BREAKFAST HABITS OF YOUTH OF CADDO, OKLAHOMA WITH IMPLICATIONS FOR NUTRITION EDUCATION PROGRAM

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CHAPTER I

NUTRITION AS A PART OF EDUCATION

Importance of Adequate Nutrition

A nation is often described as being as strong as its people. Because healthy people are very important to the nation's security, the health of the American people is of great national concern. Every undernourished person is a potential liability to his country in eras of both peace and war. The contributions which these individuals should be able to make are likely limited due to their nutritional impoverishment. One of the basic needs for healthy people in America is good nutrition.

America has an abundance of food, but abundance is not enough. Americans must eat the kinds of food that make and keep them strong. There is relative abundance of knowledge about foods and nutrients and their utilization by the body, yet the food habits of people often reveal that little use is made of the knowledge which is available. Oftentimes, the habits of people, who are informed about the nutritive value of foods and the relationship to good health, persist in following long established practices which are nutritionally unsound.

There are many social changes affecting the family which need to be recognized in today's mobile, fast changing world and these social changes are directly affecting the health, welfare, and nutritional status of our most vulnerable citizens; namely, mothers, infants, children, youth,

and aged people. Since World War II, the United States has moved from jalopies to jets, from shortages to plenty, from undreamed-of products to miracle products. Today's consumer is spending more money, is living longer, is marrying earlier, and is enjoying more leisure. More women (about 30 percent of all married women) are working outside the home and at the same time expanding their interests in community and world affairs.[1] The teenage segment of the population is larger than it has ever been. Also, people are becoming better educated, traveling farther and faster, and spending more for luxuries and comforts. The impact of these changes in our society affects the everyday living of people.

Our everyday food habits will determine in an important measure the health of future Americans. The federal government has many scientists studying the nutritive values of food, the dietary habits of various groups, and the percentage of income spent for food. A wide gap exists between the knowledge of nutrition and its application in everyday living. As a consequence, people are not enjoying the quality of health which usually comes from following sound nutritional practices.

One often hears the phrase "the well-fed" in reference to people and their food habits. Like many other phrases, this phrase means different things to different people. Perhaps many people have been content to use the phrase "the well-fed" describing those who eat as much as they want of the foods they like. Other people use this phrase to describe those which satisfy their cultivated taste for flavor, texture, color, and other characteristics associated with the pleasure of eating.

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[1]Dorothy Sherrill Miller, "Changes in the Consumer Food Market Since World War II," Journal Home Economics LIV, (January, 1962), p. 9.

To the nutritionist, being "well-fed" involves these aspects of food, but it also means including in the daily diet those nutrients which are needed for the maintenance of health and physical well-being. This point of view is supported by Bogert's definition of nutrition. Bogert states, "Nutrition simply is the science of nourishing the body properly - that is, providing adequately for its growth, maintenance, and repair."[2]

Leverton has stated that the outward and visable signs of good nutrition can be recognized by ourselves and those about us.[3] At every age the signs of nutrition are usually apparent in one's physical appearance, one's personality, one's emotional reactions, and one's vigor and stamina.

Good nutrition is a major factor in helping: (1) to build a strong, healthy body and to maintain it throughout life; (2) to provide abundant energy, resistance to disease, and ability to recover quickly and completely from effects of disease and accident; and (3) to insure optimum functioning of all the body processes - physical, mental, and emotional, at all times.

The Institute of Home Economics, a division of the United States Department of Agriculture, has published A Food Guide which classifies foods supplying important amounts of the same nutrients into one basic food group.[4] The following classification can be used as a guide in

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[2]Jean Bogert, Nutrition and Physical Fitness (Philadelphia, 1954) p. 3.

[3]Ruth Leverton, "What is Good Nutrition?" Today's Health, March, 1958.

[4]"A Daily Food Guide," Food for Fitness, U. S. D. A. Leaflet No. 424 (Washington, D. C., March, 1958).

checking the foods which are needed in the daily diet:

I. MILK GROUP

Some milk for everyone

Children . . . . . 2 to 4 cups
Teen-agers . . . . . 4 or more cups
Adults . . . . . 2 or more cups

II. MEAT GROUP

2 or more servings

Beef, veal, pork, lamb, poultry, fish, eggs

As alternates

Dry beans, dry peas, nuts

III. VEGETABLE AND FRUIT GROUP

4 or more servings

Include

A citrus fruit or other fruit or vegetable important for vitamin C
A dark-green or deep-yellow vegetable for vitamin A - at least every other day
Other vegetables and fruits, including potatoes

IV. BREAD AND CEREAL GROUP

4 or more servings

Whole grain, enriched, or restored

PLUS Other foods as needed to complete meals and to provide additional food energy and other food values [5]

The Daily Food Guide is planned so that considerable choice is permitted. For example, there is the choice of specific foods of similar nutritive value within each group of foods. One may choose whole milk or skim milk, dried milk or evaporated milk. Likewise, in another group

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[5] Ibid., U. S. D. A. Food Guide.

one may choose whole grapefruit, orange juice, or strawberries. Similar choices are provided in each group. These choices of food and the number of servings indicated form the foundation diet. After choosing the foundation diet the choices of additional foods should meet the requirements for the body's energy needs. Adequate nutrition is dependent upon the selection of foods which will furnish those nutrients needed by the body. This selection of foods must be learned and should be a part of our educational programs.

Pattison, Barbour, and Eppright make the following statement:

> Food is a major commodity in the commercial world. We are surrounded with a multitude of situations in which choices of food must be made - choices which will affect health, money, and personal satisfaction. Just as education helps us make decisions in every other field, it certainly should help us make wise choices concerning our use of food. In perhaps no other area of living is the individual called upon to make so many decisions or so often. We have a right to expect our education to help us in making these decisions.[6]

Spafford says:

> Education is seen as a continuous process, as providing tools for meeting changes when that is more desirable; to be measured by the intelligence and adequacy with which an individual meets the various life situations in which he finds himself.[7]

Many educators agree that effective learning includes using the knowledges and skills gained in classroom experiences for the solving of life's problems. This is especially true in the area of nutrition. Expert knowledge in nutrition is of little value unless one uses this knowledge to improve one's own nutritional status. The co-operation of

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[6]Mattie Pattison, Helen Barbour, and Ercel Eppright, Teaching Nutrition (Iowa, 1958), p. 5-6.

[7]Ivol Spafford, A Functional Program of Home Economics (New York, 1946), p. 62.

the home, the school, and the community is needed in stressing the importance of sound nutrition and its relation to vigorous health. Present food practices need to be identified as a basis for improving these practices.

Role of Breakfast in Nutrition

The heritage of the American breakfast is international, dating back to the beginning of man's existence. The word itself is derived from two Anglo-Saxon words "brecan" and "fasten," meaning then as now "break a fast." Although a nutritious breakfast is a good way to start the day, it is often one of the most neglected meals of the day. When breakfast is omitted, the individual may suffer excessive fatigue, headache, restlessness, nervousness, or other disagreeable behavior. Furthermore, when breakfast is omitted for long periods of time malnutrition is a likely result. Without breakfast it is difficult for one to get all the essential nutrients for an adequate diet. As Roberts says:

> By far the most common cause of malnutrition is a diet incapable of supplying the body's needs. The diet may be (1) insufficient in amount, (2) inadequate in kind, or (3) faulty because of poor dietary habits. One of the primary reasons for too small or insufficient food intake is due to scanty breakfast.[8]

Nutritionists estimate that two out of three Americans eat too little breakfast, and this causes inefficiency at work, lack of fun at play, and much ill health. The eating habits of teen-agers (close to twelve million persons in the United States) should be of great concern to all,

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[8]Lydia Roberts, Nutrition Work with Children (Chicago, 1940).

especially parents and teachers.

There is considerable variation in the food patterns of children. Some of the differences noted in food patterns seem to be related to the number of meals the child eats away from home. Too often breakfasts "skipped" or "skimped" are replaced (quantitatively if not qualitatively) by mid-morning, mid-afternoon, after school, and at informal evening social get-togethers where such foods as sweets and carbonated drinks are consumed in enormous quantities.

Experts in the field of nutrition stress that breakfast should furnish at least one-fourth of the calories needed for the day. Beside energy foods, the body needs protein, vitamins and minerals to keep it functioning efficiently.

People differ in how much food they like early in the morning. Although much of this is habit or carryover from past experiences, the homemaker still has responsibility for providing her family a good breakfast to start the day. The important thing is to have a breakfast of protein and energy foods from at least three of the basic food groups such as fruit, milk and bread or cereal. For most of us a serving from the meat group at breakfast is also a must. Many families find that including fruit or fruit juice high in vitamin C at breakfast insures the provision of this nutrient in the day's diet.[9]

In summary, one may say that breakfast is the time to serve foods that awaken the appetite and appeal to the sight, smell, and taste. Colorful foods and table setting and a change from day to day in the menu help start the day right. Again, it may be stressed that the

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[9]Ruth Leverton, "What is Good Nutrition?" Today's Health, March, 1958.

important thing is to have a breakfast of foods from at least three of the basic food groups, such as fruit, milk, and bread or cereal. For many people one serving from the meat group is a must. Good habits of nutrition bring personal satisfaction and achievement in helping one to meet real life situations. Encouraging the right habits of eating and proper attitudes toward food is an important part in the training for healthy living which is so important today in the family, in the school, and in the community.

The Problem

This study was concerned with the eating habits of students in the Junior and Senior High School of Caddo, Oklahoma, specifically, emphasis on the adequacy and nutritive value of breakfast. Attention was also focused upon some of the factors which may influence the eating habits of youth.

The writer after taking a refresher course in nutrition had the homemaking students calculate a two day food intake. The findings showed great deficiencies in all nine of the nutrients calculated. Upon further investigation it was found breakfast "skipping" and "skimping" was one of the greatest problems causing the deficiencies. Interest was extended to a boys' agriculture class where similar findings were found as to deficiencies and that breakfast was one of the greatest problems causing the deficiencies. Further study was needed.

Later a homemaking class in a foods unit presented a two-act play "Getting Ready for School" to the local P.T.A. which depicted a normal family of six in turmoil at breakfast time trying to get off to the various activities of the day. The students learned from the activity and

the parents became interested in the many problems. This opened the door and avenues to further study. It is hoped this study "Breakfast Habits of Youth of Caddo, Oklahoma and Their Implications for Nutrition Education Program" which is a survey will serve as a tool to help gain information that will point out major inadequacies and help to guide where major emphases need to be placed to bring about changes in food practices.

