

AN ABSTRACT OF THE THESIS OF

Janet Zimmerman Burson for the degree of Master of Science  
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Title: FOOD PREFERENCES AND SHOPPING HABITS OF OLDER  
PEOPLE

Abstract approved: \_\_\_\_\_  
Elisabeth S. Yearick

Ninety people, aged 60 and older, were interviewed regarding their shopping habits, use of convenience foods, frequency of food use and reasons for food preferences. The relation of income level and education level to reasons for food use was also investigated.

The major source of purchased food was the chain supermarket. Shopping was done primarily on a once a week basis. The food groups purchased most frequently were fruits and vegetables, and milk and milk products. The primary determinants of these shopping patterns were food quality, economy, and convenience.

Convenience foods were widely used by the elderly study subjects. They were valued for their ease of preparation. Income level did not influence the choice of market place or the use of convenience foods.

More than three fourths of the subjects used some form of milk each day. Low fat milks were most popular. Ground beef and chicken were the most frequently used meats. Beef steaks and roasts and all forms of pork were also well liked. The fruits, in general, were well liked and used on a regular basis. Green beans were the most frequently used vegetable on a weekly basis; lettuce the most frequently used vegetable on a daily basis. With one exception, enriched breads were consumed daily by all subjects. The dry, unsweetened cereals were the most frequently used form of cereal. A preference was found for margarine and oil over butter, shortening, cream, and lard. Coffee, tea, fruit and vegetable juices were all consumed frequently. Soft drinks, artificially sweetened drinks and alcoholic beverages were less acceptable to the elderly.

Sensory reasons and the degree of preparation required by a food item were the two most frequently given reasons for food selection. Health considerations were also important to the older people who were both weight conscious and concerned about heart disease. Neither income level nor educational level had an influence on the reasons given for food use.

Food Preferences and Shopping Habits  
of Older People

by

Janet Zimmerman Burson

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Professor of Foods and Nutrition  
in charge of major

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Head of Department of Foods and Nutrition

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Dean of Graduate School

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Typed by Ilene Anderton and Lyndalu Sikes for Janet Zimmerman  
Burson

To my husband and my parents

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# FOOD PREFERENCES AND SHOPPING HABITS OF OLDER PEOPLE

## INTRODUCTION

There are an estimated 20 million Americans currently aged 65 and older (21, 23). It has been estimated that less than half of these older Americans receive sufficient nutrients and calories to ensure good health (8). While poor eating habits are often associated with loneliness (23), an even greater factor accounting for inadequate intake is low income. Statistics from a Task Force for the Special Committee on Aging of the U.S. Senate indicate that "poverty is the way of life of 3 out of 10 people 65 and over" (21). For these reasons, efforts are being made to reach older people and improve their nutritional knowledge and status.

One major effort toward improving the quality of life for older Americans, with special emphasis on nutritional status, is the Older Americans Act, Title VII, National Nutrition Program for the Elderly. This program provides one hot meal a day, several days a week, to the elderly, either free or at a small fee. The meals are offered in various centers, conveniently located for the elderly (32). Nutrition education programs can also be offered at these centers prior to or after meals (23). Since attitudes toward

food are established early in life and may be difficult to change in old age, both feeding and nutrition education programs must take this into account (18). However, little is known about the specific food preferences of the older person. There is a real need for research in this area in order to best implement the programs now beginning on behalf of the elderly.

A major factor in helping older people to continue independent living, with satisfaction and quality to their life, is their ability to prepare or obtain adequate meals (18, 30). Proper nutrition has been suggested as one of the best means of minimizing degenerative changes associated with aging (28). The effectiveness of a nutrition education program is dependent on knowledge of the shopping patterns and food preferences of the elderly. Research into these areas has been limited, however.

The object of this study was to identify some of the food preferences and shopping habits of older people. Although the study population was small and limited to one community and one race, the subjects are very likely typical of other older Americans.

## REVIEW OF LITERATURE

### Factors Influencing Food Preferences

The eating of food is related to many aspects of a person's life. Eating is necessary for health, can be enjoyable in itself, plays a social role, sometimes has religious or cultural associations, and can be a way of demonstrating the economic status of the individual. When trying to understand an individual's food preferences or to plan group feeding programs, all of the above factors must be taken into consideration (24).

There are many ways of looking at the meanings of food to people. Dickens (2) divides the factors governing food preferences into cultural, social, personal, and situational. Jelliffe (10) finds that foods may be classified on the basis of attitudes toward them. These classifications include 1. food and non-food, 2. age group or sex linked foods, 3. celebration foods, 4. disease linked foods, 5. cultural super-foods, and 6. modern prestige foods. Grivetti and Pangborn (6), in evaluating different approaches to food habit research, stress the functional role of foods in satisfying social needs. Food is symbolic of human relationships. They also note the influence of culture-history and geographic region on food preferences.

Mann (18), while stating that attitudes toward food are established early in life and are almost unchangeable by old age, notes the importance of adapting feeding programs for the elderly to these attitudes. Group feeding offers a good opportunity to promote better eating habits. A sociable atmosphere and companionship are offered to the elderly at the same time a nutritious meal is provided. By considering the food attitudes of the elderly when planning group meals for them, it is more likely that an adequate dietary intake will be achieved, a measure which would contribute satisfaction and quality to life in old age.

The importance of determining attitudes toward food in planning an effective nutrition education program is pointed out by Lockhart (16). She writes "facts help in the development of understandings and appreciations of food, food practices and attitudes, but attitudes that are already formed influence the acceptance and application of new knowledge and thereby control food behavior." Attitudes gained through experience with food are retained long after factual nutrition information, once learned, has been forgotten.

Moore (20) and Pumpian-Mindlin (27) feel that the symbolic aspects of food are often the most important. Both trace the origins of emotional attitudes back to infancy. Food is associated with warm, friendly relationships. It is a means of communication between members of the family. Moore suggests food's "motherliness" as

another symbolic aspect of eating. This aspect of food symbolism is derived from the central role of the mother in teaching what foods are eaten, where, how much, why, and with what feelings one eats. Pumpian-Mindlin believes that because of the emotional overlays of food, people are not rational about food. Since the emotional attitudes of the family and the culture are so very important, it is necessary to know what food means to the group on whose behalf efforts are being made. Otherwise a carefully planned nutritious diet can go uneaten.

Cultural factors in dietary choice are described by Lee (14). In certain cultures it is normal practice to eat such items as dogs, or dragon flies or crickets. In western eyes, these would not be considered as food, despite their nutritional value. What is recognized as food depends on the culture. These cultural food avoidances are considered geographic food prejudices in the terminology of Simoons (29). Milk and milk products are traditionally avoided in S. E. Asia and the Far East, but are well accepted in America. Our appetite for particular foods at a certain season or time of the year, such as turkey at Thanksgiving, is also culturally determined. Even what is considered appropriate for a certain meal is cultural, e. g., pancakes and sausage for breakfast. Food selection is also influenced by culture. In certain regions and cultures where a varied diet has high priority, foods are selected to avoid monotony.

Some foods have religious symbolism associated with them. Almost all religions of the world have certain rituals involving food. Fathauer (4) states that, in addition to a possible religious significance, the sharing of food symbolizes a high degree of social intimacy and acceptance. He points out that attempted changes in eating patterns must be in keeping with the established food habits of the people and should not be introduced at a meal which is the "focus of deep family sentiments".

Knutson (12) and Pumpian-Mindlin (27) discuss the use of food to express status. Status can be related to the kind and quality of food served, the difficulty in obtaining it, the place and time food is eaten, and the manner of preparation and serving. Status foods confer status on those who eat them, but even status foods can become monotonous. Lowenberg (17) notes that repeating the same foods for three meals a day is considered a mark of poverty in the United States.

Foods can represent security as well as status. Lowenberg (17) reports that mainland North Americans often name milk as their security food. Milk represents the comfort, security and contentedness of home. However, Pumpian-Mindlin (27) describes milk as a double-edged sword. He points out that in addition to representing security, milk also represents dependency and may be avoided by many adults for this reason.



Food comes to the table by way of different channels according to Lewin (15). Examples of channels would include buying in a store, gardening, deliveries, buying in a country market, baking at home, and canning. Gatekeepers, such as a mother or homemaker, control the food channels and thus influence the kind, amount, quality and availability of food. The choice of channels is governed by various forces, such as economics, status, health, and cultural appropriateness. Lewin feels that, to understand and influence food habits, there is a need to know the psychological factors influencing the person controlling the channels. It is also important to know the relative strengths of the different frames of references and how they might vary for different foods.

In considering the problem of predicting the acceptance of or preference for foods, Pilgrim (24) describes the components or factors of food acceptance. He sees three components, physiological state, sensation, and attitudes as each contributing to the perception and final acceptance or rejection of the food. The three components act both independently and through mutual interactions. Such things as hunger and appetite influence physiological state, while the food itself and the person influence sensation. Attitudes are affected by the environment and previous learning experiences. Surveys of food preferences done by Pilgrim at the Quartermaster Food and Container Institute for the Armed Forces show that region of origin,

age, educational level and experience prior to age 16 are all strong controlling factors in food preferences.

## Food Preferences

### General Population

Some of the more extensive research into food preferences has been done by Pilgrim (25, 26). Although all of the subjects for these studies were army personnel, Pilgrim feels that the food preferences of the soldiers correspond generally with the preferences of the population as a whole. Admittedly, the age and sex distributions within the army are not typical of the general population, but army personnel represent a cross-section of American cultural patterns. In a series of surveys of food preferences, including more than 400 foods, Pilgrim (26) found that foods are either liked or disliked as a group. He found that a person will either like or dislike fruit in general, not just one fruit or another. Another finding was that foods decrease in popularity in proportion to the complexity of preparation. Solid meats and single foods had greater popularity than did combinations. Solid meats appear to be the preferred choice of American men. Some age differences in food preferences were found by Pilgrim (25, 26). Vegetables and soups were more popular with the older respondents while the younger men preferred

beverages, cereals, sweets, desserts, and fruits. Among the army population, few vegetables were well liked. The most popular food of all was fresh milk, followed by grilled steak, ice cream, French fried potatoes and hot biscuits. Lamb and fish were low preference foods.

