually accepted by 76% of the families in the first survey and 81% of the families at the time of the second survey. Data by Pao (1970) revealed that cooked breakfast cereals, primarily oatmeal, were eaten frequently by large, low-income families in which the homemaker had no more than a high school education and was over forty years old. Though most of the mothers in the study reported here had at least a 10th grade education and were not forty years old, the majority of them had low-incomes.

Mothers were asked to indicate their reasons for using or not using the donated foods. Listed most often as reasons for the use of donated food were: 1) easy to prepare, 2) children like their taste, and 3) adults like the taste. Reasons cited most often for not using the donated foods were: 1) difficult to prepare, 2) children don't like the taste, 3) adults don't like the taste, and 4) don't know how to use them. The educational program for mothers attempted to overcome some of these problems by presenting easy methods of preparing donated foods to be used in a variety of tasty dishes.

#### Food Products Used Weekly

From a list of foods commonly available in most stores, the mothers were asked to indicate those foods which they "always", "usually", "seldom", or "never" used or bought when shopping for food. Of the foods listed, those "always" bought and/or used each week by the highest

percentage of mothers, as indicated in the first survey were chicken or turkey (55%), hamburger (79%), bacon (51%), fresh green vegetables (52%), white potatoes (52%), fresh fruit (62%), ready-to-eat cereal (55%), white bread (59%), fresh milk (77%), sausage (45%), and eggs (83%). Those foods "usually" bought and/or used each week by the highest percentage of families were "cokes" or pop (43%), potato chips or pretzels (30%), cookies (33%), spare ribs (31%), sausage (38%), canned fruits (34%). Those foods listed most often as "seldom" bought or used each week were fresh fish (38%), pork roast or chops (38%), ham (52%), steak (38%), beef roast (48%), fresh carrots (45%), frozen vegetables (55%), frozen fruits (41%), frozen juices (48%), cake mixes (41%), candy (40%) and cakes (43%). In the second survey, there was a decrease in the frequency with which hamburger, white potatoes, ready-to-eat cereal, white bread and fresh milk were "always" bought each week (see Table 15). The educational program stressed the economy of cooked cereals, canned meat and dry instant milk. It also included demonstrations of bread products that could be made from the flour received as a donated food and some mothers may have begun to use these products as substitutes for the hamburger, fresh milk and ready-to-eat cereals.

With the exception of "cokes" or pop, the foods "usually" bought in the first survey increased in the frequency with which they were "usually bought" in the second survey. The "empty calories" in "cokes" and pop were discussed in the educational program and charts showing the food value from pop and milk were compared. This may have accounted for some decline in the frequency with which pop was "usually bought". Various kinds of cookies were demonstrated in the educational program and this may have accounted for the increase in their use.

Table 15

## PERCENTAGES OF FAMILIES BUYING OR USING FOOD PRODUCTS EACH WEEK

Which of these foods do you buy/or use every week?

	PRETEST				POST-TEST				X <sup>2</sup>
	A	U	S	N	A	U	S	N	
Chicken or turkey	55.17	24.14	6.90	13.79	73.33	16.67	10.00	.00	5.47
Shrimp	6.90	6.90	17.24	68.97	6.67	3.33	20.00	70.00	.43
Fresh fish	20.69	27.59	37.93	13.79	26.67	30.00	33.33	10.00	.52
Frozen fish	17.24	20.69	27.59	39.98	10.00	20.00	46.67	23.33	2.65
Canned fish	13.79	10.34	24.14	51.72	13.33	30.00	46.67	10.00	13.32*
Roast or pork chops	37.93	20.69	37.93	3.45	23.33	53.33	23.33	.00	7.31
Ham	24.14	10.34	51.72	13.79	10.00	30.00	53.33	6.67	5.28
Spare ribs	20.69	31.03	34.48	13.79	13.33	33.33	43.33	10.00	.91
Bacon	51.92	24.14	24.14	.00	53.33	30.00	13.33	3.33	2.08
Sausage	44.83	37.93	17.24	.00	49.33	46.67	10.00	.00	.84
Hamburger	79.31	17.24	3.45	.00	72.41	20.69	6.90	.00	.52
Steak	10.34	10.34	37.93	41.38	10.00	16.67	46.67	26.67	1.64
Beef roast	20.69	20.69	48.28	10.34	23.33	20.00	53.33	3.33	1.19
Liver	31.03	27.59	13.79	27.59	36.67	23.33	33.33	6.67	6.42
Neck bones	34.48	20.69	17.24	27.59	33.33	13.33	40.00	13.33	4.60
Peanut butter	24.14	6.90	6.90	62.07	30.00	30.00	30.00	10.00	19.86*
Fresh tomatoes	18.83	17.24	27.59	10.34	50.00	33.33	13.33	3.33	4.13

A - Always  
U - Usually

S - Seldom  
N - Never

\* - Significant at .01 level



Table 15. PERCENTAGES OF FAMILIES BUYING OR USING FOOD PRODUCTS EACH WEEK (Continued)

	PRETEST				POST-TEST				x <sup>2</sup>
	A	U	S	N	A	U	S	N	
Fresh carrots	20.69	6.90	44.83	27.59	33.33	20.00	33.33	13.33	4.17
Fresh green vegetables	51.72	20.69	24.14	3.45	56.67	33.33	10.00	.00	3.71
White potatoes	51.72	27.59	17.24	3.45	50.00	46.67	3.33	.00	5.29
Sweet potatoes	27.59	17.24	31.03	24.14	26.67	36.67	26.67	10.00	3.89
Fresh fruits	62.07	3.45	34.48	.00	63.33	30.00	6.67	.00	11.75*
Frozen vegetables	13.79	13.79	55.17	17.24	16.67	13.33	60.00	10.00	.71
Frozen fruits	6.90	3.45	41.38	48.28	6.67	6.67	63.33	23.33	4.23
Frozen fruit juices	10.34	10.34	48.28	31.03	13.33	16.67	53.33	16.67	1.90
Canned fruit juices	31.03	17.24	13.79	37.93	33.33	33.33	26.67	6.67	9.27**
Canned fruits	34.48	34.48	17.24	13.79	26.67	50.00	20.00	3.33	3.10
Canned green vegetables	34.48	27.59	24.14	13.79	33.33	40.00	23.33	3.33	2.58
Canned yellow vegetables	24.14	20.69	20.69	34.48	23.33	43.33	23.33	10.00	6.41
Canned beans	37.93	31.03	13.79	17.29	33.33	33.33	30.00	3.33	4.67
Dried peas	13.79	10.34	24.14	51.72	20.00	10.00	40.00	30.00	3.20
Dried beans	24.14	10.34	17.24	48.28	30.00	20.00	30.00	20.00	5.58
Cereal to cook	27.59	17.24	17.24	37.93	36.67	36.67	13.33	13.33	6.08
Ready-to-eat cereal	55.17	13.79	20.69	10.34	46.67	30.00	20.00	3.33	3.04
Sugared cereal	32.14	10.71	32.14	25.00	36.67	10.00	43.33	10.00	2.46
Rice	34.48	6.90	10.34	48.28	27.59	41.38	10.34	20.69	10.56*
Spaghetti-macaroni	31.03	10.34	17.24	41.38	20.00	40.00	23.33	16.67	9.20**
Meal	24.14	13.79	3.45	58.62	26.67	36.67	26.67	10.00	18.32*

A - Always  
U - Usually

S - Seldom  
N - Never

\* - Significant at .01 level  
\*\* - Significant at .02 level

Table 15. PERCENTAGES OF FAMILIES BUYING OR USING FOOD PRODUCTS EACH WEEK (Continued)