A brief description of the town and the district in which the school is located will serve as background material. Caddo is in Bryan County located in southeastern Oklahoma. It is a small town of about 1,200 people located about 12 miles north of Durant, the county seat. The land around Caddo is used for mixed farming and ranching.

The Caddo schools are located in the southwest section of town. The school plant consists of a newly constructed grade school building, a new cafetorium, and a new combination junior and senior high school building. Also, there is a gymnasium, built in the thirties, which serves the entire school.

The business part of town consists of post office, bank, city hall, drug store, variety store, dry goods store, lumber yard, several grocery stores, cafes, filling stations, barber and beauty shops. Also, in the downtown area is a community building with kitchen facilities that is used as a community center for civic and recreational activities of the community. For recreation there is one theater and Lake Texoma which is within only a few minutes driving distance.

The town is an old settlement which dates back to the time it was used by the Indians as winter camping grounds. Many homes, fifty or more years old, still stand but have been remodeled. However, a number

of new homes have been built in the past few years. A new home building area just east and south of the school is now being developed.

It is from this environment and the one hundred square miles surrounding area that a little over four hundred students come to the Caddo schools. Many of the students, riding school busses, come in from the rural areas.

For the purpose of this study, it was hypothesized that many boys and girls do not eat an adequate breakfast. It was further hypothesized that there were certain factors which may influence students not to eat an adequate breakfast. Some of these factors which the writer believed might affect the eating habits of students were: home atmosphere, the element of time, economic aspects of food, and personal attitudes relating to food and its intake.

The writer developed a questionnaire for obtaining the data. Record sheets were designed for the students to use in recording their eating habits for breakfast the day the survey was made, and also, for the previous day.

The population participating in the study included junior high school boys and girls, grades seven through nine; high school boys and girls, grades ten through twelve. The two groups were from the Caddo Junior and Senior High School, Caddo, Oklahoma. There was a total of 203 students included in the survey.

The writer personally requested permission to administer the survey from the administration and the teachers of the two designated groups. The permission was graciously given.

Before the questionnaire was administered to the subjects participating in the study, it was tested in a homemaking class to see of any

changes should be made. The writer did not detect any reasons for changing the questionnaire; therefore, it was used as designed.

The students were asked to state the approximate amount of food eaten for breakfast; for example, one cup of milk, one half orange, one cup of cereal, one slice of toast. The approximate measure used for reporting the foods eaten was a limiting factor in checking the nutritive value of the food intake. However, in this study it was not possible to obtain the accurate measures one would obtain when using a highly standardized measure, such as grams.

The Recommended Daily Dietary Allowance, Revised 1958 was used by the investigator as a basis for calculating the adequacy of the food intake; because only the foods eaten in the breakfast were reported, twenty-five percent of the daily recommended requirements were used in the calculations. The following items were included in the calculations: the intake of calories, protein, calcium, iron, vitamin A, thiamine, riboflavin, niacin, and ascorbic acid.

The data from other items included in the questionnaire were also analyzed. These items were those designed to reveal factors which may affect either the eating of an adequate breakfast, or the omission of breakfast entirely. These items related to (1) the home atmosphere, (2) the element of time, (3) the economic aspects of food, and (4) personal attitudes relating to food and its intake.

CHAPTER II

RELATED LITERATURE

Many studies have been made relating to the physical condition of adolescents. However, there have been few studies concerning the factors which influence the breakfast habits of boys and girls.

Prior to 1946 most of the studies using population groups were concerned primarily with the relationship between the kind and amounts of foods eaten and the general physical condition of these groups. In 1946 the first extensive study using the microchemical methods of blood analysis was carried out in eight high schools in New York state. Blood samples were collected from about 1,200 children enrolled in school, 11 to 19 years of age, and representing different socio-economic backgrounds. The most evident inadequacies in the diet of these school children, as revealed by the blood analysis, were those of carotene and ascorbic acid. These substances are found in fruit and vegetables.[1]

Macy investigated the nutritional status of children in institutions under the guidance of child-care agencies in Michigan.[2] These investigators found that many children who enter institutions may be poorly nourished or malnourished. They recommended that special efforts should

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[1]Agnes Fay Morgan and Lura M. Odland, "The Nutriture of People," Food, U. S. D. A. Yearbook of Agriculture (Washington, D. C., 1959) p. 188.

[2]Icie G. Macy, Nutrition and Chemical Growth in Childhood (Springfield, Illinois, 1946).

be made to provide an environment suitable for "nutrition conditioning," and in some instances for the "reconditioning," of many children who have had low levels of food intake over a period of years. These children who have such deficiencies may need larger amounts of some nutrients than are generally considered necessary for the maintenance of good health.

Other studies in Michigan indicated the effect of short-term reconditioning provided by health camps which were for underprivileged children. The studies indicated that children who had poor diets before attending the camp responded quickly to the improved diet and better care provided by the health camp.[3]

Roberts and her co-workers of the University of Chicago, reported that the diets of 25 children in a boarding school were supplemented with milk and other dairy products, whole grain cereal, and pineapple juice, thereby raising the nutritive quality to meet the recommended dietary allowances.[4] The children liked the supplemented diet and soon improved in growth.

In 1936 a number of regional co-operative studies were initiated to investigate the nutritional status of the population within the region designated. These studies were directed by the state agricultural experiment stations. The Research and Marketing Act of 1946 added new interest to the regional co-operative research. Funds were provided from this act for the agricultural experiment stations to use in projects when two or more experiment stations worked together toward the solution of a

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[3]Miriam Lowenberg, Food for Young Children in Group Care, U. S. Department of Health, Education and Welfare, Children's Bureau, No. 285 (Washington, D. C., 1947).

[4]Lydia Roberts, Nutrition Work with Children (Chicago, 1940).

problem. One of the first projects undertaken was an investigation of the nutritional status and dietary needs of selected population groups. All four regions eventually proposed research in this field. The reports dealing with the findings have been appearing since 1947 in bulletins, scientific journals, and extension leaflets. The reports contain a vast amount of data on the nutritional status of men, women, and children from urban and rural communities in at least 38 states.

The populations used in these studies were identified according to age and special groups. Those in the adolescent group were as follows: Ages 13-20 years of age were examined in Maine, New York, Rhode Island, West Virginia, Iowa, Arizona, Colorado, Idaho, Montana, New Mexico, Oregon, Utah, and Washington - a total of 4,141.

In a summary of the interregional dietary surveys of teen-agers, attention has been drawn to low intakes of several nutrients. The following statement reveals the low intakes of nutrients:

> Foods eaten by boys aged 13-20 years on the average had adequate amounts of all nutrients except vitamin C, but the girls in this age range had food adequate or high in only three nutrients - vitamin A, riboflavin, and niacin. The average intake of the other nutrients by the girls were either seriously low, as for calcium, iron, thiamine, and ascorbic acid; or borderline low, as for calories and protein. The nutrients most often found to be lower than the recommended amounts in the diets of children and adults in all four regions were vitamins A and C, calcium, and iron.[5]

Extensive studies of the physiological response of children and adults to different breakfasts, conducted at the State University of Iowa, have indicated that a basic breakfast providing approximately one-fourth of the total daily calories and protein is needed to best maintain

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[5] Nutritional Status, U. S. D. A. Bulletin No. 769, California Agricultural Experiment Station, 1959.

physical and mental efficiency.[6]

Another study in Iowa of the breakfast habits of nearly 1,200 children 6-19 years old likewise indicated that as a rule, foods of cereal origin only were used. Too little fruit, milk, eggs, and meat were included. One-half to two-thirds of all breakfasts were classed as poor. The older girls made the poorest choices of all, but the boys' breakfasts also were of poor quality. Snacks eaten by the children, particularly those eaten by girls, were largely carbohydrate. It was noted that when the breakfast meal was inadequate, the total food for the day was likely to be inadequate.

A special study of the breakfast of teen-agers in Main revealed that the girls' breakfasts were very low in iron and niacin, and that the boys' breakfasts were low in vitamin C. Less than 15 percent of the daily allowance of vitamin C was included in more than 40 percent of these breakfasts.

Clayton found in the study of breakfast of Maine teen-agers that:

> The kind of breakfast which teen-agers eat depends to some extent on whether or not there is someone in the home who takes the responsibility for preparing the meal. The child who prepares his own breakfast is very apt to have an inadequate one. The time available for the meal is also important. Many good breakfasts have been left on the table because the children were afraid of being late to school. The foods included in a child's breakfast are usually a matter of family custom.[7]

Lowenberg calls attention to the difficulties children experience when they do not have adequate breakfast. She states:

> Every indication from research studies indicates that children who do not eat breakfast do less well in school,

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[6]Breakfast Source Book, Cereal Institute, Inc. (Chicago, 1961), p. 7-15.

[7]Mary M. Clayton, "Breakfasts of Maine Teen-agers," Maine Agriculture Experiment Station, Bulletin No. 495, November, 1951, p. 18.

> perform physical tasks less well, and may be more irritable and emotionally unstable. Poor breakfasts often have been blamed on lack of hunger, rushing to get to school, no regular family breakfast time, and dislike of the foods commonly served at breakfast.
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> Nutritionists who have compared groups of children who eat nutritionally adequate breakfasts with those who do not find that the former feel less rushed, enjoy eating breakfast with their families, and appreciate the fact that their mother prepares an appealing breakfast.[8]

A nation-wide survey was conducted by General Mills Incorporated of 60,000 teen-agers in 38 states and it was found that two out of three diets studied, needed improvement. Only one in eight had a good breakfast, two out of three fair, and one out of four poor.

In this study it was also found that parental influence was closely related to food habits of the children. The survey pointed up the need to widen food preferences and to decrease food prejudices. The findings of the survey also pointed up the need for the co-operation of parents.[9]

In 1958 and 1959 surveys were conducted in two areas of Berkeley, California to gather information about family eating practices and dietary intake.[10] The primary purpose of the survey was to obtain data to be used in planning a nutrition education program. Results of the data obtained indicated that any program designed to improve food habits necessarily included the family. The survey also pointed up the need for further information relating to the selection of a nutritionally adequate diet and the need for some way to persuade the parents of these

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[8]Mirian Lowenberg, "Between Infancy and Adolescence," Food, U. S. D. A. Yearbook of Agriculture (Washington, D. C., 1959), p. 301.

[9]General Mills Study, "Teen-agers and Their Breakfast," What's New in Home Economics, XVIII (September, 1954), p. 86-248.

[10]Mary C. Hampton, Lenora R. Shapiro, and Ruth L. Huenemann, "Helping Teen-Age Girls Improve Their Diets," Journal of Home Economics, LII (December, 1961).

teen-agers to provide a cheerful, relaxed atmosphere for the meal-time activity in the home.