### Food Preferences Related to Old Age

Food preferences in old age are influenced by a physiological aspect of aging, changes in the taste buds. According to Eppright (3), there is a gradual disappearance of taste buds throughout life. As a result, older people change their preferences. Generally, the preferences for sweet foods declines and the preference for tart fruity tastes increases with age. Eppright found that older women tended to prefer tart flavors while older men had a greater preference for sweets.

In addition to causing physiological changes, old age can also mean adjustments of a social and economic nature. In a study of 18 women, aged 48-77 years, Ohlson, et al. (22) found that the nutrient intake was affected by such factors as reduced family size and retirement or loss of husband. For many there was a reduction in purposeful activity with a concurrent loss of appetite and interest in preparing meals.

This observation of reduced interest in food and food preparation on the part of older women, coupled with reduced or low income, helps to explain some findings of Pelcovits (23). In a preliminary study of some 3,500 older people entering a Research and Nutrition Demonstration Program (Title IV, Older Americans Act), it was found that about one fourth of the group ate less than three meals per day. Of these, one half ate breakfast and supper, one quarter took breakfast and lunch, one eighth ate lunch and supper, and the remainder took only one meal a day. Of the entire group of 3,500 older people, 34% ate no fruit, 18% ate no vegetables, and 20% used no milk or milk products.

Knoll (11) writing of the food preferences of the elderly, based on observations made in nursing homes in Southern California, notes that poor appetite is a major problem in planning a nutritious diet. Exotic new dishes were not well accepted by the elderly who preferred their old favorites. Meat had to be tender and juicy. The most acceptable meats included roast beef, chicken, and steak, although Knoll states that "chicken is 'king'" with the elderly. Among the less acceptable meats were corned beef, lamb and fish, with organ meats being least acceptable of all. Finger foods, such as fried chicken, hot breads, French fried potatoes, are popular with the elderly, as are soups, hot sandwiches, casseroles, fruit pies, and gelatin desserts.

There are three basic preconceived ideas about food for the elderly according to Lane (13). The first preconceived idea is that the elderly can not chew properly and so they prefer soft or ground meats, the second is that they are set in their ways and will not try new foods, and the third preconceived idea is that the elderly prefer a heavy breakfast and a light evening meal. In two surveys of 350 older people living in 20 nursing homes, Lane found that although chewing is not an uncommon problem, very few older people prefer ground meat or casseroles. In agreement with Knoll (11), Lane found that even those with poor teeth preferred roasts and chops. On the other hand, baked potatoes and hard boiled eggs were not popular because they were difficult to open. Other foods, such as peas and steak, that were hard to handle with eating utensils, were also less popular. Lane states that soup was less acceptable than previously assumed and that light suppers were not well received.

Hendriksen and Cate (7), in a study of 24 elderly subjects in six nursing homes in Florida, looked for patterns of food acceptance based on the percentage of a serving eaten. They found an 80% acceptance of fruits, meats, poultry, fish, sweets, and grain products. Fruit juices had 100% acceptance or consumption. Beef (including corned, roast, braised, and ground), chicken, fish sticks, and fish cakes were all well liked. Fruit and fruit products were the most acceptable food group, followed by sweets and sugars.

Milk and milk products had only 57% acceptance.

### Reasons for Food Preferences

Lewin (15) in his study of 107 midwestern housewives, attempted to find the relative strengths of different values or reasons for which different foods might be preferred. He found that money and health were the most frequently mentioned reasons. Among the high income groups, taste was also an important factor in food preferences. As might be expected, money was less frequently mentioned by the higher income group than by the low and middle income groups.

Eppright (3) and Mead (19) both point out that, despite Lewin's observation that the housewives valued health-promoting foods, many people seem to enjoy eating foods that are not good for them. Mead explains this as a result of parental conditioning which starts early in life. The childhood practice of rewarding a child for eating the "right" foods and making the child feel guilty about eating the "wrong" foods starts the habit of thinking of food in moralistic terms. Although people feel that they ought to eat properly, they often believe that the foods they like are not good for them and the converse.

In her study of 529 older individuals living in Tennessee, Todhunter, et al., (30) found that vegetables were the food group

most often considered as good for health. Pork, foods high in fat, and sweets were thought to be bad for health. The most frequently given reason for disliking a food was not liking the taste. The texture of some vegetables and the complaint that certain vegetables disagreed with them were also given as reasons for disliking those foods.

#### Relationship of Educational Level and Income Level to Food Preferences

Dickens (2), citing data from the 1955 Household Food Consumption Survey of the U.S. Department of Agriculture, noted that meals of homemakers over 60 years were less likely to meet the Recommended Dietary Allowances (NAS-NRC) than those of homemakers under 60. However, regardless of age, the more highly educated the homemaker, the more nutritionally sound the diet. Jalso, et al. (9) also noted a positive correlation between educational level achieved and good nutritional practices. Jalso stated that those with sound nutritional opinions put into practice what they believed. However, she reports that, as age increased, valid nutritional opinions and practices decreased.

In regard to the influence of income level on food preferences, Dickens (2) reported that with increasing income, the nutritional quality of the diet also increased. Those with higher income levels

used larger quantities of beef, poultry, whole milk, eggs, ice cream and both frozen and fresh fruits and vegetables. There was greater use of dried milk in lower income families.

### Shopping Habits

There are several studies of the marketing practices of older people. Lewin (15), interviewing 107 middle-aged housewives in a midwestern town, found that the majority shopped less than three times a week. Those who shopped more than three times a week were in the high income group.

Five hundred twenty nine older individuals living independently in middle Tennessee were interviewed by Todhunter, et al. (30) regarding their food purchasing practices. Todhunter found that 40% of the group shopped once a week while 36% shopped two to four times a week. The remainder shopped less frequently. Supermarkets were the most popular type of store for marketing with this older group. Approximately three fourths of the group used supermarkets, whereas the remaining one fourth shopped in neighborhood stores.

Flippo (5) compares three studies of the buying habits of older people. These studies include: 47 older, two-person households in Tuscon Arizona, 60 older people living in a housing development in Washington, D. C., and 42 older households in Tuscaloosa, Alabama. In all cases, the major source of purchased food was the chain



supermarket. Arizona homemakers chose the chain supermarkets on the basis of location, prices, and food quality, whereas, Alabama homemakers based their choice on food quality, habit, and location. Fifty per cent or more of both Arizona and Alabama participants did their major grocery shopping once a week, although one fourth of the Alabama homemakers combined trips to the store with regular delivery of certain foods.

### Convenience Foods

The use of convenience foods by the general population has been steadily increasing during the past two decades according to Bivens (1). Surveys conducted by the Department of Agriculture in the spring of 1955 and 1965 show a great increase in use of both fresh, commercial juices and powdered fruit ades and punches. The use of processed potatoes, processed soups, and ready to eat breakfast cereals also increased. There was less use of biscuit, roll, and muffin mixes, but this seemed to be somewhat offset by the increase in use of bakery goods. An interesting finding was that low income households increased the use of convenience foods more than high income households. Bivens explains that part of the reason for this could be that the 1965 data include single-person households while the 1955 data did not. Many of the single-person households were low-income elderly who, because of possible

health limitations or other age-related reasons, might find convenience foods particularly helpful.

Dickens (2) in her study "Responses of Southern Urban Homemakers to Newer Forms of Dairy Products," found the percentage of women using instant milk, instant coffee, and cake mixes decreased from middle to older age. The older homemaker appeared more habit-bound and less willing to try new products.

The results of a food consumption study among selected Old Age and Survivors Insurance recipients in Rochester, New York (31), show that newer, processed foods, such as frozen fruits and vegetables, were not used to any great extent by this older group. Prepared flour mixes and frozen dinners also lacked popularity with the Rochester homemakers. Lack of adequate storage facilities and high cost were thought to be prohibitive factors. Possibly more important, the older homemakers appeared set in their preparation methods and lacked interest in trying new products.

Flippo (5) reports convenience foods were used infrequently by older Washington and Alabama homemakers, but that those who did use them, did so for the ease of preparation by these foods.

## PROCEDURE

### Description of Study Population

Ninety participants in the Western Regional Nutrition and Food Acceptance program were used as the subjects for this survey. All of the subjects were 60 years of age or older and lived within the Benton County, Oregon, area. This somewhat circumscribed area was necessary in order that all the subjects could be transported to the hospital for a physical examination and laboratory tests.

Fifty-three of the ninety older people were living alone. The remainder were couples, with the exception of two individuals living in households of three and one individual living in a household of four.

Twenty subjects resided in Samaritan Village, a retirement center with individual living units. One meal a day at Samaritan Village is taken in a community center. The other seventy people lived in private residences.

The educational level achieved ranged from completion of 6-8 grades to graduate school. On the whole, this was a well educated group. Eighty per cent had attended college at some level. Twenty of the ninety older people, or 22%, had attended graduate school.

## Educational Level Achieved

Educational Level	Number People
6-8 grades	9
9-11 grades	5
High School Graduate	20
Technical Training or Community College	20
College Graduate	16
Graduate School	20

Income level ranged from under \$3,000 per year to between \$12,000-24,999 per year. The majority fell into the lower income levels, with 22% of the group receiving less than \$3,000 per year. All but two subjects supplied information on their income level. One retired couple preferred not to give this information.

## Income Level

Income Level per Year	Number People
Under \$3,000	20
\$3,000 - 5,999	35
\$6,000 - 8,999	20
\$9,000 - 11,999	10
\$12,000 - 24,999	3

### Selection of Study Population

Participation in the Western Regional Nutrition and Food Acceptance Program was solicited initially by letter to those living in Samaritan Village and by word of mouth in the Corvallis-Benton County community at large. The participation of low income families was sought through VISTA. No criteria, other than age and willingness to cooperate, were used to select the subjects.

### Interview Procedure - Description of Questionnaire

An interview method was used throughout the study. The interviewer read the questions from the Western Regional Nutrition and Food Acceptance Program questionnaire to each subject and then completed the appropriate coded answer. Data from three portions of the questionnaire were used in this study. These were the questions concerning use of convenience foods, shopping habits, and frequency of food use. These portions of the questionnaire are reproduced in Appendix Tables i and ii. The interviewer first covered demographic data and food purchasing practices. Next, the older people were asked to give the interval of consumption (daily, weekly, monthly, never) of each food. The subjects were then asked to identify which item in each food category was used most frequently and least frequently and to give reasons for this

pattern of consumption. They were also asked to explain why certain items in each category were never used. The reasons for frequency of food use were grouped into five main classifications: sensory, health, economic and geographic, food preparation, and miscellaneous. The content of the reason code is found in Appendix Table iii. All interviewing was done by the same person, who was a registered dietitian.

