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**USAF FOOD HABITS STUDY:
PART IV,
SELECTIONS, QUANTITIES SELECTED, AND
PERCEIVED PORTION SIZES**

BY

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20. Abstract (cont'd)

The food selections of whites and blacks and males and females for certain food items tended to be consistent with 1977 food preference data, and the number of servings of food selected tended to be related to the perceived portion size as well as to the 1977 food preference data. Further, perceived portion size tended to be inversely related to the food preferences. In all instances, correlations were most meaningful for foods preferred by whites. Whole milk, tacos, grilled bacon, and carbonated beverages were among the most frequently selected foods.

Based on self-reported weights and the Metropolitan Life Tables, half of the males were overweight (OW) while the majority of white females were average weight (AW). When the weight tables were adjusted for clothing, the majority of the personnel sampled were OW. In contrast to the AW who attended the dining halls, the OW tended to select high-density, saturated fatty foods. Results based on 1977 food diaries indicated that the OW tended to eat a greater number of breakfasts across a three-day period than did lighter respondents. Results also indicated that lighter respondents were more likely than the OW respondents to eat an evening meal. ↗

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Preface

This study was conducted by the Behavioral Science Division, Food Sciences Laboratory, of the US Army Natick Research and Development Command in response to United States Air Force Requirement 7-6, Prediction of Food Habit Changes in the USAF. It was conducted at Travis Air Force Base, CA.

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Table of Contents

	Page
Preface	1
List of Tables	4
Introduction	7
Method	8
Results and Discussion	9
Preferences for Food Categories	9
Milk Products and Beverages	9
Other Food Categories	10
Relationships Among Food Habit Factors	11
Most Frequently Selected Foods	12
The Occurrence of Overweight	12
Possible Sources of Weight Gain	13
Conclusions	13
Tables	15
Appendix A, Food Selection Questionnaire	51
Appendix B, Scheme for Categorizing Variable Noon Meal Food Items	57
Appendix C, Foods Rank Ordered by Decreasing Percent Who Selected at Least One Serving	61

List of Tables

	Page
Table 1. Median Age and the Number of WM, WF, BM, and BF Respondents by Meal, Dining Hall, and Day	17
Table 2. Percent of Whites, Blacks, Males, and Females who Selected Breakfast and Lunch Foods	19
Table 3. Percent of Whites, Blacks, Males, and Females who Selected Two and Three Servings of Breakfast and Lunch Foods	22
Table 4. Percent of Underweight, Average Weight, and Overweight who Selected Breakfast and Lunch Foods	25
Table 5. Percent of Underweight, Average Weight, and Overweight who Selected Two and Three Servings of Breakfast and Lunch Foods	29
Table 6. Breakfast and Lunch Food Items for Which the Overweight and Average Weight More Frequently Selected Two and Three Servings	33
Table 7. Percent of Underweight, Average Weight, and Overweight Who Judged Portion Size of Breakfast and Lunch Food Items as Too Small and Much Too Small	34
Table 8. Preferences for Food Classes and Food Items as Indicated by the 1976 Food Preference Survey, 1977 Food Preference Survey, and the 1979 Food Selection Questionnaire	38
Table 9. Mean Preference Ratings of Whites and Blacks, Percent of Whites and Blacks who Selected, Percent who Selected Two and Three Servings, and Percent who Judged Portion Size Too Small or Much Too Small for 24 Foods for Which Significant Preference Differences Were Obtained	39
Table 10. Percent of Agreement Between Signs of Differences	42
Table 11. Correlation Indices of the Relationship Between 1977 Mean Hedonics and Percent who Selected by Race, Sex, and Food Preference of Race Based on Two Different Samples	42
Table 12. Correlation Indices of the Relationship Between 1977 Mean Hedonics With Percent who Selected More Than One Serving and With Percent who Perceived the Portion Size as Too Small and Between Percent who Perceived the Portion Size as Too Small With Percent who Selected More Than One Serving	43

LIST OF TABLES (cont'd)

	Page
Table 13. Percent of WM, WF, BM, and BF who Attended Lunch and who Were Either OW, AW, or UW as Determined by Either the Metropolitan Life Tables or the Adjusted Metropolitan Life Tables, 1979 Sample	44
Table 14. Percent of 1977 and 1979 Samples who Were Overweight, Average Weight, or Underweight — Adjusted Tables	45
Table 15. Number of Foods More Frequently Selected by Weight Classification and Meal	46
Table 16. Number of Foods More Frequently Selected for a 2nd and 3rd Serving by Weight Classification and Meal	46
Table 17. Percent of Personnel who Attended Either Breakfast or Lunch by Weight Classification and Meal	46
Table 18. Food Selected for a Second or Third Serving by Weight Classification and Meal	47
Table 19. Breakfast and Lunch Foods More Frequently Selected by Weight Classification and Meal	48
Table 20. Mean Numbers of Meals Consumed Across a Three-Day Period by Weight Classification	49

**USAF Food Habits Study: Part IV, Selections, Quantities
Selected, and Perceived Portion Sizes**

Introduction

The present report is the fourth in a series of four reports concerned with the food habits of Air Force personnel. Goals, method, and mean hedonic ratings were reported in the first report (Wyant, Meiselman, and Waterman, 1979);¹ the food preferences of blacks and females were compared to the food preferences of white males in the second report (Wyant and Meiselman, 1979);² and a third report was concerned with body weight gain and the food preferences of the overweight (OW), average weight (AW), and underweight (UW) (Wyant and Meiselman, 1979).³ The present report focuses on food selection, the number of servings selected, and the perceived sizes of food portions as they are first served. These data are classified according to race-ethnic background (either black or white), sex group membership (either male or female), and body weight (either OW, AW or UW). Results are compared with earlier findings, and the relationships among the factors (i.e., food selection, quantities selected, and perceived size) are examined. Further, factors contributing to OW are examined. For the examination of weight data, respondents are classified as either white males (WM), white females (WF), black males (BM), or black females (BF).

Hedonic ratings (i.e., preferences) were originally collected in 1977 using the Food Preference Survey (FPS) which contains 21 demographic questions and lists 200 foods. Each food item is rated on a 9-point hedonic scale ranging from dislike extremely to like extremely. The Food Selection Questionnaire (FSQ) was developed the following year to further establish the validity of the hedonic scales. It was designed to determine what foods were being selected so that food selections could be compared with the preference data. The FSQ was redesigned in 1979 for the present study to allow a more accurate estimate of the quantities of food selected and to allow an estimate of how the respondents perceived the sizes of the serving portions. Body weight estimates of respondents were based on responses given to demographic questions accompanying the FPS and the FSQ, and respondents were classified into weight categories using these estimates and the height-weight tables prepared by the Metropolitan Life Insurance Company. Weights indicated by the tables are associated with the lowest mortality rates according to insurance company data.

¹K.W. Wyant, H.L. Meiselman, and D. Waterman. The USAF food habits study: Part I, method and overview. US Army Natick Research and Development Command Technical Report, NATICK/TR-79/041, October 1979.

²K.W. Wyant, H.L. Meiselman. The USAF food habits study: Part II, food preferences of whites and blacks and males and females. US Army Natick Research and Development Command Technical Report, NATICK/TR-79/042, October 1979.

³K.W. Wyant and H.L. Meiselman. The USAF food habits study: Part III, weight gain and food preferences of the overweight. US Army Natick Research and Development Command Technical Report, NATICK/TR-79/043, October 1979.

The Metropolitan Life Tables reflect the heights and weights of fully clothed individuals. Because most individuals report their heights and weights without clothing, respondents in the 1977 sample were classified using the medium frame tables adjusted for clothing (i.e., tabled values reflecting the heights and weights of unclothed individuals). In the present study, individuals were classified twice, once using the original tables and once using the adjusted tables.

Method

All subjects were active-duty enlisted personnel at Travis Air Force Base, California. Of a total sample of 602 respondents, 75% were WM, 9% were WF, 14% were BM, and 2% were BF. The median age was 22.6. Table 1 presents the number of subjects by meal, dining hall, and day.

The Food Selection Questionnaire (FSQ), a machine scorable instrument, was designed in the present study to allow the respondent to indicate the food items he selected for a meal, the number of servings of each item selected, and his perception of the size or magnitude of the serving. The questionnaire also allowed respondents to indicate their weight, height, age, sex, and race-ethnic background. Instructions accompanying the questionnaire explained the nature of the study. Example materials are given in Appendix A. Using the self-descriptions reported in the FSQ, subjects were classified as either OW, AW, or UW according to the height-weight Metropolitan Life Tables and the modified version of the tables. The validity of the FSQ is discussed in the first report of this series.⁴

Questionnaires and pencils were distributed by two individuals to personnel as they entered a dining hall for a meal. Subjects were instructed as to the general nature of the study, were asked to complete the questionnaires sometime during their meal, and on completion, to leave the questionnaires with their trays, on the tables. A third individual collected questionnaires as soon as the subjects left their tables. Two morning meals and two noon meals were studied at Dining Hall 1, (Galaxy), on 20 and 21 February, and two noon meals were studied at Dining Hall 7, (Starlifter), on 22 and 23 February.

In order to increase group counts per food item, responses were pooled across the two morning meals and across the four noon meals. Breakfast items, short order items, milk products and beverages, and dessert items were constant across meals. Noon meal entrees, vegetables, and salad items, however, were variable and the scheme used for grouping these items is given in Appendix B. Contingency tables for each food item or food category were formed by crossing each of the three discriminator variables (either sex group membership, race-ethnic background, or weight category) with each of the dependent variables (either food selection, quantity selected, or perceived portion size). Further, chi squares were calculated. Finally a three (either OW, AW, or UW) by four (either WM, WF, BM, or BF) contingency table was constructed for each of the height-weight tables.

⁴See footnote 1.

Results and Discussion

Results pertinent to whites vs. blacks and males vs. females were compared with previous findings. Relationships between food habit factors, for example between perceived portion size and the number of servings selected, were also examined. Respondents were classified into weight groups (either OW, AW, or UW) using both the Metropolitan Life Tables and a modified version of the tables in order to replicate earlier findings indicating that the majority of males were OW. Further, data pertinent to the OW were analyzed for food habits that might contribute to being OW.

If a group preferred a food more than did another, the percent of individuals in that group who selected the food item should tend to be greater. Selection data should be consistent with the 1977 hedonic ratings. If this occurred, the sign of the preference differences should tend to agree with the sign of the selection differences. Further, if foods are differentially preferred within groups, mean group preference ratings should tend to correlate positively with the frequencies with which the items are selected. We would not expect, however, a strong relationship since there are a large number of factors other than preference that affect selection, e.g., what was eaten for the previous meal, the variety of foods being served simultaneously, etc.

A similar rationale is possible for the relationship between preference and the number of times a second or third serving of a food is selected. Liked foods should be more frequently selected for second servings than disliked foods. The relationship between preference and perceived portion size is less clear, though servings of *liked* foods might be expected to be perceived as being smaller than the portion size of disliked foods. Servings of liked foods might appear smaller than servings of disliked foods. Further, people might be expected to more frequently select second and third servings of foods for which the portion size is perceived as small or much too small than foods for which the portion size is perceived as large. If this were the case, the sign of the difference in the number of people who perceived a portion size as small should agree with the sign of the difference in the number of people who selected more than one serving. Selection results are at best tentative, as differences were often quite small, not reaching significance, and selection data are affected by a large number of variables. Analyses are based on Tables 2 to 7.