Home economics teachers consider inadequate or omitted breakfasts as one of the most serious food problems among students. Surveys have shown certain dietary problems among teen-agers. The correction of these dietary problems is important, but even more important is the establishment of good food habits and desirable attitudes toward eating which will serve the individual throughout his life.

The studies cited in this review of literature have emphasized the importance of nutritious foods for all individuals. Too often the food intake of adolescents is inadequate, with major deficiencies frequently noted in the diets of girls. It appears that those adolescents who have inadequate breakfast will likely find it difficult to include the nutrients needed daily.

CHAPTER III

ANALYSIS OF FINDINGS

The data obtained from the survey of the eating habits relating to breakfast as reported by the youth of Caddo, Oklahoma, were tabulated and analyzed for implications which might be useful in planning educational programs in home economics, specifically, those aspects of the program relating to food and nutrition. Data were compiled and analyzed for the 203 students who checked the questionnaire (Table I).

TABLE I

NUMBER OF STUDENTS IN STUDY ACCORDING TO GRADE LEVEL

	Junior High			Senior High			Total
Ages	13-15			16-19			
Grade	7	8	9	10	11	12	
Boys	16	16	19	20	19	18	108
Girls	23	16	15	18	11	12	95
Total	39	32	34	38	30	30	203

The population consisted of approximately the same number of boys (108) and girls (95) and was rather evenly distributed for the different grade levels (Table I).

TABLE II

NUMBER AND PERCENTAGE OF STUDENTS WHO REPORTED EATING BREAKFAST

	Boys (108)		Girls (95)		Total	
Breakfast	N	%	N	%	N	%
Every Day	73	69	51	53	124	61
Nearly Every Day	21	18	28	29	49	23
Seldom	14	13	16	18	30	16
Total	108	100	95	100	203	100

The responses from the 203 students show that approximately 3/5 reported they ate breakfast every day, slightly more than 1/5 ate nearly every day and less than 1/5 reported that they seldom ate breakfast (Table II).

The writer tabulated the reasons given by the 203 students for not eating breakfast in five different categories. Some students listed more than one reason and total tabulation was 75. These reasons were rather evenly distributed according to age and grade level of the students (Table XXVI, Appendix B.) One half (39) of the students listed "Not Hungry" as the reason for not eating breakfast; almost 1/3 (39) listed "Not Time" as the reason for not eating breakfast (Table III).

TABLE III

REASONS GIVEN BY STUDENTS FOR NOT USUALLY EATING BREAKFAST

Reason	Number Students	Percent
Not Hungry		
Boys	19	25%
Girls	20	27%
Total	39	52%
Not Time		
Boys	6	8%
Girls	23	30%
Total	29	38%
Makes Me Sick		
Boys	2	3%
Girls	3	4%
Total	5	7%
Not Prepared		
Boys	1	1%
Girls		
Total	1	1%
Do Not Want to Gain Weight		
Boys		
Girls	1	1%
Total	1	1%

Adequacy of Nutrients in Breakfast

The study was designed so that calculations could be made of the nutritive value of foods eaten for breakfast by the selected respondents. Breakfast was the only meal included in this study. The nutritive value of the food intake for breakfast was calculated for calories, protein,

calcium, iron, vitamin A, thiamine, riboflavin, niacin and ascorbic acid. The writer used the U. S. Department of Agriculture Handbook No. 8 as the chief source for calculating nutritive value of the foods.[1] For foods not listed in Handbook No. 8, figures were obtained from Food Value of Portions Commonly Used.[2]

Each student's food intake for the two breakfasts was calculated for each nutrient. The food intake of each was compared with the Recommended Daily Dietary Allowances, Revised 1958,[3] for boys and girls 13-15 years of age and boys and girls 16-19 years of age and expressed as a percentage. Because breakfast was the only meal included in the study, only one-fourth of the Recommended Daily Dietary Allowances was used (Table XXVII, Appendix B).

The percentage of students having adequate nutrients in the breakfasts the boys exceeded the girls in seven - calories, protein, calcium, iron, vitamin A, thiamine and riboflavin. The girls exceeded the boys in only two nutrients, that of niacin and ascorbic acid. Of the two groups calcium rated the highest of the nine nutrients calculated followed by riboflavin, thiamine, iron, protein, vitamin A, calories, ascorbic acid and niacin (Table IV).

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[1]U. S. Department of Agriculture, Agriculture Handbook, No. 8. Bureau of Human Nutrition and Home Economics, Agriculture Research Administration (Washington, D. C., 1958).

[2]A. De P. Bowes and C. F. Church, Food Value of Portions Commonly Used, Edition 8 (Philadelphia, 1956).

[3]Food and Nutrition Board, National Academy of Science - National Research Council Recommended Daily Dietary Allowances, Revised 1958, (Publication 589).

TABLE IV

PERCENTAGE OF STUDENTS RECEIVING ADEQUATE AMOUNTS OF EACH NUTRIENT

Nutrient	Percent (0 5 10 15 20 25 30 35)
Calories	
Boys	13%
Girls	12%
Total	13%
Protein	
Boys	25%
Girls	23%
Total	24%
Calcium	
Boys	31%
Girls	29%
Total	30%
Iron	
Boys	30%
Girls	21%
Total	26%
Vitamin A	
Boys	16%
Girls	10%
Total	13%
Thiamine	
Boys	27%
Girls	26%
Total	27%
Riboflavin	
Boys	33%
Girls	25%
Total	30%
Niacin	
Boys	6%
Girls	7%
Total	6%
Ascorbic Acid	
Boys	4%
Girls	10%
Total	7%

After the nutritive value of the food intake for breakfast was calculated for each respondent participating in the study, each breakfast was scored. The score was obtained by assigning one point to each nutrient included in the foods eaten for breakfast if it met or exceeded amounts given in Table XXVIII, Appendix B. The possible score for a breakfast was 9 points, or 18 points for the two breakfasts.

The adequacy of each breakfast was estimated according to the calculations of the nutrients included in the foods eaten for breakfast. The breakfasts were then classified in four groups according to their adequacy as follows:

Group I - No Breakfast. Score of 0.

Group II - Poor. The nutritive value of the food intake in the breakfasts comprising this group was inadequate for each nutrient. Score of 0.

Group III - Fair. Less than 50 percent of the nutritive value of food intake in the breakfasts comprising this group was inadequate. Score of 1 - 9.

Group IV - Good. More than 50 percent of the nutritive value of food intake in the breakfasts comprising this group was adequate. Score of 10 - 18.

Table XXIX, Appendix B, is a computation of the scores grouped according to the adequacy and grade level. The data from this table were summarized and are presented in Table V. Twenty boys or 19 percent, and 15 girls, or 16 percent, or a total of 35, or 18 percent, ate no breakfast. Twenty-two boys or 20 percent, and 23 girls, or 24 percent, or a total of 45 or 22 percent, ate some breakfast but all of the breakfasts were deficient in the nine nutrients checked in either breakfast.

Fifty-one boys, or 47 percent, and 47 girls or 50 percent, ate breakfasts with less than half of the nine nutrients checked being inadequate in each breakfast. Only 15 boys, or 14 percent, and 10 girls, or 10 percent, ate breakfast with over 50 percent of the nine nutrients checked in each breakfast being adequate. Most of the students had inadequate breakfasts in terms of the nine nutrients calculated. Only one boy had adequate amounts for the nine nutrients calculated for both breakfasts.

Further analysis of the tabulations in Table V revealed that the boys exceeded the girls only by a small margin as to ratings and classifications in the four groups as to adequacy of breakfasts. Also there was rather equal distribution of each group for the different ages and grade levels. Approximately 3/5 of the total group listed breakfasts which could be rated "Fair" or "Good". Of these there were only 1/8 of the students which scored high enough (10-18) to be rated "Good."

In determining what foods both boys and girls liked, a complete list of all the foods listed was made as presented in Table XXX, Appendix B. Nineteen different foods were listed as liked. Next an analysis as in Table XXXI, Appendix B, was made for the boys and girls and for each grade level for the six foods listed liked most frequently. The next step was to make a comparison of the likes of boys and girls for each of these six foods and is presented in Table VI. It can be seen from the percentages that girls indicated higher likes for five of the six foods: eggs, bacon, toast, milk and fruit juice.

A compilation of the foods which were consumed by the boys and girls in the breakfasts is listed in Table XXXII, Appendix B. Thirty-six different kinds of food were listed as consumed. The list varied from eggs to Dr. Pepper and peanut brittle. Next an analysis as in Table XXXIII,

TABLE V

NUMBER OF STUDENTS IN EACH GROUP ACCORDING TO ADEQUACY OF BREAKFAST

Groups	Boys According to Grades 7	8	9	10	11	12	Boys Total N	Boys Total %	Girls According to Grades 7	8	9	10	11	12	Girls Total N	Girls Total %	Boys and Girls Grand Total N	Boys and Girls Grand Total %
I No Breakfast	0	1	1	6	3	9	20	19	3	2	0	2	2	6	15	16	35	18
II Poor	8	2	4	4	2	2	22	20	8	3	1	6	4	1	23	24	45	22
III Fair	7	9	11	8	11	5	51	47	9	9	11	9	5	4	47	50	98	48
IV Good	1	4	3	2	3	2	15	14	3	2	3	1	0	1	10	10	25	12
Total	16	16	19	20	19	18	108	100	23	16	15	18	11	12	95	100	203	100

TABLE VI

FOODS MOST LIKED FOR BREAKFAST AS LISTED
BY 108 BOYS AND 95 GIRLS

Food	Number of Students	Percent (0 10 20 30 40 50 60 70 80)
Eggs		
Boys	73	68%
Girls	73	76%
Total	146	72%
Bacon		
Boys	42	38%
Girls	49	51%
Total	91	45%
Toast		
Boys	37	34%
Girls	45	47%
Total	82	40%
Cereal		
Boys	37	34%
Girls	30	32%
Total	67	33%
Milk		
Boys	26	24%
Girls	32	35%
Total	59	29%
Fruit Juice		
Boys	7	6%
Girls	29	30%
Total	36	18%

Appendix B, was made for the boys and girls and for each grade level for the six foods consumed most frequently. The next step was to make comparisons of the foods consumed by boys and girls for each of these six foods as is presented in Table VII. From the percentages it can be seen that the boys were higher in the consumption for five of the six foods most frequently listed - eggs, toast, milk, bacon and cereals. The percentage of girls listing fruit juice was slightly higher than for the boys but much lower than for any other of the six foods.

