

ABSTRACT OF THESIS

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EDUCATIONAL IMPLICATIONS  
OF FOOD HABITS  
OF SPANISH-AMERICAN FAMILIES

Submitted by  
Beatrice Warner Alcorn

In partial fulfillment of the requirements  
for the Degree of Master of Education  
Colorado State College  
of  
Agriculture and Mechanic  
Fort Collins, Colorado

August, 1944



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### ABSTRACT

A study was made of the food habits of Spanish-American families in Globe, Arizona, in order to answer the following question, "What implications for the home economics teacher are to be found in the food habits of these Spanish-American families?" In order to solve the above problem, the following questions were studied:

1. How do the nutritive constituents of foods eaten by the girls from Spanish-American homes compare with nutrition standards?
2. What foods are actually served in the homes of the girls?
3. What are the foods eaten between meals?

To answer these questions, records were kept of foods eaten by Spanish-American girls in home economics classes of Globe, Arizona. These records were kept by the girls for a sample week in each of three different months: September, December, and May of the school year 1941-42.

To obtain these data, mimeographed sheets entitled "Record of Meals for One Week" were supplied to the girls, and, under the direction of the writer, they recorded on these sheets a complete list of all

foods eaten at mealtime, foods served but not eaten, and foods eaten between meals. These sheets were filled out for a week in September, a week in December, and a week in May, in order to determine seasonal variations, if any. From these records the writer checked, compared, and rated the information secured with accepted nutrition standards. The nutrition standards used in making this check were arrived at by studying the nutrition standards from "Recommended Dietary Allowances" compiled by the Committee on Food and Nutrition of the National Research Council, May, 1941. From this, an evaluation chart was made which was entitled "Check List for Food Needs." This evaluation chart was adapted from the "Minnesota Check List for Food Needs" with the help and direction of Dr. Elizabeth Dyer of the Home Economics Division, Colorado State College.

#### Summary of findings

The records of the food which the Spanish-American girls ate, when analyzed according to the "Check List for Food Needs," showed fairly conclusively that their diet was in most cases:

1. Fairly adequate for Eggs.
2. Very inadequate for Milk or Cheese.
3. Adequate for Lean Meat, Poultry, and Fish.
4. Inadequate for Green or Yellow Vegetables.
5. Adequate for Dried Beans, Peas, or Other Vegetables.

6. Fairly adequate for Potatoes.
7. Inadequate for Citrus Fruits or Tomatoes.
8. Inadequate for Other Fruits.
9. Very inadequate for Butter or Fortified Oleo.
10. Very adequate for Bread or Cereals.
11. Indicative of a too extensive use of Coffee and Tea at meals and Soft Drinks and Candy between meals.

Recommendations and implications for a course in foods for Spanish-American girls

From the discussion of the review of literature and the analysis of data, the following recommendations and implications for modification of the home-making course are made for the teacher to meet more nearly the needs of the Spanish-American girls and their families in Globe, Arizona:

1. The girls should be made to realize that the foods they normally use to a large extent are good foods but that other food groups should be included with them to make a balanced diet.
2. A wider and more varied use of all vegetables should be stressed through the teaching program.
3. Proper methods for cooking vegetables of all kinds should be presented, demonstrated, and practiced.

4. Spanish-American girls should be encouraged to use the vegetables such as tomatoes and others already used in their homes more frequently and to incorporate proper methods of cooking them.
5. New ways of using the vegetables they like should be presented and demonstrated.
6. The use of all citrus fruits should be encouraged with variations in use, since they are one of the most plentiful, easily obtained, and least expensive of the fruits on the markets in Globe, Arizona.
7. The girls should be encouraged to use and should be shown ways of using other fruits.
8. The girls should be encouraged to use fruits for between-meal snacks instead of soft drinks and candy.
9. Help should be given these girls in understanding and using more balanced diets and incorporating in them the foods they normally use most and like best, such as dried beans, meat, bread, and potatoes, along with the foods they lack.
10. The importance of milk in their daily diets should be stressed by presenting ways in which it may be used more frequently.

11. The use of canned milk in cooking and in the preparation of other foods should be encouraged because of the fact that fresh milk is expensive and many of the homes lack refrigeration facilities.
12. The use of more cheese should be encouraged since the girls already like it and the problem of keeping it is not great.
13. The girls should be shown that a continued use of eggs, at least up to a minimum requirement in the diet, is a good practice.
14. Better and simpler methods of meat preparation may be used which will not necessitate the use of so much fat or the method of frying as the only method of preparation.
15. Since butter or fortified oleo do not seem to be used to a great extent in these homes, the teacher should plan her course to get these students to include foods in their diets which would help add in other ways the nutrients lacking by little use of butter or fortified oleo.
16. The teacher should become more familiar with the home background of these girls and their needs through more home visitation so that she may more effectively plan her course to meet the needs of these girls.

T H E S I S

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..... August 1 ..... 1944 .....

I HEREBY RECOMMEND THAT THE THESIS PREPARED UNDER MY  
SUPERVISION BY BEATRICE WARNER ALCORN  
ENTITLED EDUCATIONAL IMPLICATIONS OF FOOD HABITS OF  
SPANISH-AMERICAN FAMILIES  
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## Chapter I

### INTRODUCTION

Home economics as taught today covers a wide field in the education of the girl or boy in training for home and family life. It not only gives training in foods and clothing, as was formerly its principal objective, but it also contributes to health training, clothing and personal grooming, home furnishings, home management, home care of the sick, child care and development, personal and family relationships, development of character, use of leisure time or enjoyment, and citizenship. However, foods study and training is still one of the most important phases of home economics. In the present world situation of social and economic changes, food and proper food habits have an important place in the life of every person. More and more the value and importance of well-balanced diets and sound food habits in our daily living are being realized. One hears and reads a great deal today concerning recommended dietary allowances. Families all over the nation are attempting to meet the daily dietary needs on a low cost basis and to adjust to low incomes and higher food costs. The home economics teacher has a very important role to play in helping

the girls from these families reach a more desirable standard of food habits in order to meet recommended dietary allowances in their food consumption at home.

Many of the inhabitants of the western and southwestern part of the country are of Spanish-American parentage, and cling to the food habits and customs of their ancestors. Since a large percentage of the population in and around Globe, Arizona, is made up of these Spanish-American peoples, there is a need for information regarding their food habits, in order to adequately plan food courses for high school classes which are largely Spanish-American.

The problem

What implications for the home economics teacher are to be found in the food habits of Spanish-American families in Globe, Arizona?

Problem analysis.--In order to answer the above question, the following must be ascertained:

1. How do the nutritive constituents of foods eaten by the girls from Spanish-American homes compare with nutrition standards?
2. What foods are actually served in the homes of the girls?
3. What are the foods eaten between meals?

Delimitation.--This study is limited to girls of Spanish-American parentage who were enrolled in home economics classes in Globe during the school year 1941-42. The study will be limited also to variety and nutritive quality of food chosen, exclusive of exact quantity or regularity of serving. Neither will the study include the quality of cooking.

Definition of terms.--The term Spanish-American as used in this study refers to those girls in this country who are of Spanish descent. They are also spoken of as Mexican.

Background

Globe is located in the southeastern section of Arizona and is about 97 miles east of Phoenix. It is a city of between 6,000 and 7,000 population, principally made up of Anglo-American and Spanish-American people, though there are also some Italians and other peoples of southern European descent living there. The city is situated in a mountainous section of Arizona.

Globe is the county seat of Gila County and is a center for many activities. The most extensive industrial activity in this district is the mining of copper. There are two large mines located about six miles from the city, and many of the Spanish-American people work in these mines.

There is no segregation of races in the Globe High School. There are three grade schools for the Anglo-American and Spanish-American children and a grade school for the Negro children. The school system is based on a 7-2-3 plan with the junior and senior high schools in the same building. The home economics course is required for all eighth grade girls and is elective for the ninth grade class and for the advanced class.

Chapter II

REVIEW OF LITERATURE

A number of studies have been made dealing with food habits of Spanish-American girls and their families. Some studies have been made which are chiefly concerned with other phases of Spanish-American life, especially with the training of the girls for out-of-school employment. The review of literature which the writer has made includes reports of studies dealing with subjects closely related to this investigation. This chapter is divided into three sections concerning food habits and practices as follows: typical studies of Anglo-Americans, typical studies of other racial groups, and typical studies of Spanish-Americans.

Typical studies of Anglo-Americans

One of the important objectives of high school foods classes is to interest the girl in the relation of food to health and the resulting establishment of desirable food habits. A study was made in seven vocational schools of Kentucky by Botto (1) during the school year of 1931-32 to determine the extent to which home economics teaching was attaining such an objective. The data were secured from 480 girls in the eleventh and

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twelfth grades, 138 of whom had received no home economics training and 342 of whom had previously been enrolled in home economics classes. The girls recorded all foods served at home and those eaten both at home and between meals on special blanks prepared for the purpose. The forms were filled out once in the winter and once in the spring to secure seasonal variations. The records were studied to learn the adequacy of the diets and the regularity of food habits of the two groups. When compared, the two groups showed no striking differences as to adequacy of diets. The home economics group was more nearly meeting the accepted standard of adequacy than was the non-home economics group only in the consumption of whole grain cereals and milk. In choice of fruits and vegetables it was less adequate. The dietaries found in both groups were definitely inadequate, and these inadequacies did not seem to be a result of insufficient money to spend for food. A comparison of the foods served at home and the foods which the girls actually ate showed that many of the girls failed to choose as adequate a diet as they might. Both groups failed to drink milk as freely as possible, and to eat fruit and unrefined cereals. Both groups failed to use vegetables and an adequate protein food in about the same percentage. Both groups used tea and coffee to about the same extent (a little less than 50 per cent). Coca-cola was more freely used by the

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non-home economics group, but less than one-fourth of each group drank one or more glasses a day. A small percentage of each group drank milk between meals, but the non-home economics group had the larger percentage. About half of each group took fruits and fruit juices between meals, but the home economics group had the larger percentage in this score. A larger percentage of the home economics group, about half, ate candy between meals, while the percentage for the non-home economics group was much less than half. About half of both groups ate lunch foods such as pies, pickles, popcorn, doughnuts, and sandwiches between meals. In so far as the findings obtained in this study can be considered typical, they seem to indicate that the home economics training in these seven schools had not significantly improved the food habits of the students.

It is the problem of teachers of home economics to teach the principles of nutrition to the pupils in their classes in such a manner that the knowledge acquired will be used to insure proper growth and development as well as the maintenance of health through the improvement of dietary practices. Jones (11) undertook a study in 1934 to determine to what extent a group of teachers had accomplished this objective of making a knowledge of food values contribute to the health of the pupils. An attempt was made to answer the following questions: (1) what are the food habits of a group of

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high school girls? (2) in what ways are the dietaries of the girls adequate? (3) are the homes serving foods necessary for adequate dietaries? (4) is home economics a factor which is influencing the dietary practices of the girls? (5) are inadequate dietaries due to lack of knowledge of food values or to failure to apply this knowledge? This investigation was made in Iowa during the school year of 1932-33. The data were collected from 10 different vocational schools located in various geographic sections of the state. The population of most of these towns was less than 3,000 people; hence, many of the pupils were from rural communities. Dietary forms for obtaining data were sent to the 10 teachers, who in turn had all eleventh and twelfth grade girls fill them out once in the winter and once in the spring. The dietary form was adapted from the one Botto (1) used to secure the data for her study. The record for one day was obtained from both girls who had and had not been enrolled in home economics classes for each of the two seasons. These forms, when filled out, listed the foods eaten and the beverages drunk at meals and between meals and also the foods and beverages which were on the table but were not eaten or drunk by the girls. A total of 1,153 records was secured. Comparisons were made of the home economics and non-home economics groups from the standpoint of the consumption of certain foodstuffs: milk, whole grain products, cooked vegetables, raw

vegetables, cooked fruit, raw fruit, citrus fruit or tomatoes, coffee and tea, butter and meat and meat substitutes. In order to compare the dietaries of the two groups with a standard of adequacy, a score card was made which two specialists in nutrition assisted in compiling. An inspection of the data showed great variations between the individual schools. The findings obtained in this investigation seemed to indicate that:

1. On the whole, home economics training had not significantly improved the food habits of the pupils studied. In case of four types of the foods studied, home economics training in five schools seemed to be a factor which influenced a larger percentage of the girls to eat these foods.

2. One of the reasons why the pupils' dietaries were inadequate is that foods necessary for an adequate dietary were not always served at home, which suggests a need for adult classes in nutrition.

3. Home economics training had little effect on the regularity of meals and the types of foods eaten between meals.

4. A knowledge of food values obtained through home economics training had little or no influence upon the dietary practices of the pupils but there was found to be some relationship between dietary habits and knowledge of food values learned elsewhere (11:57-58).

However, when the dietaries of the individual schools were examined, it was found that home economics was a significant factor in certain of the schools, which influenced the pupils to consider some of the certain foodstuffs mentioned in the above study.