	PRETEST				POST-TEST				x <sup>2</sup>
	A	U	S	N	A	U	S	N	
Flour	31.03	17.24	6.90	44.83	33.33	40.00	16.67	10.00	10.46***
White bread	58.62	20.69	3.45	17.24	46.67	46.67	6.67	.00	8.81***
Brown bread	6.90	6.90	10.34	75.86	13.33	10.00	20.00	56.67	2.49
Frozen dinners	6.90	10.34	24.14	58.62	3.33	6.67	36.67	53.33	1.43
Frozen pot pies	13.79	10.34	33.48	41.38	10.00	13.33	40.00	36.67	.49
Frozen fruit pies	6.90	6.90	31.03	55.17	3.33	20.00	40.00	36.67	3.67
Instant potatoes	6.90	3.45	17.24	72.41	10.00	10.00	33.33	46.67	4.25
Cake mixes	27.59	17.24	41.38	13.79	20.00	23.33	26.67	30.00	3.33
Instant cereals	10.34	13.79	13.79	62.07	6.67	6.67	30.00	56.67	2.80
Corn bread mix	17.24	24.14	10.34	46.28	10.00	23.33	26.67	40.00	2.91
Instant rice	6.90	3.45	6.90	82.76	10.00	3.33	16.67	70.00	1.67
Brown and serve rolls	17.24	24.14	27.59	31.03	23.33	30.00	26.67	20.00	1.17
Kraft dinners	3.33	.00	20.00	76.67	.00	10.00	16.67	73.33	4.11
Cokes or pop	33.33	43.33	20.00	3.33	23.33	40.00	33.33	3.33	1.57
Candy	23.33	23.33	40.00	13.33	16.67	20.00	56.67	6.67	1.97
Potato chips or pretzels	33.33	30.00	20.00	16.67	20.00	36.67	36.67	6.67	3.96
Cookies	36.67	33.33	20.00	10.00	20.00	43.33	36.67	.00	6.33
Cakes	16.67	20.00	43.33	20.00	16.67	20.00	40.00	23.33	.12
Fresh milk	76.67	6.67	3.33	13.33	63.33	23.33	13.33	.00	8.90**
Dried milk	13.33	16.67	.00	70.00	16.67	23.33	23.00	40.00	8.90***
Canned milk	23.33	16.67	16.67	43.33	30.00	50.00	10.00	10.00	12.00*

A - Always  
U - Usually

S - Seldom  
N - Never

\* - Significant at .01 level  
\*\* - Significant at .02 level  
\*\*\* - Significant at .03 level

Table 15. PERCENTAGES OF FAMILIES BUYING OR USING FOOD PRODUCTS EACH WEEK (Continued)

	PRETEST				POST-TEST				$\chi^2$
	A	U	S	N	A	U	S	N	
Butter	23.33	10.00	26.67	40.00	30.00	40.00	20.00	10.00	11.34*
Margarine	43.33	16.67	13.33	26.67	43.33	36.67	10.00	10.00	4.67
Cheese	16.67	20.00	16.67	46.67	16.67	46.67	26.67	10.00	11.01
Cottage cheese	3.33	13.33	13.33	70.00	3.33	10.00	16.67	70.00	.25
Eggs	83.33	13.33	3.33	.00	86.67	10.00	3.33	.00	.16

A - Always  
U - Usually

S - Seldom  
N - Never

\* - Significant at .01 level

Those foods listed most often as "seldom" bought or used each week were many of the more expensive food products and forms of food. At the time of the second survey, there was an even greater decline in the use of such foods as ham, steak, beef roast and frozen products such as juice, vegetables and fruit. There was a greater increase in the use of fresh fish, pork products, carrots, cakes and cake mixes. Among the foods "never" bought or used each week by the highest percentage of families were shrimp (69%), brown bread (79%), instant potatoes (72%), instant rice (83%), Kraft dinners (77%), and cottage cheese (70%). Obviously, three of these are convenience foods. Convenience foods, though gaining rapidly in popularity, are often still more expensive than a similar amount of food in a less prepared form. Consequently, where money is limited, convenience foods are not generally bought with great frequency. The three other foods are foods that may not be common to the diets of most low-income persons because of their expense or the lack of familiarity with the product. However, there was a slight decrease in the percentage of families in the second survey who "never" bought or used all the foods except shrimp and cottage cheese. The percentage using or buying cottage cheese remained constant from the first to the second survey, and the percentage buying or using shrimp decreased. This data supported the results of Dicken's (1962) study which revealed that cottage cheese was used more by high-income families than low-income families.

Data from a study by Methany, et. al. (1962) indicated that a larger percentage of families in the upper-middle income brackets used convenience foods than did families in other income groups. Findings in the present study support this data which showed that convenience foods

were not used extensively by low-income families. However, there was also evidence to support the findings of Garrett's (1969) study which revealed that the use of convenience foods has increased at all levels. Additional evidence of the trend toward the use of convenience foods was also cited by Clark & Peterkin (1967) and Adelson (1967). The study by Tinklin, Fogg & Wakefield (1972) supported the finding that convenience foods are used in households at all income levels; however, it was stated that there are differences associated significantly with the lower and higher income groups.

#### Food Preservation Practices

Data from the two surveys indicated almost no change in the food preservation practices of the mothers. Twenty percent of the mothers canned vegetables, 10 percent canned fruits and 3 percent canned meats. These data were consistent with Redstrom's (1970) report that more households canned fruits and vegetables than meat.

Family tradition and a feeling of personal accomplishment were given as reasons for canning by over 50 percent of the mothers who canned foods, whereas only 20 percent of the mothers canned food to save money. Family tradition, personal satisfaction and economic advantage were cited as major factors in the decision to can foods by many mothers in the study by Bristol, Brown, Craig & Wise (1965).

Fifty-seven percent of the mothers in each survey froze foods. Meats and vegetables were frozen most often; fruits and bakery products were frozen least often. Reasons cited most often for freezing foods were to save money, to have food on hand, and to save food which cannot be used immediately.

The educational program for mothers did not include any demonstrations on canning or freezing. These techniques were mentioned, however, as methods of preserving food that may be of benefit to some families.

#### Discussion of the Hypotheses

Hypothesis I. There is a significant difference in food habits among children, ages 10-14 years, whose mothers have been involved in an educational program and children whose mothers have not been involved in an educational program. Since there was a significant difference at the  $p < .01$  level of the food habits of children whose mothers were involved in the educational program and children whose mothers were not involved in the educational program, there is no basis for rejection of this hypothesis.

Hypothesis II. There is a significant difference in food purchasing practices among low-income mothers before and after participating in an educational program. Though there were indications of some changes in food purchasing practices among low-income mothers before and after participating in the educational program, there were not enough significant changes to establish a trend. Hence, there is not sufficient evidence to accept this hypothesis.

Hypothesis III. There is a significant difference in the extent to which certain foods and food products are used among low-income mothers before and after participating in an educational program. Of ninety items which determined the extent to which certain foods and food products were used among low-income mothers before and after participating in an educational program, 15 or 16.67 percent showed a significant

difference. Eight were at the  $p < .01$  level, 4 were at the  $p < .02$  level, and 3 were at the  $p < .03$  level. Therefore, this hypothesis cannot be fully rejected.

## CHAPTER V

### SUMMARY AND IMPLICATIONS

Research studies have documented the fact that a high percentage of low-income families have inadequate diets. This problem is of vital concern because the health and well-being of an individual is dependent, to a great extent, on the nutritional value of the food consumed.

Though lack of adequate income is a recognized factor in contributing to the poor nutritional status of low-income families, lack of knowledge about positive food purchasing practices and lack of skill in food preparation methods may also contribute to this situation. This study attempted to determine some specific food habits and food purchasing practices among low-income families to be used as the basis of an educational program for low-income mothers.

#### The Problem

The major purposes of this study were: 1) to determine food purchasing practices of low-income families before and after participation by the mother in an educational program, and 2) to compare food habits of children from low-income families whose mothers participated in an educational program with food habits of children from low-income families whose mothers did not participate in an educational program.