In the two analyses for the foods most frequently "Liked" and foods most frequently "Consumed" the boys and girls listed a higher percentage of foods "Liked" than "Consumed" for the same foods - eggs, bacon, toast, cereal, milk, and fruit juice. Eggs rated highest and fruit juice lowest of the six foods as being "Liked" and "Consumed" by both groups. Milk was rated higher when "Consumed" than "Liked" by both boys and girls.

Analysis of findings thus far show that the sample included approximately the same number of boys (108) as girls (95) and were distributed rather equally in ages (13-19) and grades (7-12). Approximately 3/5 reported that they ate breakfast "every day," 1/5 "nearly every day" and 1/5 "seldom." Reasons for not eating breakfast were rather evenly distributed as to age, sex and grade level. The girls did list almost 2/3 of the reasons for not eating. "NOT HUNGRY" was given the highest reason for not eating breakfast and this was equally divided between boys and girls. Notable also was the reason "NOT TIME" listed by the girls 4 times as often as the boys.

In calculation of nutrients the boys exceeded the girls slightly in seven of the nine nutrients-calories, protein, calcium, iron, vitamin A, thiamine, and riboflavin. The girls exceeded the boys in only two nutrients,

TABLE VII

FOODS CONSUMED FOR BREAKFASTS
AS LISTED BY 108 BOYS
AND 95 GIRLS

Food	Number of Students	Percent
Eggs		
Boys	84	41%
Girls	89	41%
Total	173	42%
Toast		
Boys	86	41%
Girls	82	40%
Total	168	41%
Milk		
Boys	80	40%
Girls	54	28%
Total	136	34%
Bacon		
Boys	71	34%
Girls	57	28%
Total	128	31%
Cereal		
Boys	37	18%
Girls	29	14%
Total	66	13%
Fruit Juice		
Boys	10	4%
Girls	13	6%
Total	23	5%

niacin and ascorbic acid. In the overall picture calcium rated the highest followed by riboflavin, thiamin, iron, protein, vitamin A, calories ascorbic acid and niacin. Most of the students had inadequate breakfasts in terms of all nine nutrients calculated. In the overall picture only about 1/8 of the group met in breakfasts 25 percent of the daily requirements for the nine nutrients calculated.

When the scores for the adequacy of breakfast were classified into four groups ("No Breakfast," "Poor," "Fair," and "Good") there was rather an even distribution into each group as to sex, age and grade level. Approximately 3/5 of entire group rated "Fair" or "Good" and 2/5 rated "Poor" or "No Breakfast."

In tabulations of foods students listed liked the girls exceeded the boys by 6% whereas when tabulated of actual foods commonly consumed in the two consecutive breakfasts the boys exceeded the girls 6%. Both groups listed more foods liked than actually consumed.

Therefore the analysis thus far according to sex, ages (13-19) and grades (7-12) does not reveal any great differences.

Probable Factors Influencing Breakfast Habits

The responses for personal and home information were summarized for the two groups - boys and girls - and for the total sample.

The four groupings according to adequacy of breakfasts ("No Breakfast," "Poor," "Fair" and "Good") were used in making the analyses in an attempt to determine if certain factors were related to adequacy of the breakfasts.

The factors which were checked as probable influences affecting breakfast eating habits were grouped and subdivided as follows:

I. HOME ATMOSPHERE

1. Table Usually Set for Breakfast
2. Family Members Eat Breakfast Together
3. With Whom Student Eats Breakfast
4. Who Prepares Breakfast for Student
5. Time Student Allows for Breakfast
6. Student Has Something Warm for Breakfast

II. SITUATIONS RELATED TO TIME AVAILABLE FOR STUDENT BEFORE SCHOOL

1. Time Student Gets Up in Mornings
2. Student Works Before School
3. Method of Transportation to School
4. Time Takes Student to Get to School
5. Time Between Getting Up and Leaving for School

III. ECONOMIC ASPECTS

1. Regular Employment of Father
2. Occupation of Father
3. Occupation of Mother

IV. PERSONAL ATTITUDES RELATED TO FOOD AND FOOD INTAKE

1. The Extent to Which Students Enjoy Breakfast
2. Foods Available Which Students Did Not Eat
3. Foods Students Ate After Breakfast and Before Noon
4. Reaction of Students to Availability of Food on Arriving at School
5. Foods Students Would Like to Have Available on Arriving at School

Home Atmosphere

This section includes analyses to find out if the home atmosphere,

that is the practices or customs of the family, were influencing factors. The following conditions or situationa were analyzed and grouped according to the adequacy of the breakfasts.

TABLE VIII

RESPONSES REGARDING SETTING OF TABLE FOR BREAKFAST ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Students		Table Usually Set for Breakfast			
			Yes		No	
	N	%	N	%	N	%
I No Breakfast	35	18	28	80	7	20
II Poor	45	22	35	80	10	20
III Fair	98	48	85	86	13	14
IV Good	25	12	23	92	2	8
Total	203	100	171	84	32	16

For three-fourths of the respondents the table was usually set for breakfast. In the "No Breakfast" and "Poor" breakfast group one-fifth did not usually have the table set whereas in the "Good" groups less than one-twelfth did not usually have the table set. As can be seen there is a gradual improvement noted in the percentage of tables usually set for breakfast as the adequacy of the breakfasts improved (Table VIII.)

TABLE IX

RESPONSES REGARDING EATING OF BREAKFAST TOGETHER AS A FAMILY ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Students		Family Members Eat Breakfast Together			
			Yes		No	
	N	%	N	%	N	%
I No Breakfast	35	18	10	29	25	71
II Poor	45	22	26	58	19	42
III Fair	98	48	43	44	55	56
IV Good	25	12	20	80	5	20
Total	203	100	109	54	95	46

Over one-half of the students reported that the family members ate breakfast together. In the "No Breakfast" group less than one-third ate breakfast with family members whereas in the "Good" group three-fourths of the family members ate together (Table IX).

TABLE X

RESPONSES REGARDING PERSONS WITH WHOM STUDENT EATS BREAKFAST ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Students		With Whom Eat Breakfast					
			Family		Others		Alone	
	N	%	N	%	N	%	N	%
I No Breakfast	35	18	0	0	0	0	0	0
II Poor	45	22	16	36	17	39	12	25
III Fair	98	48	38	38	46	48	14	14
IV Good	25	12	23	92	2	8	0	0
Total	203	100	77	38	65	32	26	12

Approximately one-third of the total group ate breakfast with the family, slightly less tham one-third ate with others and one-eighth ate alone. Of the students eating alone two-thirds were from the group scored as having "Poor" breakfasts and the remaining were in Group III or "Fair." No student in the group whose breakfast scored "Good" ate alone (Table X).

TABLE XI

RESPONSES REGARDING THE PERSON WHO GENERALLY PREPARES BREAKFAST ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Students		Person Who Generally Prepares Breakfast									
			Father		Mother		Others		Self		Not Answered	
	N	%	N	%	N	%	N	%	N	%	N	%
I No Breakfast	35	18	0	0	19	54	0	0	9	26	7	20
II Poor	45	22	0	0	27	60	8	18	10	22	0	0
III Fair	98	48	1	0	79	81	4	4	14	15	0	0
IV Good	25	12	0	0	22	88	2	8	1	4	0	0
Total	203	100	1	0	147	72	14	7	34	17	7	3

Mothers prepared about three-fourths of the breakfasts for students with a gradual increase in ratings of the adequacy of breakfasts where the mothers prepared the breakfasts. In the "No Breakfast" group only about one-half of the mothers prepared breakfast whereas in the "Good" group three-fourths of the mothers prepared breakfasts. In the "Poor" group one-fourth of the students prepared their own breakfasts whereas in "Good" group only one of the 25 prepared their own breakfasts. (Table XI).

TABLE XII

RESPONSES REGARDING TIME ALLOWED FOR BREAKFAST ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Students		Time Allowed for Breakfast									
			No Time		10 Minutes		15 Minutes		20 Minutes		30 Minutes	
	N	%	N	%	N	%	N	%	N	%	N	%
I No Breakfast	35	18	17	49	10	28	7	20	1	3	0	0
II Poor	45	22	0	0	20	44	16	36	5	11	4	9
III Fair	98	48	0	0	31	32	46	47	9	9	12	12
IV Good	25	12	0	0	3	12	10	40	4	16	8	32
Total	203	100	17	8	64	32	79	39	19	9	24	12

One-half of the respondents in the "No Breakfast" group indicated that no time was allowed for breakfast and two-sevenths allowed only 10 minutes for breakfast whereas in the "Good" group all the respondents indicated they had allowed 10 minutes or more with one-half of the group allowing 20 to 30 minutes to eat breakfast (Table XII).

TABLE XIII

RESPONSES REGARDING THE AVAILIBILITY OF A WARM FOOD FOR BREAKFAST ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Students		Something Warm for Breakfast			
			Yes		No	
	N	%	N	%	N	%
I No Breakfast	35	18	21	60	14	40
II Poor	45	22	44	98	1	2
III Fair	98	48	94	96	4	4
IV Good	25	12	25	100	0	0
Total	203	100	184	91	19	9

Over nine-tenths of the students had a warm food for breakfast while those in the "Good" group 100 percent reported that a warm food had been included (Table XIII). Those not eating breakfast the "No Breakfast" group reported there was usually a warm food available for breakfast.

A summary of influences or conditions relating to "Home Atmosphere" reveals that there were differences for the groups. More of the students in Group IV or "Good" indicated that the table was usually set for breakfast, ate breakfast with the family, mother prepared breakfast, more time was allowed for breakfast and inclusion of a warm food for breakfast. The reverse was true for the students classified in Group II or "Poor."

Situation Related to Time Available for Students Use Before Going to School

To find out if time available for student to eat breakfast before leaving for school was an influencing factor certain conditions or situations were analyzed.

Over one-third of the "Good" group was up by 6:00 o'clock and all the "Good" group was up by 7:30 o'clock whereas no student was up by 6:00 o'clock in the "No Breakfast" or "Poor" group with one-fourth of the "No Breakfast" group not up until 8:00 o'clock or after (Table XIV).