Preferences for Food Categories

Milk Products and Beverages. Whites selected milk products more often than blacks (with the exception of chocolate milk) during dinner. Differences were small and mixed for the breakfast meals. Moreover, whites tended to select milk products in greater quantities (with the exception of nonfat milk during breakfast and yogurt during dinner). Whole milk, for example, was selected in significantly greater quantities across the four noon meals. Finally, whites more frequently selected coffee, but blacks more frequently selected fruit juices, though not tomato juice, and more frequently selected tea and carbonated beverages. In the previous selection study, white respondents selected milk significantly more often during four of nine meals studied and selected it in significantly greater quantities during three of the meals. In

an earlier study by Meiselman (1977),⁵ white respondents expressed a significantly greater preference for milk.

Males tended to select milk products, especially whole milk, more often than females and to select it in greater quantities. In the previous study, males selected milk in significantly greater quantities during two of six meals studied.

Other Food Categories. The analysis of food categories is summarized in Table 8. Blacks more frequently selected fruit, farina, french toast, toast, breads, and corn bread; whites more frequently than blacks selected some egg dishes and some potato dishes — hash brown potatoes, french fries, and potato chips. Soups were more frequently selected by blacks. Fried chicken, Mexican foods, pork slices, and beef were also more frequently selected. Whites more frequently selected seafood and pasta. Results were mixed for breakfast meats and fast foods. Blacks more frequently selected cabbage, but whites more frequently selected vegetables and other vegetables. They also more often selected salads, though blacks more often selected fruit salad.

Results are partially consistent with earlier data suggesting that whites more than blacks prefer stews and extended meats. Support is provided for the finding that blacks more than whites prefer fruit juices, breakfast cereals and pancakes, and fresh fruit. Results were mixed, however, for hot breads and doughnuts, since blacks more frequently selected corn bread but not sweet rolls. Data were not consistent with earlier data suggesting that whites more than blacks prefer soups or that blacks more than whites prefer vegetables. Across all three samples, food preference results were consistent in six (43%) cases and across two samples, in 12 (86%) cases.

Males more often than females selected breakfast foods. Of the 25 foods, males more frequently selected 17 (68%) of the foods. Of the breakfast meats, males more frequently selected bacon while females more frequently selected sausage. There was no difference for creamed beef. Females, however, more frequently selected fruit.

Males also tended to more frequently select a greater number of lunch foods. Males more frequently selected 38% of the 47 foods, females, 28%. Males more frequently selected soup, frankfurters, hamburgers, cheeseburgers, and chili con carne. Females more frequently selected salad sandwiches, especially tuna salad sandwich. Males also more frequently selected beef, chicken, pork, pasta, and pastry, but females more often than males selected fish portions. Results were mixed for Mexican foods. Further, females more often than males selected mashed potatoes (but not rice or macaroni with cheese), vegetables, and salads. Males more frequently selected 'other vegetables', but the difference was small and the vegetables were either ethnic in nature or contained onions.

⁵H.L. Meiselman. The role of sweetness in the food preferences of young adults. In James M. Weiffenbach (Ed.), National Institute of Dental Research, DHEW Publication No. (NIH) 77-1068, U.S. Department of Health, Education, and Welfare, National Institutes of Health, Maryland, 1977.

These results are in part consistent with the earlier data suggesting that males more than females preferred eggs (though females more frequently selected eggs to order), meats, and short order dishes. Further, support is provided for the earlier finding that females more than males preferred vegetables, salads, and fruit. Results for stews and extended meats were mixed, and the earlier finding that males preferred breakfast meats more than did females was not supported. Finally, though females more often than males selected mashed potatoes, the earlier finding that females more than males preferred potatoes and potato substitutes was not supported. Across the two samples, differences were consistent in eight (67%) of the 12 cases.

Relationships Among Food Habit Factors

Besides examining the data in relation to preferences for food classes, data were compared with hedonic ratings for specific food items. The 1979 selection and perceived portion size data are compared with the specific hedonic ratings in Table 9. Given in the table are mean hedonic ratings, the percent who selected two or three servings, and the percent who judged a portion size as too small or much too small. These data are given for whites and blacks and males and females, respectively. An asterisk following the data for either blacks or whites or males or females indicates that the sign or direction of the difference between blacks and whites or males and females agrees with the sign or direction of the hedonic differences. The sign of the preference differences, for example, should tend to agree with the sign of the selection differences. Further, within a group, mean group preference ratings should tend to correlate positively with the frequencies with which the items are selected.

For selection data collected in 1978⁶, selection and hedonic differences agreed in 27 or 71% of the cases. Twenty-five percent (i.e., 0.50×0.50) would be expected to agree by chance, and the difference (i.e., $0.71 - 0.25$) is significant ($z = 6.57$, $p < .001$, two-tailed test). Of the 24 foods for which there was data in the 1979 sample, selection and hedonic differences agreed significantly in 58% of the cases ($z = 3.44$, $p < .001$). Differences in the selection of two or more servings agreed in 50% of the cases ($z = 2.56$, $p < .05$). Further, differences in the perception of portion size agreed significantly with hedonic differences in 71% of the cases, indicating that if a food were preferred more by one group than by another, the group avowing a greater preference also tended to more frequently rate the serving size of the food as too small or much too small. Finally, the sign of the differences in perceived portion sizes agreed with the differences in the number of servings selected in 54% of the cases, suggesting that if one group perceived a portion size as being smaller than did the other group, they also tended to more frequently select additional servings. These data are summarized in Table 10. See also Table 18, in which are given the foods selected for a second and third serving by the OW and AW. Out of the 32 foods, perceived portion size and number of servings appeared related in 56 percent of the cases. If a serving size was perceived as small, there was a greater likelihood that the food item would be selected for an additional serving. Note that neither the AW or OW selected more than one serving of salad.

⁶See footnote 1.

Correlations between mean hedonic ratings and percent selection are reported in Table 11, and are consistent across samples. Results indicated a relationship between food preference and food selection, and that the relationship varied with the groups. Food selection tended to be predictable on the basis of food preference, and correlations were highest for foods preferred by whites. Data were inconsistent for females.

Results on the number of servings selected, perceived portion size, and preference are summarized in Table 12. Consistent with the selection data, correlations given in the table suggest relationships only for foods preferred by whites. The 1977 mean hedonics were positively related to the number of serving selected but negatively related to the perceived size of the portion, as it was first served. That is, liked foods were more frequently selected for second and third servings than disliked foods, and the portion sizes of liked foods tended to be perceived as smaller than the portion sizes of disliked foods. The strongest relation was between the number of servings selected and perceived size and was obtained for males and females. The likelihood of selecting more than one serving increased as the perceived size of the portion became smaller.

Most Frequently Selected Food Items

Given in Appendix C are food items rank ordered by decreasing percent who selected at least one serving. Also given is the percent who selected two or more servings. One of the most frequently selected items was milk. Forty-seven percent of the respondents selected whole milk (ranked second out of 50 items) at noon meals; 58.7% of the respondents selected milk (ranked first out of 26 items) at breakfast. Milk was also a high preference food and was ranked among the ten most preferred foods by all subgroups (WM, WF, BM, and BF), and was among the three most preferred by three of the groups. Further, milk was selected for two or more servings more frequently than any other item; 62.9% of those who selected milk, selected two or more servings. In contrast, 31.1% selected carbonated beverages (ranked fourth), and of those, 56.1% selected additional servings. Nonfat milk ranked 32nd but was frequently selected for second servings (53.8%). Coffee was only selected by 7.7% of the respondents, of which 39.6% had two or more cups. Tacos were the most frequently selected (54.2%) food item at the noon meals. Shrimp was ranked third (selected by 35.8%). Grilled bacon was the next most frequently selected item at breakfast; orange juice the third; and ham and/or cheese omelet was fourth.

The Occurrence of Overweight

Earlier results indicated that 44% of all respondents were OW, 39% AW, and 17% UW.⁷ Further, 63.7% of the WM, 57.6% of the BM, 26.8% of the BF, and 20.0% of the WF were OW. In other words, the majority of males were classified as OW while the majority of females were classified as AW. Respondents were classified on the basis of self-reported weights and the Metropolitan Life Tables. We also found that a significant number of respondents, especially white males, became OW after entrance into the service. We noted that weight gain may have in part been due to increased muscle tissue, and we did not know whether respondents

⁷See footnote 3.

would have gained weight had they not been in the service. In the present study we wanted to replicate part of these findings. Further, we wanted to classify respondents using both the Metropolitan Life Tables and the adjusted tables. In the previous study, the Metropolitan Life Tables were adjusted to reflect heights and desirable weights without shoes and clothing. Consequently, respondents were classified using both tables.

Results are given in Tables 13 and 14. When respondents were classified using the unadjusted tables, results indicated that of all respondents, 48.2% were classified as OW. Approximately 50% of the males were OW while 23.5% of the WF were OW. There were too few BF to make a comparison. As in the previous study, more males than WF were OW, and the majority of WF were AW. When respondents were classified using the adjusted table, a large majority (74.7%) of respondents were found to be OW, regardless of sex group membership. Seventy-six percent of the WM, 73.8% of the BM, and 69.7% of the WF were OW.

Possible Sources of Weight Gain

Our data are limited to the OW and AW who attended the dining facilities. Overeating and the selection of certain kinds of foods, for example fatty foods, are two possible sources of weight gain and weight problems. Overeating can result from selecting a greater number of foods, from more frequently selecting second and third servings, or from eating too many meals, as eating four or five meals instead of two or three. Certain kinds of foods can affect body weight either as a result of more frequently selecting these foods or from more frequently selecting second or third servings of the foods.

In contrast to the AW who attended the dining facilities, the OW did not select a greater number of foods (Table 15), and did not more frequently select second and third servings (Table 16). Further, they did not more frequently select second and third servings of certain foods that would contribute to a weight problem (Table 18). However, the OW tended to more frequently select foods having higher fat and cholesterol densities (Table 19), and tended to attend breakfast more often (Table 17) and to select such foods at breakfast (Table 15).

Additionally, food diaries collected during the 1977 data collection effort were analyzed. A sample of 164 enlisted personnel were interviewed at their worksites and were asked individually to record the meals they had eaten during the preceding three days. Approximately 62.8% of the sample received BAS, 37.2% received SIK. Meal categories included dinner, a midnight meal, lunch, breakfast, and three possible snacks. Each category was crossed by a weight factor (either OW, or other) and t tests were performed. Over all meals, results presented in Table 20 indicated that OW individuals did not eat a greater number of meals than did lighter weight respondents. Further, the OW ate about the same number of midnight meals, lunches, and snacks for the three day period. There was a tendency, however, for the OW to eat a greater number of breakfasts. Overweight individuals may not only tend to eat fatty foods at breakfast but may also be more frequently eating morning meals. Finally, results indicated that the OW consumed fewer dinners than did the lighter respondents. As indicated by the strengths of association, however, the relationship between meal pattern and weight was weak. Moreover, sample sizes and variances were unequal and negatively related indicating that differences may have been due to chance factors.

