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THE EFFECTS OF LIFE STYLES  
ON NON-PARTICIPATION IN  
SCHOOL LUNCH

A Dissertation Presented

By

Frank P. Lattuca, Jr.

Submitted to the Graduate School of the  
University of Massachusetts in partial fulfillment  
of the requirements for the degree of

DOCTOR OF EDUCATION

May 1981

School of Education

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By

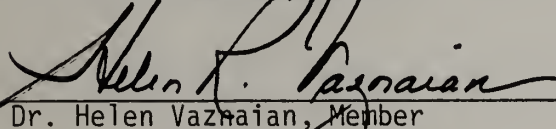
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To my wife,  
Nancy

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## ABSTRACT

### The Effects of Life Styles On Non-Participation in School Lunch (May 1981)

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The purpose of this study is to determine what factors related to life styles are significant in differentiating students who participate in a school lunch program from those students who do not participate.

The sample selection process involved differentiating between the participators and non-participators in the school lunch program. In order to differentiate between these two groups, three days were selected at random from a two-week period.

On each of the specified three days, each student indicated whether they ate the school lunch or not. The data were analyzed on the basis of the number of times the student ate or did not eat the school lunch on each of these three days. Students who checked "yes" to the question, "Did you eat the school lunch today?" on each of the three days, were classified as high participators. Those who checked "no" to the question, "Did you eat the school lunch today?" on each of the three days,

classified as low participators with all other categories in between.

A questionnaire was administered to 206 junior high school students. The research instrument was an eighty-one item questionnaire consisting of five demographic questions and seventy-six life styles questions divided into the following seven categories:

1. participation in chores at home;
2. table manners practiced at home and in restaurants;
3. participation in food preparation at home;
4. preferences for eating out;
5. family relationships;
6. concern for nutrition; and
7. the use of leisure time.

The discriminant analysis was utilized in this study. Three discriminant analyses were conducted. The results indicated that certain life styles variables did discriminate between the two groups.

The results indicated that the group of high non-participators in the school lunch tended:

1. to be those concerned with table manners when they ate out in restaurants;
2. to shop for new and different clothes during their free time;
3. to enjoy activities with their family;
4. to prefer restaurants offering table service;
5. to consider the interior design, color, etc., as important restaurant attributes;
6. to be those in higher grades within the junior high school;
7. to be those assigned to chores at home dealing with meals;

8. to come from families which do a lot together;
9. to have a higher grade point average in school; and
10. to come from a family where the mother doesn't work.

The results indicated that the group of high participators in the school lunch tended:

1. to receive the school lunch free of charge;
2. to eat full course meals;
3. to eat at least one meal with the family;
4. to consider a meal isn't complete without dessert;
5. to spend a lot of time in stores;
6. to enjoy foods which are highly seasoned; and
7. not to have a snack after school.

Based on the findings in this study, life styles variables differentiated between the participators and non-participators in the school lunch program. One implication is that if participation rates are to be increased, the style of school food service must coincide with the life styles of the low participators of the school lunch.

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# C H A P T E R I

## THE PROBLEM

### Introduction

The National School Lunch Program is conceived to be of benefit to the twenty-four million students it serves because the lunch is a nutritious balanced meal providing one-third of the recommended dietary allowance (R.D.A.).<sup>1</sup> The school systems are reimbursed for the cost of producing this lunch. In 1979 these schools were reimbursed 2.9 billion dollars.<sup>2</sup>

There is a great deal of encouragement on both the local and state levels of government to increase the numbers of students taking part in the program. It is believed that the National Program is faced with a low participation rate problem in the school lunch program. Therefore, the National Advisory Council on Child Nutrition recommends that studies should be conducted to explore the reasons for the low participation rates in the school lunch program.<sup>3</sup>

The concern to increase the participation rate annually from its 57% to 60% levels<sup>4</sup> has encouraged many studies as explained later in Chapter II. All of these investigations have dealt with the basic internal problems associated with quantity food service operation. Poor quality food, long wait in lines, too short a lunch period, and the attitudes of the cafeteria workers are a few examples of the subject matter of these studies.<sup>5</sup>

There has been no significant increase in the participation rate when specific improvements have been made in the recognized problem areas.

Therefore, the problem has and continues to be that no matter what is done to improve the school food service, a great many students choose not to take advantage of the program available to them.

Notwithstanding these internal reasons, it is hypothesized that there are other factors, external to those associated with the system of food production and service, which influence student non-participation in school lunch. Up to this point no studies, which dealt with the relationship between the life styles of students and their decisions not to take part in the school lunch program, have been found. It is the premise of this study that the way in which students spend their time outside of school, their interests, and opinions may be a determinant of their low participation in the school lunch program.

That certain groups of people purchase certain products or services is not new to the field of marketing research. Studies of consumer behavior have found that one can not hope to sell the same products or services to all people. Any given product or service appeals to the values and needs of only a limited segment of the consumer market. The task of marketing research is to discover salient differences between buyer and non-buyer groups. What factors differentiate consumers from non-consumers in the school lunch program has not yet been addressed.

### The Purpose of the Study

The purpose of this study is to determine what factors related to life style, if any, are significant in differentiating students who participate in a school lunch program from those who do not participate.

Determining what the consumer, i.e., the student, wants in a school

food service is important. This study hypothesizes that the key to that determination are factors related to the life style of the student. How do these consumers feel about table manners, how do they spend their leisure time, what are their relationships with their family and friends, and what is the level of their food preferences and how is it prepared? The goal is to determine which among such factors influence participation.

### Definition of Terms

The following terms are defined to enhance the understanding of the school food service, its history and development, and life styles research.

School Lunch Program-A program established in 1946 with subsequent amendments which enables schools throughout the Nation, including the District of Columbia, Trust Territory of the Pacific Islands, Guam, Puerto Rico, American Samoa, and the Virgin Islands, to serve wholesome, low cost lunches to the students each school day.

Type A Meal Pattern-Lunches which meet one-third of the National Research Council's recommended daily dietary allowance (RDA).

Participation Rate-The number of students receiving a free, reduced, or full-priced reimbursable meal daily in the school lunch program.

Participators-Those students who regularly eat the school lunch.

Non-Participators-Those students who do not regularly eat the school lunch.

Plate Waste-The amount of edible food discarded by students participating in the school lunch program.

Free or Reduced Lunch-Lunches made available free or at a reduced sum to students who because of low family income cannot pay the full price.

Competitive Foods-All foods offered for profit through vending and other means and which draw students away from the Type A pattern.

Breakfast Program-Provides needy students with a nutritious breakfast at school based on USDA nutritional standards.

Special Milk Program-Schools and others who qualify are reimbursed for milk served to children.

"Offer versus Serve"-Senior high school students shall be offered the complete Type A lunch pattern. Such students must choose at least three of the five food items contained within the four food components of the Type A lunch, but the choice of fewer than all five items shall not relieve non-needy students from paying the full price of the Type A lunch or those students determined eligible for reduced price lunches from paying the reduced price charge.

A la Carte Food Sales-The only foods that may be sold a la carte (each one separately priced) during the regular school day are those foods which make a contribution to or are permitted by the school to be served as part of a Type A lunch.

Donated Foods-Foods which schools must accept and use in as large quantities as may be efficiently utilized in the breakfast and lunch programs; such donated foods as may be offered by the Bureau of Nutrition Education and School Food Services.

Life Styles-The pattern of enduring traits, activities, interests, and opinions that determine general behavior and thereby make one individual distinctive in comparison with another.

Consumer Behavior-The acts of individuals directly involved in obtaining and using goods and services, including the decision processes that precede and determine these acts.

Psychographics-The principle technique used by consumer researchers as an operational measure of life styles.

Market Segmentation-To determine groups of people whose preferences are sufficiently similar to each other, yet different from other groups.

Discriminant Analysis-The process of deriving independent variables which will discriminate best between two or more previously defined groups.

Linear Combination-Represents the weighted sum of two or more variables.

Discriminant Function-A linear equation in the following form:

$$Z = W_1X_1 + W_2X_2 + \dots + W_nX_n$$

where  $Z$  = the discriminant score

$W$  = the discriminant weight

$X$  = the independent variable.

Discriminant Score-Referred to as a Z-score.

Discriminant Weight-Also referred to as a discriminant coefficient, its size is determined by the variance structure of the original variables. Independent variables with large discriminatory power usually have large weights and those with little discriminatory power usually have small weights.

Centroid-The mean value of the Z-scores for a particular category or group. A two-group discriminant analysis has two centroids, one for each group.

Classification Matrix-A matrix containing numbers which reveal the predictive ability of the function.

## C H A P T E R I I

### LITERATURE REVIEW

The review of selected literature will be presented in this chapter. This review is divided into four parts.

Parts 1 and 2 provide the reader with an overview of the development of the school lunch program in the United States and a history of federal legislation. In addition, an overview of the internal problems associated with school lunch is presented. The question of non-participation in school lunch is discussed. Also included are studies which have uncovered reasons for low participation in the school lunch program.

Parts 3 and 4 contain information on the development of life styles research as a strategy to differentiate between two or more groups of people. Several examples of the application of life styles research is also included in this part.

#### Part 1-Historical Overview of the School Food Service in the U.S.

School food service in the United States was developed out of a moral commitment of private organizations interested in child welfare. The Children's Aid Society of New York City, for example, initiated a program in 1853, serving meals to students attending vocational schools.<sup>6</sup>

The book Poverty, by Robert Hunter, had a strong influence on feeding the hungry and needy children in school. Hunter was concerned with hunger, especially among the poorer families, and he pointed out that "learning is difficult because hungry stomachs and languid bodies and thin blood are not able to feed the brain."<sup>7</sup> Hunter estimated that in

1904 at least ten million people were living in poverty. In New York City alone he estimated that from 60,000 to 70,000 of the children "often arrived at school hungry and unfitted to do well the work required."<sup>8</sup>

As a result of the book by Hunter, and similar publications by others, a number of school lunch programs sprang up around the Country.

Those who fed the children in school did so on a volunteer basis. The meal consisted mostly of soup, sandwich, beans, and ice cream. By 1918 lunch was being provided in schools in approximately one-quarter of the cities.<sup>9</sup>

Another publication followed Poverty which also dealt with the problem. The Bitter Cry of the Children, by John Spargo, told of the misfortunes of children and the effect of malnourishment upon their physical and mental well being. Spargo estimated that roughly 2,000,000 children in the United States were victims of the common necessities, particularly adequate nourishment. "Such children are in very many cases incapable of successful mental effort, and much of our national expenditure for education is in consequence an absolute waste."<sup>10</sup>

In Gordon W. Gunderson's booklet, The National School Lunch Program, he wrote that in 1909 Dr. Cheeseman A. Herrick was credited with transferring the responsibility for school lunch service from volunteer and charitable groups to the Philadelphia School Board. It was Dr. Herrick who requested that menus be planned using sound nutrition principles and that the program be under the direction of a home economics graduate.<sup>11</sup>

In 1912 the Philadelphia School Board established the Department of High School Lunches and directed that the food services be inaugurated in all the high schools in the City.<sup>12</sup>

Growth period. A period in the history of school food service which had an impact on its growth was the Depression. It was during this period that legislation was enacted that put the school lunch program on a stronger footing by providing it with the needed financial assistance.

It was easy for the state and local authorities to authorize schools to provide meals to the children, but it wasn't quite as easy for them to finance such an undertaking. The contributions by the various charitable organizations for the service was not enough. In 1932 and 1933 the first federal monies came from the Reconstruction Finance Corporation in the form of loans to cover labor costs. The funds were used to pay those people who prepared and served the food in several towns in southwestern Missouri.<sup>13</sup> Federal assistance expanded in 1934 under the direction of the Civil Works Administration and the Federal Emergency Relief Administration. Some thirty-nine states received assistance. Both labor and trained management personnel for food service operations came from the Works Projects Administration and the National Youth Administration.<sup>14</sup>

The Depression of the 1930's provided surpluses of farm products. Prices of farm products dropped to a level that provided the farmer with only a meager subsistence. Families couldn't afford the school lunches and with limited family resources, the danger of malnutrition became a national concern. It was Public Law 320, 74th Congress, in August, 1935, which made it possible for the government to provide assistance in the form of commodities.<sup>15</sup> The Secretary of Agriculture was given the responsibility, as a result of Public Law 320, to purchase surplus foods for use in school lunch programs.

Eligible recipients and school lunch programs became the beneficiary

of the farm products purchased by the USDA. School children and families were provided with supplementary foods and the farmer was helped by being provided with a market for his products. In 1942 federal funds were used to purchase over \$21 million worth of food. In order to receive surplus foods, an agreement had to be written between any group sponsoring a school lunch program and the state agency responsible for the distribution of commodities. The parties had to agree:

1. that the commodities would be used for preparing school lunches on the school premises;
2. that the commodities would not be sold or exchanged;
3. that food purchases would not be curtailed because of the receipt of commodity foods;
4. that the program would not be operated for profit;
5. that the children who could not pay for their meals would not be segregated or discriminated against; and
6. that proper warehousing and accounting procedures would be rendered.<sup>16</sup>

As a direct result of this assistance program a tremendous improvement in children's nutrition became evident. Parents, teachers, and the community felt the benefits. A few of the recognizable changes were exceptional weight gains, better attendance, and improved performance in school.

The school lunch program was briefly affected by World War II. The surplus commodities became scarce and the workers from the Work Projects Administration (an agency created to provide work for those in need) were taken off of school lunch jobs and placed in jobs which produced supplies

for the war effort. In 1943, however, the 78th Congress amended the Agricultural Act of 1935.<sup>17</sup> This Act authorized funds of \$50 million to maintain the school lunch program. For 1943-46 the same amount of \$50 million was appropriated. It was also during this time that the provision extended the authority of the Secretary to include child care centers. The need for feeding and child care centers became obvious when a large number of women entered the labor force.<sup>18</sup>

After World War II agriculture again began to flourish and more money was available. Congress finally recognized a need to give the school lunch program permanent status. Up to this point appropriations were given on a year-to-year basis and school boards were cautious about undertaking the program when in the past, commodities and other forms of assistance were not assured.