TABLE XIV

RESPONSES REGARDING TIME OF GETTING UP IN MORNINGS ACCORDING TO ADEQUACY OF BREAKFASTS

Groups	Students N	Students %	4:00 A.M. N	4:00 A.M. %	5:00 A.M. N	5:00 A.M. %	6:00 A.M. N	6:00 A.M. %	6:30 A.M. N	6:30 A.M. %	7:00 A.M. N	7:00 A.M. %	7:30 A.M. N	7:30 A.M. %	8:00 A.M. or after N	8:00 A.M. or after %
I No Breakfast	35	18	0	0	0	0	0	0	3	9	4	11	19	54	9	26
II Poor	45	22	0	0	0	0	0	0	13	29	20	44	10	22	2	5
III Fair	98	48	0	0	2	2	6	6	21	21	43	44	21	21	5	5
IV Good	25	12	1	4	0	0	8	32	5	20	10	40	1	4	0	0
Total	203	100	1	1	2	1	14	7	42	20	77	38	51	25	16	8

TABLE XV

RESPONSES REGARDING NUMBER OF STUDENTS WORKING IN MORNINGS BEFORE SCHOOL ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Students		Percent Who Work Before School			
			Yes		No	
	N	%	N	%	N	%
I No Breakfast	35	18	13	37	22	63
II Poor	45	22	30	66	15	34
III Fair	98	48	58	60	40	40
IV Good	25	12	21	84	4	16
Total	203	100	122	60	81	40

Of the total group responses indicated three-fifths of the students had some kind of work before school with over four-fifths of the "Good" group indicating they worked before school. Of the two-fifths not having work before school three-fifths of this group were in the "No Breakfast" group in comparison with over one-sixth in the "Good" group reporting they did not have work in the mornings before school (Table XV).

The students reported various types of work done before school. The kind of jobs listed the highest number of times by the boys were: feed cows, feed other animals and clean room and those listed by the girls were: make beds, clean house, wash dished and clean room (Table XXIV, Appendix B).

TABLE XVI

RESPONSES REGARDING TRANSPORTATION METHOD OF COMING TO SCHOOL ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Students		Method of Transportation to School							
			Private Car		Bicycle		School Bus		Walk	
	N	%	N	%	N	%	N	%	N	%
I No Breakfast	35	18	17	48	0	0	16	46	2	6
II Poor	45	22	15	35	1	2	23	50	6	13
III Fair	98	48	33	34	1	1	50	51	14	14
IV Good	25	12	6	24	0	0	18	72	1	4
Total	203	100	71	35	2	1	107	54	23	10

Over one-half of the students rode the school bus to school, about one-third rode in private cars and the other one-fifth walked or rode bicycles. About three-fourths of the "Good" group rode the school bus whereas only about one-half of the "No Breakfast" "Poor" and "Fair" groups rode the bus. About one-half of the "No Breakfast" group rode in private cars whereas only one-fourth of the "Good" group rode in private cars (Table XVI).

TABLE XVII

RESPONSES REGARDING AMOUNT OF TIME NEEDED TO GET TO SCHOOL ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Students		10 Minutes		30 Minutes		1 Hour		Over Hour	
	N	%	N	%	N	%	N	%	N	%
I No Breakfast	35	18	17	49	16	46	2	5	0	0
II Poor	45	22	15	33	24	54	0	0	6	13
III Fair	98	48	54	55	31	32	9	9	4	4
IV Good	25	12	9	36	13	52	3	12	0	0
Total	203	100	95	46	84	42	14	7	10	5

Almost nine-tenths of the students reported that it took 10 - 30 minutes to get to school. The remaining one-tenth took one hour to get to school and three-fourths of the remaining group were in the "Fair" or "Good" group (TableXVII).

TABLE XVIII

RESPONSES REGARDING TIME BETWEEN GETTING UP AND LEAVING FOR SCHOOL ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Students		Time Between Getting Up and Leaving for School					
			30 Minutes		30 Minutes To 1 Hour		More Than One Hour	
	N	%	N	%	N	%	N	%
I No Breakfast	35	18	24	70	10	28	1	2
II Poor	45	22	23	52	14	31	8	17
III Fair	98	48	31	32	42	42	25	26
IV Good	25	12	0	0	0	0	25	100
Total	203	100	78	39	66	32	59	29

Almost three-fourths of the total group had from 30 minutes to one hour from the time of getting up to the time of leaving for school. All the "Good" group had one hour or more, almost 100 percent of the "No Breakfast" group had only 30 minutes from time of getting up and leaving for school (Table XVIII).

A summary of influences or conditions relating to the factor "Situations Related to Time Available for Student Before School" reveals that there were differences for the groups. More of the students in Group IV, or "Good" got up earlier, performed some kind of work before going to school and rode the school bus.

Economic Aspects

The occupational status of both the father and the mother were studied to see if the employment of father and/or mother, was an influencing factor.

TABLE XIX

RESPONSES REGARDING REGULAR EMPLOYMENT OF FATHER ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Students		Father Has Regular Employment					
			Yes		No		No Response	
	N	%	N	%	N	%	N	%
I No Breakfast	35	18	23	66	0	0	12	34
II Poor	45	22	24	54	15	33	6	13
III Fair	98	48	76	78	16	16	6	6
IV Good	25	12	25	100	0	0	0	0
Total	203	100	148	73	31	15	24	12

Almost three-fourths of the students came from homes where the fathers were employed full-time. One hundred percent of the students in the "Good" group had fathers employed. Almost all of the "No Breakfast" group and almost one-half of the "Poor" group gave no indication that their fathers were employed. (Table XIX).

Out of the 26 occupations listed the three listed most frequently by the respondents were laborers, farmer-rancher and mechanic. The highest number of fathers were employed as laborers (Table XXXV), Appendix B).

TABLE XX

RESPONSES REGARDING REGULAR EMPLOYMENT OF MOTHER ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Number	Number	Percent	Employed Outside Home	
				Number	Percent
I	35	24	68	11	32
II	45	28	62	17	38
III	98	71	74	27	29
IV	25	21	84	4	16
Total	203	144	71	59	29

Almost three-fourths of the students came from homes where the mothers were full-time homemakers not employed outside the home. Less than one-fourth of the students in the "Good" group had mothers employed outside the home whereas one-half of the students in the "No Breakfast" group had mothers employed outside the home (Table XX). Out of the 13 occupations listed the two listed most frequently by the respondents were practical nurses followed by beauty operators (Table XXXVI, Appendix B).

A summary of influences or conditions relating to the factor "Economic Aspects" reveals that there were differences for the groups. More of the students in Group IV, or "Good" indicated that their fathers had full-time employment and few of their mothers were employed outside the home.

Personal Attitudes Related to Food and Food Intake

Some specific personal conditions or situations were analyzed to find out if personal attitudes were influencing factors.

TABLE XXI

RESPONSES REGARDING THE EXTENT OF ENJOYMENT OF BREAKFAST ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Students		Students Enjoy Breakfast			
			Yes		No	
	N	%	N	%	N	%
I No Breakfast	35	18	17	48	18	52
II Poor	45	22	37	82	8	18
III Fair	98	48	81	82	17	18
IV Good	25	12	25	100	0	0
Total	203	100	160	79	43	21

Over three-fourths of the respondents reported they enjoyed breakfast with 100 percent of the respondents in the "Good" group reporting they enjoyed breakfast. One-fourth of the respondents in the "No Breakfast" group reported they did not enjoy breakfast (Table XXI).

TABLE XXII

RESPONSES REGARDING FOODS AVAILABLE BUT NOT EATEN ACCORDING TO ADEQUACY OF BREAKFASTS

Groups	Number Students	Foods Available Which Students Did Not Eat										
		Milk	Eggs	Meats	Breads	Cereals	Gravy	Syrup, Jelly, Jam	Tea	Coffee	Total	Percent
		N	N	N	N	N	N	N	N	N		
I No Breakfast	35	0	2	1	3	0	1	0	0	2	9	26
II Poor	45	0	6	5	2	4	6	11	0	5	39	86
III Fair	98	2	13	2	7	9	3	26	1	7	70	70
IV Good	25	0	0	0	1	1	1	10	0	4	17	70
Total	302	2	21	8	13	14	11	47	1	18	135	60

In the "Good" group such foods as milk, eggs and meat were eaten with only syrup, jelly, coffee, bread and gravy as available foods rejected. In the three lower groups some of all nine foods listed for breakfast, including milk, eggs and meat as available foods were rejected. Three-fifths of the available foods for breakfast were rejected by the "Poor" and "Fair" groups (Table XXII).

TABLE XXIII

RESPONSES REGARDING FOOD EATEN AFTER BREAKFAST AND BEFORE NOON ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Number Students	Foods Students Ate After Breakfast and Before Noon: Milk N	Chocolate Milk N	Fruit Juice N	Fruit N	Breads N	Cookies N	Candy N	Cokes N	Coffee N	Total N	Total %
I No Breakfast	35	0	0	0	0	0	0	0	0	0	0	0
II Poor	45	3	1	0	1	1	3	4	4	7	24	53
III Fair	98	2	4	1	6	0	2	8	9	0	31	32
IV Good	25	2	1	1	0	0	0	0	0	0	4	16
Total	203	7	6	2	7	1	1	5	12	14	59	29

In the "Good" group only such foods as milk, chocolate milk and fruit juice were listed as foods eaten after breakfast and before noon. In the other groups some of all nine foods listed were eaten after breakfast and before noon with these groups listing nine-tenths of all foods as eaten after breakfast and before noon (Table XXIII).

TABLE XXIV

RESPONSES REGARDING DESIRE FOR HAVING FOODS AVAILABLE ON ARRIVING AT SCHOOL ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Students		Yes		No		No Response	
	N	%	N	%	N	%	N	%
I No Breakfast	35	18	18	51	15	43	2	6
II Poor	45	22	23	51	22	49	0	0
III Fair	98	48	41	41	54	56	3	3
IV Good	25	12	5	20	20	80	0	0
Total	203	100	87	43	111	55	5	2

In the "Good" group only one-fifth responded as desiring food on arrival at school whereas in the "Fair" group two-fifths responded as desiring food on arrival at school. Over one-half of the "No Breakfast" and "Poor" groups responded as desiring food on arrival at school (Table XXIV).

TABLE XXV

RESPONSES REGARDING SPECIFIC FOODS STUDENTS WOULD LIKE AVAILABLE ON ARRIVING AT SCHOOL ACCORDING TO ADEQUACY OF BREAKFASTS

Group	Number Students	Foods Students Would Like on Arriving at School										Total	
		Milk	Chocolate Milk	Ice Cream	Fruit Juice	Fruit	Sandwich	Breads	Candy	Cokes	Any Good Food		
		N	N	N	N	N	N	N	N	N	N	N	%
I No Breakfast	35	5	0	0	3	1	1	1	1	0	0	12	35
II Poor	45	3	0	1	7	8	4	9	5	3	4	45	100
III Fair	98	7	3	3	7	6	1	2	2	2	3	36	37
IV Good	25	3	0	0	0	2	0	0	0	0	0	5	20
Total	203	18	3	4	18	17	7	12	8	5	7	98	48

The "Good" group listed only milk and fruit juice as foods desired available on arriving at school whereas as in the three other groups some of all nine foods listed were desired on arriving at school with the three lower groups listing eleven-twelfths of the foods listed as desired on arrival at school (Table XXV).