Miner, Lyle, and Chadderton (13), in a study made in 1935, attempted to find out whether home economics training had affected the dietary standards, the practices in food buying, and the interests of a group of girls after they were in their own homes. Forty-five graduates of the Waverly High School who were graduated between 1921 and 1932 and were, at the time of the study, married and living in their own homes were selected for study. Of this group 24 had elected one year of food study, while 21 had received no home economics in high school. The data were collected by means of personal interviews. The information secured was recorded as quickly as possible after each interview upon specially prepared forms. The two groups were compared as to economic status, location of homes, availability of markets, gardens, and particular food supplies available. To determine the adequacy of complete protein for each family, the number, ages, and occupations of family members, and the number of times meat, milk, fish, cheese, and eggs were served daily, were investigated. Other dietary practices studied were the number of vegetables other than potato served daily, and the frequency of the use of whole grain and refined cereals. In their findings these writers state:

. . . the home economics group was following better food practices according to the standard accepted as a basis for comparison, but since the number studied was small and so many factors

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other than home economics training might have influenced these practices, it can not be assumed that this training alone was wholly responsible for the better food practices. A need for further and more complete study was indicated (13:38).

A study was made by Wilson and Speer (19) in 1935 for the purpose of determining what relationship, if any, could be demonstrated between the dietaries of families in two rural Arkansas communities. The survey was conducted by means of visits to the home, by questionnaires filled out by high school girls, and by questionnaires filled out by a selected group of women in each community. The dietaries of 60 Watson Chapel families and 30 Dollarway families were judged by a standard having an optimum score of 100, in which 24 points were allowed for milk, 22 for vegetables, 19 for fruits, 17 for bread and cereals, and 18 for meat and eggs. Graded on this basis, Wilson and Speer state that only 35 per cent of the families of Watson Chapel and 20 per cent of those of Dollarway can be considered to have diets suited to their needs.

Since the study of the writer was started, a study has been completed in Colorado by Roskelley (15) and published in Extension Bulletin 380-A, by Colorado State College, Fort Collins, Colorado, in April, 1944. The title of this study is Practices and Attitudes of Rural People in Colorado in Meeting a Yardstick of Good Nutrition. Many of the methods and materials used in

this study were quite similar to those used by the writer for her study. The purpose of the study by Roskelley (15) was to determine (1) the extent to which rural people follow the recommendations of the "Yardstick of Nutrition; (2) whether people felt that the servings of foods which they ate were sufficient or insufficient; and (3) the reasons for insufficiency when the people felt there was one. The "Yardstick of Good Nutrition" was interpreted in this study as being one plan of meeting the recommended dietary allowances of the Food and Nutrition Board, National Research Council. However, it was pointed out that if substitutions are made, it is necessary to make careful planning to make them satisfactory. According to this study, it is not possible to say that a person whose diet does not conform to this yardstick necessarily has an inadequate diet. If the diet did not measure up to the yardstick, although considerable substitution occurred, there was seldom adequate compensation in the other foods. Therefore, this study was meant to be an indicator of the proportion of people in the areas surveyed who had an adequate or inadequate diet according to the yardstick. The "Yardstick of Good Nutrition" as used in this study to check the adequacy or inadequacy of the individual or family diets, was practically the same in respect to foods or food groups and servings of these foods per day or week as was the "Check List for Food Needs" set

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up by the writer to check the foods eaten by the group of Spanish-American girls studied.

The data for the study made by Roskelley (15) were obtained by interviewing homemakers of 644 rural families consisting of 2,365 individuals over two years of age in seven widely scattered and representative sections of Colorado. The data from the Dry Land, Northern Irrigated, Foothills, and Suburban Tract areas were obtained in the fall of 1940; that from the Arkansas Valley and the San Luis Valley in the early summer of 1942; and that from the Western Slope in the early fall of 1942. Even though all the data were not gathered at the same time, the writer stated that the evidence obtained during the interviews suggested that no material changes had occurred in diet habits and attitudes over the time span between the first and last interviews. Through the interviews, homemakers indicated the number of servings per week for each diet item. From this evidence the normal number of servings of each food item throughout the year was calculated. No effort was made to measure or weigh the foods consumed, but during the interviews considerable time was taken to define terms and to arrive at a common understanding of "what constitutes a serving." In this study it was found that less than half the families had the serving of milk recommended. Nine out of 10 persons interviewed ate the minimum number of eggs, or three per week, and about

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half met the recommendation of one egg per day. Slightly more than three-fifths met the requirement for meat, poultry, and fish. Only six out of 10 people met the standard for green or yellow vegetables. Four-fifths of the members of Colorado rural families ate potatoes daily. Less than half the members of the families ate a daily serving of a vegetable other than green or yellow or potatoes. More than half did not eat a daily serving of citrus fruit or tomato. Three-fourths of the rural people of Colorado had a serving of fruit, other than citrus, daily. Three-fourths of those interviewed ate two servings or more of butter daily. Practically all, or 99.11 per cent of the members of these families, ate two servings or more of bread or cereals daily. This food group was eaten nearly twice as frequently as was recommended by the yardstick.

#### Typical studies of other racial groups

Between 1934 and 1936, Carpenter and Steggerda (4) made a study of the food habits of the Navajo Indians, chiefly in the southern part of the Navajo reservation in New Mexico and Arizona. The foods were analyzed in terms of proximate principles. A study was made for a week of the character and amount of food eaten by five families. The average group of six to seven persons ate per week: one goat, ten kilograms of coffee, and such vegetables as might be available.

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One family out of ten was recorded as consuming three to eight liters of goat's milk per day from April to September, or one can of condensed milk per week when goat's milk was not available. All parts of the goat and sheep were eaten, including most of the alimentary canal. Carpenter and Steggerda (4) stated that:

Since early coming of the Spaniards, mutton (from sheep or goat) may be called the chief food of the Navajo. Some small sections use beef. The Navajo consumes all parts of the animal, including most of the alimentary tract and different parts of the stomach and intestines. The male reproductive organs, the brains, the soft part of the hoofs, the ligaments of the legs, occasionally skin after the hair has been removed, the blood and eyes are all used. Perhaps, because the Navajo does use practically all parts of the animal, he may have reached a dietary balance, which perfects him for life in his surroundings and which gives him a nutritional reserve resulting in his excellent physique as well as his excellent teeth. Very little of the corn plant is wasted. Early in summer half formed ears are boiled in milk and completely eaten, even the cob (4:302).

Flanagan (6), in 1938, made a study of the dietary habits of three generations of Eastern Cherokee Indians. A great deal of stress had been laid upon the teaching of homemaking in the government Indian schools, but no study had been undertaken to determine whether there was any carry-over of this teaching in the daily life of the Indian people. This study is a comparison of the dietary habits of three generations of Indian women living on the Cherokee Indian Reservation, Cherokee, North Carolina. As much as possible, full-blood Indians in a direct line of relationship (as grandmother,

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mother, and daughter) were used to represent the three generations. Only women in the third generation had had homemaking training. The data were collected by means of a questionnaire presented directly to the women in their homes. Some additional material was obtained from Indians who were able to give information on present food practices and uses of native foods. After comparisons were made of the material and information gained from the three generations, the following observations were made by the investigator:

Improvement was shown by better gardens, by use of a greater variety of foods, by an increased use of milk, by the serving of three regular meals a day, by a reduction in the amount of coffee consumed by adults and children, and by the establishment of better food habits for children and infants. The above results justify the statement that there is an apparent carry-over of homemaking training as taught in the Indian schools (6:90).

The food and health of 30 Indian families living at Morton, Minnesota, were studied in 1938 by Tedrow (16) to find out the living conditions in Indian homes. The information secured was to be used as a background for teaching home economics to Indian children in the school of Pipestone, Minnesota. By means of a house-to-house visitation, the diets and living conditions of 30 Indian families were studied, and also the physical status of the members was observed. The information regarding purchases of food and food habits was supplied by merchants, and members of the State Board of Health, who had previously held a health clinic, supplied

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clinical data which was used in making the family health reports. The writer stated that:

Housing conditions were good, considering the income, due to a recent rehabilitation program. The general physical condition of the family members was good with no conclusive evidence of active tuberculosis or trachoma. The birth rate exceeded the death rate. No diets were rated as entirely adequate. Milk and vegetables other than potatoes were probably the greatest deficiencies in the diets. Tea and coffee were used to excess (16:81-82).

An investigation was made in 1939 by Williams (18) to help determine the effect of the study of foods in high school home economics courses on the adequacy of the diets of Japanese girls and on the adoption of American foods by Japanese families in one section of the country. The study included 57 girls in three counties in southern California, 29 of whom had had some study of foods and 28 of whom had not had any such courses. They kept records of foods eaten for one week. The control and experimental groups were compared, but no statistically significant differences were found. Instruction appeared to have made little difference in the tendency to accept American foods.

#### Typical studies of Spanish-Americans

In a report by Handman (8) on "The Mexican Immigrant in Texas," from Proceedings on the National Conference of Social Work, Fifty-third Annual Session in 1926, it is stated that:

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The matters of health of the Mexican presents a serious problem. Tuberculosis, syphilis, and genito-urinary diseases take an exceedingly heavy toll, but the terrific overcrowding has something to do with it. Also the exceeding sensitiveness to cold of the Mexican, and his insufficient and unwise clothing are factors. Apparently the Mexican comes with a predisposition for tuberculosis, to judge by the mortality in Mexico City from that cause. Gastro-intestinal diseases play a greater role in Mexico than they do here, probably because of the better feeding here than in Mexico. An addiction to meat and coffee are the chief changes in his dietary habits. In the summer time in San Antonio there is a great increase of gastro-intestinal diseases among children, owing to the consumption of spoiled milk, since most Mexican homes have no refrigeration facilities (8:337).

Whitacre (17) made a study of the diet of Texas school children, the data for which were collected during 1927, 1928, and 1929. In this study the written records of all foods eaten for a week in the spring and also in the winter were secured from 993 white children, 471 Negroes, and 153 Mexicans. The school children were located in three different regions of the state. However, despite a distinct diversity in the agriculture of the three regions, and the supply of locally-produced foods, only minor differences appeared in the diet of the children in the three regions. Seasonal differences were inconspicuous. Eggs and leafy vegetables were eaten somewhat more often in the spring than in the winter, and citrus fruit, raw fruit, and nuts slightly more often in winter. The writer states that:

Racial differences in dietary habits with respect to kinds of food used are much less conspicuous than is commonly supposed. While

in general, the white children had a somewhat better diet than the Mexican, and the Mexican than the negro, all appear to have a deficiency in the use of milk, fruits, vegetables, and whole cereals, a sufficiency of protein-rich foods other than milk, and a relative overabundance of foods of refined cereals. The most noteworthy racial difference occurs in the use of coffee and tea; three times as many of the Mexican as of either white or negro children drank these beverages. Coffee and tea tended to crowd milk out of the diet in all races, but still the Mexicans had better records for using milk than did the negroes (17:43).

Whitacre (17) further found that estimation of the nutritive value of a typical diet used by these children indicated that the diet of white and Mexican children is apt to be deficient in calcium and possibly vitamin A; of Negroes in calcium, vitamin A, and probably also in vitamin C, phosphorus, and iron. The calories supplied by the illustrative diet would no doubt be sufficient only for children from six to 11 years of age. The girls of each race had slightly better diets than the boys, the difference being due to their more liberal use of milk, butter, fruits, and vegetables. She stated that:

Evaluation of the diets by means of a score card shows, as do also the average daily frequencies of the several classes of food in the diets, that (1) the collective diets of the two seasons were practically identical, (2) that the white children had somewhat better diets than the Mexican and the Mexican than the negro, and (3) that the girls in each race had slightly better diets than the boys. Comparison of the diet scores of white children in this study with those of contemporaneous similar surveys in four other states disclosed similar deficiencies--viz., milk, fruit, vegetables, and whole cereals (17:43-44).

She concluded that:

The findings of this study indicate that some other factor (or factors) than racial habits, season of the year, or differences in the supply of locally-produced foods exercises a greater influence in determining what kinds of foods school children eat. The findings further suggest that there are good reasons for continued emphasis upon the liberal use of milk, fruits, vegetables, and whole cereals in the diet of growing children (17:44).