Conclusions

1. Food preference differences tended to be consistent across samples. Differences between blacks and whites were consistent across three samples in six (43%) of 14 cases and were consistent across two samples in 12 (86%) cases. Across two samples, differences between men and women were consistent in eight (67%) of 12 cases.
2. Food preferences tended to be positively related to food selection. Correlations were highest for foods preferred by whites. Results were inconsistent for females.
3. The number of servings with which a food was selected tended to be positively related to food preference and negatively related to the perceived size of the serving portion. Food preference was negatively related to perceived size. Correlations were highest for foods preferred by whites.
4. Whole milk, tacos, grilled bacon, carbonated beverages, and orange juice were among the most frequently selected food items. Whole milk and carbonated beverages were most frequently selected for second and third servings.
5. Using self-reported weights and the height-weight tables constructed by the Metropolitan Life Insurance Company, results indicated that half of the males were OW while a majority of the WF were AW. When the tables are adjusted for clothing, a majority of males and females were OW. These results are consistent with earlier findings indicating that a majority of the males were OW while the majority of females were AW. The amount of weight attributable to muscle tissue was undetermined.
6. In comparison to AW individuals attending the dining facilities, the OW tended to more frequently select foods having a high fat and cholesterol density and tended to select these foods at breakfast. Across a three-day period, OW individuals also tended to eat a greater number of breakfasts than did lighter respondents, but lighter respondents tended to eat a greater number of evening meals. The OW did not appear to eat larger quantities of food than did other respondents.
7. Typically, salads were not selected for second or third servings by the OW and AW subjects. Discouraging the selection of fatty foods and carbonated beverages and encouraging the selection of additional servings of salads and fruit should be considered in any weight control program.

Tables

Table 1

Median Age and the number of WM, WF, BM, & BF Respondents
By Meal, Dining Hall, and Day

	Breakfast Dining Hall 1 Tues & Wed	Noon Meals				Total	% Of Total
		Dining Hall 1 Tues	Dining Hall 1 Wed	Dining Hall 7 Thur	Dining Hall 7 Fri		
White Male	97	96	79	81	96	449	75
White Female	16	14	11	5	7	53	9
Black Male	23	20	19	15	11	88	14
Black Female	2	5	3	1	1	12	2
Column Total	138	135	112	102	115	602	100
Median Age	22.5	22.8	24.9	20.7	21.2		22.6

Legend

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(Explanation of) Symbols Used in Tables 2-7

- * Percents are of the total number who attended the dining facility across four noon meals; all food items were not served at each meal.
- ** Percents are of the total number who attended the dining facility across two breakfast meals; all food items were served at each meal.
- *** A group size for an item is the total number of individuals who selected the item.
- ^a Expected frequencies for some cells is less than ten.
- ^b Level of significance ≤ 0.10 .
- ^c Level of significance ≤ 0.05 .
- ¹ Assorted fruits: table grapes, fresh pears, grapefruit.
- ² Other potatoes: risole, parslied.
- ³ Vegetables: mixed vegetables, broccoli, carrots, green beans.
- ⁴ Other vegetables: lyonnaise wax beans, Mexican corn, onions, blackeyed peas.

Table 2
Percent of Whites, Blacks, Males and Females
Who Selected Breakfast Foods**

Beverages and Fruits				
Item	White	Black	Male	Female
Whole Milk	61.1	60.0	59.6	52.6
Nonfat Milk	6.2	8.0	7.4	10.5
Coffee	29.2	8.0	25.0	21.1
Tea	0.9	0	0.7	0
Cocoa	23.4	16.0	19.0	15.8
Orange Juice	47.8	48.0	48.5	36.8
Tomato Juice	11.5	0	8.1	10.5
Other Juices	8.0	28.0	12.5	5.3
Assorted Fruits ²	23.9	36.0	22.8	36.8

Entrees, Side Dishes, Breads and Pastries				
Item	White	Black	Male	Female
Omelet, Ham &/or Cheese	46.9	40.0	47.1	26.3
Eggs to Order	38.9	40.0	39.7	42.1
Hard Boiled Eggs	9.8	0	8.8	5.3
Grilled Bacon	52.2	56.0	54.4	47.4
Grilled Sausage	25.7	16.0	22.8	26.3
Cream Beef	16.8	16.0	15.4	15.8
Cold Cereal	27.4	28.0	31.6	21.1
Farina	3.5	12.0	4.4	5.3
Griddle Cakes	11.5	12.0	12.5	10.5
French Toast	13.3	28.0	19.9	5.3
Syrup	14.2	24.0	18.4	10.5
Hash Brown Potatoes	38.9	24.0	37.5	31.6
Toast	37.2	40.0	39.7	21.3
Assorted Jams & Jellies	14.2	24.0	16.2	0
Chilled Butter	33.6	36.0	33.8	31.6
Assorted Pastries	19.5	12.0	18.4	15.8
Group Size	113	25	136	19

Table 2 (continued)

Percent of Whites, Blacks, Males and Females
Who Selected Lunch Foods*

Milk Products and Beverages

Item	White	Black	Male	Female
Lowfat Yogurt, Fruit	8.4	5.3	8.2	5.5
Whole Milk	50.3	41.3	48.1	36.4
Nonfat Milk	13.8	9.3	13.0	3.6 ^{ad}
Chocolate Milk	13.3	14.7	12.8	10.9
Novelty Ice Creams	11.0	8.0	10.8	3.6
Hot Tea	2.0	6.7 ^{ab}	2.4	3.6
Coffee	7.9	5.3	7.4	10.6
Carbonated Beverages	29.6	36.0	31.5	27.3

Fast Foods

Item	White	Black	Male	Female
Soup	12.2	14.7	14.4	7.3
Frankfurters	4.1	6.7	4.8	1.8
Hamburgers	8.4	5.3	8.6	5.5
Cheeseburgers	18.4	18.7	20.2	12.7
Chili Con Carne	3.8	4.0	4.4	1.8
Ham &/or Cheese Sandwich	15.6	8.0	13.4	14.5
Chicken Salad Sandwich	3.1	1.3	3.6	5.5
Tuna Salad Sandwich	4.6	6.7	4.2	9.1
French Fried Potatoes	27.8	24.0	27.7	27.3
Potato Chips	3.3	1.3	3.6	1.8
Corn Chips	1.8	2.7	2.2	1.8

Potatoes, Vegetables, Breads and Desserts

Item	White	Black	Male	Female
Mashed Potatoes	18.4	18.7	16.6	20.0
Other Potatoes ²	8.4	9.3	8.2	9.1
Rice, Steamed & Spanish	12.5	16.0	14.2	9.1
Macaroni w/Cheese	6.6	8.0	6.2	3.6
Vegetables ³	20.9	12.0	18.8	23.6
Other Vegetables ⁴	14.3	8.0	12.2	10.9
Cabbage	8.4	14.7	9.6	12.7

Table 2 (Continued)

Potatoes, Vegetables, Breads and Desserts

Item	White	Black	Male	Female
Assorted Breads	17.6	10.0	18.8	7.3 ^{ac}
Chilled Butter	16.1	10.7	14.0	12.7
Hot Corn Bread	7.1	9.3	7.0	7.3
Assorted Pastries	20.9	24.0	21.4	23.6
Novelty Ice Creams	11.0	8.0	10.8	3.6

Entrees

Item	White	Black	Male	Female
Beef, Sauerbraten & Meat				
Loaf	14.5	16.0	14.6	10.9
Fish Portions	12.5	9.3	12.2	16.4
Fried Shrimp	9.2	4.0	8.6	7.3
Tamales	6.4	10.7	7.2	9.1
Enchiladas	6.4	6.7	6.8	3.6
Tacos	12.2	16.0	12.6	14.5
Fried Chicken	4.3	8.0	5.6	1.8
Grilled Pork Slices	3.6	5.3	3.8	1.8
Pasta, Spaghetti & Lasagna	13.0	5.3 ^{ab}	11.6	7.3

Salads

Item	White	Black	Male	Female
Tossed Green Salad	24.0	20.0	21.4	23.6
Cucumber Salad	3.1	4.0	3.6	3.6
Cottage Cheese & Pineapple	7.4	2.7	6.0	10.9
Gelatin Salad w/Fruit, Peaches or Fruit Cocktail				
w/Other	2.8	1.3	2.9	9.1 ^{ac}
Potato Salad	5.9	6.7	5.6	5.5
Macaroni Salad	9.2	5.3	7.8	16.4 ^{ab}
Kidney Bean Salad	1.0	2.7	1.2	3.6
Fruit Salad	3.1	8.0 ^{ab}	3.8	3.6
Assorted Salad Dressings	18.6	20.0	17.4	18.2
Group Size	392	75	501	55

NOTE: See legend on page 18.

Table 3

Percent of Whites, Blacks, Males and Females
Who Selected Two and Three Servings of Breakfast Foods***

Beverages and Fruits

Item	Whites	Group Size	Blacks	Group Size	Males	Group Size	Females	Group Size
Whole Milk	52.1	69	46.7	15	58.8	81	20.0 ^{ab}	10
Nonfat Milk	42.9	7	50.0	2	40.0	10	100.0	2
Coffee	36.4	33	50.0	2	38.2	34	50.0	4
Tea	100.0	1	0	0	100.0	1	0	0
Cocoa	13.0	23	0	4	11.5	26	0	3
Orange Juice	24.1	54	41.7 ^{ac}	12	33.4	66	14.3	7
Grapefruit Juice	37.5	8	0	0	42.9	7	0	1
Tomato Juice	7.7	13	0	0	9.1	11	0	2
Other Juices	44.4	9	42.8	7	47.0	17	0	1
Assorted Fruits ¹	14.8	27	11.1	9	19.4	31	0	7

Entrees, Side Dishes, Breads and Pastries

Item	Whites	Group Size	Blacks	Group Size	Males	Group Size	Females	Group Size
Omelet, Ham &/or Cheese	3.8	53	0	10	3.1	64	0	5
Eggs to Order	15.9	44	40.0	10	26.0	54	0	8
Hard Boiled Eggs	0	10	0	0	8.3	12	0	1
Grilled Bacon	11.9	59	14.3	14	20.3	74	11.1	9
Grilled Sausage	13.8	29	0	4	12.9	31	20.0	5
Creamed Beef	0	19	0	4	0	21	0	3
Cold Cereal	42.0	31	0	7	44.2	43	25.0	4
Farina	0	4	0	3	0	6	0	1
Griddle Cakes	0	13	33.3	3	11.8	17	0	2
French Toast	6.7	15	57.2 ^{ac}	7	25.9	27	0	1
Syrup	43.8	16	33.4	6	40.0	25	50.0	2
Hash Brown Potatoes	6.8	44	67.7	6	5.9	51	15.7	6
Toast	21.4	42	10.0	10	26.0	54	0	5
Assorted Jams & Jellies	25.0	16	33.3	6	27.3	22	0	0
Chilled Butter	15.8	38	11.1	9	15.2	46	0	6
Assorted Pastries	0	22	0	3	4.0	25	0	3

Table 3 (continued)

Percent of Whites, Blacks, Males and Females
Who Selected Two and Three Servings of Lunch Foods***