A summary of influences or conditions relating to "Personal Attitudes Related to Food and Food Intake" reveals that there were differences for the groups. More of the students in Group IV or "Good" indicated that they enjoyed breakfast, left less foods on the table, ate fewer foods between breakfast and noon, and generally did not want any food when they arrived at school.

CHAPTER IV

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This study was concerned with the eating habits of students in the Junior and Senior High Schools of Caddo, Oklahoma, specifically, emphasis was on the adequacy and nutritive value of breakfasts. Attention was also focused upon some of the factors which may influence breakfast eating habits.

The writer believes that the findings of this study tend to validate the hypothesis that many boys and girls do not eat adequate breakfasts and that there are certain factors which influence students in not eating adequate breakfasts. The findings of this study showed a positive relationship for the majority of the conditions or situations, studied for the factors home atmosphere, the element of time, economic aspects of food, and personal attitudes related to food and its intake.

Summary of Findings

The data for this investigation were secured from 108 boys and 95 girls, ages (13-19) and grades (7-12), in Caddo, Oklahoma. The adequacy of the breakfasts was determined in terms of percentage of calories, protein, calcium, iron, vitamin A, thiamine, riboflavin, niacin and ascorbic acid in relation to minimum standards as set up by the Food and Nutrition Board, National Research Council. One-fourth of the recommended Daily Dietary Allowances, Revised, 1958, was the minimum

standard used for determining the adequacy of students' breakfasts. The percentage of students having adequate amounts for each of the nutrients was:

Food Nutrient	Percent		
	Boys	Girls	Total
Calories	13	12	13
Protein	25	23	24
Calcium	31	29	30
Iron	30	21	26
Vitamin A	16	10	13
Thiamine	27	26	27
Riboflavin	33	25	29
Niacin	6	7	6
Ascorbic Acid	4	10	7

Most of the students had inadequate breakfasts in terms of all nine nutrients calculated. When a study is made of the number and percent of students having breakfasts as to their adequacy 19 percent of the boys and 16 percent of the girls or a total of 18 percent ate no breakfast.

Twenty percent of the boys and 24 percent of the girls or a total of 22 percent ate some breakfast but had no one complete nutrient of the nine checked in each breakfast. Forty-seven percent of the boys and 50 percent of the girls or a total of 48 percent, ate breakfasts with less than 49 percent of complete nutrients of the nine checked in each breakfast. Only 14 percent of the boys and ten percent of the girls or a total 12 percent ate breakfasts with over 50 percent of complete nutrients of the nine checked in each breakfast. Only one boy had all complete nutrients of the nine calculated in both breakfasts.

The breakfasts were classified into four groups according to their adequacy:

Group I - "No Breakfast" Score of 0.

Group II - "Poor" No one complete nutrient, Score of 0.

Group III- "Fair" Less than 50 percent of nutrients, Score 1-9.

Group IV - "Good" Over 50 percent of nutrients, Score 10-18.

There was rather an even distribution into each group as to sex, age and grade level. Approximately 3/4 of entire group rated "Fair" or "Good" and 1/4 rated "Poor" or "No Breakfast."

An analysis was made as to foods most commonly eaten in the breakfasts studied and what foods the students said they liked. The foods eaten most often were eggs, toast, milk, bacon, cereal and fruit juice. The foods which the students mentioned that they liked were the same foods only mentioned in a different order: Eggs, bacon, toast, cereal and milk. A higher percentage of students said they liked these foods than actually ate them for breakfast.

The findings of this study were similar to those of the studies carried out in Iowa, Maine and the nationwide survey conducted by General Mills Incorporated. In the General Mills' study, one out of eight had a good breakfast as was true for this study. The number in this study, one out of two having "Fair" breakfasts exceeded the number in the General Mills study which was one out of three.

The responses for the situations or conditions as probable factors influencing the adequacy of the breakfasts were studied. Consideration was given to such factors as: (1) home atmosphere, (2) situations related to time available for students, (3) economic aspects, and (4) personal attitudes related to food and food intake. It was assumed that some of these factors might have some influence as to whether or not the students had adequate breakfasts. The four groupings according to the adequacy of breakfasts ("No Breakfast," "Poor," "Fair," and "Good") were

used to make the analysis to see if the groups held common characteristics.

As to the factor "Home Atmosphere," the adequacy of breakfast improved as: more talbes were set, more family members ate breakfast together, and more mothers prepared breakfast. The adequacy of the breakfast improved as more time was allowed for breakfast. A small improvement was noted even when something warm was served for breakfast.

"Situations Related to Time Available for Students Before School" revealed that those students who got up earlier, rode the school bus and had more time available between getting up and leaving for school had more adequate breakfasts.

As to the factor "Economic Aspects" the higher number of fathers that were employed the more adequate were the breakfasts whereas when fewer mothers were employed outside the home the more adequate were the breakfasts.

As to the factor "Personal Attitudes Related to Food and Food Intake" there was a gradual improvement in the adequacy of the breakfasts when: more students enjoyed breakfast; less foods of nutritive value were left on the table from breakfast; less foods were eaten between breakfast and before noon; and less foods were wanted on arrival at school.

The influence or condition for which there was not any relation as to the adequacy of breakfasts was found in the amount of time it took students to get to school. Most of the students could get to school in only 10-30 minutes. Three-fourths of the students who reported an hour or more had "Fair" or "Good" breakfasts.

Findings in the analysis of this study as to situations or conditions that were contributing factors influencing the adequacy of the

breakfasts were similar to those as reported in review of literature by Lowenberg and Clayton, Chapter II. Lowenberg stated that nutritionists who had compared groups of children who ate adequate breakfasts with those who did not found the former felt less rushed, enjoyed eating with the family and appreciated the fact that mothers prepared the breakfasts. Clayton found that the kind of breakfast depended upon whether there was someone in the home to take the responsibility of preparing the meal. Clayton also found available time for the meal was important and that food patterns for breakfast were usually a matter of custom.

Recommendations

Various research studies have shown that changing food habits is a complex problem. Program needs to be planned with more emphasis on nutrition integrated into the whole educational system. The main emphasis might be focused in the school but to be effective must extend beyond the school into the homes in the community where most eating takes place and where parental influence is most felt. There is a need to develop educational goals that will help develop good food habits and attitudes which will result in intelligent selection and consumption of nutritious food day by day throughout life. There is need to modify, improve, and redirect present eating habits so as to establish healthful food practices for better living that will persist into adult life.

Nutrition education that will help to develop awareness to the need to modify, and to improve food habits so as to improve the physical, mental, and emotional well-being of boys and girls needs to be in-

corporated into the total educational program and needs the cooperation of all: the students, teachers, administration, parents and other interested adults.

In Classroom

The teacher needs to help students to help themselves. She may provide learning situations which:

1. Help students to identify individual nutrition problems, to become interested in solving nutrition problems, and to develop and carry out plans for developing desired eating habits.

2. Extend nutrition education into the community through:

   (1) Future Homemakers Club

   (2) School Lunch Program

   (3) Parent Teachers Association

   (4) Other Organized Groups

In School

The homemaking teacher needs to work with the administrators, other faculty members, and school lunch personnel to discover the nutritional needs in the school and work toward these needs through a better health and nutritional education program. This might be accomplished through:

1. Cooperative planning in faculty meetings and workshops before school starts.

2. Individual and/or group conferences with faculty members, especially elementary teachers.

3. Making available reference and resource materials for teachers and pupils.

4. Planning with homemaking students activities that will help to further nutrition education in the elementary grades and high school.

5. Working with homemaking students activities that will help to further nutrition education in the school lunch.

In Home

Parents should know the demands of students. There is a need for better understanding between students, parents and the school. Recommended ways to help the home are through the following avenues:

1. Home visits
2. Parents Teachers Association
3. Adult Classes
4. Informal contacts
5. Information center
6. Newspaper, radio and TV.

If further studies are conducted concerning the breakfast habits of boys and girls of Caddo Junior and Senior High School, Caddo, Oklahoma, the writer suggests that consideration be given to relationship of the adequacy of breakfasts with: (1) absences from school due to illness, (2) low or failing grades, and (3) discipline problems.

SELECTED BIBLIOGRAPHY

Bogert, L. Jean. Nutrition and Physical Fitness. Philadelphia: W. B. Saunders Co., 1954.

Bowes, Anne De Planter and C. F. Church. Food Values of Portions Commonly Used. Philadelphia: Offset Press, 1956.

Breakfast Source Book. Chicago: Cereal Institute Inc., 1961.

Eat to Live. Chicago: Wheat Flour Institute, 1953.

California Experiment Station. Nutritional Status. Bulletin No. 769, California, 1959.

Clayton, Mary M. "Breakfast of Maine Teen-agers". Maine Agriculture Experiment Station Bulletin No. 495, 1951.

Everson, Gladys J. "Bases for Concern About Teenagers' Diets." Journal of the American Dietetic Association 36, (January, 1960).

General Mills Study. "Teen Agers and Their Breakfasts." What's New in Home Economics, 28 (September, 1954).

Hampton, Mary C., Lenora R. Shapiro and Ruth L. Huenemmam. "Helping Teen-Age Girls Improve Their Diets." Journal of Home Economics 52 (December, 1961).

King, Glen and Gwen Lam. Personality "Plus" Through Diet. Public Affairs Pamphlet 22. New York: 1962.

Leverton, Ruth. Food Becomes You. Lincoln, Nebraska: University of Nebraska Press, 1952.

Leverton, Ruth. "What is Good Nutrition," Todays Health, (March, 1958).

Lowenberg, Miriam. "Breakfast is Important," What's New in Home Economics, 19 (April, 1955).

Lowenberg, Miriam. Food for Young Children in Group Care. U. S. Department of Health, Education and Welfare, Childrens Bureau, Number 285. Washington, D. C., 1947.

McCullum, E. V. "A Basic Pattern for Breakfast," Teachers Source Book. Chicago: Cereal Institute, Inc.

Miller, Dorothy Sherrill. "Changes in the Consumer Food Market Since World War II," Journal of Home Economics (January, 1962).

National Academy of Science - National Research Council. Recommended Dietary Allowances. Washington: National Academy of Science, 1958.