#### Treatment of Data

Answers from the interview questionnaire were coded and keypunched on cards which were then tabulated by computer. In the process of analysis certain categories of answers were combined to better illustrate the material that was most contributory. The revised material is included in tabular form in the appropriate section of the text. In the tables relating income level and educational level achieved to reasons for food preferences, the numbers of responses were normalized in order to make a more meaningful comparison. The answers to the interview questionnaire have not been presented sequentially.

## RESULTS AND DISCUSSION

### Shopping Habits

#### Where They Shop and Why

Data on the major sources of purchased foods are summarized in Table 1. None of the subjects used rural grocery stores, private commissaries, specialty markets, or discount houses as a major source of food. Eighty of the ninety participating in the study (89%) shopped for their food at a chain supermarket. Five people (5%) did their shopping at a neighborhood store because of the convenience afforded by this type of store. Of the five people shopping at a neighborhood store, four lived in the retirement community and one did not. The four in the retirement community would have fewer grocery needs as one meal per day is served at the community center. The nearest neighborhood grocery store is about ten short blocks away, making an easy trip. These findings agree closely with those of Todhunter et al. (30), who found that 75% of her group of 529 older people shopped at supermarkets, the remainder using neighborhood stores. Flippo (5) reports that the majority of older homemakers in three separate studies in Alabama, Arizona, and Washington D. C., also used a chain supermarket as a major source of purchased food.

Table 1. Major Sources of Purchased Food: Reasons for Using these Sources

Major Source of Purchased Food <sup>a</sup>	Number using the Source	Reasons for Using the Source <sup>b</sup>						
		Quality at Low Price	Convenience	Variety of Items	Loyalty	Quality	Low Price	Other
Chain supermarket	80	28	18	9	9	6	5	5
Neighborhood store	5		5					
Home delivery	2		1					1
All types of facilities	1		1					
Not applicable	2							2
Total	90	28	25	9	9	6	5	8

<sup>a</sup>None of the subjects used rural groceries, private commissaries, specialty markets or discount stores as the major source of food.

<sup>b</sup>None of the subjects indicated availability of trading stamps, credit, or ethnic foods as a reason for using a facility.



Of the remaining five people in this study, two did not participate in the shopping, which was done by their wives, one made use of home delivery for the convenience, another used home delivery for an unspecified reason, and the fifth varied her shopping habits according to what was most convenient.

Also summarized in Table 1 are the reasons for using the various facilities as the major source of food. Overall, two reasons predominate: quality at low prices (31%) and convenience (28%).

Of the supermarket shoppers, 35% indicated quality at low prices as the reason for choosing this type of store. Low prices alone was not the greatest drawing factor, as evidenced by the fact that only 6% chose the chain supermarket for this reason. Another indication of the lack of emphasis put on cost by the group as a whole is that no one indicated trading stamps or credit as a reason for choosing a store. However, although they would not sacrifice quality for low price, only 7.5% of the group chose the chain supermarket for quality alone.

A variety or wide selection of foods is one of the advantages of the large supermarket and 11% of the supermarket shoppers chose this type of store because of the variety available. Variety indirectly indicates an interest in the quality of the diet. A person who values variety in food selection wants different flavors, textures

and colors available for his meal pattern. He is giving time and attention to including a variety of foods in order that his meal pattern not be dull and repetitious.

Putting together quality alone, quality as indirectly implied through variety, and quality combined with low prices, one finds that 53.5% of those who shopped at the supermarket did so because of the food quality. In comparison, putting together prices alone, and prices combined with quality, one finds that cost was important to 41% of the group.

Convenience ranked second to quality at low prices as a reason for using chain supermarkets (22.5% of the group). Convenience is especially important to those elderly people who have difficulty in getting around or who need assistance, and to those who no longer enjoy driving or who may no longer own a car. Frequently they are forced to use the most convenient store, which is often the supermarket. They may also be dependent on the convenience of others. Several people remarked (as noted on their questionnaires) that they were dependent on a friend to take them to the store, or that they shopped at a particular store because a friend worked there and could take them.

An interesting finding was that 11% of those who shopped at chain supermarkets did so out of loyalty. Possibly the feeling of

loyalty grew out of attachment to the personnel, familiarity with the store and its products, as well as habit.

The availability of ethnic foods in a particular store was not chosen as a reason because the study population was not racially or ethnically mixed.

#### Where They Shop in Relation to Income Level

The relation of income to choice of food store is presented in Table 2. The majority, regardless of income, shopped in chain supermarkets, the distribution matching the distribution of subjects according to income. Although few shopped at a neighborhood store, most were in the lowest income group, which was surprising since this type of store usually has higher prices. However, these people used this type of store for the convenience, regardless of price.

Since the distribution of the majority who used a chain supermarket matches the distribution of subjects according to income, it would appear that income level does not influence where they shopped for food. This would correlate with the findings in Table 1, that prices were the least significant single factor in determining the type of store for shopping and were less important than quality or convenience.

Table 2. Major Sources of Purchased Food: Relation to Income Level.

Major Source of Purchased Food	Number using the Source	Income Level					Income not Reported
		Under \$3,000	\$3,000- \$5,999	\$6,000- \$8,999	\$9,000- \$11,999	\$12,000 \$24,999	
Chain supermarkets	80	15	32	19	9	3	2
Neighborhood store	5	4	1				
Home delivery	2	1	1				
All types of facilities	1			1			
Not applicable	2		1		1		
Total	90	20	35	20	10	3	2

### How Often They Shop and Why

Data on the frequency of shopping are presented in Table 3. Half of the group, 45 people, shopped once a week for their groceries. Thirteen people shopped twice weekly while another fourteen varied their shopping according to their needs. Small numbers shopped at longer intervals of several weeks or a month. Only five people shopped every day. These results correspond well with the findings of both Lewin (15) and Todhunter, et al., (30) regarding frequency of food purchases. Both found that 40% or more of their study groups shopped for food once a week, with the next largest group shopping two to four times a week. Flipppo (5) found that over one half of older Arizona and Alabama study participants did their major grocery shopping once a week. In addition, one fourth of the Alabama homemakers also depended on regular home delivery of certain foods.

Convenience was the most important determinant of frequency of shopping (36% of the group). Without a rigid work schedule, older people are free to run errands and shop as meets their needs and fits into their plans. However, they do try to take advantage of sale prices. This can be seen in Table 3 where store sales appear as the second most important reason for shopping when they do (24%).

Table 3. Frequency of Shopping.

Frequency	Number of Subjects	Reasons for Frequency <sup>a</sup>						
		Convenience	Store Sales	Availability of Transportation	Enjoyment of the Activity	To Secure Quality and Variety	To Suit work Schedule	Other
Every day	5				4			1
Twice weekly	13	6	6	1				
Once weekly	45	19	14	7	1	1	2	1
Once every 2 weeks	4	1		2		1		
Once monthly	5			1				4
No definite pattern	14	7	2	2	1			2
Other	2							2
Not applicable	2							2
Total	90	33	22	13	6	2	2	12

<sup>a</sup>None of the subjects indicated availability of money as a reason for shopping frequency.

The importance of available transportation emphasizes the dependency of part of the group. Several people mentioned shopping when a friend was going or waiting for someone to have a day off so as to be able to take them.

While some are dependent on transportation becoming available, this was not the case regarding money. Although a relatively low income group, they do not seem to have to wait for a social security check or other money to come in order to do the grocery shopping.

Many of today's older Americans enjoy a busy active life style. Shopping and cooking take up considerably less time and assume less value in their life style than was previously true. Only six people said that they shopped because it was enjoyable or something to do. This busier active life style was also reflected in the widespread use of convenience foods.

#### Which Foods are Purchased Most Frequently

Table 4 shows the food groups which were purchased most frequently, and the reasons for this pattern. Not surprisingly, fruits and vegetables and milk and milk products were the two groups purchased with the greatest frequency. Both are highly perishable. The purchase of fruits and vegetables with greater frequency than that of milk can best be explained by noting that fruits and vegetables

Table 4. Food Groups Purchased Most Frequently.

Food Groups Purchased Most Frequently	Number of Subjects	Reasons			
		Variety and Quality	Poor Storage at Home	Social Activity	Other-Exercise
Milk and Milk Products	30	25		1	4
Meat, Fish, Poultry	7	5			2
Eggs	3	3			
Fruit and Vegetables	35	33	1		
Breads and Cereals	8	6			2
Miscellaneous	4	1	3		
Not applicable	3				
Total	90	73	4	1	8



have the best flavor and greatest tenderness according to their freshness.

In comparison, meats, fish, poultry, eggs, and breads were purchased with considerably less frequency than fruits and vegetables or milk and milk products. Eggs were usually purchased in sufficient quantity to last from marketing to marketing, that is, from week to week. Marketing was done mainly on a weekly basis as seen in Table 3. An adequate supply of meat, fish, and poultry can be frozen or otherwise extended to last for one or two weeks. Although 86 subjects used bread on a daily basis, they apparently used only a small amount and had adequate means of keeping the bread fresh so that frequent shopping for bread was not necessary.

Regardless of which food or food group was purchased most frequently, a strong majority (81%) gave variety and quality as the reason. Again, as in the reasons for choosing a market facility (Table 1), it is apparent that the quality and variety of foods are important determinants of shopping habits in this age group.

Poor storage at home was relatively insignificant as a reason for more frequent shopping for food. Only four of the ninety people gave this as their reason. Nearly 9% gave other reasons for shopping often. Among these reasons were that they enjoyed the exercise of going to the store. One person found going to the store a social activity.

### Use of Convenience Foods and Why

As shown in Table 5, the use of convenience foods was close to unanimous, only one of the ninety subjects reported not using any. All of the eight categories of convenience foods received some mention, but some were used much more frequently than others. This is in contrast to Dickens (2) who found her older homemakers more habit-bound and less willing to use mixes and instant products. A study of social security recipients in Rochester, New York (31), also reported infrequent use of processed, convenience foods by older people. However, the study was done in 1957 and may reflect attitudes and habits of the elderly more prevalent at that time.

The most popular convenience foods were the instant beverages and juices. They are sweeter than conventional juices and beverages, frozen or canned, but are less expensive and have a longer shelf life. Bivens (1) notes the popularity of powdered fruit ade and punches among the general population, too.