Milk Products and Beverages

Item	Whites	Group Size	Blacks	Group Size	Males	Group Size	Females	Group Size
Lowfat Yogurt, Fruit	18.2	33	25.0	4	17.0	41	0	3
Whole Milk	70.6	197	32.3 ^{ac}	31	63.4	241	55.0	20
Nonfat Milk	59.3	54	28.6	7	53.9	65	50.0	2
Chocolate Milk	50.0	52	36.3 ^{ac}	11	50.0	64	33.4 ^{ab}	6
Novelty Ice Creams	23.2	43	0	6	22.3	54	0	2
Tea	12.5	8	20.5	5	8.3	12	50.0	2
Coffee	32.3	31	25.0	4	40.5	37	33.4	6
Carbonated Beverages	53.5	116	59.3	27	56.9	158	46.7	15

Fast Foods

Item	Whites	Group Size	Blacks	Group Size	Males	Group Size	Females	Group Size
Soup	7.3	48	0	11	7.0	72	25.0	4
Frankfurters	37.6	16	60.0	5	37.5	24	100.0	
Hamburgers	48.3	33	25.0	4	53.5	43	33.3 ^{ab}	3
Cheeseburgers	47.3	72	57.1	14	49.8	101	0 ^{ac}	7
Chili Con Carne	20.0	15	0	3	18.2	22	100.0	
Ham &/or Cheese Sandwich	29.5	61	16.7	6	25.4	67	37.5	8
Chicken Salad Sandwich	33.3	12	0	1	44.4	18	33.3	3
Tuna Salad Sandwich	11.1	18	0	5	9.5	21	0	5
French Fried Potatoes	11.0	109	0	18	11.5	139	6.7	15
Potato Chips	30.8	13	0	1	22.3	18	0	1
Corn Chips	14.3	7	0	2	18.2	11	100	1

Vegetables, Potatoes, Breads and Desserts

Item	Whites	Group Size	Blacks	Group Size	Males	Group Size	Females	Group Size
Mashed Potatoes	8.4	72	0	14	10.8	83	0	11
Other Potatoes ²	6.1	33	14.3	7	7.3	41	20	5
Rice, Steamed & Spanish	14.3	49	8.3	12	18.3	71	0	5
Macaroni w/Cheese	11.5	26	33.3	6	18.3	31	0	2

Table 3 (continued)

Vegetables, Potatoes, Breads and Desserts

Item	Whites	Group Size	Blacks	Group Size	Males	Group Size	Females	Group Size
Vegetables ³	3.6	81	22.2 ^{ab}	9	5.3	94	15.4	13
Other Vegetables ⁴	7.1	56	0	6	5.6	61	16.7	6
Cabbage	3.0	33	9.1	11	8.3	48	0	7
Assorted Breads	30.4	69	26.6	15	28.7	94	50.0	4
Chilled Butter	28.6	63	37.5	8	31.4	70	0	7
Hot Corn Bread	17.9	28	28.6	7	20.0	35	0	4
Assorted Pastries	11.0	82	22.3	18	14.9	107	5.4	13
Novelty Ice Creams	23.2	43	0	6	22.3	54	0	2

Entrees

Item	Whites	Group Size	Blacks	Group Size	Males	Group Size	Females	Group Size
Beef, Sauerbraten & Meat Loaf	12.3	57	0	12	2.3	73	0	6
Fish Portions	12.3	49	14.3	7	13.1	61	0	9
Fried Shrimp	50.0	36	5.1	3	53.5	43	50.0	4
Tamales	8.0	25	0	8	8.4	36	0	5
Enchiladas	16.0	25	0	5	11.8	34	50.0	2
Tacos	33.3	48	25.0	12	27.0	63	37.5	8
Fried Chicken	29.4	17	0	6	28.6	28	0	1
Grilled Pork Slices	7.1	14	0	4	10.5	19	0	1
Pasta, Spaghetti & Lasagna	11.8	51	0	4	12.0	58	0	4

Salads

Item	Whites	Group Size	Blacks	Group Size	Males	Group Size	Females	Group Size
Tossed Green Salad	6.4	94	13.3	15	6.5	107	7.7	13
Cucumber Salad	8.3	12	33.3	3	22.2	18	0	2
Cottage Cheese & Pineapple Salad	6.9	29	0	2	5.7	30	0	6
Gelatin Salad w/Fruit	0	11	0	1	14.3	14	0	5
Potato Salad	4.3	23	0	5	3.6	28	0	3
Macaroni Salad	5.6	36	25.0	4	7.7	39	0	9
Kidney Bean Salad	0	4	50.0	2	0	6	5.0	2
Fruit Salad	8.3	12	16.7	6	10.6	19	0	2
Assorted Salad Dressings	9.9	71	13.3	15	10.6	85	0	10

NOTE: See legend on page 18.

Table 4

Percent of Underweight, Average Weight and Overweight
Who Selected Breakfast Foods**

Beverages and Fruits

Item	Under- Weight	Average Weight	Over- Weight
Whole Milk	25.0	65.7	60.6
Nonfat Milk	0.0	2.9	8.3
Coffee	0.0	20.0	27.5
Tea	0.0	2.9	0.0
Cocoa	25.0	25.7	16.5
Orange Juice	75.0	42.9	48.6
Grapefruit Juice	0.0	5.7	5.5
Tomato Juice	0.0	8.6	9.2
Other Juices	25.0	5.7	13.8
Assorted Fruits ¹	25.0	22.8	24.8

Entrees, Side Dishes, Breads and Pastries

Item	Under- Weight	Average Weight	Over- Weight
Omelet, Ham &/or Cheese	50.0	42.9	41.3
Eggs to Order	50.0	42.9	39.4
Hard Boiled Eggs	0.0	5.7	9.2 ^c
Grilled Bacon	25.0	51.4	56.0
Grilled Sausage	25.0	11.4	27.5
Creamed Beef	0.0	22.9	12.8
Cold Cereal	25.0	34.3	31.2
Farina	0.0	2.9	4.6
Griddle Cakes	25.0	11.4	12.8
French Toast	0.0	25.7	16.5
Syrup	25.0	22.9	16.5
Hash Brown Potatoes	25.0	34.3	36.7
Toast	50.0	37.1	36.7
Assorted Jams and Jellies	25.0	14.3	14.7
Chilled Butter	50.0	25.7	36.7
Assorted Pastries	0.0	14.3	21.1

Table 4 (continued)

Entrees, Side Dishes, Breads and Pastries

Item	Under- Weight	Average Weight	Over- Weight
Group Size	4	35	109

Percent of Underweight, Average Weight and Overweight
Who Selected Lunch Foods*

Milk Products and Beverages

Item	Under- Weight	Average Weight	Over- Weight
Lowfat Yogurt, Fruit	0.0	11.5	7.0
Whole Milk	38.5	53.3	45.0
Nonfat Milk	23.1	9.0	12.7
Chocolate Milk	15.4	9.8	12.5
Novelty Ice Creams	15.4	11.5	9.7
Hot Tea	0.0	1.6	2.5
Coffee	7.7	8.2	7.5
Carbonated Beverages	23.1	32.0	31.7

Fast Foods

Item	Under- Weight	Average Weight	Over- Weight
Soup	15.4	14.8	13.5
Frankfurters	7.7	5.7	3.8
Hamburgers	7.7	6.6	9.0
Cheeseburgers	23.1	23.0	17.7
Chili Con Carne	0.0	3.3	4.2
Ham &/or Cheese Sandwich	15.4	12.3	13.7
Chicken Salad Sandwich	0.0	1.6	4.0
Tuna Salad Sandwich	7.7	6.6	4.2
French Fried Potatoes	46.2	25.4	28.0
Potato Chips	0.0	3.3	3.5
Corn Chips	0.0	0.8	2.5

Potatoes, Vegetables, Breads and Desserts

Item	Under- Weight	Average Weight	Over- Weight
Mashed Potatoes	15.4	19.7	15.5

Table 4 (continued)

Potatoes, Vegetables, Breads and Desserts

Item	Under-Weight	Average Weight	Over-Weight
Other Potatoes ²	7.7	7.4	8.8
Rice, Steamed and Spanish	7.7	12.3	14.5
Macaroni w/Cheese	7.7	4.1	6.3
Vegetables ³	30.8	18.9	18.8
Other Vegetables ⁴	23.1	11.5	12.0
Cabbage	0.0	9.0	10.5
Assorted Breads	23.1	20.5	17.0
Chilled Butter	0.0	18.9	13.2 ^b
Hot Corn Bread	0.0	9.0	6.5
Assorted Pastries	15.4	22.1	21.7
Novelty Ice Creams	15.4	11.5	9.7

Entrees

Item	Under-Weight	Average Weight	Over-Weight
Beef, Sauerbraten & Meat Loaf	15.4	13.9	14.5
Fish Portions	15.4	10.7	13.7
Fried Shrimp	0.0	9.0	8.8
Tamales	0.0	6.6	8.2
Enchiladas	0.0	6.6	6.7
Tacos	0.0	10.7	13.5
Fried Chicken	0.0	3.3	5.5
Grilled Pork Slices	0.0	4.8	3.0
Pasta, Spaghetti & Lasagna	7.7	13.8	10.7

Salads

Item	Under-Weight	Average Weight	Over-Weight
Tossed Green Salad	7.7	21.3	22.2
Cucumber Salad	0.0	3.3	3.5
Cottage Cheese & Pineapple	7.7	5.7	7.0
Gelatin Salad w/Fruit, Peaches or Fruit Cocktail w/Other	0.0	1.6	3.0
Potato Salad	0.0	3.3	6.5

Table 4 (continued)

Item	Salads		
	Under-Weight	Average Weight	Over-Weight
Macaroni Salad	0.0	8.2	9.5
Kidney Bean Salad	0.0	3.3	0.8 ^b
Fruit Salad	15.4	3.3	3.8 ^b
Assorted Salad Dressings	0.0	21.3	16.7
Group Size	13	122	400

NOTE: See legend on page 18.