The hypotheses tested in this study were:

1. There is a significant difference in food habits among



children, ages 10-14 years, whose mothers have been involved in an educational program and children whose mothers have not been involved in an educational program.

2. There is a significant difference in food purchasing practices among low-income mothers before and after participating in an educational program.
3. There is a significant difference in the extent to which certain foods and food products are used among low-income mothers before and after participating in an educational program.

#### Limitations

This study was limited to children, ages 10 to 14, who participated in an after-school cultural and educational program that was conducted at North Carolina Agricultural and Technical State University, Greensboro, North Carolina. The children were selected to participate in the cultural and educational program on the basis of their low socioeconomic level.

The mothers included in this study were limited to those who had children involved in the after-school cultural and educational program. Only those mothers who agreed to cooperate throughout the study were included in the educational program designed for parents.

#### Design of the Study

Data for this study were obtained from fifty-nine children, ages 10 to 14, from low-income families, who were enrolled in an after-school

program at North Carolina Agricultural and Technical State University, and whose mothers participated in an educational program; the thirty mothers of the fifty-nine children designated above, and fifty-nine children who were matched with the first group of children on the basis of age, sex, and socio-economic level, but whose mothers did not participate in an educational program.

Two instruments were developed as a means of collecting data for the study. One questionnaire was designed to collect personal and family data from the mothers, as well as information pertaining to food purchasing practices and foods used by low-income families. The second instrument was a daily dietary form that was used to record the food intake of the children. All food consumed each day was recorded on an individual form for each child in the study.

### Major Findings

Some major findings of this study in relation to food habits and food purchasing practices of low-income families were as follows:

#### Description of families

1. Of the thirty families included in this study, 80 percent had mothers as the head of the household. Fathers were the head of the household in only six families.
2. Sixty percent of the mothers were age 35 or under. Only twelve of the thirty mothers were age 35 or over.
3. A majority of the mothers had attended high school. Sixty-three percent of the mothers had at least a 10th grade education.

4. Financial assistance in the form of welfare payments was received by 60 percent of the families. Wages and salaries were earned by 28 percent of the families.

#### Food habits of children

1. There was no significant difference in the average number of servings of food from the Basic Four food groups eaten by children in the experimental and control groups in the pretest. The pretest was conducted prior to the educational program for mothers.
2. There were significant differences in the average number of servings of food from most of the Basic Four food groups eaten by children in the experimental and control groups in the post-test. These differences were at the  $p < .01$  level for the milk group,  $p < .01$  level for the meat group, and the  $p < .01$  level for the vegetable-fruit group. There was no significant change in the bread-cereal group. The post-test was conducted after the educational program for mothers.
3. There was an increase in the percentage of children from the experimental group who met the daily requirements of each of the Basic Four food groups from the time of the pretest to the time of the post-test. The greatest percent difference was in the vegetable-fruit group, the lowest percent difference was in the bread-cereal group. Mothers of children in the experimental group participated in the educational program.

4. Children in the control group met the daily requirements of the Basic Four food groups at the time of the post-test less often than did children in the experimental group. Mothers of children in the control group did not participate in the educational program.

#### Food purchasing practices

1. The supermarket was the source of most food purchases by all thirty mothers. Only 3 percent of the mothers made purchases from small, local stores or door-to-door salesmen.
2. Mothers became more conscious of the need to be concerned about the quality of food products available in determining where to shop. At the time of the first survey, all mothers shopped at the supermarket; however, quality of food products was not listed as a main reason for their decision to do so. The second survey showed this factor to be of much greater concern to them.
3. Ninety percent of the mothers decided on the amount of money to be spent for food. Since only 6 percent of the families had a male head of the household, the percentage of families in which the decision was made jointly was very small.
4. Mothers actually decided what foods to buy in all thirty families. Since mothers make most decisions about food purchases, they should be knowledgeable about nutritious and economical foods.

5. The family food shopping was done by mothers in most of the thirty families. This was true for 93 percent of the families in the first survey, and 87 percent of those in the second survey.
6. All thirty families paid for their food with cash. The elimination of store credit or bank charge cards as a means of paying for food is usually a means of reducing total food costs which may be increased by the interest charged on the amount of the bill.
7. Most of the nonfood items purchased by mothers while shopping for food were necessities such as soap, personal items, paper towels and household supplies. There was no indication of frivolous buying by the mothers.
8. The newspaper and television were the most important factors in influencing food purchasing practices of the mothers. The increase from 43 percent who were influenced by television in the first survey, to 83 percent who were influenced by television in the second survey was significant at the  $p < .01$  level.
9. Many mothers became more aware of the advantages of planning meals before shopping for food. The mothers who never planned meals before shopping decreased from 46 percent in the first survey to 10 percent in the second survey.

10. There was a significant increase in the percentage of mothers who read food labels, and compared grades, brands, and price per unit of food products from the time of the first survey to the time of the second survey. Utilizing these shopping techniques can increase the effectiveness of the mother as a consumer.

#### Use of donated food

1. Seventy percent of the thirty families used donated food from the Food Assistance Program. Of those families receiving donated food, the percentage of families who used all the various kinds of food received from the program increased from 86 percent in the first survey, to 95 percent in the second survey.
2. Those foods seldom accepted by more than 10 percent of the families at the time of the second survey were prunes, canned beef, dry egg mix, macaroni, grits, and rolled wheat. The overall percentage of families who did not accept each of these foods decreased from the time of the first survey to the second survey.
3. Reasons cited most often by mothers for the use of specific donated foods were that the foods were easy to prepare, and adults and children liked the taste. Many foods which are easy to prepare were not used because mothers did not know simple methods of preparing them.

4. Reasons cited most often by mothers for not using specific donated foods were that the foods were difficult to prepare, adults and children did not like the taste of the foods, and the mothers did not know how to prepare the foods. The educational program included demonstrations on easy methods of preparing tasty products from donated foods.

#### Food products used

1. Of the foods listed, those always bought and/or used each week by the highest percentage of families in the first survey were chicken or turkey, hamburger, bacon, fresh green vegetables, white potatoes, fresh fruit, ready-to-eat cereal, white bread, fresh milk, sausage and eggs. There was a decrease in the percentage of families who always bought and/or used hamburger, white potatoes, ready-to-eat cereal, white bread and fresh milk each week.
2. The foods never bought or used each week by the highest percentage of families were shrimp, brown bread, instant potatoes, instant rice, Kraft dinners, and cottage cheese. Three of these are convenience foods which are often more expensive than a similar amount of food in a less prepared form.

### Food preservation practices

1. More mothers preserved food products by the process of freezing than by the process of canning. Meats and vegetables were frozen most often; fruits and bakery products were frozen least often.
2. Reasons cited most often for freezing foods were to save money, to have food on hand, and to save food which cannot be used immediately. Family tradition and a feeling of personal accomplishment were cited most often as reasons for canning food.

### Implications

The limitations that existed in this study were recognized in interpreting the findings and stating the implications. Implications resulting from this study may provide a framework for the development, implementation, and evaluation of consumer and nutrition education programs for low-income mothers. Implications derived from this study were grouped in two categories: (1) consumer and nutrition education programs for low-income mothers and (2) further research.

### Consumer and nutrition education programs for low-income mothers

1. An educational program for low-income mothers on nutrition, food preparation and food purchasing techniques could be of benefit in improving the nutritional status of their families. Children of mothers who participated in the educational program showed greater improvement



in their diets than did children whose mothers did not participate in the educational program.

2. Though great statistical changes were not indicated by the data on food purchasing practices, there was evidence that the information shared with the mothers had been helpful to them by the increased percentage of those who had adopted positive food purchasing techniques. Many mothers expressed a need for additional meetings in which similar information would be shared.
3. Many mothers would use a greater variety of donated foods if they knew easy methods of preparing tasty, nutritious dishes from the donated foods. The mothers were enthusiastic about seeing demonstrations on the use of donated foods and anxious to receive recipes for preparing the food products demonstrated.
4. Some low-income mothers welcome assistance which helps them to make the best use of available resources in providing nourishing food for their families. Changes in some of the foods bought or used weekly indicated a decrease in the use of some expensive forms of food such as ready-to-eat cereal and fresh white milk. The decrease in the percentage of mothers using white bread, hamburger, and potatoes each week may indicate the increased use of alternative foods which provide more nourishment for the amount of money spent.