Equally popular were the bread and dessert mixes, 65 people reporting their use. In contrast, frozen uncooked pies were used by only 15 people although bakery goods, which require no preparation, were used by 45 people. Even though the mixes require preparation, they are usually less expensive than frozen or bakery goods and they can satisfy the need for self involvement. The mixes

Table 5. Use of Convenience Foods

Type of Convenience Food Used	Number Reporting Use
None	1
Instant beverages or juices	66
Precooked cereals	6
Delicatessen foods	5
Bakery pies, cakes or rolls	45
Frozen uncooked pies	15
Mixes for breads or desserts	65
Frozen, prepared entrees or TV dinners	35
Freeze-dried entrees	3
Other	3

give the homemaker a chance to feel she is still making a special effort in food preparation, especially when the finished product is placed on the table. Bivens (1) reports that Department of Agriculture surveys show a decline in the use of bread mixes. This would not seem to be the case with older people. However, the popularity of bakery products with older people does seem to correspond to that of the general population.

Frozen entrees and TV dinners were used by about one-third of the group. These products which come in single portions would seem to be especially useful to the many people in this age group who live alone.

The use of freeze-dried entrees, delicatessen foods, and pre-cooked cereals was reported by three, five, and six people respectively. Freeze-dried entrees are generally used more for special needs, such as camping or hiking trips where compactness, light weight, and ease of preparation are desirable. They are expensive and have less acceptability than other products on the market, so infrequent use by older people is not surprising.

Delicatessen foods are also expensive and generally less available in the Corvallis area. Many are highly seasoned and they may be avoided for this reason. Several people stated they did not use luncheon meats or corned beef because of the spicy nature of

these foods. Thus, there are several reasons for infrequent use of delicatessen foods.

Precooked cereals are apparently not a preference of this age group. As will be seen in a later section, regular cooked cereals were used on a weekly or monthly basis by three-fourths of the subjects. They are not difficult to prepare and preparation time is not vastly different for the two varieties.

The major reasons for using convenience foods are presented in Table 6. As might be expected, 73% of the subjects indicated ease of preparation as the major reason for using convenience foods. However, ease of preparation does not explain why people used bread and dessert mixes more frequently than they used finished bakery products or frozen prepared foods which require little preparation (Table 5). Furthermore, although more than a third of the subjects used frozen entrees and TV dinners (Table 5), only 3% indicated that the suitable portion size was a major factor in choosing convenience foods (Table 6). This finding was unexpected because most of these people live alone and it is difficult to avoid monotony when preparing meals for one person.

Only 5 persons used convenience foods primarily because of lack of storage space for staple foods, but 8 individuals chose convenience foods because they tasted good. As a whole, the data seem to reflect the activity and social busyness of the current older

generation. They are not interested in spending long hours in the kitchen preparing food. They want quick, tasty meals that leave them free and able to do other things.

Table 6. Major Reasons for Using Convenience Foods.

Major Reason	Subjects Reporting	
	Number	Percent
Ease of preparation	66	73
Taste	8	9
Lack of storage space	5	6
Suitable portion size	3	3
Other	7	8
Not applicable	1	1

#### Use of Convenience Foods in Relation to Income Level

Because of the relatively expensive nature of some convenience foods, in which the consumer must pay for the "convenience" of little or no preparation, it was expected that income would have an influence on which or how many, if any, of the convenience foods were used. Logically, use should increase with an increase in income. The relative frequency of use of convenience foods at each income level is presented in Table 7.

Table 7. Relative Frequency of Use of Convenience Foods at Each Income Level.

	Percentage of Persons at Each Income Level Reporting Use					
	Less than \$3,000	\$3,000- \$5,999	\$6,000- \$8,999	\$9,000- \$11,999	\$12,000- \$24,999	Income not Reported
Number of persons at each income level	20	35	20	10	3	2
Relative frequency of use:						
None	5					
Instant beverages or juices	89	72	65	70	100	50
Precooked cereals		6	10	20		
Delicatessen foods	5	6		20		
Bakery pies, cakes or rolls	42	54	50	70	33	
Frozen uncooked pies	32	17	5	20		
Mixes for breads or desserts	53	80	75	80	66	100
Frozen, prepared entrees or TV dinners	53	31	45	30		100
Freeze-dried entrees					33	100
Other	5	6				

The first three income groups (less than \$3,000, \$3,000-\$5,999, and \$6,000-\$8,999) are most comparable in terms of the number of subjects in each group. Overall, the use of convenience foods declined as the annual income increased toward \$9,000. The overall use by the 10 individuals in the \$9,000-\$11,999 income level was greater than that of any of the other groups.

The decrease in use of instant beverages and juices with increasing income, at the first three income levels, may be related to the moderate cost of these items. The instant fruit beverages and juices are an economical way to include juices in the diet, which this age group likes to do on a daily or weekly basis. Less easily explained is the high use of frozen pies, frozen entrees and TV dinners at the lower income levels. These items are generally expensive and some are of dubious quality. However, this finding does correspond with a survey result noted by Bivens (1). He reports that low income households increased the use of convenience foods, over a ten year period, more than high income households. It was theorized that this could be due in part to the inclusion of low-income elderly in the latter part of the surveys.

The use of finished bakery products at the first three income levels was relatively constant, ranging from 42 to 54%. However, there was an increased usage of these items at the \$9,000-\$11,999 income level. The lowest income group made least use of the bread



and dessert mixes (53%), although some of these items are relatively inexpensive. At incomes ranging from \$3,000 to \$11,999, the use was relatively constant (75-80%).

Precooked cereals, delicatessen foods, and freeze-dried entrees did not have sufficient usage or spread to warrant discussion.

In the total overall picture, it would seem that convenience food preferences and use patterns are established before retirement. They are important enough and strong enough not to be influenced or changed to any appreciable extent by a reduction in or change to retirement income. In looking at the effect of income level on the use of the individual convenience foods, no pattern can be seen. Frequency of use is not determined by income level. This would agree with findings concerning shopping habits, that other factors, such as food quality and convenience, are of equal or greater importance than cost. In this case, ease of preparation, a form of convenience, is the overriding factor.

#### Frequency of Food Use

Table 8 presents the frequency with which foods in the nine classifications were consumed.

More than three fourths of the subjects used some form of milk each day. This is contrary to Hendriksen and Cate (7) who describe milk and milk products as having only 57% acceptance

Table 8. Frequency of Use of Foods in the Nine Classifications

	Daily	Weekly	Monthly	Never
<u>Milk Group</u>				
Fresh whole milk	26	9	12	43
Skim or buttermilk	13	5	32	40
Fresh 2% milk	30	12	8	40
Evaporated milk	1	8	51	30
Non-fat dry milk	8	12	30	40
Yoghurt	1	4	26	69
<u>Meat Group</u>				
Beef				
Ground beef	3	73	14	
Beef steaks		23	60	7
Beef roast		28	56	6
Organ meats		8	65	18
Corned beef		1	58	31
Luncheon meats, franks	1	20	38	30
Pork				
Pork chops		10	61	15
Pork roast		3	62	25
Ham		21	63	6
Bacon, sausage	1	30	48	11
Poultry, Other meats				
Chicken		68	22	
Turkey		2	86	2
Game Birds			9	81
Venison		3	34	53
Lamb		1	53	37

Table 8. Continued.

	Daily	Weekly	Monthly	Never
<u>Fish</u>				
Tuna		20	66	4
Salmon		1	80	8
Whitefish		18	65	7
Trout			53	37
Shrimp			73	17
Oysters, scallops		1	61	28
<u>Meat Alternates</u>				
Eggs	20	67	2	1
Cottage cheese	7	65	14	4
Hard cheese	5	62	15	8
Casseroles, stews		37	48	5
Pinto beans		1	29	60
Kidney beans			51	39
Navy beans			60	31
Peanut butter	1	39	34	16
Pizza		1	39	50
<u>Fruits</u>				
Citrus fruits	16	44	22	8
Citrus juices	31	31	21	7
Bananas	9	48	28	5
Apples	3	55	27	5
Peaches		54	36	
Pears		48	42	
Cranberries	1	6	71	7
Cherries		8	72	10
Apricots		7	72	11

Table 8. Continued.

	Daily	Weekly	Monthly	Never
Pineapple	2	29	58	1
Fruit cocktail		19	67	4
<u>Vegetables</u>				
Peas		61	28	1
Green beans		71	19	
Spinach		23	56	14
Broccoli		34	48	8
Kale		1	21	68
Mustard greens		2	15	73
Squash		24	65	1
Carrots		80	9	1
Potatoes	17	57	15	1
Tomatoes	1	69	17	3
Turnips			60	30
Beets		23	65	2
Corn		29	50	11
Cabbage		25	57	8
Asparagus		3	80	7
Cauliflower		8	72	10
Brussels sprouts		2	59	29
Pumpkin		1	81	8
Rutabagas			45	45
Onions	7	60	18	5
Radishes	1	13	49	27
Lettuce	25	41	18	10
Celery	10	53	18	9
Cucumbers		5	65	20

Table 8. Continued.

	Daily	Weekly	Monthly	Never
<u>Cereals and Breads</u>				
Enriched breads	86	3	1	
Unenriched breads				89
Pancakes		25	53	12
Rice		27	60	3
Pasta		21	65	4
Dry, unsweetened cereals	10	41	23	16
Dry, presweetened cereals	1	4	10	75
Cooked, unsweetened cereals	4	40	32	14
Cooked, presweetened cereals		5	3	80
Home-made breads	2	8	75	5
Cornbread		6	72	12
<u>Fats</u>				
Butter	18	26	23	23
Margarine	76	4	1	9
Oil	2	46	30	12
Shortening		19	39	32
Cream		6	50	34
Lard			6	84
Mayonnaise		45	31	14
Salad dressing	10	45	32	3
Non-dairy creamer	4	8	37	41
<u>Beverages</u>				
Soft drinks	1	10	43	36
Artificially sweetened drinks		8	5	77

Table 8. Continued.

	Daily	Weekly	Monthly	Never
Coffee, tea	75	2	6	7
Fruit, vegetable juices	52	31	4	3
Alcoholic beverages	6	11	30	43
Beer	1	3	24	62

among older people, Pelcovits (23) also found that milk was used by a large segment (80%) of her elderly study population. Although many subjects stated that they never used one form of milk, they usually used another form instead. More than two-thirds of the group reported never using yoghurt.