Table 5

Percent of Underweight, Average Weight and Overweight
Who Selected Two and Three Servings of Breakfast Foods***

Beverages and Fruits

Item	Under-weight		Group Size	Average Weight		Group Size	Over-weight		Group Size
	2	3		2	3		2	3	
Whole Milk	0.0	0.0	1	47.8	8.7	23	42.4	10.6	66
Nonfat Milk	0.0	0.0	0	100.0	0.0	1	33.3	11.1	9
Coffee	0.0	0.0	0	4.3	28.6	7	26.7	10.0	30
Tea	0.0	0.0	0	100.0	0.0	1	0.0	0.0	0
Cocoa	0.0	0.0	1	22.2	0.0	9	5.6	0.0	18
Orange Juice	0.0	0.0	3	13.3	6.7	15	30.2	5.7	53
Grapefruit Juice	0.0	0.0	0	0.0	0.0	2	50.0	0.0	6
Tomato Juice	0.0	0.0	0	0.0	0.0	3	10.0	0.0	10
Other Juices	100.0	0.0	1	50.0	0.0	2	20.0	20.0	15
Assorted Fruits ¹	0.0	0.0	1	0.0	0.0	8	18.5	0.0	27

Entrees, Side Dishes, Breads and Pastries

Item	Under-weight		Group Size	Average Weight		Group Size	Over-weight		Group Size
	2	3		2	3		2	3	
Omelet, Ham &/or Cheese	0.0	0.0	2	6.7	0.0	15	2.2	0.0	45
Eggs to Order	0.0	0.0	2	26.7	0.0	15	16.3	7.0	43
Hard Boiled Eggs	0.0	0.0	0	0.0	0.0	2	10.0	0.0	10
Grilled Bacon	100.0	0.0	1	27.8	0.0	18	6.6	9.8	61 ^{ac}
Grilled Sausage	0.0	0.0	1	25.0	0.0	4	10.0	3.3	30
Creamed Beef	0.0	0.0	0	0.0	0.0	8	0.0	0.0	14
Cold Cereal	100.0	0.0	1	33.3	8.3	12	35.3	5.9	34
Farina	0.0	0.0	0	0.0	0.0	1	0.0	0.0	5
Griddle Cakes	0.0	0.0	1	0.0	0.0	4	14.3	0.0	14
French Toast	0.0	0.0	0	22.2	0.0	9	22.2	5.6	18
Syrup	0.0	0.0	1	25.0	0.0	8	44.4	5.6	18
Hash Brown Potatoes	0.0	0.0	1	8.3	0.0	12	5.0	0.0	40
Toast	50.0	0.0	2	7.7	0.0	13	25.0	2.5	40
Assorted Jams & Jellies	100.0	0.0	1	60.0	0.0	5	12.5	0.0	16

Table 5 (continued)

Entrees, Side Dishes, Breads and Pastries

Item	Under-Weight		Group Size	Average Weight		Group Size	Over-Weight		Group Size
	2	3		2	3		2	3	
Chilled Butter	0.0	0.0	2	22.2	0.0	9	10.0	2.5	40
Assorted Pastries	0.0	0.0	0	0.0	0.0	5	4.3	0.0	23

Percent of Underweight, Average Weight and Overweight
Who Selected Two and Three Servings of Lunch Foods***

Milk Products and Beverages

Item	Under-Weight		Group Size	Average Weight		Group Size	Over-Weight		Group Size
	2	3		2	3		2	3	
Lowfat Yogurt	0.0	0.0	0	7.1	0.0	14	14.3	3.6	28
Whole Milk	60.0	0.0	5	56.9	6.2	65	51.7	11.1	180
Nonfat Milk	33.3	0.0	3	36.4	9.1	11	51.0	5.9	51
Chocolate Milk	50.0	0.0	2	41.7	0.0	12	46.0	2.0	50
Novelty Ice Creams	0.0	50.0	2	35.7	0.0	14	15.4 ^{ac}	0.0	39
Hot Tea	0.0	0.0	0	50.0	0.0	2	0.0	0.0	10
Coffee	100.0	0.0	1	80.0	20.0	10	36.7	0.0	30
Carbonated Beverages	33.3	33.3	3	43.6	5.1	39	52.8	5.5	127

Fast Foods

Item	Under-Weight		Group Size	Average Weight		Group Size	Over-Weight		Group Size
	2	3		2	3		2	3	
Soup	0.0	0.0	2	5.6	0.0	18	5.6	1.9	54
Frankfurters	0.0	100.0	1	28.6	0.0	7	33.3	0.0	15
Hamburgers	0.0	0.0	1	50.0	0.0	8	47.2	5.6	36
Cheeseburgers	33.3	0.0	3	53.6	7.1	28	39.4	1.4	71
Chili Con Carne	0.0	0.0	0	0.0	0.0	4	23.5	0.0	17
Ham &/or Cheese Sandwich	0.0	0.0	2	6.7	0.0	15	30.9	0.0	55
Chicken Salad Sandwich	0.0	0.0	0	50.0	0.0	2	37.5	0.0	16

Table 5 (continued)

Fast Foods

	Under-Weight		Group Size	Average Weight		Group Size	Over-Weight		Group Size
	2	3		2	3		2	3	
Tuna Salad Sandwich	0.0	0.0	1	12.5	0.0	8	5.9	0.0	17
French Fried Potatoes	16.7	0.0	6	3.2	3.2	31	11.6	0.0	112
Potato Chips	0.0	0.0	0	25.0	25.0	4	14.3	0.0	4
Corn Chips	0.0	0.0	0	100.0	0.0	1	10.0	0.0	10

Potatoes, Vegetables, Breads and Desserts

Item	Under-Weight		Group Size	Average Weight		Group Size	Over-Weight		Group Size
	2	3		2	3		2	3	
Mashed Potatoes	50.0	0.0	2	4.2	0.0	24	8.1	3.2	62
Other Potatoes ²	0.0	0.0	1	0.0	0.0	9	8.6	0.0	35
Rice, Steamed and Spanish	100.0	0.0	1	26.7	0.0	15	10.3	3.4	58
Macaroni w/Cheese	100.0	0.0	1	0.0	0.0	5	12.0	4.0	25
Vegetables ³	0.0	0.0	4	8.7	4.3	23	2.7	1.3	75
Other Vegetables ⁴	0.0	0.0	3	14.3	0.0	14	6.3	0.0	48
Cabbage	0.0	0.0	0	27.3	0.0	11	2.4 ^{ac}	0.0	42
Assorted Breads	0.0	0.0	3	24.0	4.0	25	23.5	5.9	68
Chilled Butter	0.0	0.0	0	8.7	0.0	23	32.1	5.7 ^{ac}	53
Hot Corn Bread	0.0	0.0	0	0.0	9.1	11	23.1	0.0 ^{ab}	26
Assorted Pastries	0.0	0.0	2	18.5	7.4	27	9.2	2.3	87
Novelty Ice Creams	0.0	50.0	2	35.7	0.0	14	15.4 ^{ac}	0.0	39

Entrees

Item	Under-Weight		Group Size	Average Weight		Group Size	Over-Weight		Group Size
	2	3		2	3		2	3	
Beef, Sauerbraten & Meat Loaf	50.0	0.0	2	0.0	11.8	17	10.3 ^{ac}	0.0	58
Fish Portions	0.0	0.0	2	15.4	7.7	13	7.3	1.8	55
Fried Shrimp	0.0	0.0	0	45.5	0.0	11	45.7	8.6	35

Table 5 (continued)

Entrees

Item	Under-Weight		Group Size	Average Weight		Group Size	Over-Weight		Group Size
	2	3		2	3		2	3	
Tamales	0.0	0.0	0	25.0	0.0	8	0.0	3.0 ^{ac}	33
Enchiladas	0.0	0.0	0	37.5	0.0	8	3.7 ^{ac}	0.0	27
Tacos	0.0	0.0	0	7.7	15.4	13	20.4	7.4	54
Fried Chicken	0.0	0.0	0	75.0	0.0	4	22.7	0.0	22
Grilled Pork Slices	0.0	0.0	0	16.7	0.0	6	8.3	0.0	12
Pasta, Spaghetti & Lasagna	0.0	100.0	1	23.5	0.0	17	4.7 ^{ac}	0.0	43

Salads

Item	Under-Weight		Group Size	Average Weight		Group Size	Over-Weight		Group Size
	2	3		2	3		2	3	
Tossed Green Salad	0.0	0.0	1	7.7	0.0	26	6.7	0.0	89
Cucumber Salad	0.0	0.0	0	25.0	0.0	4	7.1	7.1	14
Cottage Cheese & Pineapple	0.0	0.0	1	14.3	0.0	7	3.6	0.0	28
Gelatin Salad w/Fruit, Peaches or Fruit Cocktail w/Other	0.0	0.0	0	50.0	0.0	2	0.0	0.0	12
Potato Salad	0.0	0.0	0	0.0	0.0	4	3.8	0.0	26
Macaroni Salad	0.0	0.0	0	0.0	0.0	10	7.9	0.0	38
Kidney Bean Salad	0.0	0.0	0	0.0	0.0	4	0.0	0.0	3
Fruit Salad	0.0	0.0	2	0.0	0.0	4	6.7	6.7	15
Assorted Salad Dressings	0.0	0.0	0	15.4	0.0	26	7.7	0.0	65

NOTE: See legend on page 18.

Table 6

**Breakfast and Lunch Food Items for Which the Overweight
More Frequently Selected Two and Three Servings**

Item	Percent of Average Weight		Group Size	Percent of Over- Weight		Group Size
	2	3		2	3	
Breakfast						
Orange Juice	13.3	6.7	15	30.2	5.7	53
Toast	7.7	0.0	13	25.5	2.5	40
Lunch						
Lowfat Yogurt	7.1	0.0	14	14.3	3.6	28
Nonfat Milk	36.4	9.1	11	51.0	5.9	51
Chocolate Milk	41.7	0.0	12	46.0	2.0	50
Carbonated Beverages	43.6	5.1	39	52.8	5.5	127
Ham &/or Cheese Sandwich	6.7	0.0	15	30.9	0.0	55
French Fried Potatoes	3.2	3.2	31	11.6	0.0	112
Mashed Potatoes	4.2	0.0	24	8.1	3.2	62
Other Potatoes	0.0	0.0	9	8.6	0.0	35
Chilled Butter	8.7	0.0	23	32.1	5.1	53
Hot Corn Bread	0.0	9.1	11	23.1	0.0	26
Fried Shrimp	45.5	0.0	11	45.7	8.6	35
Tacos	7.7	15.4	13	24.2	7.4	54

**Breakfast and Lunch Food Items for Which the Average Weight
More Frequently Selected Two and Three Servings**

Item	Percent of Average Weight		Group Size	Percent of Over- Weight		Group Size
	2	3		2	3	
Breakfast						
Whole Milk	47.8	8.7	23	42.4	10.6	66
Omelet, Ham &/or Cheese	6.7	0.0	15	2.2	0.0	45
Eggs to Order	26.7	0.0	15	16.3	7.0	43
Grilled Bacon	27.8	0.0	18	6.6	9.8	61
Hash Brown Potatoes	8.3	0.0	12	5.0	0.0	40
Lunch						
Cheeseburgers	53.6	7.1	28	39.4	1.4	71
Rice, Steamed & Spanish	26.7	0.0	15	10.3	3.4	58
Vegetables	8.7	4.3	23	2.7	1.3	75
Other Vegetables	14.3	0.0	14	6.3	0.0	48
Cabbage	27.3	0.0	11	2.4	0.0	42
Assorted Pastries	18.5	7.4	27	9.2	2.3	87
Novelty Ice Creams	35.7	0.0	14	15.4	0.0	39
Fish Portions	15.4	7.7	13	7.3	1.8	55
Pasta, Spaghetti & Lasagna	23.5	0.0	17	4.7	0.0	43
Assorted Salad Dressings	15.4	0.0	26	7.7	0.0	65

NOTE: See legend on page 18.