Farrell (5) reported in an article in the Journal of Home Economics for June, 1929, that there are three distinct types of Mexican inhabitants on both sides of the international border. The aristocrats of Spanish ancestry have great wealth and beautiful homes; they are cultured, well educated, and charming. A middle class is forming steadily from the children of the less fortunate who have had advantage and opportunity to learn some American ideals attainable under their circumstances. The peons are the servants of the rich, hewers of wood, haulers of water, and tillers of the soil. Children of these people constitute 75 per cent of the rural and village schools in the border counties of Arizona. The home conditions of these peons are pitiful. Sanitation is a sealed book to most families of this class, and their customs and old world beliefs are very greatly at variance with our modern sanitary rules. The houses are small, low adobe huts of one or two rooms. Many have floors of earth dampened and pounded each day until hard, smooth, and firm. The more

elaborate have rough lumber floors. The furniture is primitive, usually consisting of boxes used as seats and cupboards. A dining table is a luxury, since members of the family usually do not sit down to eat together. Each person takes what he wishes, finds a convenient seat, and eats. Few dishes are necessary for this type of service, and the native bread or tortilla makes an excellent plate upon which to place the frijoles (beans) and chili con carne. The only persons who may be served at the table are the father and older sons. Food is purchased locally, and the indispensable staples found in any of the homes are flour or a soft wheat, much lard, and coffee. In the rural districts corn is raised; it is used in the milk stage, or, when dried, forms the basis for many dishes, corn tortillas, enchiladas, tamales, and others. Some vegetables are raised during the growing season, but few are preserved for any future use. When there is sufficient money, some canned vegetables are bought at the stores; these usually consist of string beans, tomatoes, pumpkins, squash, and the inevitable chili. Chili is raised in abundance and dried in long strings for winter use. Meat dried into jerky, eggs, chicken (preferably stewed), milk scalded when fresh from the cow or made into fresh cheese are all part of the regular diet. American desserts, especially pie and cake, are rapidly becoming a part of the diet, and the

women learn to bake them quite well.

Winters (20) in a study in 1932 was concerned with the diet of Mexicans living in Texas. Data were obtained from 65 Mexican families living in San Antonio and Austin, Texas. Income ranges were from \$10 to \$40 a week. Each family had at least three children between the ages of two and 15 years. The average number of children was 4.5. Caloric, protein, and mineral content of the food consumed for each family was computed. Dietary standards used were based mainly on those proposed by Sherman in Chemistry of Food and Nutrition, third edition. Two studies were undertaken: one of 65 families who kept food records for one week; the second of 266 children up to two years of age, from information collected from 76 mothers, with the actual diets of 75 children kept during one week. Of the family diets, 54 per cent were inadequate in calories, 29 per cent in protein, 94 per cent in calcium, 54 per cent in phosphorus, and 51 per cent in iron. She also found that the intake of vitamin A was low, very small amounts of dairy produce and green vegetables being used. It was reckoned that only 18 per cent of the families spent enough money to obtain adequate food. Suggestions for an improved dietary were made. Under-nutrition in Mexican school children is comparable to that among American children. The percentage of Mexicans who die from digestive disturbances is almost twice as great as

Americans; from tuberculosis it is more than twice as great.

In a second study Winters (20) found that 85 per cent of the children had been breast-fed, but that when the child was weaned, the diet was very unsatisfactory. The diets of the 75 children showed 66 per cent deficient in calories, 18 per cent in protein, 96 per cent in calcium, 64 per cent in phosphorus, and 66 per cent in iron. Vitamin deficiency was similar to that in the family study. She found that the death rate of Mexican children under two years of age was exceedingly high. She further stated in summarizing that:

If these families can be taken as representative of Texas-Mexican population then more than half of this population are living on diets markedly inadequate. . . . The least deficiency is in protein and the greatest in calcium. . . . Vitamin adequacy cannot be estimated quantitatively, but we can base an opinion on the kinds and amounts of foods used. The following characteristics of the Mexican diet were ascertained. The diet contains beans, cereals (white flour, white rice, and whole corn), and lard in large amounts. Milk, meat, eggs, and cheese widely used, but in small amounts. Tomatoes, potatoes and onions are the most frequently used vegetables. Small amounts of fruits are used but bananas and oranges appear in almost a third of the diets. Coffee is bought regardless of economic status. Mexican families use exceedingly small amounts of milk, butter, eggs, and leafy vegetables, (foods rich in vitamin A). For this reason it seems that the intake of vitamin A is too low for the best physiological efficiency. The increasing use of milled cereals in place of whole grain corn so universally used by the Mexican in his home country may be cutting down the vitamin B to a dangerous extent. The

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wide use of beans, potatoes, and tomatoes somewhat offsets the possibility of a B deficiency and on the whole there seems to be less danger of a deficiency in this vitamin than of vitamin A. In spite of small amounts of fresh fruits and vegetables used the wide use of tomatoes, an extremely rich source of vitamin C and the use of large amounts of potatoes, a fair source, make a deficiency of this vitamin less probable than either A or B. An out of door life in a semi-tropical climate probably prevents any shortage of vitamin D. On the basis of the present knowledge of distribution of vitamin G, the Mexican would seem to be poorly insured in regard to this substance since his diet contains very small amounts of milk, meat, and leafy vegetables. In brief it may be said that the Mexican diet is (1) low in calories, (2) slightly inadequate in protein, (3) low in minerals, particularly calcium and (4) low in vitamins, especially A. If the Mexican bought enough food to meet his calorie requirement, but did not change his food selections, all deficiencies would probably disappear except those of calcium and vitamin A. . . . Economic conditions chiefly cause lack of proper nutrition among Mexicans (20:48-51).

In an article on food habits of the "Foreign Born," McGuire (12) wrote about the food habits and dishes of some different foreign-born people. The article appeared in Practical Home Economics in May, 1934. In referring to Mexican food she stated that:

Stuart Chase writes: "Mexican food is not so lurid as generally painted. . . . The soups are delicious; the eggs are always fresh and admirably cooked; the rich brown 'frijoles' (beans) are good; the crisp rolled bread is good, despite its lack of butter; an astonishing variety of exotic fruits is generally available, as well as bananas, oranges, and a kind of green lime. . . . Meats are generally tough and forbidding; chicken and turkey, however, are normally good and very common." (12:158-159)

McGuire explains that the "frijoles," of which the Mexicans are very fond, are made by cooking and mashing to a pulp a bean very much like the kidney bean. A large amount of fat is added. "Tortillas" are made from a mixture of cornmeal, salt, and water, patted into shape and cooked on a griddle. The Mexicans do not use many whole grain cereals. McGuire feels that the Mexican mother needs to be taught methods to increase the amount of milk in her family's diet, and to use less fat and more vegetables, especially canned tomatoes.

In adjusting class work in foods units to the community needs the teacher should study the community in which she works in order to adjust her work to meet these community needs. Imhoff (10) made a study in 1935, concerning the community of Rocky Ford, Colorado, in which she gathered adequate information regarding home food practices in a homogeneous community, and utilized the information obtained to modify the content or teaching procedure in the food units in home economics work so as to meet the needs of the community in a more adequate way. One of the varied groups of the community was a Mexican group; however, very few of the Mexican girls entered high school, and none were taking home economics. Seventy-five girls who were enrolled in the home economics classes were used for the study. The homes of the foreign-born people in this study were visited to obtain information concerning the real food

habits which were being practiced in the varied types of homes. The girls were sent to the local stores to check food products on the market at seasonal intervals, and to arouse their interest as to what foods were coming into the stores. Each girl was given a check sheet to check the food products used in her home each day for a week. For various causes there were but 30 check sheets complete and usable for the study. This group was checked against the original group in various ways and found so similar that it was considered representative of the complete group. A visit was made by the teacher to the home of each girl. From the combination of check sheets and home visits, an adequate knowledge and understanding were reached. Her findings showed that only three varieties of meat were being used in half the homes; but that during the colder months a larger variety of fresh meats was being used. Fresh vegetables were being used in all the homes. In more than three-fourths of the homes a variety of three kinds or more was used. Cabbage, carrots, and lettuce were used to a large extent. Fresh tomatoes were used in all the homes, but more during warmer months than during colder months. White potatoes were served in all the homes at one period of the study, but, in addition, two other fresh vegetables were served in these homes. She stated that this seemed to indicate that there was a good variety of fresh vegetables being used in all the homes.

Three-fourths of the homes used canned vegetables. Only about one-third of the homes used dried vegetables. Fresh fruits were used in most of the homes during three of the periods checked in the study. The four fresh fruits used more than all others were apples, bananas, grapefruit, and oranges. From this study a number of implications were made regarding the foods in general use in the community; from these implications the foods course of Rocky Ford High School might be modified or amplified.

Brown (3) studied the home practice facilities of Latin-American girls enrolled in the home economics classes of the Brownsville High School in Texas. The girls selected for the study were enrolled in the foods classes for the school year 1935-36. Information concerning these girls was obtained (1) by home visitation, (2) by individual conferences with the girls, (3) through the group judgment of several people experienced in home economics work with Latin-American people, and (4) through regular class work. After 100 homes were visited and all the information necessary was collected, the results were tabulated on master sheets. Her study was concerned with all phases of home practice facilities, but did not consider food habits of these people, although she stated in her summary under the heading, "Family Habits," that the Latin-American custom of eating food rolled in a tortilla does not necessarily

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demand the use of a table; she found that in 49 homes the family did not eat together at a table. In her implications, along with other numerous needs of these people, she included a need for better meals, better methods of serving meals, better planned meals, more vegetable gardens, and more storage facilities for food. She concluded that the homemaking course as taught in the Brownsville High School did not meet the home needs of the Latin-American girls.

A study was made during 1937-38 by Blazek (2) at the University of Texas entitled, Food Habits and Living Conditions of Mexican Families on Four Levels in the Upper Rio Grande Valley. The study was made to find out what variation existed in the food supply and living conditions of families on different income levels. Data were collected by means of the questionnaire method during personal interviews in most cases. The investigator found that in most of the families studied:

(1) Milled cereals were being substituted for whole grain products, (2) the diets were inadequate in milk, fruits, and fresh vegetables, (3) as the income increased, the food selection and living conditions were improved, but training in food selection was needed for nearly all families, (4) the diet of families who produced part of their food was superior to that of those who purchases all food, (5) cleanliness prevailed in even the poorest of all homes (2:76).

Hamilton (7) made a study in 1942 in order to determine how the dietary practices and housing condi-

tions of Spanish-speaking people might be improved through homemaking education in the sixth, seventh, and eighth grades in Prowers County, Colorado. In regard to dietary practices, she used the minimum dietary standards set up by the Committee on Food and Nutrition, National Research Council, Nutrition Division, Federal Security Agency, Washington, D. C., as a basis of comparison. In general, she found the diets to be very inadequate in all families as compared to the recommended dietary pattern, partly through lack of knowledge of food essentials for growth and development; partly because they did not know how to prepare available foods in appetizing ways; partly because of inadequate planning; and partly because of inadequate funds to buy foods. In her findings she states that:

Families used meats only occasionally, perhaps once in two or three weeks. Vegetables were used in the diet only occasionally, except for beans, chili peppers, garlic, and onions, which were used daily. Tomatoes were used occasionally. Corn and peas were in evidence more than any others. These people were also beginning to use potatoes in very small quantities. Fruits were very seldom found in the diet. None of the dairy products or eggs were used daily or even weekly. Butter and cheeses were seldom used. No cereals or breads were used daily. Cornmeal was used frequently and white bread had been tried more than any other. Coffee, dried beans, flour (used for tortillas), lard were used daily. These items comprised the entire diet daily. Only occasionally fruits, vegetables, dairy products, and meats were added (7:85).

Summary

Dietary studies of Anglo-Americans, other racial groups, and Spanish-Americans have been reviewed by the writer. The studies of Anglo-Americans have been reviewed, first, for the purpose of getting acquainted with methods of conducting a diet study, and, second, for the purpose of noting the relationship, if any, to dietary studies of other races. The dietary studies of racial groups other than Spanish-Americans have been reviewed for the purpose of noting their relationship, if any, to those of Spanish-Americans.

In the Anglo-American studies, those concerned with home economics and non-home economics groups showed that home economics training had not significantly improved the food habits of the girls. Both groups were found to be definitely inadequate in the use of fruits and vegetables. There was also some inadequacy in the use of milk and unrefined cereals. Home economics trained girls were found in another study to have carried over better food practices and dietary habits into their own homes than did a non-home economics group. This may have been due to some other factors, but if influenced by their home economics training, it shows a better carry-over than was found in the other studies. Both studies of rural families found the diets of the families to be inadequate. The diets of the rural families in Colorado were found to be lacking in

milk, citrus fruits or tomatoes, green or yellow vegetables, other vegetables, and meat to some extent. They were using considerable amounts of eggs, fruits (other than citrus), butter, bread, and potatoes. As a whole, the diets of all the Anglo-Americans studied were found to be inadequate.

Although some of the Indians studied seemed to have a small variety of foods in their diets, it was found that they ate their foods much more completely (that is, all parts of the foods) than did most of the other people discussed in the studies reviewed. This seemed to account for their better dietary balance as shown by their excellent physique and good teeth. In another Indian study it was found that there was a carry-over of homemaking training given in the Indian school into the homes of the girls, improving many aspects of food habits. Other Indians studied were not rated as having diets entirely adequate. Instruction seemed to have made little difference with Japanese girls in their tendency to accept American foods.

Most of the studies reviewed of Spanish-Americans were concerned with food habits or health as related to food practices. The health of the Mexican in some cases presents a serious problem, though not so serious here as in Mexico, probably because of better feeding here. Of the studies reviewed concerning food habits, the diets were found, in most cases, to be

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lacking in milk, fruits, vegetables, especially fresh, and whole grain cereals. In some of the studies meat and eggs were also listed as foods which these people lacked. One study brought out over-abundance in the use of refined cereals. The use by Spanish-Americans of a great amount of tea and coffee as beverages was brought out in several studies. All the studies reviewed found their diets to be very inadequate and emphasized a need for better food habits for this group of people and an improvement in their choice of foods which would have a beneficial effect on their health and enjoyment of life.