National School Lunch Act. In 1946 the 79th Congress introduced and passed legislation which gave the school lunch program permanent status and the necessary appropriations. In June, 1946, President Harry S. Truman signed into law Public Law 396. The law gave the specific details on how the funds should be apportioned among the states.<sup>19</sup>

The main thrust behind the Act is stated in Section 2. It defines its purpose:

It is hereby declared to be the policy of Congress, as a measure of national security to safeguard the health and well-being of the Nation's children and to encourage the domestic consumption of nutritious agricultural commodities and other food, by assisting the states, through grants-in-aid and other means, in providing an adequate supply of

food and other facilities for the establishment, maintenance, operation and expansion of non-profit school lunch programs.

The Congress realized the exceptional benefits to children during the ten years previous to the passage of this Bill. The time had come to coordinate the work throughout the Nation. It provided and encouraged financial participation and control and made it permanent.

A second thrust of the Act was to provide markets for farm production. The school lunch program provided the necessary outlet for surplus crops. The educational agencies within the states and local school systems agreed that the schools sponsoring the program would:

- a. serve lunches which meet minimum nutritional requirements prescribed by the Agriculture Secretary;
- b. serve meals without cost or at a reduced cost to children who were determined by local school authorities to be unable to pay the full cost of the lunch;
- c. make no discrimination against any child because of his/her inability to pay the full price of the lunch;
- d. operate on a non-profit basis;
- e. utilize, as far as practical, the commodities declared by the Secretary to be in abundance and to utilize commodities donated by the Agricultural Secretary; and
- f. maintain proper records of all the receipts and expenditures and submit reports to the state agency required.

In October, 1962, the National School Lunch Act was amended to provide that funds would be apportioned on the basis of:

- a. the participation rate for the state, and
- b. the assistance need rate for the state.<sup>20</sup>

The "participation rate" refers to the number of students equal to the number of lunches served in the preceding fiscal year by the schools participating in the program.

The "assistance need rate" means that if an adequate amount of funds were given, no state would receive less than an amount equal to five cents per lunch. This figure is based on the number of lunches served in the previous year. The states with a per capita income of less than the national average would receive nine cents per meal for the number of meals served in the previous year. States with per capita income above the national average receive less. To help cushion the shock for these states, the Congress provided a three-year period before the change took effect.<sup>21</sup>

Child Nutrition Act of 1966. From the passage of the National School Lunch Act of 1946 through the twenty years that followed, the function of the school lunch program remained the same. In the early sixties an increased awareness of the nutritional needs of the children developed. Up to this time many people felt that the school lunch program had not done enough.<sup>22</sup>

The Kennedy and Johnson Administration emphasized civil rights, poverty, and nutrition. Nutrition had become a national priority of the Household Food Consumption Survey of 1965-66.<sup>23</sup> The results of this report showed a decrease in the nutritional intake of Americans over a ten-year period. The Child Nutrition Act of 1966 appropriated the necessary financial assistance to initiate new programs to help solve this problem.<sup>24</sup>

Continuation of the Special Milk Program of 1954 was extended to 1970. Non-profit schools, including nurseries, child care centers, summer camps, settlement houses, and other institutions which were devoted to the care and training of children, were eligible for assistance.<sup>25</sup>

Public Law 87-823 of the 87th Congress provided a way to reach the children who couldn't afford to pay for their own lunch. The free or reduced lunch provided reimbursement to those institutions offering the school lunch program.<sup>26</sup> The states that made the greatest strides toward increasing the participation in their school lunch programs were rewarded as a result of this amendment. It wasn't until 1966, with the passage of the Child Nutrition Act, however, that the program received funding.<sup>27</sup>

The new Act also provided funds for a pilot breakfast program and for new equipment for school lunch programs. The educational agencies which could show the need for funding were given first consideration. The schools where children had to travel long distances and who came from poor economic conditions were also given priority.

Recent legislation and nutrition education. The 1970's may well be called the decade of vigorous action for school food service. Several pieces of legislation were enacted which magnified the importance of the National School Lunch Act and the Child Nutrition Act.

In the beginning of 1970 there was the removal of the restriction preventing contract management companies from operating school food service under the National School Lunch Program. The sale of competitive foods were also allowed, and President Nixon introduced revenue sharing plans. Many people in the food service industry and in the Congress felt

that school food services were going to be in trouble as a result of Section 7 of Public Law 92-433 which states:

Such regulations shall not prohibit the sales of competitive foods in food service facilities or areas during the time of service of food under this Act or the National School Lunch Act, if the proceeds from the sales of such foods will inure to the benefit of the schools or of organizations of students approved by the schools.

Many Congressmen spoke out against this Amendment and by 1973 new bills were introduced to rescind the movement toward competitive foods.

In March, 1973, Senators Hubert Humphrey and Carl Perkins introduced a bill in the First Session of the 93rd Congress which established a program of nutrition education. The Child Nutrition Act of 1973 (as it was called) authorized the Secretary of Agriculture to formulate plans for a nutrition education program for children on a voluntary basis through state educational agencies.<sup>29</sup>

Public Law 93-150 provided additional financial assistance. This 1973 Amendment increased the average payment for lunch from eight to ten cents. Also, this provision provided for a forty-five cent reimbursement for free lunches and a ten cent reimbursement for reduced lunches.<sup>30</sup>

In 1975 Public Law 94-105 was enacted to help reduce plate waste in the school lunch programs. It was this law that gave senior high students the choice of accepting or rejecting certain foods. If they did not plan to consume an item, they were not required to accept it. This measure is commonly referred to as "offer versus serve."<sup>31</sup>

In 1977 Public Law 96-166 authorized the Secretary of Agriculture to

carry out two directives. First, the Secretary was to develop basic plans whereby children would receive nutrition education. Also, state educational agencies were given the opportunity to develop awareness programs in order to teach the principles of nutrition.<sup>32</sup>

It was during this period that the National Advisory Council on Child Nutrition implemented the Five-State Nutrition Education Project. The major objective of this project was to develop nutritional education activities between food service managers and classroom teachers.

Kent State University developed a program through their School of Education and Home Economics Department which provided nutrition education to local students ranging in age from three to eighteen years. The University designed a one-hour noontime program which not only offered a choice of food but also offered nutrition education. The subject matter presented during the nutrition education segment assisted the students in making the appropriate selections of nutritious foods when given the choice. During the research there was no plate waste according to the researchers, and the children were encouraged to try a variety of foods.<sup>33</sup>

#### Part 2-Student Participation in the School Lunch Program

One measure used to determine how well the National School Lunch Program was benefitting the children was in recording the numbers of children taking advantage of the program. It was found that only 57 percent of the children who had the opportunity to take advantage of the school lunch program actually had participated in the program.<sup>34</sup> In 1973 the National Advisory Council of Child Nutrition made the following

recommendation:

The Council recommends that the Department of Agriculture should explore and pursue means for increasing the current relatively low level of student participation in existing school food service programs, especially in the secondary schools, since a high degree of student participation is essential if the programs are to be effective.<sup>35</sup>

There were several reasons for low participation rates among children in the schools. The U.S.D.A. Food and Nutrition Service found in their evaluation of the child nutrition programs that the following factors affected participation:

1. attitudes of school administrators, teachers, school lunch workers, and parents regarding the importance of the school food service;
2. the opportunity to walk home for lunch;
3. institutional factors, such as, split sessions, open versus closed campus, length of lunch period, and decor in the lunch room;
4. prices charged for the meals;
5. competition from a la carte meals in school vending machines, fast food restaurants, and bag lunches from home;
6. lack of proper facilities for meal preparation and service;
7. numbers of students receiving free or reduced priced lunches; and
8. regional location and grade composition of the students.<sup>36</sup>

There were several studies conducted to determine why the

participation rate was so low in the school lunch programs. These studies dealt with the menu, attitudes, recess, pride of the students, price of the lunch, open versus closed campus, competition, choice, institutional menu factors, parental and teacher influences, and participation and waste.

In a study conducted by Garrett and Vaden, they found that when students were involved with menu planning, participation increased and plate waste decreased. The menu had a strong influence on the decision to eat the school lunch or not to eat it. The data also indicated that the approach of the food service personnel to the children had an influence on the students' reactions to the food and to the school lunch program.<sup>37</sup>

The need to increase the school lunch participation with the needy students as well as the non-needy students was undertaken in 1973 by the Food and Nutrition Service of the USDA. The study showed that many factors influenced school lunch participation. Low participation was attributed to poor local communication or a negative attitude toward the total program. Some teachers felt that there were other more important issues to solve than those problems that related to the school food service.<sup>38</sup>

Ruppenthal and Hogue found in their study that when recess followed the lunch period many students rushed through their lunch or didn't participate in the school lunch at all. They found that when recess time was reversed, it affected eating behavior dramatically by reducing the plate waste and increasing the participation among the students.<sup>39</sup>

The General Accounting Office conducted a program review of the

school lunch programs. The GAO provided documentation as to why the needy children did not participate in the school lunch programs. Pride was the main reason why many students did not want to participate in the programs. Administrative practices and irregularities were also found to be causes for non-participation among the students. These administrative practices included such weaknesses as the failure to send applications for reduced-priced or free lunches to the parents of the students.<sup>40</sup>

A study by Braley showed that variations in participation depended significantly upon the relationship of price to participation. On the average, the study indicated, that as price increased, the participation rate decreased.<sup>41</sup>

In a survey of school lunch directors conducted by Fairfax, he found that when menu prices increased participation rates decreased.<sup>42</sup>

In the rural schools, the USDA found that when the "open campus" existed (which gave the students the right to leave the school grounds during the lunch period), participation in the school lunch was higher. The study further showed that the length of the lunch period had an effect on school lunch participation. For example, when the lunch period was shortened, the participation rate decreased.<sup>43</sup>

The Economic Research Service study showed a number of factors affecting pupil participation in the school lunch program. Prices charged for the plate lunch, types of foods served, advanced publication of menus, open versus closed campus, proximity of commercial eating establishments, time allowed for lunch, and the attitudes of the students and the administrators toward the lunch services all affected the participation rate.<sup>44</sup>

Choice was found to have a large influence on the school lunch participation. According to a study in the School Food Service Journal, a 10 percent increase in participation resulted when the students were given a choice of the menu items. The Type A lunch was a better bargain: however, the sandwich lunch when combined with a salad, a vegetable, and a milk met the Type A requirements, too.<sup>45</sup>

Waiting in line was a major factor identified in a study conducted by Law. Serving size, menu price, and the dislike for certain foods were also cited as factors for influencing participation. Other reasons given for disliking school food service were small servings, not enough time to eat, and the overall environment of the dining room.<sup>46</sup>

The influence of the parents and peers had an effect on the student participation in the school lunch program according to Koskie.<sup>47</sup> The teachers also had an influence on the students' participation in the school lunch program. Where the attitudes of parents, peers, and teachers were positive, the participation rate was higher. Perkins found that a significant relationship existed between participation and the teachers' attitudes toward their eating with their class, food quality, and nutrition education.<sup>48</sup>

In the Comprehensive Study of Child Nutrition Programs of 1974, attitudes toward the National School Lunch Program were found to have a dramatic effect on participation. Those administrators, teachers, and workers who had positive attitudes toward the food service had a high participation rate. In those schools where the participation rate was low, it was found that only 20 percent of the administrators, teachers, and workers had a positive attitude toward the school food service.<sup>49</sup>

The problems of participation and waste were interrelated. It was one thing to encourage student participation in the school lunch program and quite another to encourage the students to eat what was being offered to them on the menu. Several studies on plate waste indicated that much of the school lunch was being thrown out.<sup>50, 51, 52</sup> This indicated that in fact the participation rate was lower than what is presently the case.

The school lunch program costs approximately \$2.6 billion annually. The program involves 90,000 schools and 25 million students. Some people believe that approximately half a billion dollars is ending up in the garbage can per year.<sup>53</sup> In Massachusetts alone, during the 1978-79 school year, 116,002,050 meals were served at a value of \$47,338,963.69 (Appendix A).

Why are almost one half of these students eligible to participate in the school lunch program not participating? Even when internal reasons are given, and conditions have been improved upon, the participating rate does not increase substantially. It is hypothesized that in addition to the problems associated with the internal operation of the school cafeterias, other reasons are causing the rate to remain stationary. These are believed to be associated with the life styles of the students, or more specifically, with their activities, interests, and opinions.

### Part 3-Life Styles: A Foundation of Consumer Behavior

The concept of life styles has become of great interest to those studying consumer behavior. Life styles are defined as a systems concept. It refers to the distinctive or characteristic mode of living, in its aggregative and broadest sense, of a whole society or segment thereof.