5. An educational program for mothers should be provided over a longer period of time to permit the impact of the program to be evaluated from a variety of perspectives. Habits developed over a long period of time, though altered slightly in eight weeks, may require an extended program of consumer and nutrition education to initiate significant measurable changes in behavior.

#### Further research

1. Additional study is needed as a basis for recommending specific programs of consumer and nutrition education for low-income families. The limitations of this study necessitate further research to support the findings presented.
2. In consideration of the nature of this study, the following recommendations are made:

Similar studies should be conducted with a larger sample of low-income families.

Similar studies should be conducted with low-income families over a longer period of time.

Similar studies should be conducted with various segments of low-income families, such as the aged, the family with preschool age children, etc., to assist in determining their needs in relation to food habits and food purchasing practices.

More research programs should be followed by direct action programs which involve demonstrations of how donated foods can be successfully incorporated into family food patterns.

A similar questionnaire should be administered to middle-income mothers to determine whether significant differences exist in food habits and food purchasing practices between low and middle income families in the same geographical area.

Action research must be conducted continuously with low-income families if they are to be successful in meeting their nutritional needs in a rapidly changing society. Many home economics educators have an excellent opportunity to conduct action research and develop follow-up programs that offer assistance in helping low-income families make the best use of available resources. Sharing knowledge and skills to help others alleviate their problems shows a real concern for the well-being of all members of our society.

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**APPENDICES**

**APPENDIX A**

**Questionnaire**

Name \_\_\_\_\_

Telephone No. \_\_\_\_\_

Address \_\_\_\_\_

FAMILY INFORMATION:

1. Who is the head of this household?

- \_\_\_\_ you  
\_\_\_\_ your husband  
\_\_\_\_ other, please indicate

2. How many people live in this house?

- \_\_\_\_ adults  
\_\_\_\_ children

3. How old are the children?

- \_\_\_\_ boys  
\_\_\_\_ girls

4. How old are you?

- |            |                  |
|------------|------------------|
| ____ 20-25 | ____ 41-45       |
| ____ 26-30 | ____ 46-50       |
| ____ 31-35 | ____ 51-55       |
| ____ 36-40 | ____ 56 and over |

5. What is your marital status?

- \_\_\_\_ single  
\_\_\_\_ divorced  
\_\_\_\_ separated  
\_\_\_\_ widow

6. What was the last grade in school that you completed?

\_\_\_\_\_

7. How many persons are employed in this household?

- \_\_\_\_ employed  
\_\_\_\_ unemployed

8. How many of those employed contribute money for buying groceries?

\_\_\_\_\_ (number)

HOUSING INFORMATION:

1. Are you buying or renting your house?

- \_\_\_\_ buying  
\_\_\_\_ renting

2. How much is your monthly payment?

\_\_\_\_\_ (amount)

3. Which of these facilities do you have in your home?

- |                    |                |
|--------------------|----------------|
| ____ electricity   | ____ stove     |
| ____ running water | ____ freezer   |
| ____ refrigerator  | ____ hot plate |
| ____ icebox        | ____ oven      |

**FOOD PURCHASING PRACTICES:**

1. Where do you generally buy most of your food?  
\_\_\_\_\_ supermarket  
\_\_\_\_\_ small, local store  
\_\_\_\_\_ farmers' curb market  
\_\_\_\_\_ door-to-door saleman  
\_\_\_\_\_ wholesale dealer  
\_\_\_\_\_ food purchase plan program  
\_\_\_\_\_ other, please indicate
2. Why do you buy your food from this source?  
\_\_\_\_\_ convenience  
\_\_\_\_\_ quality of product  
\_\_\_\_\_ prices of products  
\_\_\_\_\_ other, please indicate
3. What is the distance from your home to the place where you purchase food?  
\_\_\_\_\_ less than 1 mile  
\_\_\_\_\_ 1 to 5 miles  
\_\_\_\_\_ more than 5 miles
4. How do you usually get there?  
\_\_\_\_\_ walk  
\_\_\_\_\_ own car  
\_\_\_\_\_ bus  
\_\_\_\_\_ taxi  
\_\_\_\_\_ with friends or relatives  
\_\_\_\_\_ other, please indicate
5. Do you buy bread or other baked goods at a different place?  
\_\_\_\_\_ yes  
\_\_\_\_\_ no  
If so, where?  
\_\_\_\_\_  
Why?  
\_\_\_\_\_
6. Do you buy meats at a different place?  
\_\_\_\_\_ yes  
\_\_\_\_\_ no  
If so, where?  
\_\_\_\_\_  
Why?  
\_\_\_\_\_
7. Are there any food products that are delivered to your home regularly?  
\_\_\_\_\_ yes  
\_\_\_\_\_ no  
If so, what?  
\_\_\_\_\_  
Why?  
\_\_\_\_\_
8. Who in your family decides how much money is to be spent for food each week?  
\_\_\_\_\_ you  
\_\_\_\_\_ husband  
\_\_\_\_\_ both you and your husband together  
\_\_\_\_\_ other, please indicate who
9. Who usually decides what foods you buy each week?  
\_\_\_\_\_ you  
\_\_\_\_\_ husband  
\_\_\_\_\_ children  
\_\_\_\_\_ other members of the household
10. How often does someone from this house shop for food?  
\_\_\_\_\_ several times daily  
\_\_\_\_\_ once a day  
\_\_\_\_\_ 2-3 times a week  
\_\_\_\_\_ once a week  
\_\_\_\_\_ every two weeks  
\_\_\_\_\_ other, please indicate

11. Who usually does the buying of food for your family?  
 \_\_\_\_\_ you, yourself  
 \_\_\_\_\_ husband  
 \_\_\_\_\_ all family members do some  
 \_\_\_\_\_ husband and wife together  
 \_\_\_\_\_ children  
 \_\_\_\_\_ other, indicate
12. How do you usually pay for major food purchases?  
 \_\_\_\_\_ cash  
 \_\_\_\_\_ credit  
 \_\_\_\_\_ bank charge card
13. How much does your family spend for groceries during a normal week?  
 \_\_\_\_\_ \$ 0 - \$ 4.99  
 \_\_\_\_\_ 5 - 9.99  
 \_\_\_\_\_ 10 - 14.99  
 \_\_\_\_\_ 15 - 19.99  
 \_\_\_\_\_ 20 - 24.99  
 \_\_\_\_\_ 25 - 29.99  
 \_\_\_\_\_ 30 and over
14. Do you buy any of these items when you are shopping for food?  
 \_\_\_\_\_ paper towels, napkins  
 \_\_\_\_\_ soap  
 \_\_\_\_\_ magazines, books  
 \_\_\_\_\_ toys  
 \_\_\_\_\_ personal items  
 \_\_\_\_\_ pet food  
 \_\_\_\_\_ cigarettes, tobacco products  
 \_\_\_\_\_ household supplies  
 \_\_\_\_\_ beer and wine  
 \_\_\_\_\_ notions  
 \_\_\_\_\_ other, please indicate
15. What influences your food purchasing practices?  
 \_\_\_\_\_ newspaper \_\_\_\_\_ friends, neighbors  
 \_\_\_\_\_ magazines \_\_\_\_\_ relatives  
 \_\_\_\_\_ TV \_\_\_\_\_ attractiveness of product  
 \_\_\_\_\_ radio \_\_\_\_\_ other, please indicate
16. Do you plan your meals before you go shopping?  
 \_\_\_\_\_ always  
 \_\_\_\_\_ usually  
 \_\_\_\_\_ never
17. Do you make out a shopping list before you go to the store?  
 \_\_\_\_\_ always  
 \_\_\_\_\_ usually  
 \_\_\_\_\_ never
18. If you make out a shopping list do you follow it closely?  
 \_\_\_\_\_ always  
 \_\_\_\_\_ usually  
 \_\_\_\_\_ never
19. When you are shopping for food do you:  
 read the labels on products?  
 \_\_\_\_\_ always  
 \_\_\_\_\_ usually  
 \_\_\_\_\_ never
- compare grades of products?  
 \_\_\_\_\_ always  
 \_\_\_\_\_ usually  
 \_\_\_\_\_ never
- compare brands of products?  
 \_\_\_\_\_ always  
 \_\_\_\_\_ usually  
 \_\_\_\_\_ never
- compare price per unit of products?  
 \_\_\_\_\_ always  
 \_\_\_\_\_ usually  
 \_\_\_\_\_ never