Table 7

Percent of Underweight, Average Weight and Overweight
Who Judged Portion Size of Breakfast Food Items as Too Small
or Much Too Small***

Beverages and Fruits

Item	Percent of Under- Weight	Group Size	Percent of Average Weight	Group Size	Percent of Over- Weight	Group Size
Whole Milk	100.0	1	21.7	23	19.7 ^{ac}	66
Nonfat Milk	0.0	0	0.0	1	22.2	9
Coffee	0.0	0	14.3	7	0.0	30
Tea	0.0	0	0.0	0	0.0	0
Cocoa	0.0	1	0.0	9	5.6	18
Orange Juice	33.3	3	0.0	15	18.8	53
Grapefruit Juice	0.0	0	0.0	2	33.4	6
Tomato Juice	0.0	0	0.0	0	0.0	0
Other Juices	0.0	1	50.0	2	40.0	15
Assorted Fruits ¹	100.0	1	37.5	8	25.9	27

Entrees, Side Dishes, Breads and Pastries

Item	Percent of Under Weight	Group Size	Percent of Average Weight	Group Size	Percent of Over- Weight	Group Size
Omelet, Ham &/or Cheese	0.0	2	26.6	15	27.2	45
Eggs to Order	0.0	2	13.3	15	16.3	43
Hard Boiled Eggs	0.0	0	0.0	2	20.0	10
Grilled Bacon	0.0	1	33.3	18	50.8	61
Grilled Sausage	100.0	1	75.0	4	66.0	30
Creamed Beef	0.0	0	25.0	8	0.0	14
Cold Cereal	0.0	1	8.3	12	26.5	34
Farina	0.0	0	0.0	1	20.0	5
Griddle Cakes	0.0	1	0.0	4	35.7	14
French Toast	0.0	0	11.1	9	33.3	18
Syrup	0.0	1	12.5	8	27.8	18
Hash Brown Potatoes	0.0	1	16.6	12	20.0	40
Toast	0.0	2	15.4	13	12.5	40
Assorted Jams & Jellies	0.0	1	0.0	5	18.8	16

Table 7 (continued)

Entrees, Side Dishes, Breads and Pastries

Item	Percent of Under-Weight	Group Size	Percent of Average Weight	Group Size	Percent of Over-Weight	Group Size
Chilled Butter	0.0	2	0.0	9	15.0	40
Assorted Pastries	0.0	0	0.0	5	4.3 ^{ab}	23

Percent of Underweight, Average Weight and Overweight
Who Judged Portion Size of Lunch Food Items as Too Small
or Much Too Small***

Milk Products and Beverages

Item	Percent of Under-Weight	Group Size	Percent of Average Weight	Group Size	Percent of Over-Weight	Group Size
Lowfat Yogurt, Fruit	0.0	0	7.1	14	7.1	28
Whole Milk	0.0	5	24.6	65	16.7	180
Nonfat Milk	0.0	3	18.2	11	13.7	51
Chocolate Milk	50.0	2	8.3	12	14.0	50
Novelty Ice Creams	100.0	2	21.4	14	28.2	39
Hot Tea	0.0	0	50.0	2	30.0	10
Coffee	0.0	1	20.2	10	6.7	30
Carbonated Beverages	0.0	3	20.5	39	15.8	127

Fast Foods

Item	Percent of Under-Weight	Group Size	Percent of Average Weight	Group Size	Percent of Over-Weight	Group Size
Soup	50.2	2	11.2	18	16.7	54
Frankfurters	100.0	1	42.9	7	26.7 ^{ac}	15
Hamburgers	0.0	1	12.5	8	16.7	36
Cheeseburgers	0.0	3	32.2	28	22.5	71
Chili Con Carne	0.0	0	25.0	4	29.4	17
Ham &/or Cheese Sandwich	0.0	2	20.0	15	29.1	55
Chicken Salad Sandwich	0.0	0	50.0	2	18.8	16
Tuna Salad Sandwich	0.0	1	37.5	8	17.6	17
French Fried Potatoes	33.3	6	32.3	31	50.9	112

Table 7 (continued)

Fast Foods

Item	Percent of Under-Weight	Group Size	Percent of Average Weight	Group Size	Percent of Over-Weight	Group Size
Potato Chips	0.0	0	100.0	4	50.0	14
Corn Chips	0.0	0	0.0	1	30.0	10

Potatoes, Vegetables, Breads and Desserts

Item	Percent of Under-Weight	Group Size	Percent of Average Weight	Group Size	Percent of Over-Weight	Group Size
Mashed Potatoes	50.0	2	41.7	24	37.1	62
Other Potatoes ²	0.0	1	33.3	9	22.8	35
Rice, Steamed & Spanish	0.0	0	46.7	15	20.7	58
Macaroni w/Cheese	0.0	1	0.0	5	32.0	25
Vegetables ³	25.0	4	38.7	23	33.3	75
Other Vegetables ⁴	66.7	3	57.2	14	25.0 ^{ac}	48
Cabbage	0.0	0	27.3	11	35.7	42
Assorted Breads	0.0	3	12.0	25	7.3	68
Chilled Butter	0.0	0	21.7	23	9.4	53
Hot Corn Bread	0.0	0	18.2	11	3.8	26
Assorted Pastries	0.0	2	33.3	27	24.1	87
Novelty Ice Creams	100.0	2	21.4	14	28.2	39

Entrees

Item	Percent of Under Weight	Group Size	Percent of Average Weight	Group Size	Percent of Over-Weight	Group Size
Beef, Sauerbraten & Meat Loaf	50.0	2	35.3	17	29.3 ^{ac}	58
Fish Portions	50.0	2	38.5	13	33.5	35
Fried Shrimp	0.0	0	81.8	11	82.9	35
Tamales	0.0	0	25.0	8	12.2	33
Enchiladas	0.0	0	25.0	8	14.8	27
Tacos	0.0	0	46.2	13	48.1	54
Fried Chicken	0.0	0	75.0	4	27.2 ^{ac}	22
Grilled Pork Slices	0.0	0	33.3	6	41.7	12
Pasta, Spaghetti & Lasagna	100.0	1	41.2	17	32.5	43

Table 7 (continued)

Item	Salads					
	Percent of Under Weight	Group Size	Percent of Average Weight	Group Size	Percent of Over-Weight	Group Size
Tossed Green Salad	0.0	1	23.3	26	15.7	89
Cucumber Salad	0.0	0	50.0	4	7.1	14
Cottage Cheese & Pineapple	0.0	1	14.3	7	14.2	28
Gelatin Salad w/Fruit, Peaches or Fruit Cocktail w/Other	0.0	0	50.0	2	8.2	12
Potato Salad	0.0	0	25.0	4	11.5	26
Macaroni Salad	0.0	0	40.0	10	15.8	38
Kidney Bean Salad	0.0	0	0.0	4	0.0	3
Fruit Salad	0.0	2	0.0	4	14.4	15
Assorted Salad Dressings	0.0	0	23.1	26	12.2	66

NOTE: See legend on page 18.

Table 8

Preferences for Food Classes and Food Items as Indicated By
the 1976 Food Preference Survey, 1977 Food Preference Survey,
and the 1979 Food Selection Questionnaire

	Food Preference Survey 1976	Short Form Food Preference Survey 1977	Food Selection Questionnaire 1979
Whites	Coffee Milk Tomato Juice Hash Brown Potatoes	Coffee ^a Milk ^a Tomato Juice Hash Brown Potatoes ^a Soups Stews & Extended Meats Puddings & Other Desserts	Coffee ^a Milk Tomato Juice ^a Hash Brown Potatoes ^a Stews & Extended Meats
Blacks	Fruit Juices Grits Vegetables Soul	Fruit Juices Tea Breads Grits Vegetables Fruit Soul	Fruit Juices Tea ^a Breads ^d Farina ^a Fruit N/A
Males	N/A	Milk ^a Eggs Breakfast Meats Meats Stews & Extended Meats Short Order, Sandwiches Pies	Milk ^a Eggs ^b Meats ^c Short Order, Sandwiches ^c
Females	N/A	Potatoes, Baked & Mashed Vegetables Salads Fruit	Potatoes, Mashed Vegetables Salads Fruit

^aLevel of significance > 0.05.

^bWith exception of eggs to order.

^cFemales more frequently selected fish items.

^dWith exception of sweet rolls.

Table 9

Mean Preference Ratings of Whites and Blacks, Percent of Whites and Blacks Who Selected, Percent Who Selected Two and Three Servings, and Percent Who Judged Portion Size Too Small or Much Too Small For 24 Foods For Which Significant Preference Differences Were Obtained^a

Foods Preferred More By Blacks	Mean Preference Rating			Percent Who Selected ^b			Percent Who Selected Two or Three Servings			Percent Who Judged Portion Size As Too Small or Much Too Small		
	White	Black	ETA	White	Black	ETA	White	Black	ETA	White	Black	ETA
198 Orange Juice	7.77 (436)	8.04 (210)	0.12	47.8	48.0	•	24.1 (54)	41.7 (12)	0.27 ^c	•	14.8	8.3
166 Cold Cereal	6.14 (435)	6.76 (204)	0.12	27.4	28.0	•	42.0 (31)	0 (7)	•	16.1	28.6	•
56 Sweet Rolls (Breakfast Pastries)	6.80 (433)	7.24 (204)	0.12	19.5	12.0	•	0 (22)	0 (13)	•	0	33.3	.52 ^c
83 Grapefruit Halves (Breakfast Fruit)	5.96 (426)	6.72 (201)	0.20	23.9	36.0	•	14.8 (27)	11.1 (9)	•	25.9	33.3	•
147 Tuna Salad Sandwich	6.57 (431)	6.99 (205)	0.12	4.6	6.7	•	11.1 (18)	0 (5)	•	17.6	20.0	•
77 Mixed Vegetables	6.07 (421)	6.55 (196)	0.12	31.8 (110)	16.0 (25)	•	2.9 (35)	0.0 (4)	•	25.7	50.0	•
55 Cabbage	5.27 (416)	6.80 (203)	0.37	8.4	14.7	•	3.0 (33)	9.1 (11)	•	36.3	45.5	•
154 Hot Corn Bread	6.41 (422)	7.47 (206)	0.30	7.1	9.3	•	17.9 (28)	28.6 (7)	•	14.2	28.6	•
45 Fried Chicken	7.25 (439)	7.88 (210)	0.22	4.3	8.0	•	29.4 (17)	0.0 (6)	•	23.6	83.3	.45 ^c
112 Potato Salad	6.91 (434)	7.19 (209)	0.14	5.9	6.7	•	4.3 (23)	0 (5)	•	0.0	40.0	•

Table 9 (continued)

Mean Preference Ratings of Whites and Blacks, Percent of Whites and Blacks Who Selected, Percent Who Selected Two and Three Servings, and Percent Who Judged Portion Size Too Small or Much Too Small For 24 Foods For Which Significant Preference Differences Were Obtained ^a										
	Mean Preference Rating		Percent Who Selected ^b			Percent Who Selected Two or Three Servings			Percent Who Judged Portion Size As Too Small or Much Too Small	
	White	Black	ETA	White	Black	ETA	Agreement	White	Black	ETA
Foods Preferred More By Whites										
178 Tomato Juice	5.65 (409)	5.15 (186)	0.15	11.5	0.0	*		7.7 (13)	0.0	0.0
174 Mashed Potatoes	7.04 (436)	6.75 (206)	0.14	18.4	18.7		*	8.4 (72)	0	34.8 28.6
194 Brownies, 150 Cherry Pie, 195 Apple Pie (Lunch Pastries)	7.03 (1292)	6.68 (609)	0.17	20.9	24.0			11.0 (82)	22.3 (18)	19.5 38.9
80 Roast Pork (Grilled Pork Slices)	6.48 (424)	6.14 (193)	0.13	3.6	5.3		*	7.1 (14)	0.0 (4)	50.0 0.0
32 Lasagna	7.27 (425)	6.38 (192)	0.15	31.4 (86)	25.0 (16)		*	14.8 (27)	0.0 (4)	48.1 0.0 31 ^c
87 Tacos	7.01 (427)	6.50 (185)	0.14	12.2	16.0		*	33.3 (48)	25.0 (12)	60.4 16.6 33 ^c
Foods Preferred More By Males										
124 Omelet, Ham or Cheese	7.01	6.71	0.16	47.1	26.3		*	3.1 (64)	0.0 (5)	20.3 20.0
125 Creamed Beef	5.70	4.99	0.24	15.4	15.8			0.0 (21)	0.0 (3)	9.5 0.0
151 Tamales	6.45	5.65	0.17	7.2	9.1		*	8.4 (36)	0.0 (5)	16.7 0.0