It is concurred with those unique ingredients or qualities which describe the style of life of some culture or group, and distinguishes it from others.<sup>54</sup>

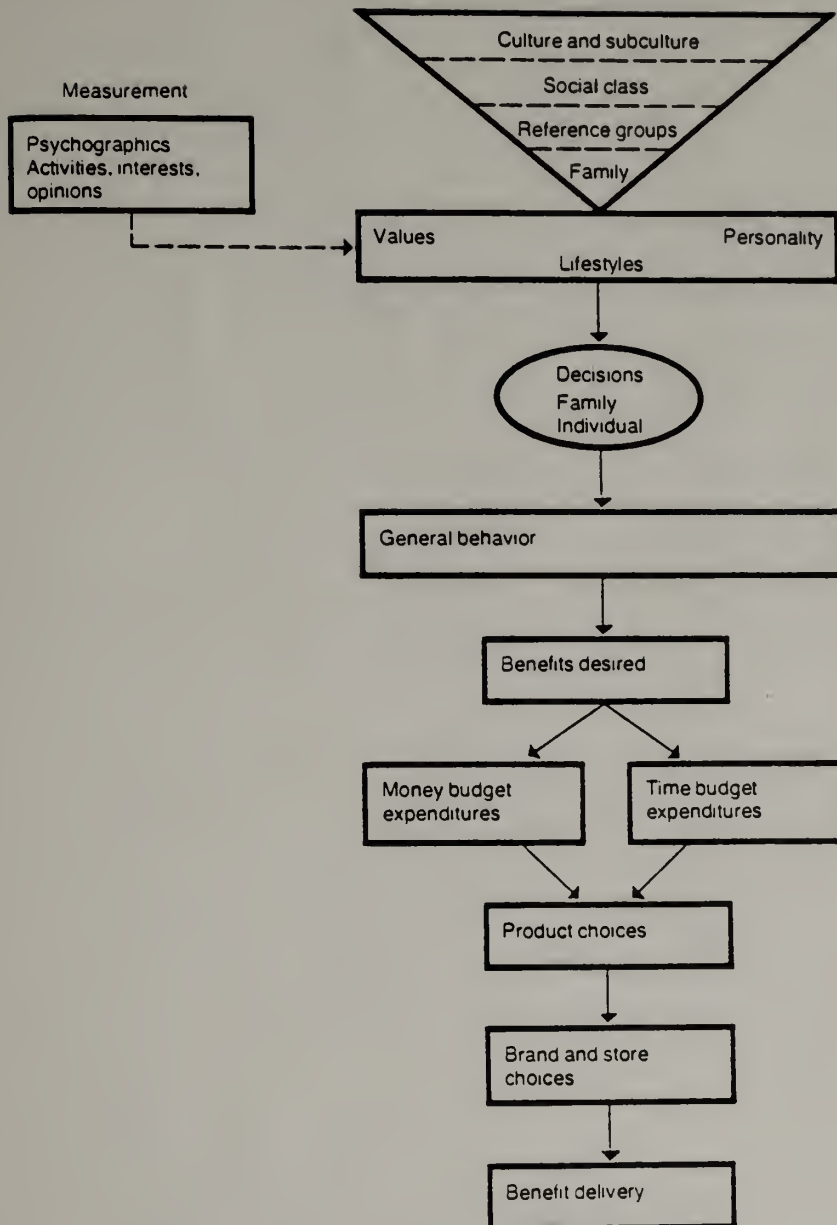
Life styles influence is a process (Figure 1). The theory of life styles is an outgrowth of personality or motivation research. Life styles are learned by individuals as a result of their culture, family, social class, and other influences.

Demographic variables have been, and continue to be, used in consumer behavior research. However, Wells and Tigert pointed out that the demographic variables are not totally satisfying. They lack color, texture, and dimensionability.<sup>55</sup> Wells and Tigert went on to state that a good way to supplement the demographic variables would be by asking questions relating to the customer's activities, interests, and opinions (AIO).

There are two types of AIO statements which are used in life styles research. The first type is the more general of the two statements. It is intended to point out the overall patterns of living that affect a person's activities and perceptions. Some examples of the first type of AIO statements are religious beliefs, family, and feelings towards life in general. The second type of statement includes items that measure product-related activities, interests, and opinions.<sup>56</sup> An example of the second statement would be the attitude toward a product or service, frequency of use, and how the information on the product or service is received.

Plummer described variables typically included in life styles research as:

Measures of people's activities in terms of



Source: Engel, James F.; Blackwell, Roger V.; and Kollat, David T. *Consumer Behavior*, Third Edition. Hinsdale, Illinois: The Dryden Press, 1978, p. 175.

Figure 1. Life styles influences on consumer decisions.

1. how they spend their time;
2. their interests, what they place as the most important in their immediate surroundings;
3. their opinions in terms of their view of themselves and the world around them; and
4. some basic characteristics; such as, their age, their income, their education, and where they live.<sup>57</sup>

Life styles research combines demographic research and depth research. It deals with the everyday happenings of people, as well as their interests, attitudes, opinions, and feelings. The construct of life styles tells us about our customer. In the past, the focus was on the product or service or on widely used classification measures. The output is now "humanized."<sup>58</sup>

Life styles are the result of several influences. They are influenced by the person's values and his/her personality (Figure 1). The basic framework for attitudes, which encompass a person's life style, are the person's values and personality. The institutions of family, religion, social class, etc., are a value and personality development resource. Early life experiences also add a dimension in learning more about the individual as it relates to the purchasing behavior of the individual. Single parent families or economic factors may offer a wider range of diversified experiences affecting how a person values a particular product or service.

Life styles are not static and, therefore, their study is necessary in order to keep up with the changing times and to use current life styles factors as indicators for planning and improving specific areas.

Studies using life styles research. Life styles have been used to differentiate between users and non-users of both products and services.

Wells and Tigert developed a three hundred attitudes, interests, and opinions (AIO) questions which were used to contrast the profiles of users with non-users of various products and examined the market behavior of consumers. The following statement represented the philosophy of their research:

One way to design a study that includes questions of this type is to develop hypotheses and prepare specific questions to test these ideas. . . The alternative is to cast a wider net . . . to ask about a wide range of activities, interests, and opinions that have no obvious relationship to the product being studied. This approach has the advantage of not focusing on the obvious and not precluding the unexpected. It is valuable because unexpected relationships often lead to new ideas.<sup>59</sup>

Tigert and others described the users of Kentucky Fried Chicken using AIO's product use and demographic variables. These variables were cross tabulated against the purchase of carry-out fried chicken. Those who used the product at least once a month were considered "heavy users." Some of the findings were:

1. heavy users were more likely to be working full time, young, in a family with slightly more children than the sample average;
2. heavy users of fried chicken were also heavy users of eye make-up, nail polish, perfume, soft drinks, chewing gum, and candy;

3. heavy users suggested a below average skill in cooking; and
4. heavy users exhibited a zest for life, were more active, influential, and were risk takers.<sup>60</sup>

William Blair, a strong proponent of life styles analysis, states:

If you tell me enough about a person . . . what other things he buys and how he lives . . . I'm going to know enough about the kind of person he is and that is going to be more important to me than whether he is aggressive, or passive, or whatever.<sup>61</sup>

Wada's study of the relationship between life styles, product, and choice showed that

1. life styles embody a systematic pattern;
2. that it constitutes an entire facet of the human environment; and
3. that it has an effect on consumer behavior.<sup>62</sup>

The results of his study supported the general life styles segmentation approach to consumer behavior.

Schorr and others conducted a study on the food habits of teenagers. This study showed how teenagers related to several life styles characteristics and their level of nutritive intake. Rank correlations showed that the complexity of an adolescent's diet increased significantly when there was an increase in their father's and/or mother's occupational level, their mother's educational level, the extent of their own social participation, and the type of employment they were participating in. This increase was not related to their age, their sex, their family size,

or their sources of nutritional knowledge.<sup>63</sup>

In a study which used psychographic variables to investigate product disposition behaviors, Burke, Conn, and Lutz found that life styles factors were moderately useful variables to consider when one studied disposition behavior. They found that demographic factors alone were not enlightening to the study of product disposition behaviors.<sup>64</sup>

Steelman conducted a study on the attitudes toward food as indicators of value systems. She used six attitude indexes related to food:

1. propensity to change;
2. convenience;
3. frugality;
4. concern for health;
5. concern for social status; and
6. sociability.

The findings indicated that attitudes toward food do vary by sub-cultures. She further stated that when we have a better understanding of the meaning of food and its significance and relationship to the total life styles of individuals and groups, we can most effectively change the food habits of those individuals and groups. The results also indicated that families who value the social relationships centered around food placed more emphasis on food than those families who go their own separate ways at mealtimes.<sup>65</sup>

#### Part 4-The Question

The question addressed by this study was: Do certain life styles

discriminate between students who choose to participate in the school lunch program from those who choose not to participate in it?

Since this was an exploratory study, no specific hypotheses were advanced as to which of the life styles variables will successfully distinguish between participators and non-participators in the school lunch program.

## C H A P T E R I I I

## METHODOLOGY

Population

The school used in this study was located in Northampton, Massachusetts. It is one of two junior high schools in that city and has an enrollment of 416 students.

This junior high school had a participation rate of 51 percent.<sup>66</sup> This meant that on the average, one-half of the student body went through the cafeteria line each school day. The school served one type of school lunch per day. This lunch conformed to the USDA lunch requirements.

Northampton is a diverse community with a population of 29,664 people. The service industry is the largest employer with 34.8 percent being employed in this area. Retail trade and manufacturing is the second employer in Northampton. It is one of twenty-four municipalities in the Springfield-Chicopee-Holyoke Standard Metropolitan Statistical Area.<sup>67</sup>

Sample Selection Process

The selection process involved differentiating between the participants and non-participants in the school lunch program. In order to differentiate between these two groups, three days were selected at random from a two-week period.

On each of the specified three days, immediately following the lunch period, each teacher distributed a card to his student. On this card the students indicated whether they ate the school lunch or not (Appendix B).

In addition, on the first day of the study the students were asked if they would be willing to participate in the study on the school lunch program.

Permission of the parents/guardians was obtained in writing by completing a consent form (Appendix C).

The data were analyzed on the basis of the number of times the student ate or did not eat the school lunch on each of these three days. Students who checked "yes" to the question, "Did you eat the school lunch today?" on each of the three days, were classified as high participators. Those who checked "no" to the question, "Did you eat the school lunch today?" on each of the three days, were classified as low participators with all other categories in between. Participation/non-participation frequency distribution is shown in Table 1.

Table 1

FREQUENCY DISTRIBUTION OF PARTICIPATORS AND NON-PARTICIPATORS  
IN THE SCHOOL LUNCH ON THREE-RANDOMLY SELECTED DAYS  
DURING A TWO-WEEK PERIOD

	Number	Percent
Participators 3 out of 3 days	128	31.2
Participators 2 out of 3 days	90	22.0
Non-Participators 3 out of 3 days	71	17.3
Non-Participators 2 out of 3 days	86	21.0
Incomplete Information	35	8.5
Total	410	100.0

Of the 410 students in the school, 149 (36.3 percent) did not have their parent's/guardian's permission to participate in the study, 34 (8.3 percent) parents/guardians did not respond, and 21 (5.1 percent) had their parent's/guardian's permission, but refused to participate. This reduced the sample to 206 students or 50.2 percent of the school's population (Table 2).

Table 2  
 FREQUENCY DISTRIBUTION OF CONSENTING  
 PARENTS/GUARDIANS AND STUDENTS

	Number	Percent
Parents/Guardians Approve Students Willing to Participate	206	50.2
Parents/Guardians Disapprove	149	36.3
Parents/Guardians Who Didn't Respond	34	8.3
Parents/Guardians Approve Students, But Students Refuse to Participate	21	5.1
Total	410	100.0

The sample ranged in age from eleven to fourteen. The students were from the seventh, eighth, and ninth grades as shown in Table 3.

Table 3

NUMBER OF STUDENTS IN THE SAMPLE BY GRADE

Grade	Number
7	80
8	66
9	60
Total	206

Instrumentation

The research instrument was an eighty-one item questionnaire (Appendix D) consisting of five demographic questions and seventy-six life styles questions divided into the following seven categories:

1. participation in chores at home;
2. table manners practiced at home and in restaurants;
3. participation in food preparation at home;
4. preferences for eating out;
5. family relationships;
6. concern for nutrition; and
7. the use of leisure time.

The instrument was tested for clarity, consistency, and understandability in a pilot study involving interviews with five junior high school

students. The pilot study produced an instrument which was clearer, less monotonous, and faster to administer.

### Data Collection and Treatment

The questionnaire was administered by a team of six interviewers and the investigator himself.

The interviewers received the following instruction on general interviewing techniques:

1. the proper attire of the interviewer;
2. going over the questionnaire so that all interviewers were thoroughly familiar with the material;
3. going over any questions the interviewers had in respect to the questionnaire;
4. establishing rapport with the students;
5. knowing how to respond to students' questions;
6. the importance of accuracy;
7. avoiding bias; and
8. respecting the participator's confidentiality.

All interviews took place in the junior high school.

Each student was identified by a code number which appeared on each questionnaire. The number was used not only to identify the student, but it also represented whether the student participated in the school lunch three out of three times or two out of three times, or if the student didn't participate in the school lunch three out of three times or two out of three times.

The interview duration was approximately fifteen minutes. The whole process took eight school days to complete.

### Data Analysis

The statistical technique used in studying the above data was discriminant analysis. Discriminant analysis enables one to study group differences by finding a linear combination of independent variables which discriminate between groups of subjects or objects. This is done by forcing groups to be as statistically distinct as possible.<sup>68</sup> This approach is appropriate when the dependent variable is categorical (nominal) and the independent variables are ordinal or interval.

In this study discriminant analysis involved the development of a linear combination of several life styles variables which discriminated best between non-participators in school lunch and participators in school lunch. This method provided a set of weights that could be used to classify individuals into one group or another. Besides being used as a descriptive technique for synthesizing dimensions of group differences, the discriminant analysis was also used as a method for classifying new cases or students whose group membership was unknown.<sup>69</sup>

### Procedure

The intent of this study was to compare between non-participators and participators in the school lunch program. Therefore, a two-group discriminant analysis would be the appropriate technique. Unfortunately, the number of subjects who fell in those categories was too small for the analysis (forty-five for the consistent non-participators and

seventy-three for the consistent participators). Therefore, a procedure was undertaken to study the possibility of collapsing the four groups of students:

1. those who ate three out of three;
2. those who ate two out of three;
3. those who didn't eat two out of three; and
4. those who didn't eat three out of three

into two groups.