### Chapter III

#### METHODS AND MATERIALS

The group of girls selected for this study included all the Spanish-American girls enrolled in home economics classes of the Globe High School during the 1941-42 school year. The information concerning the foods actually served in the homes of the girls, and the foods eaten between meals, was secured by a daily written record, kept by the girls for a period of three weeks: one in the fall (September), one in the winter (December), and one in the spring (May). This record was secured from Spanish-American girls representing 35 different families and included the food served in their homes together with the foods eaten between meals.

The girls were supplied with mimeographed sheets on which they recorded the necessary information listed above. This mimeographed sheet was entitled, "Record of Meals for One Week" 1/. These daily record sheets were given to the girls at the beginning of their class period each day during the weeks in which this information was secured. They filled out the sheets at the beginning of the class period under the supervision

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1/ See Appendix A

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of the writer so that help might be given if needed. The sheet for Sunday, the first day of the week in which the record was taken, was filled out the first Monday. The sheets covering information for Friday and Saturday were filled out on Monday following the week in which the record had been taken. The record sheets were explained to the girls the previous week in class so that they would understand thoroughly the information wanted.

In order to secure this information under natural circumstances, so that the Spanish-American girls in the class would not feel that they were being "singled out," all members of the class were asked to fill out the same record sheets as a class project during class work on a suitable unit in foods. The information thus attained was used to advantage in other ways in connection with the regular class work.

After securing the above record sheets from the Spanish-American girls, the information received was checked, compared, and rated with accepted nutrition standards. The accepted nutrition standards used in making this check were arrived at by studying the nutrition standards from "Recommended Dietary Allowances," (14) compiled by the Committee on Food and Nutrition of the National Research Council, May, 1941. This "Recommended Dietary Allowances" is now commonly referred to as the "Government Yardstick of Good

Nutrition." From this, an evaluation chart was made which was entitled, "Check List for Food Needs" 2/. This evaluation chart was adapted from the "Minnesota Check List for Food Needs" by Hatcher (9), with the help and direction of Dr. Elizabeth Dyar of the Home Economics Division of Colorado State College. This evaluation chart was worked out to be particularly adapted to the needs of the present situation.<sup>3</sup> It was made so that the food eaten during one week could be evaluated on one sheet. After approving the final evaluation chart; Dr. Dyar further tested it in one of her nutrition classes during the school year of 1941-42. By use of this chart, the foods served to the Spanish-American girls were compared and rated.

Many different food patterns may meet these "Recommended Dietary Allowances" (14). The pattern on which the evaluation chart of the writer is based is applicable to most Anglo-American diets, but the dietary pattern of Spanish-American families may be quite different so it is possible that the picture may appear worse than it really is.

After ratings were made from this evaluation chart, the writer was able to ascertain what deficiencies there were in the food habits of the Spanish-American families covered by this study of Spanish-

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2/ See Appendix B

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American girls in home economics classes in Globe, Arizona. She was able to learn how the habits and customs of their families might or might not affect proper food practices. From this information, recommendations will be made to improve and better adapt the course in foods to meet the needs of this group of girls.

Chapter IV  
ANALYSIS OF DATA

The object of this report is to present information concerning the food habits of Spanish-American families in Globe, Arizona. In order to obtain this information, the writer studied the food habits of 35 Spanish-American girls in home economics classes of Globe, Arizona. The food habits of these girls were studied from records taken of the actual foods eaten by the girls at mealtime, the foods served in their homes but not eaten, and the foods they ate between meals. The records studied were obtained from each of the 35 girls for three sample weeks: one in September, one in December, and one in May. The foods eaten by the girls during the entire day, for the time in which the records were kept, were rated or scored according to a nutritional rating scale 1/ which had previously been set up conforming to nutrition standards. This rating device or evaluation chart was developed to include the following food groups: Eggs; Milk or Cheese; Lean Meat, Poultry, and Fish; Green or Yellow Vegetables; Dried Beans, Peas, or Other Vege-

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1/ See Appendix B

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tables; Potatoes, Citrus Fruits or Tomatoes; Other Fruits; Butter or Fortified Oleo 2/; Bread or Cereals, wholegrain or enriched; Miscellaneous, Coffee and Tea, Coca-cola or Candy except at meals. It allowed for a total of 44 possible points a week, four for each of the 11 food groups listed. On a line with each food group and under each rating was a designated number of times each food group should be eaten in a week to receive a certain rating. The records were rated zero, one, two, three, or four for each food group, according to the number of times a serving of the food group had been eaten during the week.

The girls studied in this report were Spanish-American girls enrolled in home economics classes during the school year 1941-42. Their ages ranged from 13 to 19 years, inclusive. They were enrolled in eighth grade, freshman or first year, and advanced home economics classes.

Comparison of nutritive constituents of foods eaten with nutrition standards

The records kept comprised a set of three for each girl, one for each sample week, making a total of 105 records. The total nutritional ratings

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2/ The term "Oleo" was used for oleomargarine throughout the study, since it is the term used in the girls' own homes for butter substitute.

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received by the girls for the three sample weeks ranged from nine to 35, inclusive, against a possible total rating of 44.

Thirteen records of the 105 received a rating of 30 or above, while 20 received a rating of 20 or below (Table 1). The balance of the records, or 72, received a rating between 21 to 29, inclusive.

For the month of September, the total nutritional ratings received by the girls ranged from 10 to 31, inclusive. Three girls received a rating of 30 or above, while eight received a rating of 20 or below. Twenty-four received a rating between 21 to 29, inclusive.

For the month of December, the total nutritional ratings received by the girls ranged from 16 to 33, inclusive. Five girls received a rating of 30 or above, while four received a rating of 20 or below. Twenty-six received a rating between 21 to 29, inclusive.

For the month of May, the total nutritional ratings received by the girls ranged from nine to 35, inclusive. Five girls received a rating of 30 or above, while eight received a rating of 20 or below. Twenty-two received a rating between 21 to 29 inclusive.

Table 1.--DISTRIBUTION OF NUTRITIONAL RATINGS OF 35 SPANISH-AMERICAN GIRLS IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, ON FOODS EATEN FOR A SAMPLE WEEK IN EACH OF THREE DIFFERENT MONTHS OF THE YEAR 1941-42.

Nutritional Rating	Number of Girls		
	September	December	May
35			1
34			1
33		1	1
32		2	
31	2	2	2
30	1		
29	1	3	4
28	3	4	2
27	3	1	2
26	4	1	2
25	5	3	6
24	3	2	4
23	2	6	1
22	3	4	1
21		2	
20	2	1	2
19	1	1	2
18	2		
17	1	1	
16		1	1

Table 1.--DISTRIBUTION OF NUTRITIONAL RATINGS OF 35 SPANISH-AMERICAN GIRLS IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, ON FOODS EATEN FOR A SAMPLE WEEK IN EACH OF THREE DIFFERENT MONTHS OF THE YEAR 1941-42 - Continued

Nutritional Rating	Number of Girls		
	September	December	May
15	1		1
14			
13			
12			
11			
10	1		
9			1
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Average Rating	23.88	24.97	24.82

The total nutritional ratings of the 35 girls for the three sample weeks were studied for maximum range between months and the average of the total ratings (Table 2). The maximum range between the three months for the individual cases varied from zero to 11 with average maximum range for the entire group of 5.11.

The average total rating was 23.88 for September, 24.97 for December, and 24.82 for May.

Table 2.--AVERAGE AND MAXIMUM RANGE OF THE NUTRITIONAL RATINGS OF 35 SPANISH-AMERICAN GIRLS IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, ON FOODS EATEN FOR A SAMPLE WEEK IN EACH OF THREE DIFFERENT MONTHS OF THE YEAR 1941-42

Girls	Total Nutritional Ratings			Maximum Range
	September	December	May	
A	31	32	34	3
B	31	28	35	7
C	30	28	27	3
D	29	29	29	0
E	28	26	31	5
F	28	31	28	3
G	28	22	19	9
H	27	33	29	6
J	27	23	22	5
K	27	25	25	2
L	26	32	29	6
M	26	29	28	3
N	26	21	24	5
O	26	27	19	8
P	25	25	25	0
Q	25	22	33	11
R	25	29	31	6
S	25	22	25	3
T	25	25	25	0
U	24	22	18	6

Table 2.--AVERAGE AND MAXIMUM RANGE OF THE NUTRITIONAL RATINGS OF 35 SPANISH-AMERICAN GIRLS IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, ON FOODS EATEN FOR A SAMPLE WEEK IN EACH OF THREE DIFFERENT MONTHS OF THE YEAR 1941-42 - Continued

Girls	Total Nutritional Ratings			Maximum Range
	September	December	May	
V	24	28	24	4
W	24	23	20	4
X	23	24	20	4
Y	23	21	23	2
Z	22	20	16	6
Aa	22	28	24	6
Ab	22	31	29	9
Ac	20	19	26	7
Ad	20	23	26	6
Ae	19	23	25	6
Af	18	24	25	7
Ag	18	23	27	9
Ah	17	17	15	2
Aj	15	23	24	9
Ak	10	16	9	7
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Average	23.88	24.97	24.82	5.11

The records of three girls were analyzed further for maximum range between the three sample periods for different food groups included in the nutritional rating scale (Tables 3, 4, and 5). They were chosen from the group for analysis because Girl Q had the highest maximum range, 11; Girl Ag had the next highest maximum range, nine; and Girl D had no range, zero. Girl Q received a total rating of 25 for September, 22 for December, and 33 for May, giving her the highest maximum range, 11, for the three sample weeks (Table 3). The food group Other Fruits shows the greatest maximum range, three. The food groups Milk or Cheese, Dried Beans, Peas, and Other Vegetables, Citrus Fruits or Tomatoes, and Butter or Oleo each show a maximum range of two. The food groups Potato and Miscellaneous show a maximum range of one. The food groups Eggs, Meat, Poultry, and Fish, Vegetables, Green or Yellow, and Bread or Cereals show no range.

Table 3.--DISTRIBUTION OF RATINGS RECEIVED WITH MAXIMUM RANGE OF 11 FOR SPANISH-AMERICAN GIRL Q IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, ON FOODS EATEN FOR A SAMPLE WEEK IN EACH OF THREE DIFFERENT MONTHS OF THE YEAR 1941-42.

Foods	September	December	May	Maximum Range
	Rating Received	Rating Received	Rating Received	
Eggs	1	1	1	0
Milk or Cheese	2	2	4	2

Table 3.--DISTRIBUTION OF RATINGS RECEIVED WITH  
 MAXIMUM RANGE OF 11 FOR SPANISH-AMERICAN GIRL Q  
 IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, ON  
 FOODS EATEN FOR A SAMPLE WEEK IN EACH OF THREE  
 DIFFERENT MONTHS OF THE YEAR 1941-42 - Continued

Foods	September	December	May	Maximum Range
	Rating Received	Rating Received	Rating Received	
Lean Meat, Poultry, and Fish	4	4	4	0
Vegetables Green or yellow	2	2	2	0
Dried beans, peas, or Other vege- tables	3	2	4	2
Potato	4	3	3	1
Fruits Citrus or tomato	2	1	3	2
Other fruits	1	2	4	3
Butter or Fortified Oleo	1	1	3	2
Bread or Cereals Wholegrain or enriched	4	4	4	0
Miscellaneous Coffee, tea, Coca-Cola, or candy, except at meals	1	0	1	1
-----				
Total rating	25	22	33	11

Girl Ag received a total rating of 18 for  
 September, 23 for December, and 27 for May, with the

next highest maximum range, nine, for the three sample weeks (Table 4). The food group Other Fruits shows the greatest maximum range, three. The food groups Eggs, Vegetables, Green or Yellow, and Dried Beans, Peas, or Other Vegetables, each show a maximum range of two. The food groups Milk or Cheese, Meat, Poultry, and Fish, Citrus Fruits or Tomato, Bread or Cereals, and Miscellaneous, each show a maximum range of one. The food groups Potato and Butter or Oleo show no range.