Ground beef was used by all ninety subjects. Eighty-one per cent used it at least once a week. On the other hand, beef steaks and roasts tended to be used only a few times a month. This differs considerably with the findings of both Lane (13) and Knoll (11) who reported solid meats, such as roasts, chops, and steaks, to be the most acceptable meats to the elderly. Pilgrim (25, 26) also notes a preference for solid meats among the general population. However, Hendriksen and Cate (7) found ground, corned, and roast beef were all well accepted. Organ meats were only occasionally served and one third of the subjects reported never using corned beef or luncheon meats. Knoll (11) also reports corned beef and organ meats to be some of the least acceptable meats to the elderly.

Bacon and sausage were the most popular forms of pork, with one-third of the group using them every week. The dinner forms of pork, such as pork roast, chops, and ham, were included on a more occasional basis.

Chicken, like ground beef, was used by three fourths of the subjects at least once a week. Knoll (11) and Hendriksen and Cate

(7) agree that chicken is very popular with older people. In contrast, turkey and lamb were served only occasionally and most of the subjects never used game birds or venison.

Tuna and whitefish were the only two items in the fish group that had any real weekly use. None of the other fish listed were used more than occasionally by these older people. Fish was not a popular food with the elderly according to Knoll (11), nor among the general population according to Pilgrim (25, 26). However, Hendriksen and Cate (7) report that fish is well liked by older people, particularly fish sticks and fish cakes.

Eggs were served weekly by three fourths of the subjects. The cheeses, such as cheddar and cottage cheese, were among the meat alternates most frequently used. At least three fourths of the group used them weekly. Pizza was included less frequently than cheese or eggs, as were pinto, kidney, and navy beans. Slightly less than half of the subjects used items such as peanut butter, casseroles, or stews each week.

Although citrus fruits and juices were the most frequently used of the fruits, many other fruits were also popular with these older people. Citrus fruits and juices, bananas, apples, peaches, and pears were all consumed at least once a week by more than half of the subjects. On the other hand, cranberries, cherries, apricots, pineapple and fruit cocktail tended to be used more occasionally.



Hendriksen and Cate (7) reported fruit and fruit products were the most acceptable food group with their elderly subjects. In contrast, Pelcovits (23) found 34% of her group of 3,500 older people ate no fruit, and Pilgrim (25, 26) reported that fruits had greater popularity among younger men.

Eight vegetables (peas, green beans, carrots, potatoes, tomatoes, onions, lettuce, and celery) were used on a regular weekly basis by the study subjects. Potatoes, long an everyday staple, were used by only seventeen of the ninety subjects each day. Other items in the vegetable group were used less frequently. The only exceptions were kale and mustard greens, which were not used at all by over three fourths of the older people. Pelcovits (23) found vegetables were included in the diet of 82% of her study population, with 18% reporting they ate no vegetables at all.

Nearly all of the subjects used some form of enriched bread each day. In Oregon, all commercial bread is enriched. Although both dry and cooked unsweetened cereals were consumed weekly, sweetened cereals were very unpopular. Other cereal items, such as rice and pasta were served only occasionally. As a result of a loss of taste buds, the elderly have a reduced preference for sweet tastes according to Eppright (3). In addition, Pilgrim (25, 26) reports that both cereals and sweets were preferred less by older men than by younger men. However, Hendriksen and Cate (7) found

sweets and sugars the second most acceptable food group among their elderly subjects.

Margarine was the preferred spread of these older people. It was used daily by over 80% of the group. Oils, mayonnaise, and salad dressing were all used every week by at least half of the subjects. Lard had poor acceptance compared with the vegetable shortenings. Cream and non-dairy creamers were used only occasionally.

Coffee or tea were consumed every day by over three fourths of the older people. Fruit and vegetable juices were also well liked. More than half of the subjects included them daily. Alcoholic beverages and soft drinks were used less frequently. Artificially sweetened drinks had very poor acceptance by the group as a whole. This was probably due again, at least in part, to the decreased preference for sweets on the part of the elderly.

#### Reasons for Food Use

Tables 9-17 present the reasons given for frequency of use of foods within each group. The reasons are presented in five main categories: sensory, health, economic and geographic, food preparation, and miscellaneous. The categories of social, education and communication, psychological associations, emotional, and religion, race, and culture were dropped because they were cited

infrequently. Responses appearing in these categories were combined with miscellaneous rather than eliminate them entirely from consideration.

#### Milk Group (Table 9)

Seventy-five of the ninety subjects reported daily use of milk in some form. Such a wide acceptance of milk is part of our geographic food prejudice pattern according to Simoons (29). In addition, Lowenberg (17) points out that milk represents security to many mainland North Americans. More than half of those using fluid milk used whole or 2% milk as a beverage because they liked the flavor. Very few chose whole milk primarily because it was nutritious. On the other hand, the low-fat milks were used by many of these older people for health reasons. The predominant use of low-fat milks reflects an interest in avoiding fats and unnecessary calories, both of which may contribute to overweight and/or heart disease. Fresh 2% milk was preferred over skim milk or reconstituted non-fat dry milk, primarily because of flavor. The 2% milk represents a compromise between the higher calories of whole milk, on the one hand, and the relatively tasteless quality of completely skimmed milk, on the other. An unexpected finding was that only one person used non-fat dry milk because it is economical.

Table 9. Reasons for Frequency of Use for Foods in Milk Group.

Food Item	Most Frequently Used																	
	Daily						Weekly					Least or Never Used						
	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.
Whole, fresh milk	25	14	3		8		3				3		41	6	33		1	1
Skim or buttermilk	12	5	5		1	1	2	2					45	18	2		10	15
Fresh 2% milk	28	16	9		1	2	7	2	2		3		17	8	8		1	
Non-fat, dry milk	7	2	2	1	2		3				3		49	13			22	14
Evaporated milk	1				1		3				3		58	8	2		39	9
Yoghurt	1		1										65	34	2		18	11
Other	1				1								2					2
Subtotal	75	37	20	1	14	3	18	4	2		12		277	87	47		91	52

In addition to its use as a beverage, milk was also used in food preparation. However, this was a more occasional use. In food preparation, evaporated and non-fat dry milk predominated, although there was also some use of whole milk. It is likely that the long shelf life of the preserved milks made them more suitable for this purpose.

A large number of subjects reported that they never used certain forms of milk. Those who avoided whole milk did so almost entirely because they considered it to be high either in calories or cholesterol. Most of these individuals used one of the low-fat milks instead. Very few subjects reported that they were unable to tolerate fluid milk. The major reasons for rejecting other forms of milk were dislike of flavor and the fact that other foods were preferred. More than half of the respondents never consumed yoghurt. This is not an unexpected finding because yoghurt has been available only in recent years.

#### Meat Group (Table 10)

The most frequently used form of beef was ground beef. It was used by many on a weekly basis, chiefly because of its versatility and ease of preparation. Only about one in six persons who preferred ground beef did so because it was a less expensive cut of meat. Beef steaks were enjoyed for their flavor and ease of

Table 10. Reasons for Frequency of Use for Foods in Meat Group.

Food Item	Most Frequently Used																	
	Daily					Weekly					Least or Never Used							
	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.
<u>Beef</u>																		
Ground beef	2				1	1	59	2	2	9	46		4		1		3	
Beef steaks							8	4	1		3		12	1	1	10		
Beef roast							10			1	9		13		1	2	9	1
Corned beef													63	3	4	7	29	20
Organ meats													34	2	15		8	9
Luncheon meats, franks	1				1		6	1			5		28	2	11	8	1	6
Subtotal	3				2	1	83	7	3	10	63		154	8	33	27	50	36
<u>Pork</u>																		
Pork chops							8	5			2	1	30	8	15	2	3	2
Pork roast							2				2		48	5	13		21	9
Ham							14	5			8	1	30	9	4	1	4	12
Bacon, sausage	1	1					24	16			2	6	30	5	12	1	6	6
Subtotal	1	1					48	26			14	8	138	27	44	4	34	29

Table 10. Continued.

Food Item	Most Frequently Used																	
	Daily					Weekly					Least or Never Used							
	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.
<u>Poultry, Game, Other meat</u>																		
Chicken						68	34		12	22		19	7		2	10	1	
Turkey						1	1					57	2	2		7	46	
Game birds												86	3		73	5	5	
Deer meat						3			2		1	70			51	1	18	
Lamb						1				1		81	31	1	15	11	23	
Other												10			6		4	
Subtotal						73	35		14	23	1	323	43	3	147	34	97	

preparation, but were too expensive to be served often. Beef roasts were thought to contribute versatility to the menu. Corned beef and organ meats were used less frequently. Many respondents felt that corned beef took too long to prepare and that package size was too large for use in a small family. Only eight people included organ meats for their nutritional value despite their being well known sources of iron and several vitamins. Apparently some subjects were aware of the high cholesterol content of organ meats because seven subjects avoided these foods for this reason. Health considerations were also important factors governing the non-use of luncheon meats and frankfurters. These meats were considered to be too high in cholesterol and calories and too expensive for the nutritive value they offer.

All of the foods in the pork group (pork chops, pork roast, ham, bacon, and sausage) were liked for their flavor. This is in interesting contrast to beef, which, with the exception of steak, was not chosen for its flavor. There was a strong avoidance of pork for health reasons. Several subjects said that pork affected their disease, others found pork to be too high in cholesterol or calories. It is interesting to note that many of the people who rejected pork chops, pork roast, or ham as "high in cholesterol," would eat bacon or sausage because of the taste appeal. The size of the market package was a problem with pork roast. Like beef roast,



it presents too much meat for the older person in a small family to use conveniently.

Three-fourths of the respondents used chicken on a weekly basis. In contrast to ground beef, which was popular primarily for its versatility and ease of preparation, chicken was liked for its flavor. In addition, chicken was considered economical and easy to prepare in a variety of styles.

Turkey was mainly a holiday favorite with the older people. Although it is very economical on a per pound basis, this was not mentioned as a factor by any of the participants. The use of turkey as a food for traditional occasions is a part of our American culture as mentioned by Lee (14).

Game birds were not included to any significant extent in the diet of the older citizens. They are both expensive and limited in availability. In response to questions regarding the use of items such as rabbit and squirrel, many respondents said that these were not food items, but were more "like pets." What a person considers to be food is culturally determined (10, 14, 29).