This procedure consisted of a four-group discriminant analysis which was performed to test whether there were any significant differences between groups one and two and between groups three and four. The results showed that groups one and two were not significantly different from each other nor were groups three and four. However, groups one and two were significantly different from groups three and four. This justified the decision to collapse the four groups into two. Those who ate three out of three meals and two out of three meals were classified as high participators. While those who did not eat three out of three times and those who didn't eat two out of three times were classified as non-participators (Appendix E).

Four discriminant analyses were administered in this study. Due to a too large number of independent variables in relation to the number of subjects, the researcher divided the analysis in three parts for ease of handling the data. The first third of the lifestyles variables were analyzed. The second and the last third of the variables were analyzed next. Those variables, which were significant in each of the

three analyses, were combined and analyzed in the fourth and final discriminant analysis.

In the last analysis the "direct" method was applied in which all independent variables were forced statistically into the two groups of dependent variables, the non-participants and the high participants.

Validation. The validation procedure used in the analysis was the random selection of one-half of the sample in order to derive the function and using the other half to derive the classification.

The justification for this procedure is that an upward bias can occur in the prediction accuracy of the discriminant function if the individuals used in developing the classification are the same as those used in computing the function.<sup>70</sup> This "hold out" sample is not used when the function is computed. It is used later in the analysis as the validation sample.

Computation. The stepwise method, which was used, involved entering the independent variables into the discriminant function, one at a time, on the basis of their discriminating power. The approach begins by choosing the single best discriminating variable. This variable is paired, one at a time, with each of the other variables until the best set of variables is selected. As additional variables are included, some previously selected variables may be removed if the information they contain about group differences is available in some combination of the other included variables.<sup>71</sup>

This procedure is especially useful when a relatively large number of independent variables are present, as was the case in this study. The

reduced set of variables is almost as good as, and sometimes better than, the complete set of variables.<sup>72</sup>

The sets of variables having the most significance in differentiating between the two groups are placed in rank order from those having the greatest power of significance to those having the least power of significance. These values identify the variables which contribute most to differentiation. It is a practice to consider only those variables with an absolute value, at least as great as one-half the value of the largest variable, as doing the most to explain the group differences.<sup>73</sup>

The group centroid is the average of the scores for the variables in that group. A comparison of the group centroids can show how far apart the groups are on the dimension. The sign of the centroid (+ or -) can be used to identify those variables which contribute to the group by matching it with the similar signs of the variables' numerical values.<sup>74</sup>

Testing for statistical significance. The discriminant analysis was tested for statistical significance. The conventional criterion of .05 or less was used.<sup>75</sup> Levels above .05 would indicate that the function would have no more accuracy than would be expected by chance.

The Box's M and its associated F Test was employed for testing the equality of the two groups covariances. To meet its basic statistical assumption in the discriminant analysis, the two groups should not equally covary, or in other words, the Box's M Test should not show statistical significance.<sup>76</sup>

To test whether the current classification of the subjects was at a level which is greater than chance, Cohen's Kappa K and its associated Z Test was employed.<sup>77</sup>

## CHAPTER IV

### RESULTS

#### The Analysis

Selection of descriptor variables. As previously explained, due to an excessive number of independent variables (seventy-nine) in relation to the number of subjects (103 in the 50 percent sample for the validation procedure), it was decided to divide the analysis into three discriminant analyses. These three separate discriminant analyses had a separate group of life styles variables. The first analysis consisted of twenty-five variables, the second thirty-eight, and the third consisted of sixteen variables.

The thirty-two life styles variables which entered the equations and were found significant in each of the three discriminant analyses: eight from group 1, sixteen from group 2, and eight from group 3, were then combined and analyzed in the fourth and final discriminant analysis. Figure 2 lists the above thirty-two descriptor variables taken from each of the three analyses. Appendix F presents the complete results for each of the three discriminant analyses.

Collapsing the groups. In the initial three analyses, four-group discriminant analyses were performed. The groups were those students who:

1. ate zero lunches out of the three studied lunches;
2. ate one lunch out of the three lunches;
3. ate two lunches out of the three lunches; and
4. ate all three lunches. (Table 4)

---

DA <sup>1</sup>	DA <sup>2</sup>
1. Frequency of Manners at a Restaurant	1. Television is Primary Entertainment
2. Frequency of Dinner Responsibilities	2. Frequency of Shopping for Clothes
3. Importance of Restaurant Surroundings	3. Like Fried Foods
4. Preferred Type of Food Service	4. Meal is Not Complete Without Dessert
5. Frequency of Meal Chores	5. Prefer Eating Out with Friends
6. Table Service in Restaurants	6. Enjoy Activities with Family
7. Frequency of Eating Full Course Meal	7. Like Highly Seasoned Foods
8. Frequency of Payment for Chores	8. Read for Enjoyment
	9. Family Does Many Things Together
DA <sup>3</sup>	10. Family Concerned with Son/Daughter Eating Habits
1. Size of the Household	11. Aware of Nutrition in Food
2. Grade Point Average	12. Drink Four Glasses of Milk Per Day
3. Paid or Free Lunch	13. Spend a Lot of Time in Stores
4. Sex	14. Like Parties
5. Grade in School	15. Friends Influence Type of Entertainment
6. Female Head of Household	16. Family Usually Eats One Meal a Day Together
7. Housewife	
8. Snack	

---

Figure 2. Descriptor variables from each of the three discriminant analyses.

Table 4  
NUMBER OF CASES BY GROUPS

Groups	Number	Label
1	45	Ate 0 Lunches Out of 3 Lunches
2	41	Ate 1 Lunch Out of 3 Lunches
3	47	Ate 2 Lunches Out of 3 Lunches
4	73	Ate 3 Lunches Out of 3 Lunches
Total	206	

Though the intent of this study was to perform a two-group discriminant analysis (in order to distinguish between participators and non-participators in the school lunch program), the data did not lend themselves to this procedure, since the number of subjects who fell in the categories of consistent participators and consistent non-participators was too small (seventy-three consistent participators and forty-five consistent non-participators).

However, when the centroids of the first function were examined in each of the three, four-group discriminant analyses it was noticed that in two out of three analyses, groups 1 and 2 were similar (had the same sign) to each other, groups 3 and 4 were similar to each other, but groups 1 and 2 were different than groups 3 and 4 (Table 5 and Appendix E). Therefore, it was decided to collapse the four groups into two. Groups 1 and 2 were put into a common group of high non-participators and groups 3 and 4 were put into a common group of high participators.

Table 5  
 GROUPS AND GROUP CENTROIDS FOR THREE PARTS,  
 FOUR-GROUP DISCRIMINANT ANALYSES

Group	N	Group Centroids Part 1	Group Centroids Part 2	Group Centroids Part 3
1. Non-Participants Ate 0 Out of 3 Lunches	45	-.29	-.84	-.90
2. Non-Participants Ate 1 Out of 3 Lunches	41	-.45	-.07	.01
3. Participants Ate 3 Out of 3 Lunches	47	.34	.68	-.02
4. Participants Ate 2 Out of 3 Lunches	75	.22	.11	.56

Two-group analysis. For the purpose of the discriminant analysis, ninety-seven cases were used to test the significance of the discriminant analysis (Figure 3). These ninety-seven cases were the result of collapsing the four groups into two (Table 6).

Table 6  
 SAMPLE USED IN THE TWO-GROUP  
 DISCRIMINANT ANALYSIS

	Cases	Label
Group 1	40	Ate 0 or 1 Lunch Out of 3
Group 2	57	Ate 2 or 3 Lunches Out of 3
Total	97	

---

206 (Unweighted) Cases Were Processed  
109 Excluded From the Analysis:  
    0 Had Missing or Out of Range Codes  
    5 Had at Least One Missing Discriminating Variable  
    0 Had Both  
104 Were Excluded  
97 (Unweighted) Cases Were Used in the Analysis

---

Figure 3. Number of cases used in the two-group discriminant analysis.

As can be seen in Table 7 out of the thirty-two variables selected for inclusion only seventeen remained in the final step explaining a significant proportion of the variance between participators and non-participators.

The discriminant function showed a very high statistical significance (Table 8). The eigenvalue (.88) indicated that the life styles variables contained a sizable portion of the total variance. The function was significant at the .001 level which meant that the discrimination between the groups was statistically significant. The indicators were that the discriminant analysis had succeeded in identifying the life styles variables which discriminated between the high non-participators and high participators in school lunch.

The standardized canonical discriminant function coefficients (Table 7) showed the life styles variables with their magnitude of discriminatory power. The larger the weights, the more likely the life styles variables were able to discriminate between the groups. The variables which had a negative sign (-) were associated with high non-participators. Any variables which had a positive sign (+) were associated with high participators of school lunch. For example, take the most significant life styles variable--"Frequency of Manners at a Restaurant"--that was associated with non-participators of school lunch. As the value of this life styles variable increased, the more likely it was to be associated with students who did not participate. As the value decreased, the more likely this life styles variable was associated with the participators of school lunch. Thus, high non-participators

Table 7

STANDARDIZED DISCRIMINANT COEFFICIENTS, GROUP CENTROIDS,  
AND BOX'S M TEST FOR TWO-GROUP  
DISCRIMINANT ANALYSIS

Variables (Life Styles)	Coefficients
1. Frequency of Manners in Restaurants	-.55
2. Frequency of Shopping for Clothes	-.52
3. Enjoy Activities with Family	-.52
4. Lunch is Free	.50
5. Frequency of Eating Full Course Meals	.49
6. Family Eats A Daily Meal Together	.48
7. The Meal is Not Complete Without Dessert	.41
8. Prefer Restaurants Which Offer Table Service	-.35
9. Importance of Restaurant Surroundings	-.34
10. Spends a Lot of Time in Stores	.32
11. Grade Level in Junior High School	-.31
12. Like Highly Seasoned Food	.30
13. Frequency of Meal Chores	-.27
14. Family Does Many Things Together	-.26
15. Grade Point Average	-.23
16. Mother is a Homemaker	-.18
17. No Snack After School	.18
 Centroids	
Group 1-High Non-Participators	-1.11
Group 2-High Participators	.78
 Box's <u>M</u>	
Approximate <u>F</u>	1.16
Significance	.108

n = 97

Table 8  
SIGNIFICANCE OF THE DERIVED FUNCTION

	Eigenvalue	Canonical Correlation	Wilks Lambda	Chi Squared	df	p
Direct	.88	.68	.53	54.6	17	.00

n = 97

were more likely to practice table manners when they went out to restaurants than the non-participator. The opposite was true when we looked at a variable with a positive value. For example, take one of the least significant variables, "spends a lot of time in stores," that was associated with the high participators of school lunch. As the value of this variable increased, the more likely it was associated with the high participators of school lunch. Whereas, as the value decreased, the more likely it was associated with the high non-participators of school lunch.

The highest coefficients, regardless of their sign, were the most important variables in the discriminant analysis for predicating the high non-participators and high participators of school lunch. In a discriminant analysis it is customary to interpret only those variables which have a value of one-half the value of the highest variable in the group. Thus, the fourteen life styles variables which had a value of 27.5 or more could be interpreted with accuracy, while the four variables having a value lower than 27.5 were left uninterpreted. Figure 4 lists the life styles variables with their association. The Box's M

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Group 1-High Non-Participators

Frequency of Manners in Restaurants  
Frequency of Shopping for Clothes  
Enjoy Activities with the Family  
Prefer Restaurants Which Offer Table Service  
Importance of Restaurant Surroundings  
Grade Level in School  
Frequency of Meal Chores

Group 2-High Participators

Lunch is Free or Reduced in Price  
Frequency of Eating a Full Course Meal  
Family Eats a Daily Meal Together  
Meal is Not Complete Without a Dessert  
Spends a Lot of Time in Stores  
Like Highly Seasoned Foods

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Figure 4. Significant and interpretable life styles variables and their group association.

test and its associated  $F$  test verified the assumption of equal covariance matrices for all descriptor variables. This indicated that the discriminant function was significant at the .1075 level. Table 9 presents the classification results for the cases used in this analysis.

Table 9  
CLASSIFICATION RESULTS FOR CASES  
SELECTED FOR ANALYSIS

Direct Method				
Group	Prior Prob.	$\bar{n}$	Predicated Group Membership	
	$\bar{n}$		$\bar{n}$	$\bar{n}$
			1	2
1. Non-Participators	43	43 (42.6)	31 (72.1)	12 (27.9)
2. Participators	58	58 (57.4)	5 ( 8.6)	53 (91.4)
Total	101	101	36 (35.6)	65 (64.4)

Classification accuracy - 83.1%

Improvement of classification over chance:

$$\Sigma^P O = .832$$

$$\Sigma^P E = .522$$

$$\text{Kappa} = .648$$

$$\sigma K = 10.4\%$$

$$Z = 6.23 \text{ significant beyond } .001 \text{ level}$$

Out of the forty-three cases from the group of non-participants thirty-one or 72.1 percent were correctly classified into the predicated group and twelve or 27.9 percent were correctly classified into the participation in the school lunch group. Out of fifty-eight cases of participants only five or 8.6 percent fell into the group of non-participants and fifty-three or 91.4 percent were correctly classified into the group of participants. Thus, a total of 101 cases were used in the discriminant function having a predicated group membership of 83.17 percent.