Table 9 (continued)

Mean Preference Ratings of Whites and Blacks, Percent of Whites and Blacks Who Selected, Percent Who Selected Two and Three Servings, and Percent Who Judged Portion Size Too Small or Much Too Small For 24 Foods For Which Significant Preference Differences Were Obtained ^a											
Foods Preferred More By Females	Mean Preference Rating			Percent Who Selected ^b			Percent Who Selected Two or Three Servings			Percent Who Judged Portion Size As Too Small or Much Too Small	
	White	Black	ETA	White	Black	ETA	White	Black	ETA	White	Black
	ETA	ETA	ETA	ETA	ETA	ETA	ETA	ETA	ETA	ETA	ETA
1 Tea (Lunch)	6.51	6.94	0.12	2.4	3.6	*	8.3 (12)	50.0 (2)	*	33.3	50.0
25 Steamed Rice	6.05	6.47	0.17	21.7 (115)	14.3 (7)		29.2 (24)	0.0 (1)		54.2	0.0
183 Macaroni & Cheese	6.73	7.21	0.23	6.2	3.6		18.3 (31)	0 (2)		25.7	0.0
163 Broccoli	5.47	6.55	0.14	13.0 (115)	31.3 (16)	*	6.7 (15)	20.0 (5)	*	26.7	20.0
55 Cabbage	5.57	6.06	0.11	9.6	12.7	*	8.3	0.0		35.4	28.6
											.19 ^c

^aGroup sizes are in parenthesis.^bGroup sizes breakfast: white 113, blacks 25; group sizes lunch: whites 392, blacks 75, except where noted.^cExpected frequencies for some cells is less than 10 for 2x2 tables or less than 5 for larger tables.^dLevel of significance is $\leq .10$; all others $\leq .05$.^eAn asterisk indicates agreement between the direction of the difference in question and the direction of the hedonic difference.

Table 10

Percent Agreement Between Signs of Differences*

		Preference and Selection	Preference and N of Servings	Preference and Perceived Size	N of Servings and Perceived Size
Percent Agreement	1978	71			
	1979	58	50	71	54

*All percents significantly greater than that expected by chance.

Table 11

Correlation Indices of the Relationship Between 1977 Mean Hedonic Ratings and
Percent Who Selected By Race, Sex, and Food Preference Of Race Based
On Two Different Samples

1977 Preference Data/1978 Selection Data

	Foods Preferred By Whites (13 Foods)	Foods Preferred By Blacks (18 Foods)	Foods Preferred Either By Whites or Blacks (31 Foods)	Foods Preferred Either By Males or Females (7 Foods)
Whites	0.54*	0.04	0.48*	Males 0.75*
Blacks	0.55*	0.22	0.34*	Females 0.72*

1977 Preference Data/1979 Selection Data

	(6 Foods)	(10 Foods)	(16 Foods)	(8 Foods)
Whites	0.61	0.24	0.31	Males 0.34
Blacks	0.83	0.13	0.35	Females -0.11

*Significant at or below the 0.05 level.

Table 12

Correlation Indices of the Relationship Between 1977 Mean Hedonic Ratings With Percent Who Selected More Than One Serving and With Percent Who Perceived the Portion Size as Too Small and Between Percent Who Selected More Than One Serving With the Percent Who Perceived the Portion as Too Small

		Foods Preferred By Whites (6 Foods)	Foods Preferred By Blacks (10 Foods)	Foods Combined (16 Foods)	Foods Preferred Either By Males or Females (8 Foods)
Preference and N of Servings	Whites	0.39	0.27	0.28	Males 0.09
	Blacks	0.42	0.56	0.41	Females 0.39
Preference and Perceived Size	Whites	0.65	-.57	0.10	Males -.13
	Blacks	0.68	0.02	0.51*	Females 0.38
N of Servings and Perceived Size	Whites	0.59	0.10	0.22	Males 0.82*
	Blacks	0.61	-.53	-.16	Females 0.80*

*Significant at or below the 0.05 level.

Table 13

Percent of WM, WF, BM, & BF Who Attended Lunch & Who Were Either OW, AW, or UW
As Determined by Either the Metropolitan Life Tables
or the Adjusted Metropolitan Life Tables, 1979 Sample

Metropolitan Life Tables	% Of White Males	% Of White Females	% Of Black Males	% Of Black Females	% Of Total Group Size
Overweight	50.1	23.5	50.8	50.0	48.2
Average Weight	36.6	61.8	41.0	12.5	38.7
Underweight	13.3	14.7	8.2	37.5	13.1
Column Group Size	347	34	61	8	450
Adjusted Metropolitan Life Tables	% Of White Males	% Of White Females	% Of Black Males	% Of Black Females	% Of Total Group Size
Overweight	75.9	69.7	73.8	50.0	74.7
Average Weight	21.5	30.3	23.0	50.0	22.8
Underweight	2.6	0.0	3.2	0.0	2.5
Column Group Size	349	33	61	8	451

Table 14

Percent of 1977 and 1979 Samples Who Were Overweight,
Average Weight or Underweight – Adjusted Tables*

	White Males		Black Males		White Females		Black Females	
	1977	1979	1977	1979	1977	1979	1977	1979
Overweight	63.7	75.9	57.6	73.8	20.0	69.7	26.9	–
Average Weight	26.0	21.5	30.5	23.0	54.4	30.3	50.7	–
Underweight	10.3	2.6	11.9	3.2	25.6	0.0	22.4	–

*Ration status of individuals in 1977 sample, BAS and SIK; status of 1979 sample, SIK.

Table 15

**Number of Foods More Frequently Selected by
Weight Classification and Meal**

	Breakfast	Lunch	Total
Overweight	8	2	10
Average Weight	3	6	9

Table 16

**Number of Foods More Frequently Selected
For a 2nd or 3rd Serving by Weight Classification and Meal**

	Breakfast	Lunch	Total
Overweight	3	13	16
Average Weight	6	10	16

Table 17

**Percent of Personnel Who Attended Either
Breakfast or Lunch by Weight Classification and Meal**

	Overweight	Average Weight	Underweight	Total Group Size
Breakfast	0.74	0.24	0.02	148
Lunch	0.75	0.23	0.02	535

Table 18

Foods Selected for a Second or Third Serving
by Weight Classification and Meal

	Breakfast	Lunch
Overweight	Orange Juice Toast Fruit *	Chocolate Milk Lowfat Milk & Yogurt Carbonated Beverages Sandwiches, Tacos, & Fried Shrimp Potatoes, French, Mashed, & Other Macaroni w/Cheese * Butter Corn Bread
Average Weight	Whole Milk Eggs to Order & Omelets Bacon Potatoes, Hash Brown	Rice Vegetables, Cabbage, & Other Pastries Ice Cream Novelties Fish, Pasta, & Cheeseburgers Salad Dressings

* AW Sample size 8 or less.

Table 19

Breakfast and Lunch Foods More Frequently Selected
by Weight Classification and Meal

Name	% of Average Weight	% of Over- Weight
Breakfast		
Creamed Beef	22.9	12.8
French Toast	25.7	16.5
Syrup	22.9	16.5
Group Size	35	109
Lunch		
Cheeseburger	23.0	17.7
Chicken Salad Sandwich	16.0	4.0
Mashed Potatoes	19.7	15.5
Assorted Breads	20.5	17.0
Chilled Butter	18.9	13.2
Assorted Salad Dressings	21.3	16.7
Group Size	122	400

Breakfast and Lunch Foods More Frequently Selected
by the Overweight

	% of Average Weight	% of Over- Weight
Breakfast		
Fruit Juices	15.7	19.3
Eggs to Order	13.3	16.3
Hard Boiled Eggs	5.7	9.2
Grilled Bacon	51.4	56.0
Grilled Sausage	11.4	27.3
Chilled Butter	25.7	36.7
Assorted Pastries	14.3	21.1
Group Size	35	109
Lunch		
French Fried Potatoes	25.4	28.0
Potato Salad	3.3	6.5
Group	122	400

Table 20

Mean Number of Meals Consumed Across a
Three Day Period by Weight Classification*

	Over- Weight	Lighter Individuals	Difference	Strength of Association [†]
Dinners	2.38 (0.89)	2.69 (0.67)	-0.31	0.03**
Midnight Meal	0.33 (0.67)	0.25 (0.63)	0.08	
Lunch	2.33 (0.92)	2.31 (0.97)	0.02	
Breakfasts	1.60 (1.36)	1.22 (1.27)	0.38	0.01 ^{††}
Snacks	1.75 (2.03)	1.99 (1.94)	-0.24	
Total	8.38 (3.46)	8.45 (2.74)	-0.07	
Group Counts	55	88		

*Standard deviations are in parentheses.

[†] The square of this value indicates the proportion of variability in the number of meals consumed associated with the weight factor.

**Significant at the .019 level, two tailed test.

^{††}Significant at the .089 level, two tailed test.

Appendix A
Food Selection Questionnaire

US ARMY NATICK RESEARCH AND DEVELOPMENT COMMAND

FOOD SELECTION QUESTIONNAIRE

During the past two years representatives of the US Army Natick Research and Development Command, at Natick, Massachusetts, have visited Travis Air Force Base to learn something about the food likes and dislikes and the food selections of individuals in the Air Force. The purpose of our study is to provide information to food service personnel throughout the Air Force so that they may provide you with the foods you like in the quantities you like but at the same time provide you with healthy nutritious meals.

During this visit we would like you to complete the attached questionnaire sometime during your meal. Please indicate WHAT foods you select, the NUMBER of servings of each food you select, and whether you think the amount of food you are served, before you ask for more or less, is TOO SMALL for you, JUST RIGHT for you, or TOO LARGE for you. When you have completed the questionnaire, please leave it with your tray on the table. Participation is voluntary, and your name is not used.

We are not only interested in what you take and whether you think is the right serving size but also in some personal statistics. This additional information will greatly help us in making suggestions that might improve the Air Force food service for you and the people that follow you.

FOOD SELECTION QUESTIONNAIRE

US ARMY NATICK RESEARCH AND DEVELOPMENT COMMAND

Your answers to the following questions will help the Armed Forces Menu Planners put foods which you want, in the quantities you want, on the menu.

Please indicate on the next page which foods you selected for your meal and how many servings you had of each food. Notice that below each food name is the amount of food per serving. Use this information to help determine how many servings you selected. Unless you ask for a second serving, the servers will normally give you one serving of each food that you select. Note in the below example what you would mark if you selected two hamburgers, one bowl of green beans, three glasses of whole milk, and one scoop of mashed potatoes.