Table 4.--DISTRIBUTION OF RATINGS RECEIVED WITH MAXIMUM RANGE OF NINE FOR SPANISH-AMERICAN GIRL Ag IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, ON FOODS EATEN FOR A SAMPLE WEEK IN EACH OF THREE DIFFERENT MONTHS OF THE YEAR 1941-42

Foods	September Rating Received	December Rating Received	May Rating Received	Maximum Range
Eggs	2	4	4	2
Milk or Cheese	1	1	2	1
Lean Meat, Poultry, and Fish	3	4	4	1
Vegetables Green or yellow	2	2	4	2
Dried beans, peas, or Other Vege- tables	4	4	2	2
Potato	1	1	1	0
Fruits Citrus or tomato	0	0	1	1
Other Fruits	1	2	4	3

Table 4.--DISTRIBUTION OF RATINGS RECEIVED WITH  
 MAXIMUM RANGE OF NINE FOR SPANISH-AMERICAN GIRL Ag  
 IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, ON  
 FOODS EATEN FOR A SAMPLE WEEK IN EACH OF THREE  
 DIFFERENT MONTHS OF THE YEAR 1941-42 - Continued

Foods	September Rating Received	December Rating Received	May Rating Received	Maximum Range
Butter or Fortified Oleo	0	0	0	0
Bread or Cereals Wholegrain or enriched	2	2	3	1
Miscellaneous Coffee, tea, Coca-Cola, or candy, except at meals	2	3	2	1
-----				
Total rating	18	23	27	9

Girl D received a total rating of 29 for September, 29 for December, and 29 for May with zero range for the three sample weeks (Table 5). The food group Other Fruits shows the greatest maximum range, three. The food groups Potato, Citrus Fruits or Tomato, and Miscellaneous, each show a maximum range of two. Each of the food groups Milk or Cheese, Butter or Oleo, show a maximum range of one. The food groups Eggs, Meat, Poultry, and Fish, Vegetables, Green or Yellow, Dried Beans, Peas, or Other Vegetables, and

Bread or Cereals each show no maximum range. The food group Other Fruits shows a maximum range of three for Girl Q, Girl Ag, and Girl D (Tables 3, 4, and 5).

Table 5.--DISTRIBUTION OF RATINGS RECEIVED WITH MAXIMUM RANGE OF ZERO FOR SPANISH-AMERICAN GIRL D IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, ON FOODS EATEN FOR A SAMPLE WEEK IN EACH OF THREE DIFFERENT MONTHS OF THE YEAR 1941-42

Foods	September	December	May	Maximum Range
	Rating Received	Rating Received	Rating Received	
Eggs	3	3	3	0
Milk or Cheese	1	2	2	1
Lean Meat, Poultry, and Fish	4	4	4	0
Vegetables Green or yellow	2	2	2	0
Dried beans, peas, or Other Vegetables	4	4	4	0
Potato	4	4	2	2
Fruits Citrus or tomato	3	4	2	2
Other fruits	0	1	3	3
Butter or Fortified Oleo	1	0	1	1
Bread or Cereals Wholegrain or enriched	4	4	4	0
Miscellaneous Coffee, tea, Coca-Cola, or candy, except at meals	3	1	2	2
Total rating	29	29	29	0

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The nutritional rating of the foods eaten by the 35 Spanish-American girls for a week in September, one in December, and one in May were studied (Tables 6, 7, and 8). During September (Table 6) all but three girls ate Eggs. One-fourth of the group received a rating of three, and one girl a rating of four for Eggs. None of the girls received a rating of four for Milk or Cheese, but over half, or 54.3 per cent, received a rating of one. Over half the girls received a rating of four for Lean Meat, Poultry, and Fish. None of the girls received a rating of zero and only one girl a rating of one for Lean Meat, Poultry, and Fish. None of the girls received a rating of four for eating Green or Yellow Vegetables, but 26 of the girls, or 74.3 per cent, received a rating of one or two for Green or Yellow Vegetables. Over half the girls received a rating of four for Dried Beans, Peas, or Other Vegetables, and all but one girl received ratings of two, three, or four for this item. Over half the girls received a rating of two or three for Potatoes eaten. Four girls reported eating no Citrus Fruit or Tomato. Five girls reported eating no Other Fruits, and only six, or about one-sixth of the group, received a rating of three or four for Other Fruits. Twelve girls received a rating of zero for Butter or Oleo, and only three received a rating of three or four. Sixteen girls, or almost half the group, received a rating of

one for Butter or Oleo. Thirty-one, or 88.5 per cent, received a rating of four for Bread or Cereals. Four girls out of the group received a rating of four for the Miscellaneous group, which means they did not drink tea, coffee, and soft drinks, nor did they eat candy between meals.

Table 6.--NUTRITIONAL RATING OF FOODS EATEN BY 35 SPANISH-AMERICAN GIRLS IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, FOR A SAMPLE WEEK IN THE MONTH OF SEPTEMBER, 1941

Foods	Ratings									
	0		1		2		3		4	
	Per N Cent									
Eggs	3	8.6	11	31.4	11	31.4	9	25.7	1	2.9
Milk or Cheese	5	14.2	19	54.3	8	22.9	3	8.6	0	0.
Lean Meat, Poultry and Fish	0	0.	1	2.9	6	17.1	8	22.9	20	57.1
Vegetables Green or Yellow	2	5.7	12	34.3	14	40.0	7	20.0	0	0.
Dried Beans, Peas, or Other Vegetables	0	0.	1	2.9	6	17.1	10	28.6	18	51.4
Potato	1	2.9	9	25.7	10	28.6	10	28.6	5	14.2
Fruits Citrus or Tomato	4	11.4	12	34.3	9	25.7	7	20.0	3	8.6
Other Fruits	5	14.2	16	45.7	8	22.9	3	8.6	3	8.6
Butter or Fortified Oleo	12	34.3	16	45.7	4	11.4	1	2.9	2	5.7

Table 6.--NUTRITIONAL RATING OF FOODS EATEN BY 35 SPANISH-AMERICAN GIRLS IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, FOR A SAMPLE WEEK IN THE MONTH OF SEPTEMBER, 1941 - Continued

Foods	Ratings									
	0		1		2		3		4	
	Per N Cent									
Bread or Cereals										
Wholegrain or										
Enriched	0	0.	1	2.9	1	2.9	2	5.7	31	88.5
Miscellaneous										
Coffee, Tea,										
Coca-Cola or										
Candy, except										
at meals	2	5.7	8	22.9	15	42.9	6	17.1	4	11.4

Note: Starting with the top row, this table reads as follows: 3 girls, 8.6 per cent of the 35 studied, received a 0 rating on the nutritional scale for the eggs eaten during a sample week; 11 girls, 31.4 per cent, received a 1 rating, et cetera.

During December (Table 7) all but three girls ate Eggs. Six girls, or about one-sixth of the group, received a rating of four for Eggs. None of the girls received a rating of four for Milk or Cheese. Four girls received a rating of zero, and almost one-half of the group received a rating of one for Milk or Cheese. Twenty-one, or 60 per cent of the group, received a rating of four for Lean Meat, Poultry, or Fish, while there were none who received ratings of zero or one. Four girls received a rating of zero for Green or Yellow

Vegetables, while only two received a rating of four. None of the girls received a rating of zero for Dried Beans, Peas, and Other Vegetables, and 21 girls, or 60 per cent of the group, received a rating of four. Fourteen girls, or 40 per cent, received a rating of two for Potatoes, and 10 more, or 28.6 per cent, received a rating of three. Five girls ate no Citrus Fruit or Tomato, while 13 girls, or a little over one-third of the group, received a rating of one. Four out of the group received a rating of four for Citrus Fruits or Tomato. Four girls reported eating no Other Fruits, while the rest of the group was rather evenly divided as to receiving ratings of one, two, three, and four for Other Fruits. Nine of the girls received a rating of zero for Butter or Oleo, and only one girl received a rating of four. Twenty-two girls received a rating of one or two for Butter or Oleo eaten, the number being divided evenly between the two ratings. None of the girls received a rating of zero or one for Bread or Cereals, and again as in September, 31 girls, or 88.5 per cent, received a rating of four. Only three of the girls received a rating of four for the Miscellaneous group, showing very little or no use of coffee, tea, soft drinks, or candy. Nine girls, or 25.7 per cent, received a rating of zero for Miscellaneous, showing use of coffee, tea, soft drinks, or candy in excess.

Table 7.--NUTRITIONAL RATING OF FOODS EATEN BY 35  
SPANISH-AMERICAN GIRLS IN HOME ECONOMICS CLASSES  
OF GLOBE, ARIZONA, FOR A SAMPLE WEEK IN THE MONTH  
OF DECEMBER, 1941

Foods	Ratings									
	0		1		2		3		4	
	Per N Cent									
Eggs	3	8.6	11	31.4	9	25.7	6	17.1	6	17.1
Milk or Cheese	4	11.4	16	45.7	13	37.2	2	5.7	0	0.
Lean Meat, Poultry, and Fish	0	0.	0	0.	7	20.0	7	20.0	21	60.0
Vegetables Green or Yellow	4	11.4	9	25.7	12	34.3	8	22.9	2	5.7
Dried Beans, Peas, or Other Vegetables	0	0.	2	5.7	7	20.0	5	14.2	21	60.0
Potato	1	2.9	4	11.4	14	40.0	10	28.6	6	17.1
Fruits Citrus or Tomato	5	14.2	13	37.2	9	25.7	4	11.4	4	11.4
Other Fruits	4	11.4	8	22.9	9	25.7	7	20.0	7	20.0
Butter or Fortified Oleo	9	25.7	11	31.4	11	31.4	3	8.6	1	2.9
Bread or Cereals Wholegrained or Enriched	0	0.	0	0.	1	2.9	3	8.6	31	88.5
Miscellaneous Coffee, Tea, Coca-Cola, or Candy, except at meals	9	25.7	8	22.9	10	28.6	5	14.2	3	8.6

Note: Starting with the top row, this table reads as follows: 3 girls, 8.6 per cent of the 35 studied, received a 0 rating on the nutritional scale for the eggs eaten during a sample week; 11 girls, 31.4 per cent, received a rating of 1, et cetera.

During May (Table 8) only one girl received a rating of zero for Eggs eaten. Four girls received a rating of four, and 14 girls, or 40 per cent, received a rating of one for Eggs. Only one girl each received a rating of three or four for Milk and Cheese, while 20 girls, or 57.1 per cent, received a rating of one. Three girls received a rating of zero for Milk and Cheese. Twenty-five girls, or 71.4 per cent of the group, received a rating of four for Lean Meat, Poultry, and Fish. There were no girls who received a rating of zero for this item. Five girls received a rating of zero for Green and Yellow Vegetables, and five received a rating of four. Fourteen girls, or 40 per cent, received a rating of two for Green and Yellow Vegetables. Again, as in September and December, none of the girls received a zero rating for Dried Beans, Peas, and Other Vegetables. Over half the girls received a rating of four for this item. None received a zero rating for Potatoes, while 25.7 per cent and 28.6 per cent received a rating of one and two respectively. Four girls received a rating of zero for Citrus Fruits or Tomato, and 14 girls, or 40 per cent, received a rating of one. Only three girls received a rating of four for this item. Six girls received a rating of zero for Other Fruits, and eight, a rating of four. Fourteen girls, or 40 per cent, received a rating of zero for Butter and Oleo. None received a rating of zero for

Bread or Cereals, while 30 girls, or 85.7 per cent, received a rating of four. Six girls received a zero rating for Miscellaneous, showing use of coffee, tea, soft drinks, or candy in excess. Only three girls rated four, showing little use of these items.

Table 8.--NUTRITIONAL RATING OF FOODS EATEN BY 35 SPANISH-AMERICAN GIRLS IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, FOR A SAMPLE WEEK IN THE MONTH OF MAY, 1942.

Foods	Ratings									
	0		1		2		3		4	
	Per N Cent									
Eggs	1	2.9	14	40.0	11	31.4	5	14.2	4	11.4
Milk or Cheese	3	8.6	20	57.1	10	28.6	1	2.9	1	2.9
Lean Meat, Poultry, and Fish	0	0.	1	2.9	3	8.6	6	17.1	25	71.4
Vegetables Green or Yellow	5	14.2	9	25.7	14	40.0	2	5.7	5	14.2
Dried Beans, Peas, or Other Vegetables	0	0.	2	5.7	6	17.1	9	25.7	18	51.4
Potato	0	0.	9	25.7	10	28.6	11	31.4	5	14.2
Fruits Citrus or Tomato	4	11.4	14	40.0	7	20.0	7	20.0	3	8.6
Other Fruits	6	17.1	10	28.6	7	20.0	4	11.4	8	22.9
Butter or Fortified Oleo	14	40.0	7	20.0	5	14.2	5	14.2	4	11.4
Bread or Cereals Wholegrained or Enriched	0	0.	1	2.9	0	0.	4	11.4	30	85.7

Table 8.--NUTRITIONAL RATING OF FOODS EATEN BY 35 SPANISH-AMERICAN GIRLS IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, FOR A SAMPLE WEEK IN THE MONTH OF MAY, 1942 - Continued

Foods	Ratings									
	0		1		2		3		4	
	Per N Cent									
Miscellaneous Coffee, Tea, Coca-Cola, or Candy, except at meals	6	17.1	10	28.6	8	22.9	8	22.9	3	8.6

Note: Starting with the top row, this table reads as follows: 1 girl, 2.9 per cent of the 35 studied, received a 0 rating on the nutritional scale for the eggs eaten during a sample week; 14 girls, 40 per cent, received a 1 rating, et cetera.