The interpretation of the data is enhanced by computing Cohen's Kappa,  $K$ , the chance corrected percentage of agreement between actual and predicated membership. 
$$Kappa = \frac{\sum P_O - \sum P_E}{1 - \sum P_E}$$
 Kappa is the sum of the observed portion correctly classified cases.  $P_O$  minus the sum of the observed proportion correctly classified cases expected by chance,  $P_E$ , divided by one minus the sum of the proportion of agreement expected by chance,  $P_E$ . Kappa, as seen in Table 9, is equal to .648, meaning that knowledge of the discriminant function allows one to improve predication about the sample group membership by 65 percent over and above chance agreement. The cases not used in the function, but which were used to validate the discriminant analysis, are found in Table 10.

Out of the forty-three cases from the group of non-participants, twenty-five or 58.1 percent were correctly classified as non-participants, and only eighteen or 41.9 percent were classified as participants. From the sixty-two cases in group 2, twenty-one or 33.9 percent were classified as group 1 cases and forty-one or 66.1 percent were classified

Table 10  
 CLASSIFICATION RESULTS FOR CASES NOT  
 SELECTED FOR ANALYSIS

Direct Method				
Group	Prior Prob.	<u>n</u>	Predicated Group Membership	
	<u>n</u>		<u>n</u>	<u>n</u>
			1	2
1. Non-Participators	43	43 (41.0)	25 (58.1)	18 (41.9)
2. Participators	62	62 (59.0)	21 (33.9)	41 (66.1)
Total	105	105	46 (43.8)	59 (56.2)

Classification accuracy - 62.8%

Improvement of classification over chance:

$$\Sigma^P O = .628$$

$$\Sigma^P E = .512$$

$$\text{Kappa} = .237$$

$$\sigma K = 9.9\%$$

$$Z = 2.378 \text{ significant beyond } .002 \text{ level.}$$

as group 1 cases and forty-one or 66.1 percent were classified into group 2. Out of the 105 cases used, 63 percent were correctly classified.

The question was whether a Kappa of .648 differed significantly from a Kappa of .237. In other words, was there a difference in predictability between the two groups; those used in the discriminant

function and those used to test the validity of the analysis? This was tested by computing the standard error separately for each "sample" and then pooling the two estimates of the standard error to yield an estimate of the standard error of the difference between the two Kappas,  $\sigma_{K_1-K_2} = \frac{\sqrt{P_0(1-P_0)}}{N(1-\Sigma^2 P^2 E)^2}$ . As the test showed in Table 11, no significant difference in predictability was found between the two groups.

Table 11

STANDARD ERROR OF KAPPA FOR TWO-SAMPLE  
HYPOTHESES TESTING

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$$\sigma_{KP_1} = .006$$

$$\sigma_{KP_2} = .009$$

$$Z = .38$$

Not significant at the .05 level.

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Socio-Demographic Variables

The responses to the questions dealing with demographics did not provide significant evidence that these variables could discriminate between high non-participators of school lunch and the high participators of the school lunch. However, the results of these questions are presented below to provide additional information about the subjects in this study.

Number in household. Forty-eight percent of the respondents came from households having five or more members. Thirty-eight percent of

the respondents came from households of four members and 14 percent came from two or three member households.

Heads of households. Eighteen percent of the households were headed by a female only. Six percent were headed by the male only. The majority of the households, 76 percent, had both a male and female head of household.

Education of heads of households. Thirty-eight percent of the male heads of households had a college degree. Thirty-eight percent of the females had a college degree. Fifty-eight percent of both the male and female heads of the households had some college training.

Employment of the male head. Eighty-nine percent of the male heads of the households were employed full time and 2 percent were unemployed. The remainder were employed part time, retired and employed part time, or retired.

Employment of the female head. Forty-nine percent of the female heads of the households were employed full time and 33 percent were employed part time. Fifteen percent of the female heads of the households were homemakers. Three percent of the females were unemployed.

Income. Income had the highest missing values for any of the questions. Seventy-five percent of the sample did not specify the total approximate family income. Those that did respond stated that the family income was somewhere between \$6,000 - \$30,000.

Time male and female heads left for work. Most male heads, 74 percent, left for work either when their son/daughter went to school or after they had left for school. Twenty-three percent of the males

left for work before their son/daughter woke up. Three percent of the males didn't go to work. Seventy-nine percent of the female heads left for work either after or at the same time their son/daughter had left for school. Five percent of the female heads left for work before their son/daughter had left for school. Sixteen percent of the female heads didn't leave the home.

Time male and female heads returned from work. Eighty-seven percent of the male heads arrived home after their son/daughter returned from school. The same is true of the females with 53 percent returning home after their children returned from school.

Overall grade average. Eight percent of the respondents stated that they had an average of A to A+. Sixty-four percent stated that they had an average of B to B+. Twenty-five percent of the students said that they had an average of C to C+. Three percent stated that they had an average below C.

Cooking habits of the male head. Sixty-five percent stated that the male heads cooked sometimes. Seventeen percent had no time to cook and 6 percent didn't know how to cook. Twelve percent stated that the male heads didn't like to cook.

Breakfast habits. Seventeen percent of the respondents stated that they didn't eat breakfast. Twenty-one percent stated that they didn't eat an inadequate breakfast. Thirty-seven percent ate a balanced cold meal for breakfast and 25 percent ate a balanced hot meal for breakfast.

Snacking habits. Eighteen percent of the students didn't snack

after school. Thirty-three percent ate junk food for a snack. Nutritious snacks were eaten by 49 percent of the respondents.

Open-ended questions. 1. Why do you eat the school lunch?

Twenty-two percent of the students who participated in the school lunch stated that they liked it, 13 percent stated that they didn't have time to prepare lunch at home, 12 percent thought that it was easier and more convenient to buy the school lunch. Twenty-seven percent stated that they purchased the school lunch because they didn't like to bring a lunch, liked the hot lunch, the price was good, tasted good, it is good, they are hungry, and their mother wanted them to. The remaining 26 percent gave various miscellaneous answers to the question.

2. Why don't you eat the school lunch? Thirty-four percent of the non-participants of the school lunch stated that they didn't like the menu, 26 percent didn't like the food, 12 percent said that it was easier to bring lunch from home, and 10 percent didn't like the way in which the food was prepared. The remaining 18 percent gave various miscellaneous responses.

Is lunch free, reduced, or paid? Twelve percent of the sample received the lunch free. Seventy-five percent paid for the lunch and 13 percent received a reduced price lunch.

## CHAPTER V

### SUMMARY AND CONCLUSION

The purpose of this study was to determine whether life styles variables could differentiate between non-participators in school lunch and participators in the school lunch. The major objective was to determine which life styles variables best differentiated between the two groups.

The results indicated that certain life styles variables did discriminate between the two groups.

Three discriminant analyses were conducted, each on one-third of the instrument. The seventeen independent life styles variables that were significant were selected for inclusion in the final discriminant analysis. These seventeen variables distinguished the characteristics of each of the following groups:

1. the group of high non-participators in the school lunch and
2. the group of high participators in the school lunch.

The results indicated that the group of high non-participators tended:

1. to be those concerned with table manners when they ate out in restaurants;
2. to shop for new and different clothes during their free time;
3. to enjoy activities with their family;
4. to prefer restaurants offering table service;
5. to consider the interior design, color, etc., as important

restaurant attributes;

6. to be those in higher grades within the junior high school;
7. to be those assigned to chores at home dealing with meals;
8. to come from families which do a lot together;
9. to have a higher grade point average in school; and
10. to come from a family where the mother isn't employed away from home.

The results indicated that the group of high participators tended:

1. to receive the school lunch free of charge;
2. to eat full course meals;
3. to eat at least one meal with the family;
4. to consider a meal isn't complete without dessert;
5. to spend a lot of time in stores;
6. to enjoy foods which are highly seasoned; and
7. not to have a snack after school.

In reviewing the above two groups one can describe each group as having distinct life styles. These life styles may be used to classify junior high school students as non-participators or participators in school lunch.

In general, the non-participators group appeared to be less interested in food and more interested in how they looked and appeared to others. Indications are that the non-participators liked what is often referred to as the good life. They wanted to be waited on when they went out rather than to stand in lines and/or serve themselves. They felt that the surroundings in food establishments were important.

The decor, the table settings, and other amenities were considerations when this group ate out.

The non-participators appeared to come from parents/guardians who provided a degree of discipline. An example is seen in the way in which the parents/guardians trained their children in the use of their table manners. Family relationships seemed close among the non-participators. These students were involved in activities which included the family. They enjoyed doing things together as a family. There was a great deal of sharing between the student and his family. The female head of the household of the non-participators of the school lunch usually didn't work away from home.

Those who participated in the school lunch program seemed to have more of an interest in food. This interest, it seemed, was not in relation to the quality of food, but rather in their getting enough to eat. Indications were that this group of students ate at least two full meals per day. The school lunch was eaten, which had already been determined, as was the meal that was eaten together with the family.

In addition, participation in school lunch was related to the possibility of obtaining the meal free or at a reduced rate. This may be an indication that participation is related to family income though income itself was not determined.

The participators ate full course meals when they ate in food establishments. They did not appear to have the number of alternatives in terms of how they spent their money and free time. They liked to spend a lot of time in stores, but it did not appear that they had the

resources to purchase any extras. They did not usually eat a snack in between the time they arrived home and had dinner. This, again, could be due to the lack of money for these items. The preference for highly seasoned foods might indicate that the quality of food purchased by the family is such that it required more than the usual amount of seasoning.

The findings of this study indicate that there are certain life styles which seem to differentiate the two groups. Based on this, it could be assumed that the present state of the food service existing in the school where this study was conducted was not compatible with the life styles of non-participants. This groups' eating out experience indicated a different form of food service than was presently being offered. For example, non-participants in this study were concerned with table manners. The total school lunch activity neither provides the environment nor the opportunity to practice table manners. Noise, short lunch periods, type of table and seating arrangements are examples of environment not conducive to table manners. Thus, it is possible that these students chose not to take advantage of the purported hot, nutritious school lunch.

#### Life Styles Variables Not Significant to the Study

The independent life styles variables which did not have discriminatory power are listed below. It was believed that these variables would have been significant in segmenting the groups.

Food preference. It was assumed that non-participants would be more adventuresome in their choice of foods. Considering the nature of

the basic school lunch pattern, it was believed that a significant number of non-participants would prefer, for example, foods which were highly seasoned or which were served with a special sauce or gravy. This variable did not show significance to the study.

Concern for nutrition. Nutrition was believed to be an important concern for students. This was not the case, however, in this study. Perhaps at this stage of adolescence students are more apt to abandon parental authority when it concerns what their parents want them to eat.

Socio-demographics. Many socio-demographic variables were found to be poor discriminators for group segmentation purposes. However, the students year in school and their grade point average were significant variables in the study.

Family income. It was speculated that the variable associated with family income would have been a significant descriptor of non-participants. It was assumed that the higher the income level of the family, the higher the level of living would result in the student's appreciation of quality food and service. Unfortunately, due to the lack of response to this question, this could not be analyzed. In addition, it could be inferred that students of this age group didn't know or were not interested in knowing what was the combined income level of their family.

Parent/guardian leaving and returning from work. The question dealing with the time that the parent/guardian left for work and came home from work were believed to be significant questions as indicators

of non-participation in school lunch. It was assumed that if the parent/guardian was home to prepare breakfast and dinner in an atmosphere which was conducive to family interaction then this would suffice the need to eat the school lunch. This variable, too, showed no significance to the study.

### Implications of the Study

This research studied the question of non-participation in the school lunch program. Studies concerning the quality of food, atmosphere, and service have been conducted to study the non-participation question. The procedure used in this study went a step beyond; it segmented the student market based on life styles variables. The school food service planners at the federal, state, and local levels of government may find that life styles and their effect on non-participation in school lunch may be significantly important during these years of austerity.

If federal, state, and local school food service agencies are committed to significant increases in the participation rate, they should consider undertaking the tasks involved in developing strategies which would make the life styles of non-participators more congruent with those of participators in the school lunch. This means that the life styles of non-participators would have to be altered. By using a variety of promotional tools, for example, information on the merits and benefits of the school lunch could reach the families of these non-participators. From an economical standpoint this effort should be

made where the numbers of students are largest and the opportunities for massive promotional activities greatest. Schools interested in increasing their participation rates may need to make the present state of food service more appealing to those students who are not participating. Caution is advised, however, in not changing the style of service, or menu, or atmosphere to the point that it doesn't appeal to those already participating in school lunch. What happens is that the participation rate isn't increased, but only shifted from one group to the other.

Where the changing of life styles and improving school food service systems are impossible, schools and other agencies may consider a means to segment non-participants from participants in the school food service. This approach, at a time when budget cuts and cost savings measures are required, may provide the administrator with more accuracy in determining the numbers of students who, based on their life styles, will or will not participate in the lunch program. In this way expenditures for labor, food, equipment, and utensil replacement can be more accurately and realistically budgeted.

#### Limitations of the Study and Suggestions for Future Research

This research was designed as an exploratory study only. It is hoped that out of this study larger and more comprehensive future studies can be drawn. Since the study took place in one particular junior high school with a relatively small population sample in the Northeast United States it can not be generalizable to other junior

high schools.

In this study the ability to classify a group of students with similar life styles was approximately 83 percent better than chance. This means that 17 percent of the students were not successfully discriminated. These results should be interpreted in terms of providing a foundation for future study and development of ideas. However, this study indicated that a relationship does exist between the non-participants and participants in the school lunch program and their life styles.

The interest in the low participation rate in school lunch will continue. The increasing quality of social sciences research will enable researchers to further investigate life styles and their relationship to a student's decision to accept or reject the school food service.

## FOOTNOTES

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<sup>31</sup>U.S., Congress, House, National School Lunch Act and Child Nutrition Act of 1966 and Amendments of 1975, P.L. 105, 94th Cong., 7 October 1975, H.R. 4222.