**FOOD PRODUCTS USED**

1. Do you use foods from the food assistance program?  
 \_\_\_\_\_ yes  
 \_\_\_\_\_ no (If no, omit questions 2, 3, and 4 and go to question 5)

2. Do you use all the foods that you accept?  
 \_\_\_\_\_ yes  
 \_\_\_\_\_ no (If no, why not)

3. How much of the food which you used daily is from the food assistance program?  
 \_\_\_\_\_ none  
 \_\_\_\_\_ a small amount  
 \_\_\_\_\_ most of it  
 \_\_\_\_\_ all of it

4. Which of the following foods are:

(1) Foods	2 Usually Accepted	3 Occasionally Accepted	4 Seldom Accepted	(5) Used Most Often	6 Reason for Use*						(7) Used Least Often	8 Reason for Not Using**				
					1	2	3	4	5	6		1	2	3	4	5
Fruit or Veg. Juice																
Instant Potatoes																
Canned Vegetables																
Dry Beans																
Prunes																
Apple Sauce																
Raisins																
Peanut Butter																
Chopped Canned Meat																
Canned Meat (Pork, Chicken, Turkey, Beef)																
Canned Egg Mix																
Canned Milk																
Instant Dry Milk																
Butter																
Cheese Loaves																
Macaroni																
Rolled Oats																
Grits																
Rolled Wheat																
Rice																
Flour																
Meal																
Corn Syrup																
Shortening or Lard																

\*Code to Column 6

- 1. easy to prepare
- 2. tastes good
- 3. looks desirable to eat
- 4. can be used in many different ways
- 5. children like the taste
- 6. adults like the taste

\*\*Code to Column 8

- 1. don't like the appearance
- 2. don't know how to use
- 3. difficult to prepare
- 4. children don't like the taste
- 5. adults don't like the taste

5. Which of these foods do you buy/or use every week?

	Always	Usually	Seldom	Never
Chicken or turkey				
Shrimp				
Fresh fish				
Frozen fish				
Canned fish				
Pork chops or roast				
Ham				
Spare Ribs				
Bacon				
Sausage				
Hamburger				
Steak				
Beef roast				
Liver				
Neck bones				
Peanut butter				
Fresh tomatoes				
Fresh carrots				
Fresh green vegetables				
White potatoes				
Sweet potatoes				
Fresh fruit (in season)				
Frozen vegetables				
Frozen fruits				
Frozen fruit juices				
Canned fruit juices				
Canned fruits				
Canned green vegetables				
Canned yellow vegetables				
Canned beans				
Dried peas				
Dried beans				

	Always	Usually	Seldom	Never
Cereal to cook				
Ready-to-eat cereal				
Sugared cereal				
Rice				
Spaghetti or macaroni				
Meal				
Flour				
White bread				
Brown bread				
Frozen dinners				
Frozen pot pies				
Frozen fruit pies				
Instant potatoes				
Cake mixes				
Instant cereals				
Corn bread mix				
Instant rice				
Brown and serve rolls				
Kraft dinners				
Cokes or pop				
Candy				
Potato chips or pretzels				
Cookies				
Cake				
Fresh milk				
Dried milk				
Canned milk				
Butter				
Margarine				
Cheese				
Cottage cheese				
Eggs				



**FOOD PRESERVATION**

1. Do you can any foods?

- yes
- no

If so, what foods?

- vegetables
- fruits
- meats
- jelly and jam
- pickles, relishes

2. Why do you can foods?

- to save food which cannot be used right away
- to have food all year
- to save money
- like the taste
- other, please indicate

3. Do you freeze foods?

- yes
- no

If so, what foods?

- fruits
- vegetables
- meats
- bakery products
- other, please indicate

4. Why do you freeze foods?

- to save money
- to have food on hand
- prefer taste over canned foods
- to save food which cannot be used right away
- other, please indicate

**INCOME INFORMATION**

1. What was the source of your income during 1970?

- wages and salaries
- Social Security
- Welfare payment
- Veterans benefits
- pensions
- alimony
- support from others
- other, please indicate

3. What sort of planning do you do each week for the use of your income?

- no plan
- written general plan
- mental plan
- plan for savings only
- plan for use of money after bills are paid
- other, please indicate

2. What was the amount of your total family income before taxes in 1970?

- |                                      |  |
|--------------------------------------|--|
| <input type="checkbox"/> \$ 0 - 499  | <input type="checkbox"/> \$5000 - 5999 |
| <input type="checkbox"/> 500 - 999   | <input type="checkbox"/> 6000 - 6999   |
| <input type="checkbox"/> 1000 - 1999 | <input type="checkbox"/> 7000 - 7999   |
| <input type="checkbox"/> 2000 - 2999 | <input type="checkbox"/> 8000 and over |
| <input type="checkbox"/> 3000 - 3999 | <input type="checkbox"/> no response   |
| <input type="checkbox"/> 4000 - 4999 |  |

GENERAL INFORMATION

1. Would you be interested in attending some small group meetings on getting more for your money?  
 yes  
 no
2. Would you be interested in learning some different ways to prepare the foods you use?  
 yes  
 no
3. How often would you be able to attend a group meeting?  
 twice a week  
 once a week  
 every other week
4. When would be the best time for you to meet?  
 morning  
 afternoon  
 evening
5. Could you attend some group meetings during the summer?  
 yes  
 no

COMMENTS

**APPENDIX B**

**Daily Dietary Form**

## DAILY DIETARY FORM

DIRECTIONS: List all foods eaten each day. Be sure to include snacks, drinks, and everything you eat. State the number of servings of each food eaten.

	Monday	Tuesday	Wednesday	Thursday	Friday
Breakfast					
Mid-Morning					
Lunch					
Mid-Afternoon					
Supper or Dinner					
Before Bed Snack					

Dates \_\_\_\_\_

Name \_\_\_\_\_ Age \_\_\_\_\_

Address \_\_\_\_\_

School \_\_\_\_\_

APPENDIX C

Educational Program

## WE ARE WHAT WE EAT

This is a lesson for mothers to teach the importance of providing nutritious foods for family members.

CONCEPT: The relationship of food to health and appearance

BEHAVIORAL OBJECTIVES: The mothers will verbally identify some ways that health and appearance of the body are affected by the food consumed.

The mothers will recognize the Basic Four food groups and the nutritive value of each.

The mothers will verbally list some "empty calorie" foods.

GENERALIZATIONS: If mothers possess knowledge of the relationship of food to health and appearance, they are more likely to provide nourishing food for their families.

If mothers are knowledgeable of the nutritive contributions of foods from the Basic Four food groups, these foods are more likely to be included in their family dietary plans.

If mothers understand the costs of "empty calorie" foods in monetary value and nutritional value, they are more likely to avoid excessive use of them.

SUBJECT MATTER OUTLINE: Importance of nutrition to health and appearance  
Nutritive value of foods from the Basic Four food groups  
The nutritive and monetary costs of "empty calorie" foods

REFERENCES: Cronan, Marion L. and Atwood, June C. Foods in Homemaking, Charles A. Bennett Company, Inc., Peoria, Illinois, 1965.