The nutritional rating of the records kept by the girls for the combined three sample weeks, one in September, one in December, and one in May, is shown in Table 9. There are 105 records represented, three for each girl. Only 6.7 per cent of the group received a zero rating for Eggs, while 10.5 per cent of the records received a rating of four. Thirty-four and three-tenths per cent and 29.5 per cent received ratings of one and two respectively for Eggs. Fifty-five of the records, or 52.3 per cent, received a rating of one for Milk or Cheese, while only one record received a rating of four. None of the records received a zero rating for Lean Meat,

Poultry, and Fish, while 66 records, or 62.9 per cent, received a rating of four for Lean Meat, Poultry, and Fish. Eleven records received a rating of zero for Green or Yellow Vegetables, and only seven received a rating of four. None of the records received a rating of zero for Beans, Peas, and Other Vegetables, while 57 records, or 54.3 per cent, received a rating of four. Only two records showed a rating of zero for Potatoes, and 34 and 31 records received ratings of two and three respectively. Twelve and four-tenths per cent received a zero rating for Citrus Fruits or Tomato, and 9.6 per cent received a rating of four. Fifteen records received a zero rating for Other Fruits, and 18 received a rating of four. Thirty-five records, or one-third, received a zero rating for Butter or Oleo, while only seven records, or 6.7 per cent, received a rating of four. None of the records showed a zero rating for Bread or Cereals, and 92 records, or 87.6 per cent, received a rating of four. Seventeen records showed a zero rating for Miscellaneous, which showed use of coffee, tea, soft drinks, or candy in excess. Only 10 records showed a rating of four, which showed little use of these items.

Table 9.--NUTRITIONAL RATING OF FOODS EATEN BY 35 SPANISH-AMERICAN GIRLS IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, FOR THE COMBINED THREE SAMPLE WEEKS, ONE IN SEPTEMBER, ONE IN DECEMBER, AND ONE IN MAY, OF THE YEAR 1941-42

Foods	Ratings									
	0		1		2		3		4	
	Per N Cent									
Eggs	7	6.7	36	34.3	31	29.5	20	19.0	11	10.5
Milk or Cheese	12	11.5	55	52.3	31	29.5	26	25.7	1	1.0
Lean Meat, Poultry, and Fish	0	0.	2	1.9	16	15.2	21	20.0	66	62.9
Vegetables Green or Yellow	11	10.5	30	28.6	40	38.1	17	16.1	7	6.7
Dried Beans, Peas, or Other Vegetables	0	0.	5	4.7	19	18.1	24	22.9	57	54.3
Potato	2	1.9	22	21.0	34	32.4	31	29.5	16	15.2
Fruits Citrus or Tomato	13	12.4	39	37.1	25	23.8	18	17.1	10	9.6
Other Fruits	15	14.3	34	32.4	24	22.9	14	13.3	18	17.1
Butter or Fortified Oleo	35	33.3	34	32.4	20	19.0	9	8.6	7	6.7
Bread or Cereals Wholegrain or Enriched	0	0.	2	1.9	2	1.9	9	8.6	92	87.6
Miscellaneous Coffee, Tea, Coca-Cola, or Candy, except at Meals	17	16.1	26	24.8	33	31.4	19	18.1	10	9.6

Note: Starting with the top row, this table reads as follows: 7 records, 6.7 per cent, of the total 105 records of the 35 girls studied, received a 0 rating on the nutritional scale for eggs eaten during the combined three weeks; 36 records, 34.3 per cent received a 1 rating, et cetera.

The average nutritional ratings of all the 35 Spanish-American girls for the foods eaten during each of the three sample weeks and the total average nutritional rating for the combined three week period were computed (Table 10).

The food group Eggs shows a total average nutritional rating of 1.92, which makes the average total rating very close to the rating two. The average rating for Eggs for each month separately is very close to the total average rating. The total average rating for Milk or Cheese is 1.35, which is also quite close to the individual average ratings for the separate months, with the exception of September, which shows the greatest deviation with an average rating of 1.25. The total average nutritional rating for Lean Meat, Poultry, and Fish is 3.43. The average rating of this item for each month separately is very close to the total average rating. The total average rating for Green or Yellow Vegetables is 1.80, and the average rating of each month separately is also quite close to the total average rating, May, being the same. Dried Beans, Peas, and Other Vegetables received a total average rating of 3.26, with the separate months averages being close to this average. The total average rating for Potatoes is 2.35 with separate monthly averages not deviating greatly. The same thing is true of Citrus Fruits or Tomato with a total average rating of 1.74. Greater

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range between the average monthly ratings is shown for Other Fruits with the total average rating of 1.86. Also, the range between the average ratings by months for Butter or Oleo is greater than most of the other food groups, with the total average rating of 1.22. There is very little range between the average ratings for Bread or Cereal with total average rating of 3.81. There is more range between the average ratings of the separate months for the Miscellaneous group than for any other except the group Other Fruits. The total average range of the Miscellaneous group is 1.80. There seems to be little variance between the average ratings of the separate months in most of the food groups.

The food group receiving the highest total average rating was Bread or Cereals with an average of 3.81, lacking only .19 points to reach a four rating total average for all the records of the girls. The next highest total average rating was received by the Lean Meat, Poultry, and Fish group with a total average rating of 3.43. One other group of foods received a total average rating of three or over with 3.26 for the group Dried Beans, Peas, or Other Vegetables. These total average ratings show considerable consumption of these three food groups by most of the girls. The food group which received the next highest total average rating was Potatoes with a rating of 2.35. Eggs received the next highest total average rating of 1.92.

The food groups Other Fruits, Green or Yellow Vegetables, and Citrus Fruits or Tomato received total average ratings of 1.86, 1.80, and 1.74 respectively. These ratings showed use of these foods to be lacking. The total average rating for Butter or Oleo was 1.22, showing little use of this food by most of the girls. The Milk or Cheese food group, with total average rating of 1.35, showed little use of these foods. The remaining group, Miscellaneous, received a total average rating of 1.80, which means there was considerable use of coffee, tea, soft drinks, or candy by the girls.

Table 10.--AVERAGE NUTRITIONAL RATINGS OF FOODS EATEN BY 35 SPANISH-AMERICAN GIRLS IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, FOR A SAMPLE WEEK IN EACH OF THREE DIFFERENT MONTHS OF THE YEAR 1941-42

Foods	SEPTEMBER	DECEMBER	MAY	TOTALS	
	Average Nutritional Rating	Average Nutritional Rating	Average Nutritional Rating	Average Nutritional Rating	Maximum Range
Eggs	1.82	2.02	1.91	1.92	.20
Milk or Cheese	1.25	1.37	1.34	1.35	.12
Lean Meat, Poultry, and Fish	3.34	3.40	3.57	3.43	.23
Vegetables Green or Yellow	1.74	1.85	1.80	1.80	.11

Table 10.--AVERAGE NUTRITIONAL RATINGS OF FOODS  
EATEN BY 35 SPANISH-AMERICAN GIRLS IN HOME  
ECONOMICS CLASSES OF GLOBE, ARIZONA, FOR A  
SAMPLE WEEK IN EACH OF THREE DIFFERENT MONTHS  
OF THE YEAR 1941-42 - Continued

Foods	SEPTEMBER	DECEMBER	MAY	TOTALS	
	Average Nutri- tional Rating	Average Nutri- tional Rating	Average Nutri- tional Rating	Average Nutri- tional Rating	Maximum Range
Dried Beans, Peas, or Other Vege- tables	3.28	3.28	3.22	3.26	.06
Potato	2.25	2.45	2.34	2.35	.20
Fruits Citrus or Tomato	1.80	1.68	1.74	1.74	.12
Other Fruits	1.51	2.14	1.94	1.86	.63
Butter or Fortified Oleo	1.00	1.31	1.37	1.22	.37
Bread or Cereals Wholegrain or Enriched	3.80	3.85	3.80	3.81	.05
Miscellan- eous Coffee, Tea, Coca- Cola, or Candy, ex- cept at meals	2.05	1.57	1.77	1.80	.48

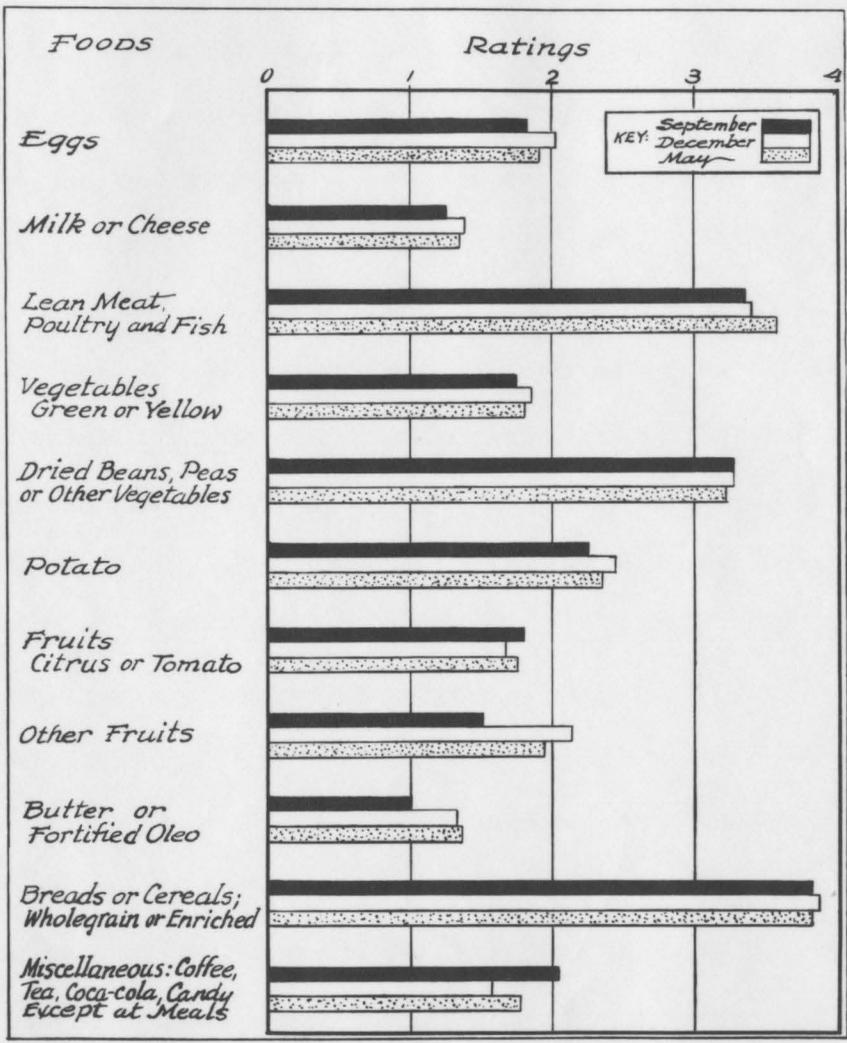


Figure 1.--Comparison of ratings of foods eaten by 35 Spanish-American girls in home economics classes of Globe, Arizona, for a sample week in each of three different months of the year 1941-42.

Foods served in the homes of the girls but not eaten

The number of times the food groups were served but not eaten at mealtime in the homes of the girls was listed (Table 11). The food mentioned as not being eaten the most number of times is Bread or Cereals, being listed 292 times. This food also received the highest total average nutritional rating of 3.81 (Table 10). Dried Beans, Peas, and Other Vegetables was next highest in listing with 228 times mentioned. This food group received the third highest total average rating of 3.26 (Table 10). The group Miscellaneous was next highest in number of times mentioned, with 132 listings. This shows considerable serving of coffee or tea, especially, from that group at mealtime. Eggs received a listing of 130 times, showing considerable serving of Eggs in the homes. Butter or Oleo was listed the next fewest number of times as being served and not eaten, and it received the lowest total average nutritional rating (Table 10). Other food groups which were listed among the fewest number of times were Citrus Fruits or Tomatoes, Other Fruits, and Potatoes, with listings of 30, 40, and 58 respectively.

Table 11.--FOODS SERVED BUT NOT EATEN AT MEALTIME  
IN HOMES OF 35 SPANISH-AMERICAN GIRLS IN HOME  
ECONOMICS CLASSES OF GLOBE, ARIZONA, FOR A  
SAMPLE WEEK IN EACH OF THREE DIFFERENT MONTHS  
OF THE YEAR 1941-42

Foods	September	December	May	Total
	Number Times	Number Times	Number Times	Number Times
Eggs	45	40	45	130
Milk or Cheese	26	25	39	90
Lean Meat, Poultry, and Fish	21	22	27	70
Vegetables Green or Yellow	14	35	20	69
Dried beans, peas, or Other Vegetables	84	62	82	228
Potato	16	18	24	58
Fruits Citrus or Tomato	8	10	12	30
Other Fruits	10	15	15	40
Butter or Fortified Oleo	2	24	13	39
Bread or Cereals Wholegrain or Enriched	98	99	95	292
Miscellaneous Coffee, tea, Coca-Cola, or Candy, except at meals	53	37	44	134

### Foods eaten between meals

The number of times the food groups were eaten between meals by the 35 Spanish-American girls for the three combined sample week periods was listed (Table 12). The food group Miscellaneous is mentioned a total of 452 times. This shows the greatest use of coffee, tea, soft drinks, and candy between meals. Bread or Cereals ranks next highest with 166 total listings. Milk or Cheese ranks next highest with 127 listings. A large amount of this food group was eaten as ice cream between meals. Other Fruits and Citrus Fruits or Tomatoes were mentioned 108 and 105 times respectively, showing use of considerable fruit as between-meal food. Lean Meat, Poultry, and Fish was listed 39 times. Often meat was used in sandwiches when eaten between meals. Potatoes, Green or Yellow Vegetables, Dried Beans, Peas, and Other Vegetables, and Butter or Oleo were mentioned as being eaten between meals only very few times. Eggs was mentioned only once as eaten between meals.