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APPENDIX A  
FIGURES ON CHILD NUTRITION PROGRAMS  
IN  
MASSACHUSETTS

CHILD NUTRITION PROGRAMS

<u>National School Lunch Program</u>	<u>Number</u>	<u>Dollars</u>
No. of Schools	2,513	
No. of Paid Meals	76,724,836	
No. of Reduced Price Meals	4,845,641	
No. of Free Meals	34,431,573	
TOTAL MEALS	116,002,050	*\$47,338,963.69

\*Includes \$6,960,123.00 in State Funds

Breakfast Program

No. of Paid Breakfasts	1,998,600	
No. of Reduced Price Breakfasts	225,128	
No. of Free Breakfasts	8,990,581	
TOTAL NO. OF BREAKFASTS	11,214,309	\$ 4,318,320.88

Special Milk Program

No. of Paid 1/2 Pints of Milk	67,476,729	
No. of Free 1/2 Pints of Milk	5,216,377	
TOTAL NO. OF 1/2 PINTS OF MILK SERVED	72,693,106	\$ 5,145,610.35

Child Care Program

No. of Programs	191	
No. of Paid Meals	1,044,981	
No. of Reduced Price Meals	1,108,919	
No. of Free Meals	6,234,212	
TOTAL NO. OF MEALS	8,388,112	\$ 3,929,169.52

Summer Food Service Program for Children

No. of Programs	110	
No. of Paid Meals	0	
No. of Free Meals	2,677,328	
TOTAL NO. OF MEALS	2,677,328	\$ 2,396,189.06

U.S.D.A. Donated Foods

<u>U.S.D.A. Donated Foods</u>	<u>Pounds</u>	<u>Dollar Value</u>
Schools	36,707,312	\$19,541,225.00
Institutions	1,919,336	1,024,804.00
Summer Camps	239,917	116,927.00
Elderly Title III	1,119,614	593,705.00
TOTALS	39,986,179	21,276,661.00

Issued by Massachusetts Department of Education, Bureau of Nutrition  
Education and School Food Services.

APPENDIX B  
SURVEY CARDS



APPENDIX C  
PARENTAL CONSENT FORM



JOHN P. FEENEY  
DIRECTOR

## FOOD SERVICE

Northampton School System  
380 Elm Street, Northampton, MA. 01060

Dear Parent/Guardian:

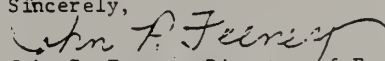
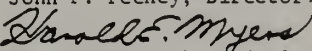
Northampton's School Food Service Program, in cooperation with the University of Massachusetts is conducting a survey concerning factors affecting participation in school lunch. The survey will deal with how a student's life style at home and his/her attitudes, feelings and interest affect the decision to eat the school lunch. The survey which will take about 15 minutes during the student's free period will include the following general areas:

- |   |   |
|---|---|
| 1. The student's participation in family responsibilities at home | 6. Use of Leisure Time  |
| 2. The student's participation in food preparation at home        | 7. Eating out Preferences   |
| 3. Food Preferences   | 8. Closeness of Family Unit   |
| 4. Table Manners  | 9. Interest in Food   |
| 5. Food Consciousness   | 10. Questions dealing with mother, father or guardian's occupation, household income and education. |

Although the survey is voluntary, we would most certainly appreciate your cooperation in giving us permission to interview your son or daughter, if selected for the study. The anonymity of all who participate will be assured.

We believe that the results of the study will increase the effectiveness of the school lunch program in Northampton.

Please indicate your preference below and return as soon as possible.

Sincerely,  
  
 John P. Feeney, Director of Food Service  
  
 Harold Myers, Principal

-----  
 NORTHAMPTON PUBLIC SCHOOLS

PRINT NAME \_\_\_\_\_

Address \_\_\_\_\_

Yes, I agree to allow my daughter's/son's participation in the School Food Service Survey.

No, I do not wish my son/daughter to participate

\_\_\_\_\_  
 Parent/Guardian Signature

APPENDIX D  
LIFE STYLES SURVEY

LIFE STYLES SURVEY

Respondent Code \_\_\_\_\_

Sex of Respondent M F

Interviewer Code \_\_\_\_\_

Interviewer:

Read each question aloud in front of the respondent and indicate her/his response below. Say to the respondent: "Please answer the question by stating one of the following frequencies: Always, Frequently, Sometimes, Seldom, Never." For Example:

How frequently do you attend home soccer games? You would answer by saying: Always, or Frequently, or Sometimes, or Seldom, or Never.  
 (5) (4) (3) (2) (1)  
 Do you understand?"

	Always	Frequently	Sometimes	Seldom	Never	No Answer
<u>I. Participation in Chores at home, i.e.</u>						
washing dishes, making bed, mowing lawns, raking leaves, etc.						
1. How frequently are you given chore assignments to do at home?	5	4	3	2	1	0
2. How frequently do you enjoy doing chores at home?	5	4	3	2	1	0
3. How frequently do you get paid for doing chores at home?	5	4	3	2	1	0
4. How frequently are you assigned chores dealing with meals?	5	4	3	2	1	0
5. How frequently do you complete chore assignments?	5	4	3	2	1	0
<u>II. Table Manners</u>						
6. How frequently are you reminded of your table manners by family members, i.e., using the napkin, sitting up, holding utensils correctly?	5	4	3	2	1	0
7. How frequently do you see table manners being practiced by other family members?	5	4	3	2	1	0
8. How frequently do you practice table manners when you go out to a restaurant?	5	4	3	2	1	0
9. How frequently do you compliment the person doing the cooking at home?	5	4	3	2	1	0

Interviewer: Please have the respondent answer the following questions on a scale using: Very Important, or Important, or Seldom Important, or Not Important.  
 (4) (3) (2) (1)

	Very Important	Important	Seldom Important	Not Important	No Answer
10. How important are table manners when you eat at home?	4	3	2	1	0
11. How important are the surroundings when you eat in restaurants, i.e., the color of walls, the curtains, the table setting, etc.?	4	3	2	1	0
12. How important are table manners when you eat out in restaurants?	4	3	2	1	0
13. How important is the appearance of food when you eat out in restaurants?	4	3	2	1	0
14. How important is price when you eat out in restaurants?	4	3	2	1	0

Interviewer: Return using the following frequencies:

	Always	Frequently	Sometimes	Seldom	Never	No Answer
III. <u>Participation in Food Preparation</u>						
15. How frequently do you cook?	5	4	3	2	1	0
16. How frequently do you have to cook for yourself and others?	5	4	3	2	1	0
17. How frequently are you complimented on your cooking?	5	4	3	2	1	0
18. How frequently are you responsible for cooking the entire dinner at home?	5	4	3	2	1	0

IV. Eating Out

19. Which best describes your preference for eating out.
1.  Don't like to eat out
  2.  Like to eat out at least once a week
  3.  Like to eat out at least twice a month
  4.  Like to eat out more than twice a month
20. Which best describes the type of service you prefer when you eat out?
1.  Cafeteria Service
  2.  Self-Service
  3.  Counter Service
  4.  Table Service
21. Which best describes the type of food service you prefer?
1.  Those that offer no choice
  2.  Those that offer a few choices
  3.  Those that offer several choices
  4.  Those that offer a great number of choices
22. Which best describes your choice of restaurant?
1.  Hamburger and French Fries type
  2.  Steak and Salad Bar type
  3.  Seafood type
  4.  Full menu type

Interviewer: Return to using the following frequencies:

	Always	Frequently	Sometimes	Seldom	Never	No Answer
23. How frequently do you decide where you will go to eat?	5	4	3	2	1	0
24. How frequently do you decide what you will eat when you go out?	5	4	3	2	1	0
25. How frequently do you eat a full course meal in a restaurant? i.e., soup, salad, main course, dessert.	5	4	3	2	1	0
26. How frequently do you eat everything that you ordered when you go out to eat?	5	4	3	2	1	0

Interviewer: Say to the respondent: "Now I would like you to answer the following questions by saying whether or not you Strongly Agree,

(5)  
Moderately Agree, Agree, Disagree or Strongly Disagree.  
(4) (3) (2) (1)

	Strongly Agree	Moderately Agree	Agree	Disagree	Strongly Disagree	No Answer
<u>V. Family Relationship</u>						
27. I look forward to holidays which are spent with my family members.	5	4	3	2	1	0
28. I enjoy activities involving my family members.	5	4	3	2	1	0
29. I prefer eating out with my friends rather than with my family.	5	4	3	2	1	0
30. We do many things together as a family.	5	4	3	2	1	0
31. We usually have special foods prepared on holidays at home.	5	4	3	2	1	0
32. Family members are often interested in how my day went in school.	5	4	3	2	1	0
33. The family usually eats one meal a day together.	5	4	3	2	1	0
34. I freely discuss my problems with the heads of my household.	5	4	3	2	1	0
<u>VI. Food Preferences</u>						
35. Dinner is not complete without dessert.	5	4	3	2	1	0
36. I like highly seasoned foods, i.e., pepper, garlic, etc.	5	4	3	2	1	0
37. I like to eat soup for lunch.	5	4	3	2	1	0
38. I restrict certain foods from my diet.	5	4	3	2	1	0
39. I usually eat the same kind of food every week.	5	4	3	2	1	0
40. I love to bake and frequently do.	5	4	3	2	1	0
41. I like fancy sauces and gravies.	5	4	3	2	1	0

	Strongly Agree	Moderately Agree	Agree	Disagree	Strongly Disagree	No Answer
42. I like to eat fried foods.	5	4	3	2	1	0
43. I usually drink carbonated beverages with most meals.	5	4	3	2	1	0
44. I like stews and casseroles.	5	4	3	2	1	0
45. I eat most meals between 2 slices of bread or in a roll.	5	4	3	2	1	0

#### VII. Concern for Nutrition

46. I drink at least 4 glasses of milk every day.	5	4	3	2	1	0
47. I like to know the nutritive value of foods that I eat.	5	4	3	2	1	0
48. Food additives are unimportant to me.	5	4	3	2	1	0
49. Eating right is one of my top priorities.	5	4	3	2	1	0
50. I snack a great deal on fresh fruit.	5	4	3	2	1	0
51. Everyone should take vitamin supplements.	5	4	3	2	1	0
52. My family is concerned about my eating habits.	5	4	3	2	1	0
53. Eating the right food is too expensive.	5	4	3	2	1	0

#### VIII. Use of Leisure Time

54. Television is my primary source of entertainment.	5	4	3	2	1	0
55. I like to read for enjoyment.	5	4	3	2	1	0
56. I often watch sport events.	5	4	3	2	1	0
57. I like to play in sports.	5	4	3	2	1	0
58. I play a team sport in school.	5	4	3	2	1	0
59. I have a part-time job.	5	4	3	2	1	0
60. I like parties where there is alot of music and talk.	5	4	3	2	1	0
61. What I do for entertainment is influenced by my friends.	5	4	3	2	1	0

	Strongly Agree	Moderately Agree	Agree	Disagree	Strongly Disagree	No Answer
62. I like to exercise and often do.	5	4	3	2	1	0
63. I like to shop for new and different clothes.	5	4	3	2	1	0
64. I spend a lot of time in stores.	5	4	3	2	1	0

IX. Demographic Information

65. How many people live in your household?
1. Two \_\_\_\_\_ 3. Four \_\_\_\_\_  
2. Three \_\_\_\_\_ 4. Five or more \_\_\_\_\_
66. Which best describes your household?
1. There is a female head of my household \_\_\_\_\_  
2. There is a male head of my household \_\_\_\_\_  
3. There is both a female and male head of my household \_\_\_\_\_
67. What is the highest level of education the male head of your household has attained?
1. Grade School \_\_\_\_\_  
2. High School \_\_\_\_\_  
3. Some College \_\_\_\_\_  
4. College Degree \_\_\_\_\_
68. What is the highest level of education the female head of your household has attained?
1. Grade School \_\_\_\_\_  
2. High School \_\_\_\_\_  
3. Some College \_\_\_\_\_  
4. College Degree \_\_\_\_\_
69. Which best describes the male head of your household?
1. Employed full time \_\_\_\_\_  
2. Employed part time \_\_\_\_\_  
3. Unemployed \_\_\_\_\_  
4. Retired-not employed \_\_\_\_\_  
5. Retired-part time employed \_\_\_\_\_
70. What best describes the female head of your household?
1. Employed full time \_\_\_\_\_  
2. Employed part time \_\_\_\_\_  
3. Unemployed \_\_\_\_\_  
4. Housewife-not employed full time \_\_\_\_\_  
5. Retired-not employed \_\_\_\_\_  
6. Retired-part time employed \_\_\_\_\_

71. Which broad category includes your family's total annual income for 1979?
1. 0-6,000 \_\_\_\_\_
  2. 6,000-10,000 \_\_\_\_\_
  3. 10,000-15,000 \_\_\_\_\_
  4. 15,000-20,000 \_\_\_\_\_
  5. 20,000-25,000 \_\_\_\_\_
  6. 25,000-30,000 \_\_\_\_\_
  7. Over 30,000 \_\_\_\_\_
  8. No Answer \_\_\_\_\_