Lamb was used infrequently, in many cases because of cost and because it was considered difficult to obtain. The category least used includes foods that were used monthly as well as those that were never used. Lamb was both liked and disliked for its

flavor. More than twice as many chose lamb for its flavor, however, than avoided it for the same reason.

Venison was not used by 58% of the study participants. It is not readily available and few of the men indicated that they went hunting.

#### Fish (Table 11)

Tuna, like ground beef, was used for its flavor and more because it is easy to prepare and can be used in many different ways. On the other hand, whitefish was enjoyed for its flavor. A number of respondents considered salmon, shrimp, crab, oysters, and scallops to be too high priced, while others stated that these items were difficult to obtain. The reasons for not using these seafoods varied. Several people disliked the flavor or texture. This was particularly true of the oysters and scallops. Shrimp, crab, oysters, and scallops were avoided by some because of their high cholesterol content. Other respondents did not think of these four foods when planning meals. Trout, like venison, is simply not available.

#### Meat Alternates (Table 12)

While eggs no longer seemed to be a morning breakfast staple with these older people, they were widely used in food preparation.

Table 11. Reasons for Frequency of Use for Foods in Fish Group.

Food Item	Most Frequently Used																	
	Daily					Weekly					Least or Never Used							
	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.
Tunafish							19	1		2	15	1	34	3	1		27	3
Salmon							1	1					29	3		20	3	3
White fish							11	6		1	4		31	11	2		13	5
Trout													64	1		32	5	26
Shrimp, crab													31	4	4	4	4	15
Oysters, scallops							1			1			51	10	5	8	13	15
Other													11	7		1		3
Subtotal							32	8		4	19	1	251	39	12	65	65	70

Table 12. Reasons for Frequency of Use for Foods in Meat Alternate Group.

Food Item	Most Frequently Used																	
	Daily						Weekly						Least or Never Used					
	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.
Eggs	20	11	1		3	5	34	11	4	1	18		1				1	
Cottage cheese	6	5			1		23	12	3		8		5	3	2			
Hard cheese	2	2					2	1			1		10		8	1	1	
Casseroles, stews							2				2		15	1			7	7
Pinto beans													65	3	11		30	21
Kidney beans													42		9		19	14
Navy beans													41		11		20	10
Peanut butter	1	1					1	1					5		1		4	
Pizza													71	32	8		4	27
Other													5	1	1		3	
Subtotal	29	19	1		4	5	62	25	7	1	29		260	40	51	1	89	79

In addition, eggs were enjoyed for their flavor. Only five people mentioned using eggs for their nutritional value. On the other hand, the decreased emphasis on an egg for breakfast every day would seem to reflect an increased awareness of the well-heralded cholesterol content of eggs.

Second only to eggs, cottage cheese was a popular meat alternate. More than a fourth of these older people used it every week, chiefly because they enjoyed its flavor and found that it blended well with other foods in the menu. A few subjects included cottage cheese in their diets because they thought of it as a low calorie food. Less important as a meat alternate were the hard cheeses, which some persons avoided for health reasons.

Neither kidney, pinto, nor navy beans were used to any real extent as meat alternates. The lengthy preparation time required by dried beans diminished their popularity with many of these older people who are oriented to foods which can be quickly prepared. In addition, beans disagreed with a number of subjects and were avoided for this reason.

Peanut butter and pizza were both considered "kid's food" by some older people. Although not a major meat alternate, peanut butter was used by seventy-four of the ninety subjects (Table 8). The primary objection to peanut butter was that it is a high calorie food. On the other hand, pizza was never eaten by nearly half of these

older people. Thirty subjects found pizza too spicy or too rich, while others thought it high in calories or cholesterol.

#### Fruit Group (Table 13)

On the whole, fruits were well liked and included often in the diet of older people. Citrus fruit or juice was the type most frequently used; over half of the group consumed citrus fruits daily (Table 8). Fruits were enjoyed primarily for their flavor, but also for their nutritional value. Cherries were used infrequently because they are available only seasonally. A number of respondents mentioned using home-grown or local cherries during the season. Cranberries were not used frequently; one third of the group considered them in terms of traditional or holiday occasions.

There were, of course, some who did not like the flavor or texture of a particular fruit. The major reason for avoiding a fruit or fruits in general was that of health considerations. This was particularly true of the citrus fruits.

#### Vegetable Group (Table 14)

It is apparent from Table 8 that many vegetables were consumed on a weekly basis. Of these, green beans were used with the greatest frequency. While the flavor of green beans was important, versatility was a more compelling factor. Lettuce was the most

Table 13. Reasons for Frequency of Use for Foods in Fruit Group.

Food Item	Most Frequently Used																	
	Daily						Weekly					Least or Never Used						
	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.
Citrus fruits	16	8	7			1	9	6	3				11		8	1		1
Citrus juices	27	10	17				9	6	2		1		6		4			2
Banana	6	4	2				4	3			1		12	5	4	2		1
Apples							2	2					5		4	1		
Peaches							5	4		1								
Pears																		
Cranberries													44	3	2	4	1	34
Cherries													21		1	12	5	3
Apricots													13	4		6	2	1
Pineapple	1					1	1	1					2	1				1
Fruit cocktail							1	1					5	2				3
Other	2	1	1										12		8	3		1
Subtotal	52	23	27			2	31	23	5	1	2		131	15	31	29	8	47

Table 14. Reasons for Frequency of Use for Foods in Vegetable Group.

Food Item	Most Frequently Used																	
	Daily					Weekly					Least or Never Used							
	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.
Peas						6	6					1	1	1				
Green beans						27	8		3	16								
Spinach													15	7	1		3	4
Broccoli													8	3	3	1		1
Kale													71	15	1	15	26	14
Mustard Greens													72	20	1	11	27	13
Squash						1	1						1	1				
Carrots													1	1				
Potatoes	9	5		2	2	11	10				1		1					1
Tomatoes	1		1			2	2						4		4			
Turnips													36	6		5	19	6
Beets													4	1			3	
Corn						1		1					13	2	9		2	
Cabbage						1					1		11	1	8		1	1
Asparagus													19	5		12	1	1
Cauliflower													6	1	4		3	2



Table 14. Continued.

Food Item	Most Frequently Used																	
	Daily						Weekly					Least or Never Used						
	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.
Brussels sprouts													38	3	6	1	11	17
Pumpkin													36	1	2		2	31
Rutabagas													55	9	3	6	28	9
Onions	4				4		2					2	5	1	4			
Radishes													27	3	18	1	3	2
Lettuce	20	17		2	1		7						9		9			
Celery													8		7		1	
Cucumber													25	1	14	8	1	1
Other	1	1											7				2	5
Subtotal	35	23	1	4	7		59	34	1	3	20	1	477	82	94	60	133	108

frequently used vegetable on a daily basis, primarily for its taste and texture. Potatoes also, when daily and weekly use are combined, were liked for their taste.

Of all the vegetables, kale and mustard greens were used with least frequency. A number of subjects disliked the flavor or texture of these vegetables. Rutabagas and turnips were also used infrequently, partly because of flavor. Health considerations were cited by many subjects as the reason for the infrequent use of radishes and cucumbers. The few subjects who avoided broccoli, tomatoes, corn, cabbage, cauliflower, onions, lettuce, and celery, did so primarily for health reasons. Many persons can identify certain vegetables that disagree with them, either because they are gas producing or have too much roughage.

Pumpkin was eaten infrequently because of its use for traditional or holiday occasions. The frequent serving of asparagus was limited by its high cost. There was considerable negative reaction to both kale and mustard greens for economic and geographic reasons, primarily the latter. Both were found difficult to obtain in the local markets. However, the main reason for not using kale or mustard greens was that they were not thought of when planning meals. This was also true of turnips, Brussels sprouts, and rutabagas, but to a lesser extent.

Cereals and Breads (Table 15)

Enriched breads were used daily by eighty-six of the ninety subjects, primarily because of the flavor appeal. Unenriched breads were not used because they are not available in the state. This was indicated to all the participants by the interviewer. Pancakes, waffles, rice, and pasta were included in the diets of about two-thirds of these older people, but relatively infrequently. Pancakes, waffles, and pasta were not used more often because they were considered to be high calorie foods. In addition, many subjects indicated they were not willing to take the time to prepare pancakes or waffles.

Presweetened cereals, both dry and cooked, were avoided by 83-88% of the group. They were disliked both because of their taste and because, being sweetened, they are higher in calories than the unsweetened forms. Presweetened cereals were also considered too expensive for the nutritional value they offer. Moreover, many of the older people indicated that they never think to include cooked presweetened cereals in their diet.

Homemade breads and cornbread were prepared only for special or occasional use. Homemade breads fit into the classification of "celebration" foods, as described by Jelliffe (10), since

Table 15. Reasons for Frequency of Use for Foods in Cereal and Breads Group.

Food Item	Most Frequently Used																		
	Daily						Weekly					Least or Never Used							
	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	
Enriched breads	86	70		6	5	5	2	2											
Unenriched breads													89		12	77			
Pancakes, waffles													15		6		9		
Rice													4	1				2	1
Pasta							2		1		1		8		3		1	4	
Dry, unsweetened cereals													17	1				1	15
Dry, presweetened cereals													71	24	12	7	2	30	
Cooked, unsweetened cereals	1	1					1				1		16	1	2		6	7	
Cooked presweetened cereals							2				1	1	80	23	9	6	14	32	
Homemade breads													22		1		3	18	
Cornbread													22	1	7	1	10	3	
Subtotal	87	71		6	5	5	7	2	1		3	1	352	51	52	91	48	110	

they are prepared mainly on holidays and for special social gatherings.

### Fats (Table 16)

For many of the subjects, the choice between butter and margarine was a matter of health. Margarine was the most frequent selection of these older people. They felt the margarine was nutritious in comparison to butter with its higher cholesterol content. Several participants stated that they felt using margarine would help them to live longer. The margarine was also found more economical than butter and had a greater popularity for flavor as well. However, butter and margarine were used by an equal number of people in food preparation.

Of all the fats, lard was used least frequently. Lard was disliked both for its taste and because it was considered to be high in cholesterol. Many subjects indicated that lard was not readily available, that it was highly perishable, and, moreover, it was not thought of for use in food preparation. Shortening also was used infrequently, compared with oil. Shortening was avoided by some subjects for health reasons, as it was considered high in cholesterol. Cream was not used by one third of the group, primarily because of its high calorie, high cholesterol content. Non-dairy creamer was used by less than half of the subjects. For some of the older people,

Table 16. Reasons for Frequency of Use for Foods in Fats Group.