McWilliams, Margaret and Davis, Linda. Food for You, Ginn and Company, Boston, Massachusetts, 1971.

General Foods Kitchens. Food For You and Your Family, General Foods Corporation, 1969.

National Dairy Council. Your Guide to Good Eating, Chicago, Illinois, 1961.

Homemaking Research Laboratories. Homemaking, Study Unit Sets 1, 2, 3; Tony, Wisconsin, 1970.

Vail, Gladys E., Griswold, Ruth M., Justin, Margaret M. and Rust, Lucille O. Foods, Houghton-Mifflin Company, Boston, Massachusetts, 1967.

Basic Four Food Charts

National Dairy Council Food Charts

#### SUPPORTING CONTENT

Individual likes and dislikes have great effect on the development of food habits.

The nutritional status of an individual is affected by the quality and quantity of food he consumes.

#### TEACHING STRATEGIES, LEARNING - EVALUATING EXPERIENCES

Discuss food likes and dislikes and factors that contribute to them.

Mothers identify their likes and dislikes and try to determine reasons for them.

View and discuss filmstrip on effects of nutrition and health.

Filmstrip: "The Real You", National Livestock and Meat Board.

Display a chart describing a person in good nutritional status and a person in poor nutritional status.

Distribute Basic Four food charts and discuss nutritive contribution of each group of food.

Utilization of the Basic Four food groups as a guide provides for flexibility in meal planning which insures nutritional adequacy.

"Empty-calorie" foods can be costly in terms of money and the food value received by the body.

Many tasty foods are nutritious and economical.

**EVALUATION:**

Identify the Basic Four food group in which each of the foods disliked by the mothers would be categorized.

Suggest foods from the same food group that can be used as a substitute in meal planning.

Display on a flannel board menus based on the Basic Four food plan. Class will suggest some additional menus.

Display National Dairy Council Food charts which show the caloric content of some "empty foods" as compared to some nutritious foods.

Example: Colas and milk

Assist mothers in verbally listing some "empty calorie" foods.

Explain the difference in nutritive value of "empty calorie" foods and similar nourishing food.

Discuss the costs of "empty calorie" foods and similar nourishing foods in relation to money, body health and appearance.

Display empty calorie foods and similar nutritious foods. Indicate monetary cost and nutritive value of each.

Serve mothers refreshments made from nutritious, commodity foods.

Question and answer period.

Interest and concern of mothers in discussion and activities.

Recognition by the mothers of ways in which food affects the body by the use of pictures and verbal descriptions.



Ability of mothers to categorize food in the Basic Four food groups when planning meals.

Follow-up through informal contact to determine mothers use of "empty-calorie" foods in meal planning.

## FOOD PURCHASING PRACTICES

This is a lesson for mothers to teach the importance of developing helpful food purchasing practices.

- CONCEPT:** Food purchasing practices
- BEHAVIORAL OBJECTIVES:** The mothers will recognize factors that influence their major decisions in relation to food purchases.
- The mothers will make intelligent decisions in relation to their food purchasing practices.
- GENERALIZATION:** If a mother recognizes factors that affect major decisions in relation to food purchasing practices, she is more likely to make intelligent food purchasing decisions.
- SUBJECT MATTER OUTLINE:** Factors to be considered in determining where to make major food purchases  
Factors to be considered in deciding how often to make major food purchases  
Factors that influence food purchases  
Methods of paying for food purchases  
Purchasing nonfood items while grocery shopping
- REFERENCES:** Fitzsimmons, Cleo and White, Nell. Management for You, J. B. Lippincott Company, Philadelphia, 1964.
- Wright, Carlton E. Food Buying, The Macmillan Company, New York, 1962.
- Lewis, Dora; Peckham, Gladys and Hovey, Helen. Family Meals and Hospitality, The Macmillan Company, New York, 1960.
- Homemaking Research Laboratories. Homemaking, Study Unit Sets 1, 2, 3; Tony, Wisconsin, 1970.

## SUPPORTING CONTENT

Serious thought and consideration should be given to determining where to make food purchases and how often they should be made.

Food purchases of mothers may be influenced by a variety of sources.

A variety of methods may be used to pay for food purchases.

## TEACHING STRATEGIES, LEARNING - EVALUATING EXPERIENCES

List with the mothers some factors that should be considered when deciding where to make food purchases. Emphasize the importance of quality of foods, as well as price and convenient access to the store as determining factors.

Ask Mothers to indicate factors which determine 1) how often they make food purchases, or 2) factors which they believe to be influential in determining how often their friends make food purchases.

Identify some realistic factors to be considered when determining the frequency of food purchases.

Display a poster showing various factors that influence food purchases of mothers such as television advertisements, newspaper advertisements, etc.

Ask mothers to indicate the factors that most often influence their food purchases.

Explain some advantages and disadvantages of using the various sources of information as aids in determining food purchases.

List with the mothers some methods of paying for food purchases.

Role-play buying ten dollars worth of groceries and paying for them by the following methods:

1. Cash
2. Bank charge card
3. Credit at a local store

Cite advantages and/or disadvantages of each method.

The purchase of nonfood items while shopping for groceries can increase the "grocery" bill considerably.

When estimating total grocery costs, only the amount spent for food should be included.

Distribute to mothers a check-list of nonfood items commonly bought by homemakers when shopping for food. Ask mothers to check those items which they generally buy when shopping for food. Use lists of two mothers and determine the price of nonfood items based on a newspaper advertisement. Total the prices on these lists.

Discuss the advantages and disadvantages of shopping for nonfood items separately from the grocery shopping.

Question and answer period

**EVALUATION:**

Participation by mothers in discussions

Observation of interest and concern of mothers during the program

Follow-up to determine changes in food purchasing practices

## FOOD PURCHASING PRACTICES

This is a lesson for mothers to teach the importance of developing helpful food purchasing practices.

### CONCEPT:

Food purchasing practices

### BEHAVIORAL OBJECTIVES:

The mothers will recognize the advantages of planning meals and shopping lists.

The mothers will plan meals and shopping lists based on family needs.

The mothers will identify the pitfalls of impulse buying.

The mothers will demonstrate a knowledge of buying guidelines as they do their family shopping.

### GENERALIZATIONS:

Knowledge of the criteria for selecting food products enables mothers to know when they are making wise food choices.

Careful planning of meals and shopping lists helps mothers to make necessary purchases and decreases the tendency of impulse buying.

### SUBJECT MATTER OUTLINE:

Planning meals based on the Basic Four food guide prior to shopping

Making a shopping list

Following the shopping list

What the food label tells the consumer

Guidelines for shopping

### REFERENCES:

Basic Four Food Charts

Fitzsimmons, Cleo and White, Nell. Management for You, J. B. Lippincott Company, Philadelphia, 1964.

Wright, Carlton E. Food Buying, The Macmillan Company, New York, 1962.

Lewis, Dora; Peckham, Gladys, and Hovey, Helen. Family Meals and Hospitality, The Macmillan Company, New York, 1960.

Homemaking Research Laboratories. Homemaking, Study Unit Sets 1, 2, 3; Tony, Wisconsin, 1970.

#### SUPPORTING CONTENT

The Basic Four food plan provides an easy method of planning family meals

A shopping list should reflect foods needed to supplement those on hand in providing ample sources of nourishment for family members.

The shopping list is a guide and it should enable the mothers to use a degree of flexibility in making reasonable substitutions for some items listed.

Labels on food products tell you what is inside the can, box, or package.

#### TEACHING STRATEGIES, LEARNING - EVALUATION EXPERIENCES

Distribute copies of the Basic Four food plan to the mothers.

Explain how this guide can be used to plan nourishing family meals.

Discuss the advantages of a written plan for use of the family income allocated to food purchases.