X. Miscellaneous

72. Which best describes the time the male head of your household leaves home for work?
1. Before I get up \_\_\_\_\_
  2. The same time I go to school \_\_\_\_\_
  3. After I go to school \_\_\_\_\_
  4. Doesn't leave home \_\_\_\_\_
73. Which best describes the time the male head of your household comes home from work?
1. Before I get home from school \_\_\_\_\_
  2. The same time I get home from school \_\_\_\_\_
  3. After I get home from school \_\_\_\_\_
  4. Is always home \_\_\_\_\_
74. Which best describes the time the female head of your household leaves home for work?
1. Before I get up \_\_\_\_\_
  2. The same time I go to school \_\_\_\_\_
  3. After I go to school \_\_\_\_\_
  4. Doesn't leave home \_\_\_\_\_
75. Which best describes the time the female head of your household comes home from work?
1. Before I get home from school \_\_\_\_\_
  2. The same time I get home from school \_\_\_\_\_
  3. After I get home from school \_\_\_\_\_
  4. Is always home \_\_\_\_\_
76. Which best describes your overall average in school?
1. A to A+ \_\_\_\_\_
  2. B to B+ \_\_\_\_\_
  3. C to C+ \_\_\_\_\_
  4. Below C \_\_\_\_\_
  5. No answer \_\_\_\_\_
77. When it comes to cooking which best describes the male head of your household?
1. Doesn't like to cook meals \_\_\_\_\_
  2. Doesn't know how to cook meals \_\_\_\_\_
  3. Likes to cook but doesn't have time to cook meals \_\_\_\_\_
  4. Cooks meals sometimes \_\_\_\_\_

78. Which statement best describes what you do for breakfast?

- |   |          |
|---|----------|
| a. I don't eat breakfast.                                 | 1. _____ |
| b. I eat a breakfast which is not nutritionally adequate. | 2. _____ |
| c. I eat a balanced cold meal for breakfast.              | 3. _____ |
| d. I eat a balanced hot meal for breakfast.               | 4. _____ |

79. Which statement best describes what you eat after school?

- |  |          |
|--|----------|
| a. I eat a junk food snack on the way home.  | 1. _____ |
| b. I eat a nutritious snack on the way home. | 2. _____ |
| c. I eat a nutritious snack when I get home. | 3. _____ |
| d. I don't eat a thing until dinner.         | 4. _____ |

80. Participation

- |             |          |
|-------------|----------|
| NP - 3 of 3 | 1. _____ |
| NP - 2 of 3 | 2. _____ |
| P - 2 of 3  | 3. _____ |
| P - 3 of 3  | 4. _____ |

81. Why do you eat the school lunch?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

82. Why don't you eat the school lunch?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

APPENDIX E

STANDARDIZED DISCRIMINANT COEFFICIENTS, GROUP CENTROIDS,  
AND BOX'S M TEST FOR FOUR-GROUP DISCRIMINANT  
ANALYSIS BROKEN IN THREE PARTS

FOUR-GROUP DISCRIMINANT ANALYSIS-FIRST PART

	Coefficients		
Frequency of Manners at a Restaurant			-.59
Frequency of Dinner Responsibilities			-.47
Table Service in Restaurants			-.46
Frequency of Eating Full Course Meal			.40
Preferred Type of Food Service			-.30
Frequency of Payment for Chores			.22
Importance of Restaurant Surroundings			.04
Frequency of Meal Chores			.00
Centroids	Function 1	Function 2	Function 3
Group 1	-.29	.36	-.11
Group 2	-.45	-.27	.14
Group 3	.34	.13	.25
Group 4	.22	-.15	-.17

FOUR-GROUP DISCRIMINANT ANALYSIS-FIRST PART  
CANONICAL DISCRIMINANT FUNCTIONS

Direct	Eigenvalue	Canonical Correlation	Wilks Lambda	Chi Square	<u>df</u>	<u>p</u>
Function 1	.11	.31	.83	37.5	24	.04
Function 2	.06	.23	.92	17.3	14	.24
Function 3	.03	.18	.97	6.5	6	.37

n = 206

FOUR-GROUP DISCRIMINANT ANALYSIS-SECOND PART

	Coefficients
Frequency of Shopping for Clothes	-.47
Prefer Eating Out with Friends	-.47
Enjoy Activities with Family	-.41
Family Does Many Things Together	-.40
Like Fried Foods	.37
Family Usually Eats One Meal a Day Together	.32
Meal is Not Complete Without Dessert	.28
Television is Primary Entertainment	.28
Drink Four Glasses of Milk Per Day	.27
Like Highly Seasoned Foods	.25
Read for Enjoyment	.24
Spend a Lot of Time in Stores	.19
Aware of Nutrition in Food	-.15
Friends Influence Type of Entertainment	-.07
Like Parties	-.05
Family Concerned with Son/Daughter Eating Habits	-.05

Centroids	Function 1	Function 2	Function 3
Group 1	-.84	.05	.26
Group 2	-.08	-.57	-.27
Group 3	.69	-.07	.35
Group 4	.12	.33	-.23

FOUR-GROUP DISCRIMINANT ANALYSIS-SECOND PART  
CANONICAL DISCRIMINANT FUNCTIONS

Direct	Eigenvalue	Canonical Correlation	Wilks Lambda	Chi Square	df	p
Function 1	.27	.46	.66	82.2	48	.00
Function 2	.11	.31	.83	35.0	30	.24
Function 3	.08	.27	.93	14.7	14	.39

n = 206

FOUR-GROUP DISCRIMINANT ANALYSIS-THIRD PART

	Coefficients		
Female Head of the Household			-.67
Lunch is Free			.60
Sex			-.54
Housewife			-.39
Size of the Household			-.38
Grade in School			-.33
No Snack After School			.27
Grade Point Average			-.13
Centroids	Function 1	Function 2	Function 3
Group 1	-.90	-.07	-.07
Group 2	.01	.49	.04
Group 3	-.02	-.25	.13
Group 4	.56	-.08	-.07

FOUR-GROUP DISCRIMINANT ANALYSIS-THIRD PART  
CANONICAL DISCRIMINANT FUNCTIONS

Direct	Eigenvalue	Canonical Correlation	Wilks Lambda	Chi Square	<u>df</u>	<u>p</u>
Function 1	.29	.48	.72	65.8	24	.00
Function 2	.07	.25	.93	14.3	14	.42
Function 3	.007	.08	.99	1.4	6	.96

n = 206

APPENDIX F  
FREQUENCY DISTRIBUTION

## FREQUENCY DISTRIBUTION

### 1. Frequency of Chore Assignments

#### a. Question.

How frequently are you given chore assignments to do at home?

#### b. Responses.

<u>Response</u>	<u>Frequency</u>
Seldom . . . . .	6.3%
Sometimes . . . . .	27.7
Frequently . . . . .	35.0
Always . . . . .	31.1

### 2. Frequency of Enjoying Chores

#### a. Question.

How frequently do you enjoy doing chores at home?

#### b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	15.5%
Seldom . . . . .	28.2
Sometimes . . . . .	44.2
Frequently . . . . .	10.2
Always . . . . .	1.9

### 3. Frequency of Payment for Chores

#### a. Question.

How frequently do you get paid for doing chores at home?

#### b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	25.7%
Seldom . . . . .	20.9
Sometimes . . . . .	17.0
Frequently . . . . .	13.6
Always . . . . .	22.8

4. Frequency of Meal Chores

## a. Question.

How frequently are you assigned chores dealing with meals?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	7.8%
Seldom . . . . .	24.5
Sometimes . . . . .	24.0
Frequently . . . . .	25.0
Always . . . . .	18.6

5. Frequency of Completing Chores

## a. Question.

How frequently do you complete chore assignments?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	.5%
Seldom . . . . .	2.9
Sometimes . . . . .	15.0
Frequently . . . . .	31.6
Always . . . . .	50.0

6. Frequency of Reminding of Manners

## a. Question.

How frequently are you reminded of your table manners by family members, i.e., using the napkin, sitting up, holding utensils correctly, etc.?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	22.3%
Seldom . . . . .	29.6
Sometimes . . . . .	23.8
Frequently . . . . .	9.7
Always . . . . .	14.6

7. Frequency of Manners by Family

## a. Question.

How frequently do you see table manners being practiced by other family members?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	10.2%
Seldom . . . . .	16.6
Sometimes . . . . .	34.6
Frequently . . . . .	21.5
Always . . . . .	17.1

8. Frequency of Manners at Restaurant

## a. Question.

How frequently do you practice table manners when you go out to a restaurant?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	5.3%
Seldom . . . . .	6.3
Sometimes . . . . .	14.1
Frequently . . . . .	18.0
Always . . . . .	56.3

9. Frequency of Complimenting Cook

## a. Question.

How frequently do you compliment the person doing the cooking at home?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	1.9%
Seldom . . . . .	10.7
Sometimes . . . . .	38.3
Frequently . . . . .	23.3
Always . . . . .	25.7

10. Importance of Manners at Home

## a. Question.

How important are table manners when you eat at home?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Not Important . . . . .	5.3%
Seldom Important . . . . .	21.4
Important . . . . .	48.5
Very Important . . . . .	24.8

11. Importance of Restaurant Surroundings

## a. Question.

How important are the surroundings when you eat in restaurants, i.e., the color of the walls, the curtains, the table settings, etc?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Not Important . . . . .	19.9%
Seldom Important . . . . .	29.6
Important . . . . .	38.8
Very Important . . . . .	11.7

12. Importance of Manners in Restaurants

## a. Question.

How important are table manners when you eat out in restaurants?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Not Important . . . . .	1.5%
Seldom Important . . . . .	4.9
Important . . . . .	33.0
Very Important . . . . .	60.7

13. Importance of Restaurant Food Appearance

## a. Question.

How important is the appearance of food when you eat out in restaurants?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Not Important . . . . .	6.3%
Seldom Important . . . . .	13.6
Important . . . . .	48.1
Very Important . . . . .	32.0

14. Importance of Restaurant Price

## a. Question.

How important is price when you eat out in restaurants?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Not Important . . . . .	4.9%
Seldom Important . . . . .	25.7
Important . . . . .	44.7
Very Important . . . . .	24.8

15. Frequency of Cooking

## a. Question.

How frequently do you cook?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	10.2%
Seldom . . . . .	27.2
Sometimes . . . . .	40.3
Frequently . . . . .	18.9
Always . . . . .	3.4

16. Frequency Have To Cook

## a. Question.

How frequently do you have to cook for yourself and others?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	11.2%
Seldom . . . . .	43.2
Sometimes . . . . .	26.2
Frequently . . . . .	17.5
Always . . . . .	1.9

17. Frequency of Compliments for Cooking

## a. Question.

How frequently are you complimented on your cooking?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	23.3%
Seldom . . . . .	23.3
Sometimes . . . . .	29.1
Frequently . . . . .	14.6
Always . . . . .	9.7

18. Frequency of Dinner Responsibility

## a. Question.

How frequently are you responsible for cooking the entire dinner at home?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	42.7%
Seldom . . . . .	32.5
Sometimes . . . . .	17.0
Frequently . . . . .	6.8
Always . . . . .	1.0

19. Preferred Frequency of Eating Out

## a. Question.

Which best describes your preference for eating out?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Don't like to eat out . . .	2.9%
Prefer once weekly . . .	31.6
Prefer twice monthly . . .	38.3
Prefer more than twice . . .	27.2

20. Preferred Restaurant Service

## a. Question.

Which best describes the type of service you prefer when you eat out?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Cafeteria . . . . .	2.4%
Self Service . . . . .	18.0
Counter Service . . . . .	8.7
Table Service . . . . .	70.9

21. Preferred Type of Food Service

## a. Question.

Which best describes the type of food service you prefer?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Few Choices . . . . .	6.3%
Several Choices . . . . .	33.5
Many Choices . . . . .	60.2

22. Preferred Type of Restaurant

## a. Question.

Which best describes your choice of restaurant?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Hamburg and French Fries . . . . .	23.4%
Steak and Salad . . . . .	27.8
Seafood . . . . .	14.6
Full Menu . . . . .	34.1

23. Frequency of Deciding Where to Eat

## a. Question.

How frequently do you decide where you will go to eat?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	5.8%
Seldom . . . . .	26.2
Sometimes . . . . .	43.7
Frequently . . . . .	18.9
Always . . . . .	5.3

24. Frequency of Deciding What to Eat

## a. Question.

How frequently do you decide what you will eat when you go out?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	.5%
Seldom . . . . .	1.9
Sometimes . . . . .	7.8
Frequently . . . . .	15.0
Always . . . . .	74.8

25. Frequency of Eating Full Course Meal

## a. Question.

How frequently do you eat a full course meal in a restaurant?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	6.8%
Seldom . . . . .	20.4
Sometimes . . . . .	29.1
Frequently . . . . .	28.6
Always . . . . .	15.0

26. Frequency of Eating Everything Ordered

## a. Question.

How frequently do you eat everything that you ordered when you go out to eat?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Never . . . . .	1.5%
Seldom . . . . .	9.2
Sometimes . . . . .	27.2
Frequently . . . . .	34.5
Always . . . . .	27.7

27. Look Forward to Holidays with Family

## a. Question.

I look forward to holidays which are spent with my family members.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	.5%
Disagree . . . . .	1.0
Agree . . . . .	17.5
Moderately Agree . . . . .	12.6
Strongly Agree . . . . .	68.4

28. Enjoy Activities with Family

## a. Question.

I enjoy activities involving my family members.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Disagree . . . . .	1.5%
Agree . . . . .	29.6
Moderately Agree . . . . .	23.8
Strongly Agree . . . . .	45.1

29. Prefer Eating Out with Friends

## a. Question.

I prefer eating out with my friends rather than with my family.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	6.3%
Disagree . . . . .	39.3
Agree . . . . .	30.6
Moderately Agree . . . . .	17.5
Strongly Agree . . . . .	6.3

30. Family Does Many Things Together

## a. Question.

We do many things together as a family.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	1.9%
Disagree . . . . .	11.2
Agree . . . . .	37.4
Moderately Agree . . . . .	21.8
Strongly Agree . . . . .	27.7

31. Special Foods Prepared on Holidays

## a. Question.

We usually have special foods prepared on holidays at home.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	1.5%
Disagree . . . . .	3.9
Agree . . . . .	18.9
Moderately Agree . . . . .	8.7
Strongly Agree . . . . .	67.0