Oklahoma State Board of Education for Vocational Education. Bases for Developing a Homemaking Program, Bulletin No. 1. Oklahoma City: 1945.

Oklahoma State Board of Education. Nutrition in School, Home and Community. Oklahoma City: 1960.

Pattison, Mattie, Helen Barbour and Ercel Eppright. Teaching Nutrition. Iowa: Iowa State College Press, 1958.

Pollard, L. Belle. Experiences with Food. Boston: Ginn and Co., 1951.

Roberts, Lydia J. Nutrition Work with Children. Chicago: University of Chicago Press, 1940.

Taylor, Clara Mae. "The Nutritional Contributions of Breakfast Cereals," Teachers Source Book. Chicago: Cereal Institute.

Sherman, H. C. and C. S. Langford. Essentials of Nutrition. New York: MacMillan Company, 1957.

Spafford, Ival. A Functional Program of Home Economics. New York: Wiley and Sons, Inc., 1946.

United States Department of Agriculture. Composition of Foods. Handbook No. 8. Washington, D. C.: Superintendent of Documents, 1950.

United States Department of Agriculture. Institute of Home Economics. Leaflet Number 424. Food for Fitness. Washington, D. C., 1958.

United States Department of Agriculture. Food - The Yearbook of Agriculture. Washington, D. C.: Superintendent of Documents, U. S. Government Printing Office, 1959.

A P P E N D I X A

QUESTIONNAIRE

To the students of Caddo Schools:
Many boys and girls eat different kinds of breakfasts. Some boys and girls eat big breakfasts, some have very little for breakfast, and others eat no breakfast at all. We would like to know what you ate for breakfast.

Please fill in the blanks with the correct word, or use a check mark _X_

Boy_____ Girl_____ Age_____

If you seldom eat breakfast, fill out part one only.

Part One

1. Do you eat breakfast on school days?

   (a) Every Day_____
   (b) Nearly every Day_____
   (c) Seldon_____

2. If you don't usually eat breakfast, what are your reasons for not eating Breakfast?_____

   _____

3. Is the table usually set for breakfast? Yes_____ No_____

4. At what time do you usually get up in the morning?_____

5. At what time do you usually start to school in the morning?_____

6. How long does it take you to get to school in the mornings?_____

   (a) Ten Minutes
   (b) Thirty Minutes
   (c) One Hour
   (d) Over One Hour

7. Do you usually have any kind of work other than school work before going to school in the mornings? Yes_____ No _____

   If answer is yes, what work do you do?_____

   _____

8. If you usually ride to school, do you ride

   (a) In Private Car_____
   (b) On Bicycle_____
   (c) On School Bus_____

9. How many live at your house?

Father _____
Mother _____
Younger Children_____
Older Children_____
Others_____

10. What is your father's occupation?_____

11. What is your mother's occupation?_____

12. Check members of the family who have employment.

	Regularly	Frequently	Seldom
(a) Father	_____	_____	_____
(b) Mother	_____	_____	_____
(c) Brother	_____	_____	_____
(d) Sister	_____	_____	_____
(e) Self	_____	_____	_____
(f) Others	_____	_____	_____

Part Two

1. Do most of the members of your family usually sit down to the table at the same time to eat breakfast? Yes_____ No_____

2. With whom do you usually eat breakfast?

(a) Father_____
(b) Mother_____
(c) Brother_____
(d) Sisters_____
(e) Others_____
(f) Alone_____

3. Who usually prepares breakfast for you?

(a) Father_____
(b) Mother_____
(c) Brother_____
(d) Sister_____
(e) Others_____
(f) Self_____

4. At what time do you eat breakfast?_____

5. How much time do you allow yourself for eating breakfast?_____

6. Do you usually have something warm for breakfast? Yes___ No___

7. Do you enjoy breakfast? Yes____ No____

8. Would you like to have something to eat on arriving at school in the mornings? Yes_____ No_____

9. If the answer is yes, what would you like to eat?_____

_____

10. What foods do you like for breakfast? List them below.

RECORD OF BREAKFAST

Check One: Boy_____ Girl_____

List in the spaces below exactly what you ate for breakfast. Tell whether you ate one slice, one-half cup, two tablespoons, etc.

YESTERDAY'S BREAKFAST

1. What foods were on the table you did not eat?

2. What foods did you eat or drink between breakfast and noon?

TODAY'S BREAKFAST

1. What foods were on the table you did not eat?

2. What foods did you eat or drink between breakfast and noon?

APPENDIX B

TABLE XXVI

REASONS GIVEN BY STUDENTS NOT USUALLY EATING BREAKFAST

Groups	Grade	Number of Students	Responses					
			Not Hungry	Not Time	Makes Me Sick	Not Prepared	Do Not Want to Gain Weight	Total Reasons
Boys	7	16	2	0	0	0	0	2
13-15	8	16	1	1	1	1	0	4
Years	9	19	2	2	0	0	0	4
Boys	10	20	3	1	0	0	0	4
16-19	11	19	5	1	1	0	0	7
Years	12	18	6	1	0	0	0	7
Girls	7	23	3	2	0	0	0	5
13-15	8	16	3	4	1	0	1	9
Years	9	15	4	5	0	0	0	9
Girls	10	18	3	6	2	0	0	11
16-19	11	11	3	4	0	0	0	7
Years	12	12	4	2	0	0	0	6
Total Boys	7-12	108	19	6	2	1	0	28
Total Girls	7-12	95	20	23	3	0	1	47
Total Boys and Girls	7-12	203	39	29	5	1	1	75

TABLE XXVII

ONE-FOURTH RECOMMENDED DIETARY ALLOWANCES USED IN CALCULATED NUTRIENTS OF FOOD INTAKE FOR BREAKFAST *

	Age Years	Calories	Protein gm.	Calcium mg.	Iron mg.	Vitamin A I. U.	Thiamine mg.	Ribo-flavin mg.	Niacin mg.	Ascorbic Acid mg.
Boys	13-15	775	21.25	350	3.75	1250	.4	.525	5.25	22.5
	16-19	900	25.0	350	3.75	1250	.450	.625	6.25	25.0
Girls	13-15	650	20.0	325	3.75	1250	.325	.5	4.25	20.0
	16-19	600	18.75	325	3.75	1250	.3	.475	4.0	20.0

*Food and Nutrition Board, National Academy of Science - National Research Council, Recommended Daily Dietary Allowances, Revised 1958, (Publication 589).

TABLE XXVIII

STUDENTS HAVING ADEQUATE NUTRIENTS IN BREAKFASTS

	Age	Grade	Number of Students	Number of Breakfasts	Calories N	Calories %	Protein N	Protein %	Calcium N	Calcium %	Iron N	Iron %	Vitamin A N	Vitamin A %	Thiamine N	Thiamine %	Riboflavin N	Riboflavin %	Niacin N	Niacin %	Ascorbic Acid N	Ascorbic Acid %
Boys	13-15	7	16	32	2	6	4	12	5	15	8	25	0	0	8	25	6	18	1	3	0	0
		8	16	32	6	18	15	8	14	43	12	37	10	31	10	31	13	40	1	3	0	0
		9	19	38	8	21	9	23	7	18	14	36	7	18	9	23	14	30	2	5	2	5
Boys	16-19	10	20	40	4	10	10	25	15	38	9	25	6	15	13	30	15	37	2	5	3	7
		11	19	38	8	21	12	30	17	44	17	44	8	21	14	30	17	44	3	8	5	13
		12	18	36	1	2	4	11	9	25	7	19	4	11	5	13	6	16	4	11	0	0
Girls	13-15	7	23	46	7	15	12	26	11	23	11	23	7	15	9	19	12	26	3	6	3	6
		8	16	32	4	12	11	34	13	40	9	28	3	9	12	37	15	8	1	3	3	9
		9	15	30	6	20	14	46	14	46	10	33	7	23	11	36	11	36	5	16	6	20
Girls	16-19	10	18	36	5	13	5	13	7	19	7	19	1	2	10	27	10	27	2	5	3	8
		11	11	22	0	0	1	4	6	27	1	4	0	0	4	18	5	22	0	0	3	13
		12	12	24	2	8	3	12	5	20	3	12	2	8	5	20	6	25	3	12	2	8
Total Boys	13-19	7-12	108	216	29	13	54	25	67	31	64	30	35	16	59	27	71	33	13	6	10	4
Total Girls	13-19	7-12	95	190	24	12	46	23	56	29	41	21	20	10	51	26	59	25	14	7	20	10
Grand Total Boys and Girls	13-19	7-12	203	406	53	13	100	24	123	30	108	26	55	13	110	27	120	29	27	6	30	7

TABLE XXIX

GROUPING OF STUDENTS WITHIN GROUPS AS TO ADEQUACY OF BREAKFASTS EATEN

Groups	Grade	Number of Students	I No Breakfast	II Inadequate For Each Nutrient	III Less Than 50% of Nutrients Inadequate (1-9 Points)									IV More Than 50% of Nutrients Were Adequate (10-18 Points)									I	II	III	IV
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Totals: No Breakfast	Poor	Fair	Good
Boys	7	16	0	8	0	2	2	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	8	7	1
13-15	8	16	1	2	0	1	3	3	1	0	0	1	0	2	0	1	1	0	0	0	0	0	1	2	9	4
Years	9	19	1	4	4	3	2	0	0	0	2	0	0	0	0	1	1	1	0	0	0	0	1	4	11	3
Boys	10	20	6	4	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	6	4	8	2
16-19	11	19	3	2	1	3	2	1	1	0	0	2	2	0	0	1	0	0	0	2	0	0	3	2	11	3
Years	12	18	9	2	2	1	1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	9	2	5	2
Girls	7	23	3	8	1	2	2	0	1	2	0	1	0	1	0	0	0	2	0	0	0	0	3	8	9	3
13-15	8	16	2	3	0	1	0	3	2	1	0	2	0	1	0	0	1	0	0	0	0	0	2	3	9	2
Years	9	15	0	1	1	2	1	3	1	1	0	1	1	0	2	0	0	1	0	0	0	0	0	1	11	3
Girls	10	18	2	6	2	0	2	1	1	1	1	1	0	0	0	1	0	0	0	0	0	0	2	6	9	1
16-19	11	11	2	4	0	2	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	4	5	0
Years	12	12	6	1	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	6	1	4	1
Total		203	35	45									98									25	35	45	98	25