Display posters showing a variety of shopping lists.

Explain how the shopping lists reflect the family food needs.

Circulate to mothers sheets containing menus for one day. Ask mothers to specify any foods that they have at home that could be used in the menus. Then have mothers indicate the foods they would need to buy to prepare these menus.

Display newspaper food advertisements and refer to television food advertisements. Indicate advertised foods that could be used as substitutes for some items on the shopping list.

Display various kinds of canned and frozen food products.

Show mothers the various kinds of information on the labels. Ask mothers how they can benefit from this information.

Labels must list ingredients beginning with the item that weighs the most and continuing to the item weighing the least

Intelligent consumers must know what criteria to look for when making food purchases.

Demonstrate differences in 1) a can of beef and gravy, and 2) a can of gravy and beef. Have mothers to read the labels and shake the cans to get a "feel" of the contents before the cans are opened. Note differences in the amount of beef and gravy in the two cans.

Distribute U.S.D.A. pamphlets to mothers on criteria for selection of common food products.

How to buy meats  
How to buy eggs  
How to buy vegetables

How to buy fruits  
How to buy dairy products  
How to buy poultry

Emphasize one or two basic points to remember when purchasing foods in the above categories.

Question and answer period.

#### EVALUATION:

Participation of mothers in discussion

Observation of interest and concern of mothers during the program

Verbal indication by mothers of the need for this kind of information

Follow-up to determine whether mothers are utilizing the information made available to them

## COMPARATIVE FOOD SHOPPING TECHNIQUES

This is a lesson to teach the importance of comparative food shopping in relation to brand, grade, size, price per unit and form of food purchases.

CONCEPT: Comparative food shopping

BEHAVIORAL OBJECTIVES: The mothers will verbally identify some comparative food shopping techniques and their advantages.

The mothers will utilize comparative food shopping techniques when making their family food purchases.

GENERALIZATION: If we understand and utilize techniques of comparative food shopping, we can become more effective consumers.

SUBJECT MATTER OUTLINE: Importance of comparative food shopping  
Use of food grades  
Use of food brands  
Comparison of prices per unit of food products  
Effects of food use on determining what food to buy

REFERENCES: Wright, Carlton E. Food Buying, The Macmillan Company, New York, 1962.

Raines, Margaret. Managing Livingtime, Charles A. Bennett Company, Inc., Peoria, Illinois, 1966.

Homemaking Research Laboratories. Teacher's Resource Unit on Consumer Education, Tony, Wisconsin, 1970.

Homemaking Research Laboratories. Homemaking, Study Unit Sets 1, 2, 3. Tony, Wisconsin, 1970.



## SUPPORTING CONTENT

Comparative food shopping is necessary to get the best buys for your money.

Grades, brands and sizes of food products affect the total cost of the product.

The amount of money spent for food purchases is not necessarily an indication of the quality and quantity attained.

The way in which a food is to be used should be considered when determining what specific form, brand, and grade of food to purchase.

## EVALUATION:

## TEACHING STRATEGIES, LEARNING - EVALUATING EXPERIENCES

Introduction - brief discussion on why it is important to do comparative food shopping

Exhibit of common foods representing different grades, sizes, brands, and prices per unit as sold in the food store, Demonstrate differences in the price of various combinations of foods.

Role-play buying various combinations of food in a variety of grades, sizes, brands, and prices per unit. Compare the amount of money spent with the quality and quantity of food received.

Demonstrate differences in grades, brands and forms of food by displaying a variety of canned and/or frozen foods after they have been opened. Stress differences in color, size, shape, texture and use of the food.

Demonstrate two dishes using the same food product. Explain how different grades or brands of food may be successfully used for different purposes.

- Examples: 1. Peach salad  
2. Peach pie

Question and answer period

Observe reaction of mothers to differences in food products displayed and demonstrated.

Follow-up to determine what changes mothers have made in their food purchasing practices.

## STRETCHING THE FOOD DOLLAR

This is a lesson for mothers which emphasizes methods of stretching the food dollar.

### CONCEPT:

Stretching the food dollar

### BEHAVIORAL OBJECTIVES:

The mothers will identify some methods of stretching the food dollar.

The mothers will state some advantages of various methods of stretching the food dollar.

The mothers will practice some methods of stretching the food dollar as they plan and prepare family meals.

### GENERALIZATION:

If mothers understand ways of stretching the food dollar, they can make more efficient use of the money available for the purchase of family foods.

### SUBJECT MATTER OUTLINE:

When is a "special" a good buy?  
Costs of foods delivered to the home versus costs of the same food at the supermarket  
Use of consumer buying clubs  
Purchasing food from bakery outlets or wholesale meat companies  
Using lower cost cuts of meat  
Using meat alternatives  
Extending meat by using macaroni, rice, spaghetti, etc.  
Buying foods in season  
Storing and preserving foods correctly at home

### REFERENCES:

Homemaking Research Laboratories. Teacher's Resource Unit on Consumer Education, Tony, Wisconsin, 1970.

Raines, Margaret. Managing Livingtime, Charles A. Bennett Company, Inc., Peoria, Illinois, 1966.

Vail, Gladys E., Griswold, Ruth M., Justin, Margaret M. and Rust, Lucille O. Foods, Houghton-Mifflin Company, Boston, Massachusetts, 1967.

Homemaking Research Laboratories. Homemaking, Study Unit Sets 1, 2, 3; Tony, Wisconsin, 1970.

### SUPPORTING CONTENT

There are many techniques that can be used to make the best use of money available for food.

"Specials" are good buys only if they meet certain criteria.

Food costs can often be decreased by eliminating personal services.

Wholesale buying by organized groups of families can decrease individual family food costs for some foods.

Buying foods in season is usually more economical than buying foods out of season.

Bakery outlets offer reduced prices on food products available.

### TEACHING STRATEGIES, LEARNING - EVALUATING EXPERIENCES

List with the mothers some ways of stretching the food dollar.

Display newspaper advertisements of food specials. Identify criteria of good "specials". Each mother will decide whether these would be good "specials" for her family.

Display samples of milk, eggs and butter bought at the supermarket and samples of the same items delivered to homes. Identify the price of each article. Mothers will total the prices of these items and compare the difference in total cost of the three items.

Discuss the advantages and disadvantages of wholesale buying practices of organized family groups such as consumer buying clubs.

Compare prices of fruits and vegetables when in season and out of season by using newspaper and television advertisements.

Discuss advantages of buying foods when they are in season.

Indicate freezing and canning as methods of food preservation.

Show filmstrip: Spending Your Food Dollars  
Household Management Institute  
Household Finance Company

The use of commodity food ingredients as the basis for some main dishes enables mothers to have more servings of a meat dish available for their families.

Lower cost meats can be used to prepare tasty, nutritious dishes.

**EVALUATION:**

Demonstrate how to stretch the food dollar through the use of commodity foods by preparing three dishes made primarily from these foods. These dishes can be used as meat extenders by including macaroni, rolled oats or rolled wheat. Dishes to be prepared are as follows:

Roman Holiday  
Hamburgers with Rolled Wheat  
Meat 'N Cheddar Loaf

Distribute recipes of foods prepared to mothers present.

Display foods prepared.

Tasting party - All mothers present can sample each product prepared.

Question and answer period

Interest of the mothers in discussions, displays and demonstrations.

Verbal response of mothers to the program activities.

Indication by mothers at subsequent meetings that they have adopted some of the methods of stretching the food dollar that were discussed at the meeting.

## USE OF COMMODITY FOODS IN THE DAILY DIET

This is a lesson for mothers concerning the use of commodity foods.

CONCEPT: Use of commodity foods

BEHAVIORAL OBJECTIVES: The mothers will observe demonstrations on the preparation of commodity foods.

The mothers will indicate a desire to prepare commodity foods in a variety of ways.

The mothers will verbally identify some reasons for the use of commodity foods.