32. Family Interested in Day at School

## a. Question.

Family members are often interested in how my day went in school.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	2.0%
Disagree . . . . .	12.2
Agree . . . . .	31.2
Moderately Agree . . . . .	25.9
Strongly Agree . . . . .	28.8

33. Family Eats Daily Meal Together

## a. Question.

The family usually eats one meal a day together.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	1.5%
Disagree . . . . .	10.7
Agree . . . . .	32.5
Moderately Agree . . . . .	10.7
Strongly Agree . . . . .	44.7

34. Discuss Problems with Family

## a. Question.

I freely discuss my problems with the heads of my household.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	4.4%
Disagree . . . . .	25.7
Agree . . . . .	34.0
Moderately Agree . . . . .	19.4
Strongly Agree . . . . .	16.5

35. Dessert is Important

## a. Question.

Dinner is not complete without dessert.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	3.9%
Disagree . . . . .	52.4
Agree . . . . .	25.7
Moderately Agree . . . . .	9.7
Strongly Agree . . . . .	8.3

36. Like Highly Seasoned Foods

## a. Question.

I like highly seasoned foods, i.e., pepper, garlic, etc.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	10.7%
Disagree . . . . .	39.8
Agree . . . . .	30.6
Moderately Agree . . . . .	11.7
Strongly Agree . . . . .	7.3

37. Like Soup for Lunch

## a. Question.

I like to eat soup for lunch.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	3.9%
Disagree . . . . .	31.6
Agree . . . . .	50.5
Moderately Agree . . . . .	11.7
Strongly Agree . . . . .	2.4

38. Restrict Certain Foods From Diet

## a. Question.

I restrict certain foods from my diet.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	10.7%
Disagree . . . . .	37.9
Agree . . . . .	38.3
Moderately Agree . . . . .	6.8
Strongly Agree . . . . .	6.3

39. Usually Eat Same Type of Food

## a. Question

I usually eat the same kind of food each week.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	7.8%
Disagree . . . . .	59.2
Agree . . . . .	22.8
Moderately Agree . . . . .	7.3
Strongly Agree . . . . .	2.9

40. Love to Bake

## a. Question.

I love to bake and frequently do.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	3.4%
Disagree . . . . .	21.4
Agree . . . . .	27.7
Moderately Agree . . . . .	20.4
Strongly Agree . . . . .	27.2

41. Like Sauces

## a. Question.

I like fancy sauces and gravies.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	9.7%
Disagree . . . . .	39.8
Agree . . . . .	30.1
Moderately Agree . . . . .	12.6
Strongly Agree . . . . .	7.8

42. Like Fried Foods

## a. Question.

I like to eat fried foods.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	1.5%
Disagree . . . . .	7.8
Agree . . . . .	49.5
Moderately Agree . . . . .	21.8
Strongly Agree . . . . .	19.4

43. Drink Soda with Meals

## a. Question.

I usually drink carbonated beverages with most meals.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	8.3%
Disagree . . . . .	54.9
Agree . . . . .	23.3
Moderately Agree . . . . .	5.3
Strongly Agree . . . . .	8.3

44. Like Stews and Casseroles

## a. Question.

I like stews and casseroles.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	7.3%
Disagree . . . . .	26.7
Agree . . . . .	42.2
Moderately Agree . . . . .	17.5
Strongly Agree . . . . .	6.3

45. Mostly Eat Sandwiches

## a. Question.

I eat most meals between two slices of bread or in a roll.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	9.2%
Disagree . . . . .	59.2
Agree . . . . .	22.8
Moderately Agree . . . . .	8.3
Strongly Agree . . . . .	.5

46. Drink Four Glasses of Milk Daily

## a. Question.

I drink at least four glasses of milk every day.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	5.3%
Disagree . . . . .	27.2
Agree . . . . .	35.9
Moderately Agree . . . . .	12.1
Strongly Agree . . . . .	19.4

47. Aware of Nutrition in Food

## a. Question.

I like to know the nutritive value of foods that I eat.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	3.4%
Disagree . . . . .	40.0
Agree . . . . .	41.0
Moderately Agree . . . . .	11.2
Strongly Agree . . . . .	4.4

48. Additives Unimportant

## a. Question.

Food Additives are unimportant to me.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	5.8%
Disagree . . . . .	44.2
Agree . . . . .	39.3
Moderately Agree . . . . .	8.3
Strongly Agree . . . . .	2.4

49. Important to Eat Right

## a. Question.

Eating right is one of my top priorities.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	3.4%
Disagree . . . . .	32.5
Agree . . . . .	37.4
Moderately Agree . . . . .	14.6
Strongly Agree . . . . .	12.1

50. Snack on Fruit

## a. Question.

I snack a great deal on fresh fruit.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	1.9%
Disagree . . . . .	19.4%
Agree . . . . .	44.2
Moderately Agree . . . . .	23.3
Strongly Agree . . . . .	11.2

51. People Should Take Vitamins

## a. Question.

Everyone should take vitamin supplements.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	2.0%
Disagree . . . . .	28.2
Agree . . . . .	47.8
Moderately Agree . . . . .	11.2
Strongly Agree . . . . .	10.2

52. Family Concerned with My Eating Habits

## a. Question.

My family is concerned about my eating habits.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	1.5%
Disagree . . . . .	12.1
Agree . . . . .	40.8
Moderately Agree . . . . .	16.5
Strongly Agree . . . . .	29.1

53. Right Food Too Expensive

## a. Question.

Eating the right food is too expensive.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	12.1%
Disagree . . . . .	68.0
Agree . . . . .	13.1
Moderately Agree . . . . .	4.9
Strongly Agree . . . . .	1.9

54. Television Primary Entertainment

## a. Question.

Television is my primary source of entertainment.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	10.7%
Disagree . . . . .	42.2
Agree . . . . .	28.6
Moderately Agree . . . . .	8.3
Strongly Agree . . . . .	10.2

55. Read for Enjoyment

## a. Question

I read for enjoyment.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	3.9%
Disagree . . . . .	21.8
Agree . . . . .	43.7
Moderately Agree . . . . .	15.0
Strongly Agree . . . . .	15.5

56. Often Observe Sports

## a. Question.

I often watch sport events.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	11.7%
Disagree . . . . .	30.7
Agree . . . . .	25.9
Moderately Agree . . . . .	12.2
Strongly Agree . . . . .	19.5

57. Like to Participate in Sports

## a. Question.

I like to play in sports.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	3.4%
Disagree . . . . .	10.2
Agree . . . . .	41.7
Moderately Agree . . . . .	14.1
Strongly Agree . . . . .	30.6

58. On School Sports Team

## a. Question.

I play a team sport in school.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	11.7%
Disagree . . . . .	51.2
Agree . . . . .	9.8
Moderately Agree . . . . .	6.3
Strongly Agree . . . . .	21.0

59. Have Part-Time Job

## a. Question.

I have a part-time job.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	8.3%
Disagree . . . . .	52.4
Agree . . . . .	24.3
Moderately Agree . . . . .	9.2
Strongly Agree . . . . .	5.8

60. Like Parties

## a. Question.

I like parties where there is alot of music and talk.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	1.9%
Disagree . . . . .	11.2
Agree . . . . .	49.5
Moderately Agree . . . . .	17.5
Strongly Agree . . . . .	19.9

61. Friends Influence Entertainment

## a. Question.

What I do for entertainment is influenced by my friends.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	4.4%
Disagree . . . . .	29.8
Agree . . . . .	41.0
Moderately Agree . . . . .	15.6
Strongly Agree . . . . .	9.3

62. Frequently Exercise

## a. Question.

I like to exercise and often do.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	1.0%
Disagree . . . . .	17.0
Agree . . . . .	42.2
Moderately Agree . . . . .	23.8
Strongly Agree . . . . .	16.0

63. Frequently Shop For Clothes

## a. Question.

I like to shop for new and different clothes.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	1.5%
Disagree . . . . .	10.2
Agree . . . . .	29.6
Moderately Agree . . . . .	27.2
Strongly Agree . . . . .	31.6

64. Spend a Lot of Time in Stores

## a. Question

I spend a lot of time in stores.

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Strongly Disagree . . . . .	1.0%
Disagree . . . . .	25.7
Agree . . . . .	36.9
Moderately Agree . . . . .	18.4
Strongly Agree . . . . .	18.0

65. Number in Household

## a. Question

How many people live in your household?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Two . . . . .	1.9%
Three . . . . .	11.7
Four . . . . .	38.3
Five or More . . . . .	48.1

66. Who is Household Head

## a. Question.

Which best describes your household?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Female Head . . . . .	18.0%
Male Head . . . . .	6.3
Both Female and Male Head .	75.7

67. Education of Male Head

## a. Question.

What is the highest level of education the male head of your household has attained?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Grade School . . . . .	3.5%
High School . . . . .	33.7
Some College . . . . .	24.4
College Degree . . . . .	38.4

68. Education of Female Head

## a. Question.

What is the highest level of education the female head of your household has attained?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Grade School . . . . .	5.0%
High School . . . . .	33.7
Some College . . . . .	23.8
College Degree . . . . .	37.6

69. Employment of Male Head

## a. Question.

Which best describes the male head of your household?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Full Time . . . . .	89.0%
Part Time . . . . .	8.1
Unemployed . . . . .	1.7
Retired . . . . .	.6
Retired - Part Time Employ- ment . . . . .	.5

70. Employment of Female Head

## a. Question.

What best describes the female head of your household?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Full Time . . . . .	49.3%
Part Time . . . . .	32.5
Unemployed . . . . .	3.0
Housewife . . . . .	14.8
Retired . . . . .	.5

71. Income

## a. Question.

Which broad category includes your family's total annual income for 1979?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
0 - 6,000 . . . . .	3.8%
6,000 - 10,000 . . . . .	3.8
10,000 - 15,000 . . . . .	19.2
15,000 - 20,000 . . . . .	13.5
20,000 - 25,000 . . . . .	23.1
25,000 - 30,000 . . . . .	11.5
Over 30,000 . . . . .	25.0

72. Time Male Head Leaves

## a. Question.

Which best describes the time the male head of your household leaves for work?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Before I'm Up . . . . .	22.7%
When I Do . . . . .	36.6
After I Do . . . . .	37.8
Doesn't . . . . .	2.9

73. Time Male Head Returns

## a. Question.

Which best describes the time the male head of your household comes home from work?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Before Me . . . . .	3.5%
When I Do . . . . .	5.8
After I Do . . . . .	87.2
Doesn't Leave . . . . .	3.5

74. Time Female Head Leaves

## a. Question

Which best describes the time the female head of your household leaves for work?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Before I'm Up . . . . .	5.0%
When I Do . . . . .	27.0
After I Do . . . . .	52.5
Doesn't . . . . .	15.5

75. Time Female Head Returns

## a. Question.

Which best describes the time the female head of your household comes home from work?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Before Me . . . . .	15.6%
When I Do . . . . .	10.1
After I Do . . . . .	58.3
Doesn't Leave . . . . .	16.1

76. Overall Grade Average

## a. Question.

Which best describes your overall average in school?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
A to A+ . . . . .	8.3%
B to B+ . . . . .	64.4
C to C+ . . . . .	24.9
Below C . . . . .	2.4

77. Cooking Habits of Male Head

## a. Question.

When it comes to cooking which best describes the male head of your household?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Doesn't Like to Cook . .	12.2%
Doesn't Know How to Cook.	5.8
No Time to Cook . . . . .	16.9
Cooks Sometimes . . . . .	65.1

78. Breakfast Habits

## a. Question.

Which statement best describes what you do for breakfast?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Don't Eat Breakfast . . .	17.0%
Inadequate Breakfast . .	21.4
Balanced Cold Meal . . .	37.4
Balanced Hot Meal . . . .	24.3

79. Snacking Habits

## a. Question.

Which statement best describes what you eat after school?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Junk Food Out . . . . .	33.0%
Nutritious Food Out . . .	4.9
Nutritious Food at Home .	44.2
No Snack . . . . .	18.0

80. Participation in School Lunch

## a. Question.

How did the student perform in the randomly selected three days?

## b. Responses.

<u>Response</u>	<u>Frequency</u>
Ate 0 Lunches . . . . .	21.8%
Ate 1 Lunch . . . . .	19.9
Ate 2 Lunches . . . . .	22.8
Ate 3 Lunches . . . . .	35.4

81. Why Do You Eat the School Lunch?

## a. Responses.

<u>Response</u>	<u>Frequency</u>
Like It . . . . .	22.0%
No Time To Prepare Lunch.	13.3
Easier and Convenient . .	12.0
Don't Like to Bring Lunch	6.0
Hot Lunch . . . . .	4.7
Price Is Good . . . . .	4.7
Tastes Good . . . . .	2.0
It Is Good . . . . .	3.3
Hungry . . . . .	4.7
Mother Wants Me To . . .	2.0
Miscellaneous . . . . .	25.3

82. Why Don't You Eat the School Lunch?

a. Responses.

<u>Response</u>	<u>Frequency</u>
Don't Like Food . . . . .	25.7%
Easier to Bring Lunch . . .	12.4
Don't Like Menu . . . . .	34.3
No Choices . . . . .	3.8
Don't Like Preparation . .	9.5
Don't Like Food Appearance.	6.7
Cheaper to Bring Lunch . .	5.7
Miscellaneous . . . . .	1.9

83. Is Lunch Free, Reduced, or Paid?

a. Responses.

<u>Response</u>	<u>Frequency</u>
Paid Lunch . . . . .	75.2%
Reduced Lunch . . . . .	13.1
Free Lunch . . . . .	11.7

84. Grade

a. Responses.

<u>Response</u>	<u>Frequency</u>
Grade 7 . . . . .	38.8%
Grade 8 . . . . .	32.0
Grade 9 . . . . .	29.1