Food Item	Most Frequently Used																		
	Daily						Weekly					Least or Never Used							
	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	
Butter	10	4			6		3					2	1	33	2	14	7		10
Margarine	70	7	41	14	7	1	2	1				1		9	3	1		2	3
Oil							1					1		15				13	2
Shortening							1					1		39		8		25	6
Cream														56	4	29	2	7	14
Lard														89	4	21	19	23	22
Mayonnaise														18	4	3			11
Salad dressing	1				1		2		1			1		10		3			7
Non-dairy creamer							1		1					47	6	10		14	17
Subtotal	81	11	41	14	14	1	10	1	2			6	1	316	23	89	28	84	92

it was not a product they thought to use, while others did not like the taste or found it detrimental to their health. Only a small percentage of the group avoided use of mayonnaise or salad dressings.

The preference for margarine and oil over butter, shortening, cream and lard shows an effort on the part of these older people to change the nature of their diet in order to decrease the risk of atherosclerosis or heart disease. Apparently, though they are conscious of a health hazard in foods with a high saturated fat content (butter, cream, lard), they simply label this as "high cholesterol" and do not differentiate between the two. This coupled with their choice of skim or 2% milk over whole milk, and the less frequent use of eggs, again for the purpose of avoiding calories and cholesterol, shows a definite avoidance of foods considered disease-linked foods, as mentioned by Jelliffe (10).

#### Beverages (Table 17)

Coffee and tea were both liked for their flavor. However, five people avoided one or the other for health reasons, most likely to avoid the stimulating effect of caffeine. Fruit and vegetable juices were also enjoyed for their flavor.

Soft drinks and artificially sweetened drinks were consumed infrequently by the older subjects. Both were disliked because of

Table 17. Reasons for Frequency of Use for Foods in Beverage Group.

Food Item	Most Frequently Used																	
	Daily					Weekly					Least or Never Used							
	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.	Total	Sensory	Health	Econ-Geo.	Food prep.	Misc.
Soft drinks													51	11	12		2	26
Artificially sweetened drinks													79	52	5		4	18
Coffee, tea	69	61			2	6							7	1	5			1
Fruit, vegetable juices	6	4	2				7	6				1	4		1			3
Alcoholic beverages							1					1	60	21	7		2	30
Beer							1	1					76	41	6		2	27
Other	9	8				1							1	1				
Subtotal	84	73	2		2	7	9	7				2	268	127	36		10	105



their taste. In addition, some subjects stated that these drinks adversely affected their disorder.

Two-thirds or more of the subjects reported a more occasional, more social use of alcoholic beverages and beer, or not using them at all. The primary objection to alcoholic beverages and beer was their taste. Beer was also avoided by 13 people who objected to its smell. In addition, there were some subjects who abstained on religious or cultural grounds and others who found these beverages detrimental to their health. Grivetti and Pangborn (6) and Fathauer (4) point out that most religions have some foods with religious symbolism or restrictions, such as the avoidance of alcohol.

#### Summary of Reasons for Food Use

The material in Table 18 has been summarized from the tables of reasons for frequency of use for foods in the nine classifications, Tables 9-17. Foods that were consumed with either daily or weekly frequency were considered to have significant usage. Conversely, foods that were either least or never used were considered to have insignificant use.

An examination of the reasons given for significant use of foods shows that sensory factors predominate. It is apparent that these older people purposely included those foods the taste of which they enjoyed. Ease of preparation was the next most frequently

Table 18. Subtotals of Reasons for Frequency of Use for Foods in the Nine Classifications: Significant and Insignificant Use.

Food Group	Significant Use- daily or weekly					Insignificant Use- least or never						
	Total Response	Reasons					Total Response	Reasons				
		Sensory	Health	Econ-Geo.	Food prep.	Misc.		Sensory	Health	Econ-Geo.	Food prep.	Misc.
Milk Group	93	41	22	1	26	3	277	87	47		91	52
Meat Group												
Beef	86	7	3	10	65	1	154	8	33	27	50	36
Pork	49	27			14	8	138	27	44	4	34	29
Poultry, Game, Other meats	73	35		14	23	1	323	43	3	147	34	97
Fish	32	8		4	19	1	251	39	12	65	65	70
Meat Alternatès	91	44	8	1	33	5	260	40	51	1	89	79
Fruits	83	46	32	1	2	2	131	15	31	29	8	47
Vegetables	94	57	2	7	27	1	477	82	94	61	133	108
Breads and Cereals	94	73	1	6	8	6	352	51	52	91	48	110
Fats	91	12	43	14	20	2	316	23	89	28	84	92
Beverages	93	80	2		2	9	268	127	36		10	105
Total	879	430	113	58	239	39	2947	542	492	453	646	825

given reason. Foods which are easy to prepare and can be served in a variety of ways were of value to this age group. The importance of quick, easy preparation of food is emphasized by the fact that there were foods the taste of which they liked, such as pancakes and waffles, but which they would not prepare because of the time factor. This correlates with ease of preparation being the predominant reason underlying the rather considerable use of convenience foods by the subjects. Reasons of health were given 113 times for including a food. However, there seemed to be considerably less effort to include foods for their nutritional value than to exclude them because they were considered a health hazard. Least important were economic and geographic reasons. In contrast to the findings of this study, Lewin (15), in examining the relative strengths of reasons for food preferences, found money and health to be the most frequently given reasons. Only among his higher income group was taste also an important value.

Looking at the insignificant use totals, it can be seen that reasons related to food preparation were given most frequently. Whether or not a food was easy to prepare, fit easily into the menu, or was even thought of when meals were planned appears to have been more important than feelings toward the taste, texture or aroma of a particular food. In contrast, Todhunter (30) found dislike of taste was the most frequently given reason for avoiding a

food. Although disliking the taste of a food would seem to be an obvious reason for not using a food frequently, it was given as a reason only 542 times as compared to 646 for preparation reasons by this study group. Health factors were cited 492 times as reasons for avoiding foods or using them infrequently. This would seem to contrast with Eppright's (3) and Mead's (19) suggestion that people enjoy eating that which is not good for them. These older people definitely avoided foods they felt were dangerous to their health. The subjects repeatedly showed themselves to be weight conscious and concerned about limiting cholesterol or high fat foods in their diet. Todhunter (30) reports her elderly subjects also thought foods high in fat and sweets were bad for health.

Relation of Income Level and Educational Level  
to Reasons for Food Use

Table 19 presents the reasons given for food use or non-use, expressed as number of responses per person in each income category. Table 20 presents the reasons given for food use or non-use, expressed as number of responses per person in each educational level. The reason category education-communication was dropped from both tables for total lack of responses.

It was originally thought that income level would have an influence on the purchasing habits and on the frequency with which

Table 19. Relation of Income Level to Reasons for Food Use (number of responses per person in the income category).

	Income Level					
	Less than \$3,000	\$3,000- \$5,999	\$6,000- \$8,999	\$9,000- \$11,999	\$12,000 \$24,999	Income not Reported
Number of Persons at Each Income Level	20	35	20	10	3	2
Reason Category:						
Sensory	10.5	11.5	9.5	12.9	9.7	8.5
Social	2.6	2.1	2.5	3.1	4.3	2.0
Psychological associations	0.5		0.3		0.3	
Emotional				0.6		
Religion, race, culture	1.0	1.3	1.0	1.4	0.3	3.5
Health, physical reactions	8.7	7.4	4.5	4.8	8.0	9.5
Economic and geographic	7.2	5.4	3.3	3.8	4.3	8.0
Preparation	9.5	11.5	5.3	5.3	10.7	6.0
Miscellaneous	7.0	5.6	3.6	6.7	3.6	6.0

Table 20. Relation of Educational Level to Reasons for Food Use (number of responses per person in the education category).

	Educational Level					
	6-8 Grades	9-11 Grades	High School Grad	Technical College, Community College	College Grad	Grad School
Number of Persons at Each Educational Level	9	5	20	20	16	20
Reason Category:						
Sensory	11.8	9.0	11.1	11.2	10.4	11.2
Social	2.4	3.8	2.4	2.7	2.4	2.9
Psychological associations	0.1	0.8	0.3	0.2	0.6	0.4
Emotional			0.1			
Religion, race, culture	1.3	1.4	1.0	1.4	1.0	1.3
Health, physical reactions	12.0	5.0	5.3	9.1	5.5	6.8
Economic and geographic	7.1	6.2	4.6	6.0	4.6	4.2
Preparation	7.3	5.6	8.4	10.9	11.2	11.3
Miscellaneous	6.3	6.0	5.8	6.1	5.9	5.6

some foods were used. This was not the case. While cost is a factor, it is not predominant in influencing purchasing habits (Table 1). Economic reasons were not given as frequently as sensory, preparation, or health reasons for determining the frequency with which a food was eaten (Table 18).

Looking at whether or not income level has an influence on which reasons are given for selecting foods, it can be seen that income level does not change the motivation of this age group regarding food. Those with a higher income level could have indicated that economic reasons were less important in food selection or that social, or status reasons were more important to them. Conversely, those with lower incomes might have indicated a restriction in their food selection, with some foods being prohibited by cost. However, examination of Table 19 shows no relationship between income level and the number of economic or social reasons given for selecting or avoiding foods. Dickens (2), on the other hand, reports an increase in the nutritional quality of the diet with an increase in income level.

In considering the possible influence of educational level on reasons given for food selection, one might expect to find the health category of reasons to be most affected by educational level. Those with a higher educational level might be better informed as to the nutritional value of specific foods. Thus, they might be more

inclined to choose foods for their nutritional value or to avoid others as nutritionally poor. However, examination of Table 20 does not show educational level to have an influence on the reasons given for food selection by this older population. No pattern was discernible. In contrast, Dickens (2) and Jalso (9) both found that as educational level increased, the nutritional value of the diet also increased. However, Jalso also noted that with increasing age, valid nutritional opinions and practices decreased. Within the present study population, foods were selected for their sensory value and for the degree of preparation involved, regardless of income or educational level.



## SUMMARY

A study was made of the shopping habits, use of convenience foods, frequency of food use and reasons for food use of a group of older people living in the Benton County-Corvallis, Oregon, area. The study population included ninety individuals, twenty living in a retirement center, seventy in private residences. All were 60 years or older. A questionnaire and interview method was used to obtain demographic data as well as information on shopping habits and food preferences.