Table 12.--FOODS EATEN BETWEEN MEALS BY 35 SPANISH-AMERICAN GIRLS IN HOME ECONOMICS CLASSES OF GLOBE, ARIZONA, FOR A SAMPLE WEEK IN EACH OF THREE DIFFERENT MONTHS OF THE YEAR 1941-42

Foods	September	December	May	Total
	Number Times	Number Times	Number Times	Number Times
Eggs	0	1	0	1
Milk or Cheese	34	53	40	127
Lean Meat, Poultry, and Fish	8	17	14	39
Vegetables Green or Yellow	0	3	2	5
Dried beans, peas, or Other Vegetables	2	2	0	4
Potato	1	3	1	5
Fruits Citrus or Tomato	38	33	34	105
Other Fruits	25	54	29	108
Butter or Fortified Oleo	1	6	3	10
Bread or Cereals Wholegrain or Enriched	30	81	55	166
Miscellaneous Coffee, tea, Coca-cola or Candy, except at meals	130	174	148	452

Chapter V  
DISCUSSION

The food eaten by 35 Spanish-American girls of Globe, Arizona, during one week each in September, December, and May was analyzed according to a "Check List for Food Needs" 1/, which was organized and set up to include the 11 following food groups: Eggs, Milk or Cheese; Lean Meat, Poultry, and Fish; Green or Yellow Vegetables; Dried Beans, Peas, or Other Vegetables; Potatoes; Fruits, Citrus or Tomato; Other Fruits; Butter or Fortified Oleo; Bread or Cereals, Wholegrain or Enriched; Miscellaneous, Coffee, Tea, Coca-cola. This list allowed for a total of 44 possible points. A record with a rating of approximately four in each food group, or a total rating of from 40 to 44 points, was considered an excellent diet, one of the best possible and one for which all should strive. A record with a rating of approximately three in each food group, or a total of from 30 to 40 points, was considered close to adequate or adequate. Less than a three rating in each food group, or less than a total of 30 points, was considered an inadequate diet, or one which showed need for

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1/ See Appendix B

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concern. However, the important point was to improve eating habits, not merely to obtain an excellent score.

Comparison of nutritive constituents of foods eaten with nutrition standards

As a first consideration, the total nutritional ratings received on all the records taken showed a wide range in the total scores. This seemed to indicate a great difference in food habits, even among members of the group studied. None of the group studied received the maximum rating of 40 to 44, which showed that none had an excellent diet, and only 13 of all the records taken for the entire period showed a rating which was considered an adequate or nearly adequate diet. Most of the total records taken, or about 68 per cent, received total ratings between 21 to 29 inclusive, which showed less than an adequate diet according to the score of each record. Twenty of the total records showed ratings of 20 or below, which indicated a poor diet and a poor choice of food. The average total nutritional ratings for all the records in each separate period were very close, approximately 23 to 24, showing the average for the diets of the group to be much below adequacy.

The maximum range of the nutritional ratings between the three months for individual cases varied considerably in only a few cases, but for the greater number of cases there was not a great deal of difference.

The average maximum range was small. Three cases showed no range at all, while one case showed a maximum range of 11, the highest. Four cases had a maximum range of nine between the three periods.

These girls seemed to have fairly adequate diets for the food group Eggs, since the records seemed to indicate that as a whole some Eggs were used in most of the families. However, only about one-tenth of the records showed a rating of four for Eggs, which meant that seven eggs a week had been eaten for each of these particular records. More than half of all the records showed a two, three, or four rating for Eggs, or three to seven eggs a week. This showed a fair use of this food item since recommended dietary allowances recommend three to five eggs a week as a minimum requirement if the goal of one a day cannot be attained. Many of the girls, in reporting the foods eaten during a week, mentioned the use of the Mexican hot chili sauce as being served on or with the eggs. This sauce is eaten on or with a great many of their foods and, it seems, even with eggs. An incident concerning the use of this Mexican chili sauce with eggs happened in one of the classes of the writer, which to her was interesting. A group of eighth grade girls had made plans for the preparation and serving of a medium breakfast for themselves in each of eight different kitchen groups.

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Their menus included eggs to be served in some way. One of the groups, which consisted entirely of Mexican girls, had made plans as had the others, and the morning on which the breakfast was to be prepared, all of these girls came to school, bringing from home a small amount of this chili sauce to eat on their eggs. The writer was somewhat surprised at this and later, at the insistence of these girls, tasted the eggs and found them to be quite good with the addition of this sauce.

The records indicated very little use of Milk or Cheese and showed that the diets of these girls were very inadequate in the use of this food group. Very few records received high ratings for Milk or Cheese with about two-thirds receiving ratings of zero or one. This showed only about one or less than one serving of this food a day. One girl reported drinking Eagle Brand Milk as a beverage quite often with her meals. Much of the food group Milk or Cheese which was reported and tabulated under one heading was actually Cheese. The Mexicans are usually thought of as using quite a bit of cheese, and it is used in many of their special dishes, such as tacos and enchiladas.

The Lean Meat, Poultry, and Fish food group was found to be one of the most popular, as evidenced by the high ratings received on the records of the girls for this food group, and showed their diets to be adequate in the use of this food. Two-thirds of all the

records received a rating of four, which meant the maximum requirement was met for a good choice of food in this category. None of the records received a zero rating. A great deal of hamburger meat was eaten, especially in the poorer class families. Many of the records of girls from these families reported using hamburger, Mexican sausage, and meat with chili as the type of meat eaten. Steak and pork chops were other types of meat mentioned most often, and very seldom was there any mention of roasts. Rabbit was eaten quite often and chicken occasionally, but very little fish was mentioned on the records. Much of the meat used was fried. One girl mentioned eating tripe made into a form of soup-dish called minueido. Gravy was often served with meat.

These girls had inadequate diets in the use of Green or Yellow Vegetables, since they ate very few of them. Only seven out of the 105 records from the 35 girls showed the maximum use of this food group with a four rating. Eleven of the records showed no Green or Yellow Vegetables eaten at all. Most of the records showed ratings of one or two for this food group, which indicated from one to four servings eaten a week. This was inadequate. The green or yellow vegetables mentioned most often were lettuce or string beans. Quite often the green or yellow vegetables were used in the form of salads. Lettuce was also used a great deal in

many of the special Mexican dishes, such as tacos, enchiladas, and toastadas. However, the writer did not consider the mention of any of these on the records as a serving of green vegetables since there was no indication that a serving of lettuce had been eaten.

The food group Dried Beans, Peas, or Other Vegetables adequately met the standard. It received among the highest of the total ratings. Over half of the records showed a rating of four for this group, and none of the records received a rating of zero. Over three-fourths of the records received a rating of three or four, which indicated adequacy or better than adequacy for this group of foods. Dried beans was by far the most often listed of this group. A great many times this food group received the rating of four with over the maximum seven servings a week due to a considerable use of dried beans. Dried beans were often listed as being eaten at each meal of the day, including breakfast. Other vegetables which were eaten quite often were peas, beets, corn, and squash. Onions were mentioned occasionally. However, onions are also used a great deal in some of the special Mexican dishes mentioned above. These were not tabulated as regular servings of onions, since it is very doubtful if the amount eaten was very close to the size of a serving when eaten with these special dishes. Quite often these Other Vegetables were served as creamed vegetables.

The records showed that the use of Potatoes was fairly adequate, not nearly as adequate as the last group discussed, but more nearly adequate than Green or Yellow Vegetables. About one-third of the records received a rating of three, indicating five to six servings a week. Only two records showed no potatoes eaten and a few received a four rating. Potatoes were listed as being served as fried, mashed, or creamed. There was no mention of baked potatoes on any of the record sheets.

In general, most of the records seemed to indicate a deficiency or inadequacy of Citrus Fruits or Tomatoes in the diet of this group. However, a few did have ratings of four, or an adequate amount. Too many, or 13 records, showed no Citrus Fruit or Tomato eaten. In some cases, citrus fruits were used quite often, probably due to the abundance of citrus fruits in Arizona, and also due to the fact that they are comparatively reasonable in price and are available most of the school year. Tomatoes were eaten much less frequently and were usually listed as tomato salads. However, some of the Mexican dishes contain canned tomatoes or tomato sauce, but no evidence was obtained that enough use of these had been made to constitute a serving of the foods listed.

The group Other Fruits included all other fruits except citrus and the records indicated inadequate use of them in the diets of most of the girls. Fifteen

out of the 105 records showed no use of Other Fruits at all. Almost three-fourths of the records received a rating of two or less, which indicated much less than an adequate choice of Other Fruits. The fruit mentioned most often was apples, and bananas was next highest in listings. There was a wide variety of other fruits listed as being eaten. However, most of the others, besides apples and bananas, were mentioned only a few times each.

The diet of this group of girls was found to be greatly lacking or very inadequate in the use of Butter or Fortified Oleo. It was the least used or eaten of all the food groups. Exactly one-third of all the records showed either no Butter or Fortified Oleo eaten or such a small number of servings used as to receive a zero rating. About 85 per cent of all the records showed less than adequate use of butter or fortified oleo. The tortilla, or native Mexican bread, is used almost entirely without butter. Many foods were served fried. Spanish-American methods of preparing foods use much lard, although this did not show up on the record sheets listed as such.

The diet of these girls was very adequate in the use of the Bread or Cereals food group, which received the highest total ratings of all the groups. None of the records showed a zero rating for this group, and out of the 105 records, 92 received a rating of four,

which meant the maximum amount of Bread or Cereals was eaten in this many of the records. Many of the records received many listings for this food group far over the recommended number of 14 servings a week. Bread was eaten in quantities, much of it in tortillas, the native bread, which might be made either of white flour or cornmeal, or of coarsely ground corn. As many as five, six, or more slices of bread or tortillas were listed in many cases as eaten at a single meal. The tortillas were used a great deal rolled up with beans inside. Cereals were eaten quite extensively, and many of those listed were served as cooked cereals, such as cream of wheat, oatmeal, and rice. A wide variety of the ready-prepared cereals was also listed. Macaroni and spaghetti were also eaten a great deal and often in combination with other foods such as cheese and chili sauce.

The Miscellaneous group showed the extent to which Coffee, Tea, Coca-cola, or Candy were used. In general, the records showed much use of these items. However, the records indicated a varied use of these items by the girls, some using them frequently and others not so frequently. Tea and coffee were drunk very often, and there was considerable use of soft drinks and candy between meals.

A typical meal of these girls consisted of dried beans, potatoes, and tortillas. Another typical meal found on the records consisted of lean meat, dried

beans, potatoes, and bread or tortillas, and chili sauce. These two typical menus were listed often on the records of girls from the poorer class homes. A few of the girls who came from the better class Mexican homes had quite varied diets, fairly well balanced, which included a variety of fruits and vegetables and considerable milk. Some of the records which showed a varied and fairly well balanced diet, although lacking in sufficient servings per week to be rated excellent, showed no higher total scores than others but showed high ratings for Lean Meat, Beans, and Potatoes, due to the fact that a high rating of four on some of these items brought the total score as high as those of the better balanced diet but which did not have high ratings in any one group. A small number of the girls studied ate their noon lunch on school days in the school cafeteria, and this fact showed plainly in their total scores or ratings for the different food groups eaten, since a higher rating was usually received by these girls for eating Milk, Fruits, and Vegetables than for many who did not eat at the cafeteria.

Caloric content of foods eaten was not considered in this study, but due to the quantities of breads and cereals eaten and also fried foods eaten, it would seem that the Spanish-American girls received sufficient calories in their diets mainly from these foods. From all appearances, these girls usually gave

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the impression of receiving sufficient calories in their diets.

Little difference was found in the diets of these girls due to seasonal variations.

#### Foods served in the homes of the girls but not eaten

The foods listed most times as served but not eaten were usually found to be the same foods which were listed as eaten most often. This was undoubtedly because of the monotony of the foods served. Likewise, those foods eaten the least times were listed as being served but not eaten the fewest number of times. In general, scarcely any foods were served in the homes to a large extent that were not also shown on the records as having been eaten. There seems to be much use of coffee and tea among these families, since either or both were served at most of the meals. Dried beans and chili sauce were served in many cases two or three times a day.

#### Foods eaten between meals

Items from the Miscellaneous group were listed as being eaten between meals the greatest number of times since many soft drinks and much candy were eaten between meals. Breads and Cereals were listed as being eaten between meals due to the fact that sandwiches were often eaten between meals. Fruits and Milk were also foods often eaten between meals, since they are foods

which lend themselves well to that type of eating habit. There was little use of Eggs, Vegetables, and Butter between meals. Meat and Cheese were eaten between meals to some extent, usually in the form of sandwiches.