Indicate also on the next page whether the size of the serving was right for you. Indicate this by filling in one of five boxes. Look at the last 5 columns in the example, and notice that a rating of 1 indicates that the serving size was too small, that a rating of 3 indicates the size was just right, and that the rating of 5 indicates the size was too large. One scoop of mashed potatoes, for example, equals one serving. If the server gave you 1 serving of mashed potatoes and the serving size was much too small for you, you would fill in the box under the number 1. If the serving size was slightly too small, fill in the box under the number 2. If the size was just right, mark the box under 3. If the size was slightly too large, mark the box under 4, and if it was much too large, mark the box under 5. Remember to rate the serving that the server first gives to you, not the total amount you request.

When you have completed the questionnaire, please leave it with your tray on the table.

EXAMPLE	WHAT FOODS DID YOU SELECT?	HOW MANY SERVINGS DID YOU SELECT?			WAS THE SERVING SIZE				
					MUCH TOO SMALL		JUST RIGHT	MUCH TOO LARGE	
		1	2	3	1	2	3	4	5
Hamburgers (1 hamburger = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Green Beans (1 4oz bowl = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Whole Milk (1 glass = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Breaded Veal Cutlets (1 piece = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mashed Potatoes (1 scoop = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐

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LUNCH	WHAT FOODS DID YOU SELECT?	HOW MANY SERVINGS DID YOU SELECT?			WAS THE SERVING SIZE MUCH TOO MUCH SMALL JUST TOO LARGE				
		1	2	3	1	2	3	4	5
Soup of the Day (1 12oz bowl = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Frankfurters (1 frankfurter = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Hamburgers (1 hamburger = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Cheeseburgers (1 cheeseburger = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Chili Con Carne (1 12oz bowl = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Peanut Butter and Jelly Sandwich (1 sandwich = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ham and/or Cheese Sandwich (1 sandwich = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Chicken Salad Sandwich (1 sandwich = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tuna Salad Sandwich (1 sandwich = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
French Fried Potatoes (3oz = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Potato Chips (1 package = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Corn Chips (1 package = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Yogurt (1 carton = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Whole Milk (1 glass = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Nonfat Milk (1 glass = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Chocolate Milk (1 glass = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Hot Tea (1 cup = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Coffee (1 cup = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Carbonated Beverages (1 glass = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Crackers (2 packages = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Assorted Breads (2 slices = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Chilled Butter (2 pats = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Assorted Pastries (1 piece = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Novelty Ice Creams (1 piece = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Assorted Salad Dressings (1 ladle = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐

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TUESDAY FEBRUARY 20, 1979 LUNCH AT THE GALAXY	WHAT FOODS DID YOU SELECT?	HOW MANY SERVINGS DID YOU SELECT?			WAS THE SERVING SIZE					
		1	2	3	MUCH TOO			JUST RIGHT		MUCH TOO LARGE
					1	2	3	4	5	
SAUERBRATON (2 rolls = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
FISH PORTION (1 piece = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
TAMALE PIE (2 rolls = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
RISOLE POTATOES (1 serving spoon = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
MASHED POTATOES (1 scoop = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
MIXED VEGETABLES (1 4oz bowl = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
FRIED CABBAGE WITH BACON (1 4oz bowl = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
LYONNAISE WAX BEANS (1 4oz bowl = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
TOSSED GREEN SALAD (1 bread plate = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
ONION AND CUCUMBER SALAD (1 bread plate = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
COTTAGE CHEESE AND FRUIT SALAD (1 bread plate = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
GELATIN SALAD (1 bread plate = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
TUNA AND MACARONI SALAD (1 bread plate = 1 serving)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

READ EACH QUESTION AND MARK THE CORRECT ANSWER BY FILLING IN THE APPROPRIATE
 BOX OR BY MARKING OVER THE NUMBERS THAT MAKE THE CORRECT ANSWER LIKE THIS
 1 2 ■ 4.

YOUR WEIGHT IN POUNDS	YOUR HEIGHT	YOUR AGE AT LAST BIRTHDAY
1st Digit 0 1 2 3	FEET 4 5 6 7	1st Digit 1 2 3 4 5 6
2nd Digit 0 1 2 3 4 5 6 7 8 9	INCHES 0 1 2 3 4 5 6 7 8 9 10 11	2nd Digit 0 1 2 3 4 5 6 7 8 9
3rd Digit 0 1 2 3 4 5 6 7 8 9		

YOUR SEX

☐ Male
☐ Female

YOUR RACE/ETHNIC BACKGROUND

☐ White
☐ Black
☐ Other

MEAL

☐ Breakfast
☐ Lunch
☐ Dinner

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Appendix B
Scheme For Categorizing
Variable Noon Meal Food Items

Noon Meal Food Items

Categories	Galaxy 20 February	Galaxy 21 February	Starlifter 22 February	Starlifter 23 February
Beef	Sauerbraten	Meat Loaf		
Fish	Fish Portions			Fish Portions
Tamale	Tamale Pie	Tamales		
Tacos		Tacos		
Enchiladas		Enchiladas		
Chicken			Fried Chicken	
Pork			Grilled Pork Slices	
Pasta			Baked Lasagna	Spaghetti
Shrimp				Fried Shrimp
Macaroni & Cheese				Macaroni & Cheese
Mashed Potatoes	Mashed Potatoes		Mashed Potatoes	Mashed Potatoes
Other Potatoes	Rissole Potatoes	Parslied Potatoes		
Vegetables	Mixed Vegetables	Broccoli	Carrots	Green Beans
Cabbage	Fried Cabbage with Bacon		Cabbage	
Other Vegetables	Lyonnaise Wax Beans	Mexican Corn	Onions	Blackeyed Peas
Refried Beans		Refried Beans		
Rice		Spanish Rice	Steamed Rice	
Tossed Green Salad	Tossed Green Salad	Tossed Green Salad	Tossed Green Salad	Tossed Green Salad
Cucumber Salad	Onion and Cucumber Salad		Cucumber Salad	Cucumber Salad
Cottage Cheese & Fruit Salad	Cottage Cheese & Pineapple Salad	Cottage Cheese & Pineapple Salad	Cottage Cheese & Pineapple Salad	Cottage Cheese w/ Pineapple & Peaches

**Noon Meal Food Items
(Continued)**

Categories	Galaxy 20 February	Galaxy 21 February	Starlifter 22 February	Starlifter 23 February
Gelatin Salad	Gelatin w/ Fruit Cocktail & Pineapple	Gelatin w/ Fruit Cocktail & Pineapple	Gelatin w/ Peaches	Gelatin w/ Fruit Cocktail
Potato Salad			Potato Salad	Potato Salad
Macaroni Salad	Tuna and Macaroni Salad		Macaroni Salad	Macaroni Salad
Kidney Bean Salad		Kidney Bean Salad		
Fruit Salad		Fruit Salad		
Hot Corn Bread			Hot Corn Bread	Hot Corn Bread

Appendix C

**Foods Rank Ordered By Decreasing Percent
Who Selected At Least One Serving**

Noon Meals

Rank	Food Item/Class	% Who Selected At Least One Serving	N Who Attended Meal(s)	% Who Selected Two or More Servings	N Who Selected At Least One Serving
1	Tacos	54.19	131	18.20	20
2	Whole Milk	46.90	556	62.90	164
3	Shrimp	35.82	134	53.20	25
4	Carbonated Beverages	31.10	556	56.10	97
5	Rice	30.83	253	17.10	13
6	Enchiladas	29.00	131	13.90	5
7	French Fried Potatoes	27.70	556	17.00	17
8	Beef	26.40	299	11.40	9
9	Chicken	26.22	122	27.60	8
10	Macaroni & Cheese	26.11	134	18.20	6
11	Pasta	24.60	256	11.30	7
12	Fish	24.48	294	11.50	8
13	Mashed Potatoes	22.64	424	9.50	9
14.5	Tossed Green Salad	21.60	556	6.70	18
14.5	Assorted Pastries	21.60	556	15.00	18
16	Cabbage	19.65	290	7.30	4
17	Cheeseburger	19.40	556	46.30	50
18	Vegetables	19.20	556	6.50	7
19	Refried Beans	18.32	131	4.30	1
20	Pork	18.03	122	10.00	2
21	Assorted Breads	17.60	556	29.60	29
22	Assorted Salad Dressings	17.40	556	9.50	9
23	Fruit Salad	16.03	131	9.60	2
24	Hot Corn Bread	16.01	256	18.00	7
25	Other Potatoes	15.71	299	8.70	4
26	Baked Tamale	14.71	299	7.30	3
27	Chilled Butter	13.80	556	28.60	22
28	Soup	13.70	556	7.90	6
29	Ham &/or Cheese Sandwich	13.50	556	26.70	20
30	Potato Salad	13.28	256	3.20	1
31	Chocolate Milk	12.60	556	48.60	34
32.5	Nonfat Milk	12.10	556	53.80	36
32.5	Other Vegetables	12.10	556	7.50	5
34	Macaroni Salad	11.55	424	6.30	3
35	Novelty Ice Cream	11.80	388	20.00	9
36	Chicken Salad Sandwich	9.52	168	42.90	9
37	Hamburger	8.30	556	52.20	24
38	Yogurt	7.90	556	15.90	7
39	Coffee	7.70	556	39.60	17
40	Kidney Bean Salad	6.87	131	12.50	1

Noon Meals
 (Continued)

Rank	Food Item/Class	% Who Selected At Least One Serving	N Who Attended Meal(s)	% Who Selected Two or More Servings	N Who Selected At Least One Serving
41.5	Crackers	6.50	556	30.60	11
41.5	Cottage Cheese	6.50	556	5.60	2
43	Tuna Salad Sandwich	6.20	387	7.70	2
44	Cucumbers	5.18	424	20.00	4
45	Frankfurters	4.50	556	40.00	10
46	Chili Con Carne	4.10	556	21.70	5
47.5	Potato Chips	3.40	556	21.10	4
47.5	Gelatin	3.40	556	10.50	2
49	Hot Tea	2.50	556	14.30	2
50	Corn Chips	2.20	556	25.00	3

Breakfast Menu		
Rank	Food Item	% Who Selected At Least One Serving (N=155)
1	Whole Milk	58.7
2	Grilled Bacon	53.5
3	Orange Juice	47.1
4	Ham or Cheese Omelet	44.5
5	Eggs to Order	40.0
6	Toast	38.1
7	Hash Brown Potatoes	36.8
8	Chilled Butter	33.5
9	Cold Cereal	30.3
10.5	Assorted Fruits	24.5
10.5	Hot Coffee	24.5
12	Grilled Sausage	23.2
13	Hot Cocoa	18.7
14.5	Assorted Pastries	18.1
14.5	French Toast	18.1
16	Syrup	17.4
17	Creamed Beef	15.5
18	Assorted Jams & Jellies	14.2
19	Griddle Cakes	12.3
20	Other Juices	11.6
21.5	Hard Boiled Eggs	8.4
21.5	Tomato Juice	8.4
23	Nonfat Milk	7.7
24	Farina	4.5
25.5	Oatmeal	.6
25.5	Tea	.6