Chain supermarkets were the most frequently used major source of purchased food. In addition to convenient locations, the supermarkets offered quality and low prices. Half of the study group shopped once a week for major food purchasing. Fourteen per cent shopped twice weekly. Convenience was the most important determinant of shopping frequency.

Fruits and vegetables and milk and milk products were the food groups purchased most frequently. More frequent purchase of these foods was made to insure quality and variety in the diet.

Convenience foods were used by all but one study subject. They were popular for their ease of preparation. The two most frequently used convenience food groups were instant beverages and juices and mixes for breads or desserts. Bakery pies, cakes and

rolls were also popular, as were frozen entrees and TV dinners. Neither the choice of market place for major food purchasing nor the use of convenience foods was influenced by income level.

Fluid milk in some form was consumed by 76% of the subjects daily. Skim milk and 2% milk were preferred over whole milk. Chicken and ground beef were the most frequently used meats. Roasts, steaks, and chops were also liked, but used less frequently. Tuna and whitefish were the only items in the fish group used with regular frequency. Eggs and cottage cheese were the most frequently used meat alternates. In general, the fruits were all well liked, the citrus fruits and juices having the greatest popularity. Lettuce, celery, onions, tomatoes, carrots, potatoes, green beans, and peas were the best liked vegetables. Lettuce had the greatest daily use, while green beans were used most often on a weekly basis. Enriched breads were consumed by eighty-six of the ninety subjects daily. Dry, unsweetened cereals were the preferred form of cereals. Margarine and oil were chosen over butter and shortening for inclusion in the diet. Mayonnaise and salad dressing were both used on a regular basis by one half or more of the group. Coffee or tea were consumed daily by 83% of the study population. Alcoholic beverages and beer were consumed by one half of the group, but on a more occasional basis.

The most frequently given reason for food use was taste. The degree of preparation required was also important. Throughout the study, the subjects showed a preference for foods which could be prepared easily and quickly. Health reasons followed preparation reasons in order of importance. The subjects repeatedly showed an interest in avoiding foods high in cholesterol, calories, sweets, or fats, thus reflecting a weight consciousness and concern over atherosclerosis and heart disease. The reasons given for food use were not influenced by income level or educational level.

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## APPENDIX

## APPENDIX

Table A. Format for Demographic Data, Questions Regarding Shopping Habits and Use of Convenience Foods.

## A. Demographic Data

1. Education: What is the highest level of schooling that you completed?
  - 1) 5 grades or less
  - 2) 6-8 grades
  - 3) 9-11 grades
  - 4) High School graduate
  - 5) Some technical training or college
  - 6) Junior or Community College graduate
  - 7) College graduate
  - 8) Graduate school
  
2. Income: Would you look at this income card and tell me which of these groups represents the yearly income of your household, including earnings, social security, pensions, rents, interests, etc. ?
 

1) Under \$3,000	5) \$12,000-\$24,999
2) \$3,000 - \$5,999	6) \$25,000 or more
3) \$6,000 - \$8,999	7) _____
4) \$9,000 - \$11,999	8) Don't know
  
3. Retirement community: (Question answered by interviewer)
  - 1) Yes
  - 2) No

## B. Shopping Habits

1. How often do you shop for most of your food?
 

0) Not applicable	5) Once every 2 weeks
1) Varies - no pattern	6) Once every 3 weeks
2) Every day	7) Once a month
3) Twice weekly	8) Other
4) Once weekly	

Why?

0) Not applicable	5) Quality and/or variety
1) Available transportation	6) Work schedule
2) Available money	7) Other
3) Sale price	8) Enjoy activity
4) Convenience	



Table A. Continued.

- 
2. If you buy some foods more frequently than others, which type of food is it?
- |                           |                          |
|---------------------------|--------------------------|
| 1) Does not apply         | 5) Fruits and vegetables |
| 2) Meat, fish, poultry    | 6) Breads and cereals    |
| 3) Milk and milk products | 7) _____                 |
| 4) Eggs                   |                          |
- If so, why?
- |                                    |                    |
|------------------------------------|--------------------|
| 0) Not applicable                  | 3) Social activity |
| 1) Quality and/or variety          | 4) _____           |
| 2) Poor storage facilities at home |                    |
3. In what type of store do you shop for most of your food?
- |  |  |
|--|--|
| 1) Not applicable                                | 6) Private commissary                                |
| 2) A home-delivery store                         | 7) Chain supermarket                                 |
| 3) No particular store                           | 8) Discount or wholesale grocer; military commissary |
| 4) Traveling store, rural                        | 9) Specialty store, meat market                      |
| 5) Small convenience store or neighborhood store | 10) _____  |
- Why?
- |   |   |
|---|---|
| 1) Does not apply                                 | 7) Personal loyalty                           |
| 2) Supplies other merchandise                     | 8) Can buy on credit                          |
| 3) Offers trading stamps or other sales promotion | 9) Lower food prices                          |
| 4) Better quality                                 | 10) Both better quality and lower food prices |
| 5) Better variety                                 | 11) Sells ethnic foods                        |
| 6) More convenient                                | 12) _____                                     |

### C. Convenience Foods

1. Do you use any of the following convenience foods?
- 0) None of these
  - 1) Instant beverages or juices
  - 2) Precooked cereals
  - 3) Delicatessen foods (meat loaf, salad, etc.)
  - 4) Bakery pies, cakes or rolls
  - 5) Frozen uncooked pies
  - 6) Mixes for breads or desserts
  - 7) Frozen, prepared entrees or TV dinners
  - 8) Freeze-dried entrees
  - 9) \_\_\_\_\_

Table A. Continued.

- 
2. If you use convenience foods, is it because:
- 0) Not applicable
  - 1) They are easily prepared
  - 2) There is no need to store basic ingredients
  - 3) They taste good
  - 4) The portion sizes are suitable
  - 5) \_\_\_\_\_
-

Table B. Format for Food Frequency Questionnaire.

## A. Introduction

I have here a list of food items. As I name a food, please tell me how many times a day, week, or month you serve it. Then, I shall ask you why you serve some foods frequently, and why you never serve other foods.

## B. Food List

<u>Interval</u>	<u>Reason</u>
1) Never	1) Most + reason code
2) Daily	2) Least + reason code
3) Weekly	3) Never + reason code
4) Monthly	4) Not applicable + 0000

Milk - for all purposes

Whole fresh milk

Fresh skim or buttermilk

Fresh 2% milk

Evaporated milk

Non-fat dry milk powder

Chocolate milk

Yoghurt

Eggnog

Other \_\_\_\_\_

This procedure was carried out for foods in the remaining eight groups:

Meat

Vegetables

Fish

Cereals and Breads

Meat Alternates

Fats

Fruits

Beverages

Table C. Coding for Reasons Given.

0100	<u>Sensory</u>	0300	<u>Education, Communication</u>
0102	Looks unattractive	0301	Learned in school
0104	Color is unpleasing	0302	Read in newspapers, magazines
0106	Temperature is unpleasing	0303	Heard on radio, television
0108	Texture is unpleasing	0304	Learned from mother, family
0110	Tastes strong	0305	Learned from doctor
0112	Smells bad	0306	Learned from EFNEP aide
0114	Too spicy	0307	Learned from extension program
0115	Too rich	0308	Learned from nutritionist
0116	_____	0309	_____
0101	Looks attractive	0400	<u>Psychological Associations</u>
0103	Color is pleasing	0401	Distasteful experience
0105	Temperature is pleasing	0404	Persons I dislike
0107	Texture is pleasing	0405	Traumatic events
0109	Tastes good	0406	_____
0111	Smells good	0402	Happy occasions
		0403	Persons I like
0200	<u>Social</u>	0500	<u>Emotional</u>
0202	Friends don't eat it	0501	Causes nervousness, anxiety
0204	Family doesn't eat it	0505	_____
0205	Only poor people eat it	0502	Sense of belonging to family
0206	Food is a luxury	0503	Sense of belonging to friends
0208	Only when we go out	0504	Causes happiness, security
0209	Only at special meals	0600	<u>Religion, Race, Culture</u>
0210	_____	0601	Religious custom or taboo
0201	Friends eat it	0602	Racial custom
0203	Family ate it	0603	Ethnic heritage
0207	Easy way to feed many people	0604	Holiday custom only
0700	<u>Health, Physical Reactions</u>	0605	Traditional to locale
0701	Makes me ill	0606	_____
0702	Makes me ill when eaten with other foods	0900	<u>Preparation</u>
0712	I once ate too much of it	0901	Never think of it when planning meals
0714	Causes food poisoning	0902	Difficult to prepare or work with
0705	Affects my disease or disorder	0903	Takes too long to prepare
0713	Not nutritious	0908	Market pack unsuitable for family
0717	Too high in cholesterol	0909	Used in snacks
0718	Too high in calories	0910	Inconvenient to use
0719	Too heavy to eat	0907	Used in cooking mainly
0716	Affects mother's milk	0911	_____
0720	_____	0904	Easy to prepare, quick to prepare
0703	Helps keep illness away	0905	Mixes well with other foods
0704	Helps in growth and health	0906	Variety of preparation styles
0706	To live longer		
0707	To cure my disease or disorder		

Table C. Continued.

0700	<u>Health, Physical Reactions (Continued)</u>	1000	<u>Miscellaneous</u>
0708	To restore youth and vitality	1003	Never heard of it
0709	To lose or gain weight	1006	Not filling
0710	I feel better	1010	Prefer other foods
0711	To produce mother's milk	1011	Didn't know it was edible
0715	It is nutritious	1013	Only when camping
0800	<u>Economic and Geographic</u>	1014	
0801	Too high prices for my income	1005	Fills me up
0803	Not found in area	1007	Only food there is to eat
0805	Costs more because it is imported	1008	Out of habit
0809	Difficult to obtain	1012	Food was a gift
0808	Grown seasonally only	1001	Family and friends enjoy giving and receiving this food
0811	Too expensive for the nutritive value	1002	Heard it was eaten frequently by these people
0813	Perishable, not easily stored	1004	Never celebrate this holiday with special foods
0814		1009	Have a friend this nationality
0802	Easily obtained on my budget		
0804	Grown locally, thus cheaper		
0806	Obtained by hunting		
0807	I preserve or make this myself		
0810	Grown in my garden		
0812	Is delivered		