Conclusions

The records of the food which the Spanish-American girls ate, when analyzed according to the "Check List for Food Needs" 2/, showed fairly conclusively that their diet in most cases was:

1. Fairly adequate for Eggs.
2. Very inadequate for Milk or Cheese.
3. Adequate for Lean Meat, Poultry, and Fish.
4. Inadequate for Green or Yellow Vegetables.
5. Adequate for Dried Beans, Peas, or Other Vegetables.
6. Fairly adequate for Potatoes.
7. Inadequate for Citrus Fruits or Tomatoes.
8. Inadequate for Other Fruits.
9. Very inadequate for Butter or Fortified Oleo.
10. Very adequate for Bread or Cereals.
11. Indicative of a too extensive use of Coffee and Tea at meals and Soft Drinks and Candy between meals.

STOP !!!

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2/ See Appendix B

Recommendations for a course in foods for Spanish-American girls

From the discussion of the review of literature and analysis of data, the following recommendations for modification of the homemaking course are made for the teacher to meet more nearly the needs of the Spanish-American girls and their families in Globe, Arizona:

1. The girls should be made to realize that the foods they normally use to a large extent are good foods but that other food groups should be included with them to make a balanced diet.
2. A wider and more varied use of all vegetables should be stressed through the teaching program.
3. Proper methods for cooking vegetables of all kinds should be presented, demonstrated, and practiced.
4. Spanish-American girls should be encouraged to use the vegetables such as tomatoes and others already used in their homes more frequently and to incorporate proper methods of cooking them.
5. New ways of using the vegetables they like should be presented and demonstrated.
6. The use of all citrus fruits should be encouraged with variations in use, since

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they are one of the most plentiful, easily obtained, and least expensive of the fruits on the markets in Globe, Arizona.

7. The girls should be encouraged to use and should be shown ways of using other fruits.
8. The girls should be encouraged to use fruits for between-meal snacks instead of soft drinks and candy.
9. Help should be given these girls in understanding and using more balanced diets and incorporating in them the foods they normally use most and like best, such as dried beans, meat, bread, and potatoes, along with the foods they lack.
10. The importance of milk in their daily diets should be stressed by presenting ways in which it may be used more frequently.
11. The use of canned milk in cooking and in the preparation of other foods should be encouraged because of the fact that fresh milk is expensive and many of the homes lack refrigeration facilities.
12. The use of more cheese should be encouraged since the girls already like it and the problem of keeping it is not great.

13. The girls should be shown that a continued use of eggs, at least up to a minimum requirement in the diet, is a good practice.
14. Better and simpler methods of meat preparation may be used which will not necessitate the use of so much fat or the method of frying as the only method of preparation.
15. Since butter or fortified oleo do not seem to be used to a great extent in these homes, the teacher should plan her course to get these students to include foods in their diets which would help add in other ways the nutrients lacking by little use of butter or fortified oleo.
16. The teacher should become more familiar with the home background of these girls and their needs through more home visitation so that she may more effectively plan her course to meet the needs of these girls.

Suggestions for further study

1. What responsibility do Spanish-American girls in Globe, Arizona, take in their homes for meal planning?
2. What are the implications for the home economics teacher concerning the food

habits of Spanish-American girls who have taken home economics and those who have not taken home economics?

3. What are the facilities in the homes of Spanish-American girls in Globe, Arizona, for meal preparation and for the handling and storage of foods?
4. What is the effect of the economic situation of Spanish-American families upon their food habits?
5. What are the nutritive constituents and food values of commonly used portions in typical Spanish-American foods and dishes?

## Chapter VI

### SUMMARY

A study was made of the food habits of Spanish-American families in Globe, Arizona, in order to answer the following question, "What implications for the home economics teacher are to be found in the food habits of these Spanish-American families?" In order to solve the above problem, the following questions were studied:

1. How do the nutritive constituents of foods eaten by the girls from Spanish-American homes compare with nutrition standards?
2. What foods are actually served in the homes of the girls?
3. What are the foods eaten between meals?

To answer these questions, records were kept of foods eaten by Spanish-American girls in home economics classes of Globe, Arizona. These records were kept by the girls for a sample week in each of three different months: September, December, and May of the school year 1941-42.

To obtain these data, mimeographed sheets entitled "Record of Meals for One Week" 1/ were supplied

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1/ See Appendix A

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to the girls, and, under the direction of the writer, they recorded on these sheets a complete list of all foods eaten at mealtime, foods served but not eaten, and foods eaten between meals. These sheets were filled out for a week in September, a week in December, and a week in May, in order to determine seasonal variations, if any. From these records the writer checked, compared, and rated the information secured with accepted nutrition standards. The nutrition standards used in making this check were arrived at by studying the nutrition standards from "Recommended Dietary Allowances" (14) compiled by the Committee on Food and Nutrition of the National Research Council, May, 1941. From this, an evaluation chart was made which was entitled "Check List for Food Needs" 2/. This evaluation chart was adapted from the "Minnesota Check List for Food Needs" (9) with the help and direction of Dr. Elizabeth Dyar of the Home Economics Division, Colorado State College.

#### Summary of findings

The records of the food which the Spanish-American girls ate, when analyzed according to the "Check List for Food Needs" 2/, showed fairly conclusively that their diet was in most cases:

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2/ See Appendix B

- 9
1. Fairly adequate for Eggs.
  2. Very inadequate for Milk or Cheese.
  3. Adequate for Lean Meat, Poultry, and Fish.
  4. Inadequate for Green or Yellow Vegetables.
  5. Adequate for Dried Beans, Peas, or Other Vegetables.
  6. Fairly adequate for Potatoes.
  7. Inadequate for Citrus Fruits or Tomatoes.
  8. Inadequate for Other Fruits.
  9. Very inadequate for Butter or Fortified Oleo.
  10. Very adequate for Bread or Cereals.
  11. Indicative of a too extensive use of Coffee and Tea at meals and Soft Drinks and Candy between meals.

Recommendations and implications for a course in foods for Spanish-American girls

From the discussion of the review of literature and the analysis of data, the following recommendations and implications for modification of the home-making course are made for the teacher to meet more nearly the needs of the Spanish-American girls and their families in Globe, Arizona:

1. The girls should be made to realize that the foods they normally use to a large extent are good foods but that other food

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- groups should be included with them to make a balanced diet.
2. A wider and more varied use of all vegetables should be stressed through the teaching program.
  3. Proper methods for cooking vegetables of all kinds should be presented, demonstrated, and practiced.
  4. Spanish-American girls should be encouraged to use the vegetables such as tomatoes and others already used in their homes more frequently and to incorporate proper methods of cooking them.
  5. New ways of using the vegetables they like should be presented and demonstrated.
  6. The use of all citrus fruits should be encouraged with variations in use, since they are one of the most plentiful, easily obtained, and least expensive of the fruits on the markets in Globe, Arizona.
  7. The girls should be encouraged to use and should be shown ways of using other fruits.
  8. The girls should be encouraged to use fruits for between-meal snacks instead of soft drinks and candy.
  9. Help should be given these girls in understanding and using more balanced diets and

incorporating in them the foods they normally use most and like best, such as dried beans, meat, bread, and potatoes, along with the foods they lack.

10. The importance of milk in their daily diets should be stressed by presenting ways in which it may be used more frequently.
11. The use of canned milk in cooking and in the preparation of other foods should be encouraged because of the fact that fresh milk is expensive and many of the homes lack refrigeration facilities.
12. The use of more cheese should be encouraged since the girls already like it and the problem of keeping it is not great.
13. The girls should be shown that a continued use of eggs, at least up to a minimum requirement in the diet, is a good practice.
14. Better and simpler methods of meat preparation may be used which will not necessitate the use of so much fat or the method of frying as the only method of preparation.
15. Since butter or fortified oleo do not seem to be used to a great extent in these homes, the teacher should plan her course to get these students to include foods in their

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diets which would help add in other ways the nutrients lacking by little use of butter or fortified oleo.

16. The teacher should become more familiar with the home background of these girls and their needs through more home visitation so that she may more effectively plan her course to meet the needs of these girls.

A P P E N D I X

APPENDIX CONTENTS

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B CHECK LIST FOR FOOD NEEDS . . . . .	103

Appendix A.--RECORD OF MEALS FOR ONE WEEK

High School Grade \_\_\_\_\_  
Name \_\_\_\_\_  
School \_\_\_\_\_

Age \_\_\_\_\_  
Date \_\_\_\_\_

List all foods eaten in last 24 hours including butter or oleo and beverages, candy, etc.

Give brand name of oleo, also state if tea or coffee have cream or sugar, and amount.

Tell whether food was raw or cooked, and, if served with any sauce, give sauce.

Tell whether bread was made of corn, rye, whole wheat or white flour.

Tell whether bread homemade or bakers; also if "enriched" or give brand.

If you ate 2 servings of a food write after it (2) or if 3 servings write (3).

Give approximate amounts of each food eaten.

I. Foods Eaten for Breakfast

	Food	No. of serv	Amount	Sauce, Cream Sugar, etc.
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

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

- 1. \_\_\_\_\_ 4. \_\_\_\_\_
- 2. \_\_\_\_\_ 5. \_\_\_\_\_
- 3. \_\_\_\_\_ 6. \_\_\_\_\_

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

- 1. \_\_\_\_\_ 3. \_\_\_\_\_
- 2. \_\_\_\_\_ 4. \_\_\_\_\_

Appendix A.--RECORD OF MEALS FOR ONE WEEK - Continued

II. Foods Eaten at Noon

	Food	No. of serv	Amount	Sugar, Cream Sauce, etc.
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

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

1. \_\_\_\_\_ 3. \_\_\_\_\_

2. \_\_\_\_\_ 4. \_\_\_\_\_

B. What foods did you eat or drink between noon and evening meal?

1. \_\_\_\_\_ 3. \_\_\_\_\_

2. \_\_\_\_\_ 4. \_\_\_\_\_

III. Foods eaten at Evening Meal

	Food	No. of serv	Amount	Sugar, Cream Sauce, etc.
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

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

1. \_\_\_\_\_ 3. \_\_\_\_\_

2. \_\_\_\_\_ 4. \_\_\_\_\_

Appendix A.--RECORD OF MEALS FOR ONE WEEK - Continued

B. What foods did you eat or drink between evening meal and bedtime?

- |          |          |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

Appendix B.--CHECK LIST FOR FOOD NEEDS

Diet of \_\_\_\_\_ Rated by \_\_\_\_\_ Date \_\_\_\_\_

Ratings	0	1	2	3	4	
EGGS - - - - - None	1-2	3-4	5-6	7		
	eggs wk.	eggs wk.	eggs wk.	eggs wk.	1.	
MILK OR - - - - None	4-10	11-17	18-24	25-28		
CHEESE	serv. wk.	serv. wk.	serv. wk.	serv. wk.	2.	
LEAN MEAT,- - - None	1-2	3-4	5-6	7		
POULTRY & FISH	serv. wk.	serv. wk.	serv. wk.	serv. wk.	3.	
VEGETABLES - - - None	1-2	3-4	5-6	7		
Green or yellow	serv. wk.	serv. wk.	serv. wk.	serv. wk.	4.	
Dried beans, - - None	1-2	3-4	5-6	7		
peas or other vegetables	serv. wk.	serv. wk.	serv. wk.	serv. wk.	5.	
POTATO - - - - - None	1-2	3-4	5-6	7		
	serv. wk.	serv. wk.	serv. wk.	serv. wk.	6.	
FRUITS - - - - - None	1-2	3-4	5-6	7		
Citrus or tomatoes	serv. wk.	serv. wk.	serv. wk.	serv. wk.	7.	
Other Fruits - None	1-2	3-4	5-6	7		
	serv. wk.	serv. wk.	serv. wk.	serv. wk.	8.	
BUTTER OR - - - None	3-7	8-12	13-17	18-21		
FORTIFIED OLEO	serv. wk.	serv. wk.	serv. wk.	serv. wk.	9.	
BREAD OR CEREALS	None	2-4	5-8	9-12	13-14	
Whole grain or enriched.		serv. wk.	serv. wk.	serv. wk.	serv. wk.	10.
MISCELLANEOUS - -	13-14	9-12	5-8	2-4	None	
Coffee, tea, Coca-cola or candy except at meals.	serv.wk.	serv.wk.	serv. wk.	serv. wk.		11.

TOTAL SCORE

## Appendix B.--CHECK LIST FOR FOOD NEEDS - Continued

SERVINGS

Milk-----1 cup

Cheese----1 oz. equals approx.

1 c. of milk

Meat, Poultry or Fish---Small, medium or large, approx.,  
according to specific size to be stated.Vegetables and fruits--- $\frac{1}{2}$ c to  $1\frac{1}{3}$ c.Citrus fruits and tomatoes--1 whole or  
equivalent except grapefruit-- $\frac{1}{2}$ .

Potato--1 medium or equivalent.

Butter---1 pat or 1 tablespoon.

Bread----One slice

Cereal--- $\frac{1}{2}$ c. to  $\frac{3}{4}$ c.

Miscellaneous---1c. tea or coffee

1 bottle coca-cola

Several pieces of candy

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