TABLE XXX

FOODS LISTED AS LIKED FOR BREAKFAST

Foods	Boys, Grades 7-12						Girls, Grades 7-12						Total
	7	8	9	10	11	12	7	8	9	10	11	12	
Eggs	13	10	14	13	14	9	20	14	14	14	6	5	146
Bacon	8	4	10	10	6	4	16	6	2	13	6	5	91
Toast	9	0	8	8	11	1	10	8	3	13	6	5	82
Cereal	0	0	8	10	5	2	0	0	0	10	2	5	67
Milk	4	3	8	8	0	8	12	8	1	6	3	3	59
Fruit Juice	1	1	1	2	2	0	5	3	1	12	5	3	36
Biscuits	5	0	2	2	6	1	1	4	0	6	0	1	28
Coffee	2	0	3	2	9	0	0	2	0	5	1	4	28
Jelly	0	0	0	4	4	1	0	4	1	9	0	2	25
Ham	3	0	4	0	4	3	0	0	1	3	0	0	18
Hot Cakes	7	0	0	0	0	1	0	1	1	0	0	2	12
Gravy	0	1	0	0	1	0	1	0	0	5	0	0	8
Sausage	0	0	2	0	5	0	0	0	0	0	0	1	8
Peanut Butter	0	0	0	0	0	1	0	1	0	1	0	0	3
Dough-nuts	0	0	0	0	0	0	0	0	0	0	0	1	1
Cocoa	0	0	0	0	0	0	1	0	0	0	0	0	1
Oranges	0	0	0	0	1	0	0	0	0	0	0	0	1
Bananas	0	0	0	0	1	0	0	0	0	0	0	0	1
Syrup	0	0	0	0	0	0	0	0	1	0	0	0	1

TABLE XXXI

NUMBER AND PERCENTAGE OF STUDENTS REPORTING CERTAIN COMMON FOODS LIKED FOR BREAKFAST

Ages	Grade	Number of Students	Eggs		Bacon		Toast		Cereal		Milk		Fruit Juice	
			N	%	N	%	N	%	N	%	N	%	N	%
	7	16	13	80	8	50	9	56	7	44	4	25	1	6
Boys 13-15	8	16	10	62	4	25	0	0	3	12	3	12	1	6
	9	19	14	74	10	52	8	42	10	52	8	42	1	5
	10	20	13	65	10	50	8	40	10	50	8	40	2	10
Boys 16-19	11	19	14	74	6	32	11	58	5	26	0	0	2	10
	12	18	9	50	4	22	1	5	2	11	3	16	0	0
	7	23	20	87	16	69	10	43	7	35	12	56	5	21
Girls 13-15	8	16	14	87	6	37	8	50	6	37	8	50	3	12
	9	15	14	93	2	13	3	20	0	0	1	7	1	6
	10	18	14	77	13	72	13	85	10	55	6	33	12	6
Girls 16-19	11	11	6	54	6	54	6	54	2	18	3	27	5	45
	12	12	5	42	5	41	5	40	5	42	3	25	3	25
Total Boys 13-19	7-12	108	73	68	42	38	37	34	37	34	26	24	7	6
Total Girls 13-19	7-12	95	73	76	49	51	45	47	30	32	33	35	29	30
Total Boys and Girls 13-19	7-12	203	146	72	91	45	82	40	67	33	59	29	36	18

TABLE XXXII

CONSUMPTION OF FOODS FOR BREAKFAST

Food	Boys, Grades 7-12						Girls, Grades 7-12						Total
	7	8	9	10	11	12	7	8	9	10	11	12	
Milk	9	12	15	19	18	9	10	13	10	7	7	7	136
Eggs	9	21	23	10	11	10	29	12	14	15	10	9	173
Bacon	7	13	14	12	15	10	17	8	12	9	6	5	128
Ham	2	0	4	0	1	0	4	1	3	0	0	0	15
Sausage	0	0	2	0	4	0	0	0	0	2	0	0	8
Toast	14	13	15	14	16	14	28	15	12	13	9	5	168
Biscuits	5	10	7	6	9	2	7	9	6	6	3	4	76
Pancakes	10	1	1	2	2	1	1	1	3	1	0	0	23
Cereal	5	7	13	4	5	3	2	12	8	2	1	4	66
Fruit Juice	0	0	4	3	3	0	3	1	5	3	0	1	23
Grape-fruit	0	0	1	0	0	0	1	2	0	0	1	0	5
Oranges	0	0	0	0	0	0	0	1	1	0	2	0	4
Straw-berries	0	0	0	0	0	0	2	0	0	0	0	1	3
Bananas	0	0	1	0	1	0	0	0	0	2	0	0	4
Apples	0	0	0	0	0	0	0	0	1	0	0	0	1
Tomatoes	0	0	0	0	0	0	1	0	0	0	0	0	1
Coffee	8	8	12	4	10	2	7	1	2	9	1	3	67
Cocoa	0	0	2	0	0	1	6	5	3	2	0	1	20
Tea	0	0	0	0	1	0	0	0	0	0	0	0	1
Coca-Cola	0	0	0	0	0	2	0	1	0	0	0	0	3
Dr. Pepper	0	0	0	0	0	0	0	0	1	0	0	0	1
Butter	0	4	1	4	4	1	4	7	3	5	1	0	34
Syrup	5	0	0	3	3	4	4	2	6	0	1	1	29
Jelly	2	7	8	8	10	5	7	2	3	9	3	3	67
Jam	1	0	0	0	0	0	1	0	0	0	0	2	4
Honey	2	2	0	0	0	0	3	0	0	0	0	0	7
Peanut Butter	1	0	0	0	0	2	1	2	0	1	0	0	7
Peanut Brittle	0	0	0	0	0	0	1	0	0	0	0	0	1
Doughnut	0	0	0	0	0	0	1	0	0	0	0	0	1
Sweet Roll	2	0	0	0	0	0	0	0	0	1	0	2	5
Cake	0	0	1	0	0	1	1	0	0	0	0	0	3
Cookie	0	0	0	0	0	0	0	0	0	2	0	0	2
Rolls	0	0	0	0	0	0	0	0	1	0	0	0	1
Sandwich	1	1	0	0	0	0	0	0	0	0	0	0	2
Jello	0	2	0	0	0	0	0	0	0	0	0	0	2
Lemonade	0	0	0	0	2	0	0	0	0	0	0	0	2

TABLE XXXIII

NUMBER AND PERCENTAGE OF STUDENTS REPORTING CONSUMPTION OF CERTAIN COMMON FOODS FOR BREAKFAST

Ages	Grade	Number of Students	Breakfast	Eggs		Toast		Milk		Bacon		Cereal		Fruit Juice	
				N	%	N	%	N	%	N	%	N	%	N	%
Boys 13-15	7	16	32	9	28	14	43	9	28	7	21	5	15	0	0
	8	16	32	21	65	13	40	12	37	13	40	7	21	0	0
	9	19	38	23	60	15	39	15	39	14	36	13	34	4	10
	10	20	40	10	25	14	35	19	48	12	30	4	10	3	7
Boys 16-19	11	19	38	11	38	16	42	18	47	15	39	5	12	3	7
	12	18	36	10	27	14	38	9	25	10	27	3	8	0	0
	7	23	46	29	63	28	60	10	21	17	37	2	4	3	6
Girls 13-15	8	16	32	12	37	15	37	13	40	8	25	12	37	1	3
	9	15	30	14	46	12	40	10	33	12	40	8	26	5	16
	10	18	36	15	41	13	36	7	19	9	25	2	5	3	8
Girls 16-19	11	11	22	10	45	9	40	7	31	6	27	1	3	0	0
	12	12	24	9	29	5	20	7	27	5	20	4	16	1	4
Boys 13-19	7-12	108	206	84	41	86	41	80	40	71	34	37	18	10	4
Girls 13-19	7-12	95	190	89	41	82	40	54	28	57	28	29	14	13	6
Total Boys and Girls 13-19	7-12	203	406	173	42	168	41	136	34	128	31	66	13	23	5

TABLE XXXIV

STUDENTS WORK IN MORNINGS BEFORE SCHOOL

Kinds of Jobs	Boys	Girls	Total
Make Beds	0	33	33
Clean House	0	25	25
Clean Room	8	16	24
Feed Cows	24	0	24
Miscellaneous	10	8	18
Wash Dishes	0	16	16
Feed Other Animals	16	0	16
Milk Cows	14	0	14
Cook Breakfast	0	5	5
Total	72	103	175

TABLE XXXV

RESPONSES REGARDING OCCUPATION OF FATHER ACCORDING TO ADEQUACY OF BREAKFASTS

	Groups				
	I	II	III	IV	
Occupation	No Breakfast (35)	Poor (45)	Fair (98)	Good (25)	Total
Laborer	2	6	23	6	37
Farmer-Rancher	15	8	16	4	30
Mechanic	9	5	5	2	21
Welder	1	3	6	1	11
Retired	0	2	3	5	10
Dairy	1	0	4	3	8
Construction	2	3	2	0	7
Carpenter	0	1	4	0	5
Truck Driver	0	2	3	0	5
Appliance Repair	1	1	2	0	4
Business Man	0	0	3	1	4
Disabled	0	2	1	1	4
Electrician	1	1	2	0	4
Salesman	0	1	3	0	4
Bus Driver	0	0	0	3	3
City Employee	0	0	2	1	3
State Employee	0	0	2	1	3
Butcher	0	1	1	0	2
Inspector	1	1	0	0	2
Minister	0	0	2	0	2
Social Security	0	2	0	0	2
County Employee	1	0	0	0	1
Mail Carrier	0	1	0	0	1
Lumber	0	0	1	0	1
Student	0	0	1	0	1
Service U. S.	1	0	0	0	1
Unemployed	0	0	1	0	1
No Response	12	5	8	1	26
Total	35	45	98	25	203

TABLE XXXVI

RESPONSES REGARDING OCCUPATION OF MOTHER
ACCORDING TO ADEQUACY
OF BREAKFASTS

	Groups				
	I	II	III	IV	
Occupation	No Breakfast (35)	Poor (45)	Fair (98)	Good (25)	Total
Homemaker	24	28	71	21	144
Nurse (Practical)	3	4	2	1	10
Beauty Operator	1	1	4	1	7
Saleswoman	0	1	4	0	5
Domestic	1	0	3	0	4
Nurse (Registered)	0	1	2	1	4
Secretary	0	1	2	0	3
Waitress	0	0	2	0	2
Factory	0	0	1	0	1
Hotel (Maid)	0	0	0	1	1
Teacher	0	0	1	0	1
Telephone Operator	0	1	0	0	1
Welfare	0	1	0	0	1
No Response	6	7	6	0	19
Total	35	45	98	25	203

VITA

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