GENERALIZATION: If mothers are knowledgeable of the nutritive value of commodity foods and various methods of preparing them, commodity foods are more likely to be included in their family meals.

SUBJECTS MATTER OUTLINE: Nutritive value of commodity foods  
Variety of uses of commodity foods  
Methods of preparing commodity foods

REFERENCES: Basic Four Food Charts

National Dairy Council Food Value Charts

The Quaker Oats Company. Our Favorites for Family and Friends.

Homemaking Research Laboratories. Homemaking, Study Unit Sets 1, 2, 3; Tony, Wisconsin, 1966.

Vail, Gladys E., Griswold, Ruth M., Justin, Margaret M. and Rust, Lucille O. Foods, Houghton-Mifflin Company, Boston, Massachusetts 1967.

Raines, Margaret. Managing Livingtime, Charles A. Bennett Company, Inc., Peoria, Illinois, 1966.

### SUPPORTING CONTENT

Commodity foods provide the same nutritive value as other foods in the Basic Four food groups to which they belong.

Commodity foods may be included in the daily dietary plan for each meal.

### TEACHING STRATEGIES, LEARNING - EVALUATING EXPERIENCES

Display charts showing commodity foods and the Basic Four food groups to which they belong. Example:

#### Bread-Cereal Group

Rolled oats  
Rolled wheat  
Grits

#### Milk Group

Instant dry milk  
Butter  
Cheese

#### Fruit-Vegetable Group

Canned vegetables  
Raisins  
Fruit juice

#### Meat Group

Canned chopped meat  
Canned chicken  
Canned beef

Identify the major nutrients provided to the body by foods from each of the Basic Four food groups. Use National Dairy Council Food Value charts to illustrate nutrients in various commodity foods.

Exhibit samples of commodity foods that can be prepared in ways that they can be used for each meal of the day.

Example: Commodity food - Rolled oats

Breakfast - Oatmeal Pancakes

Lunch - Golden Oatmeal Muffins or Peanut Butter Oatmeal Cookies

Dinner - Oatmeal Cake or Meat 'N Cheddar Loaf

Example: Commodity food - Raisins

Breakfast - Raisin Syrup with Pancakes

Lunch - Raisin Spice Drop Cookies

Dinner - Rice Pudding with Raisins

Many commodity foods can be easily prepared into tasty, economical and nutritious dishes.

Demonstrate preparation of the following foods:

Oatmeal Pancakes with Raisin Syrup

Peanut Butter Oatmeal Cookies

Golden Oatmeal Muffins

Oatmeal Cake

Explain that instant dry milk or canned milk and powdered egg mix are being used in all recipes where milk and eggs are included as ingredients.

Distribute recipe sheets to mothers including directions for preparing each food that was demonstrated.

Display foods prepared.

Taste test by mothers of all foods prepared.

Distribute any uncooked dough or batter to mothers who indicate a desire to cook them at home.

Question and answer period.

EVALUATION:

Interest and concern of mothers during discussion and demonstrations.

Reactions of mothers to the taste test of foods prepared.

Desire of mothers to obtain recipe sheets and uncooked batter or dough to be used at home.

Follow-up to determine whether mothers have prepared any of the products that were demonstrated.



## PREPARATION OF COMMODITY FOODS IN THE DAILY DIET

This is a lesson for mothers on methods of preparing commodity foods.

CONCEPT: Preparation of commodity foods

BEHAVIORAL OBJECTIVES: The mothers will verbally identify some reasons for the use of commodity foods.

The mothers will observe demonstrations on the preparation of commodity foods.

The mothers will prepare commodity foods in a variety of ways.

GENERALIZATION: If mothers know how to prepare commodity foods into tasty, nutritious and economical food products, they are more likely to use them frequently.

SUBJECT MATTER OUTLINE: Nutritive value of commodity foods  
Methods of preparing commodity foods  
Use of commodity foods  
Economy of commodity foods

REFERENCES: Basic Four Food Charts

National Dairy Council Food Charts

The Quaker Oats Company. Our Favorites for Family and Friends.

United States Department of Agriculture. Family Fare--Food Management and Recipes, Washington, D. C.

SUPPORTING CONTENT

Many commodity foods can be prepared into tasty, nutritious and economical bread products.

Many commodity foods can be prepared into tasty, nutritious and economical desserts.

Instant dry milk can be used to prepare a variety of tasty beverages.

**EVALUATION:**

TEACHING STRATEGIES, LEARNING - EVALUATING EXPERIENCES

Display breads made from commodity food products such as rolled oats, rolled wheat, flour, and meal.

Demonstrate methods of preparing the following breads:

- Easy Oatmeal Bread
- Banana Nut Bread
- Applesauce Treasure Loaf
- Spoon Bread

Assist mothers in demonstrating methods of preparing two desserts that include commodity foods as a part of the ingredients.

- Apple Crisp
- Peanut Pie

Assist mothers in preparing the following milk beverages from instant dry milk:

- Orange Milk
- Orange Nog
- Banana Milk Shake

Discuss nutritive value and economy of foods prepared. Use food value charts for illustrations of nutritive value.

Display all food products prepared.

Taste test by mothers of all food products prepared.

Distribute uncooked dough or batter to mothers who indicate a desire to cook it at home.

Distribute recipe sheets to mothers for products prepared at the meeting and other similar products using commodity foods.

Interest and concern of mothers during discussion and demonstrations.

Reaction of mothers to the taste test of food products prepared.

Desire of mothers to obtain recipe sheets and uncooked batter or dough.

Follow-up to determine whether mothers have prepared any products demonstrated or any additional products on the recipe sheets.

## PREPARATION OF COMMODITY FOODS

This is a lesson for mothers on methods of preparing commodity foods.

### CONCEPT:

Preparation of commodity foods

### BEHAVIORAL OBJECTIVES:

The mothers will verbally identify some reasons for the use of commodity foods.

The mothers will observe demonstrations on the preparation of commodity foods.

The mothers will prepare commodity foods in a variety of ways.

### GENERALIZATION:

If mothers know how to prepare commodity foods into tasty, nutritious and economical food products, they are more likely to use them frequently.

### SUBJECT MATTER OUTLINE:

Nutritive value of commodity foods  
Methods of preparing commodity foods  
Use of commodity foods  
Economy of commodity foods

### REFERENCES:

Basic Four Food Charts

National Dairy Council Food Charts

The Quaker Oats Company, Our Favorites for Family and Friends.

United States Department of Agriculture. Family Fare--Food Management and Recipes, Washington, D. C.

## SUPPORTING CONTENT

Many commodity foods can be easily prepared into tasty, economical and nutritious desserts.

Commodity foods can be used as the basic ingredients in main dishes for lunch or dinner

Comparing the price of ready made food products with products made at home from basic ingredients enables mothers to see the difference in total food costs and the amount of food received.

## **EVALUATION:**

## TEACHING STRATEGIES, LEARNING - EVALUATING EXPERIENCES

Demonstrate methods of preparing two desserts which were mentioned at the previous meeting:

Raisin Spice Drop Cookies  
Rice Pudding with Raisins

Identify food value and possible use of each product.

Demonstrate a method of making main dishes from commodity foods by preparing the following: Skillet Supper

Treat Loaf (Use chopped canned meat)  
Beef and Macaroni

Demonstrate a method of making Peanut Butter-Crisscross Cookies using commodity foods. Indicate the total amount of cookies obtained and the approximate cost to the mothers.

Compare the price of ingredients, time, and energy involved with the total amount of cookies obtained and the cost of a similar amount and kind of ready made cookies.

Discuss the nutritive value of the cookies and show food value charts.

Taste test by mothers of all foods prepared.

Question and answer period

Interest and concern of mothers during discussion and demonstrations.

Reactions of mothers to the taste test of foods prepared

Desire of mothers to obtain recipe sheets and uncooked batter or dough to be used at home.

Follow-up to determine whether mothers have prepared any of the products that were demonstrated.