Report on the Analysis of the NFSMI School Foodservice Survey Data: 2003 Update

National Food Service Management Institute
The University of Mississippi

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National Food Service Management Institute
The University of Mississippi

Building the Future Through Child Nutrition

PURPOSE

The National Food Service Management Institute (NFSMI) was authorized by Congress in 1989 and established in 1990 at The University of Mississippi in Oxford. The Institute operates under a grant agreement with the United States Department of Agriculture, Food and Nutrition Service.

The purpose of NFSMI is to improve the operation of Child Nutrition Programs through research, education and training, and information dissemination. The Administrative Offices and Divisions of Technology Transfer and Education and Training are located in Oxford. The Division of Applied Research is located at The University of Southern Mississippi in Hattiesburg.

MISSION

The mission of the National Food Service Management Institute is to provide information and services that promote the continuous improvement of Child Nutrition Programs.

VISION

The vision of the National Food Service Management Institute is to be the leader in providing education, research, and resources to promote excellence in Child Nutrition Programs.

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REPORT ON THE ANALYSIS OF THE NFSMI SCHOOL FOODSERVICE SURVEY DATA: 2003 UPDATE

EXECUTIVE SUMMARY

In 1995 the Applied Research Division of the National Food Service Management Institute initiated development of a series of school foodservice surveys. Since 1995, a series of five surveys have been developed to assist school foodservice directors assess the satisfaction of their customers. They are as follows:

- High School Foodservice Survey (Meyer, Conklin, & Carr, 1997)
- Middle/Junior High School Foodservice Survey (Meyer, 1998)
- Elementary School Meal Survey (for upper-elementary grade students) (Meyer, 2000)
- Lower-Elementary School Foodservice Survey for Parents (Meyer, 2001)
- Teacher/Administrator School Foodservice Survey (Meyer, 2002)

The Foodservice Analysis and Benchmarking Service (FABS) at The University of Southern Mississippi was created in 1998 in collaboration with the Applied Research Division to provide schools and school districts nationwide with a service for analyzing, interpreting, and reporting results of the surveys. To date, FABS has analyzed surveys for the following:

- 933 high schools
- 250 middle/junior high schools
- 261 upper-elementary schools
- 16 lower-elementary schools
- 12 schools using the teacher/administrator survey

This report is an update of information gathered during 2003 from analyses of the five school foodservice surveys published by the National Food Service Management Institute and analyzed in collaboration with The University of Southern Mississippi.

An effect measure was used to identify differences among schools. This methodology was chosen because it allows the researcher to detect differences among groups with very large sample sizes. The formula used for the effect measure calculation was: *effect size* x *standard deviation = difference of meaning.* Cohen (1969) defined a moderate effect size as a range from 0.20 to 0.33. An effect size of 0.25 was chosen because it is a mid-range moderate effect size. Two or more means with a difference greater than this calculated value were identified as having a *difference of meaning.* For example, using the effect measure 0.25 x (average standard deviation) 1.81 = 0.45, when the overall satisfaction mean for *have a choice* was 3.68 and *have no choice* was 2.93, a difference of meaning was identified. There is a difference of meaning because the difference between 2.93 and 3.68 is greater than 0.45.

The effect measure was applied to schools conducting surveys for the first time from middle/junior high schools, lower-elementary schools, and schools conducting the teacher/administrator survey. Means did not change enough to show a difference of meaning for

high school and upper-elementary school for schools conducting surveys for the first time since analyses reported in January 2002. Also, comparative analysis was conducted on high school, middle/junior high school, and upper-elementary school data to assess differences in scores between schools using the surveys for the first and second time. No differences of meaning were found. Overall, this indicates that enhancements made to school foodservice programs as a result of conducting the survey have not impacted student satisfaction scores.

Databases used in this study included usable surveys with less than six questions answered with "I do not know" that were returned to FABS for analysis. This is FABS standard procedure and was validated during developmental research (Meyer, Conklin, & Carr, 1997; Meyer, 1998; Meyer, 2000; Meyer, 2001; Meyer, 2002). The sizes of the data bases used for analyses are as follows:

- high school 90,820
- middle/junior high school 39,699
- upper-elementary school 24,416
- lower-elementary school (parents) 669
- teacher/administrator 1,074

Significant results for the middle/junior high school indicate that the frequency of eating, feeling they have a choice, and the number of menu choices offered continue to have great impact on how students evaluate the school meals program. When students eat more frequently; students feel they have a choice; and three or more menu choices are offered for meat/meat alternate, fruits/vegetables, and breads/grains, students score overall satisfaction and the attributes of service higher.

Overall, results from the teacher/administrator survey analysis show that elementary teachers/administrators are more satisfied than teachers/administrators from other grade levels. As found with students, the more frequently teachers/administrator's eat lunch, the more highly satisfied they are. Menu choices also influenced teachers/administrators evaluation of school meals. Teachers/administrators scored variables higher when four meat/meat alternates, five fruits/vegetables, and four bread/grain choices were offered. The most frequent lunch break category reported was 21-30 minutes; however, scores for the factors Price and Time were higher when 31-45 minutes were allowed for lunch. Scores were higher for overall satisfaction and the factors Food Preference, Ambiance, and Nutrition when 21-30 minutes were allowed for lunch.

Parents of students in kindergarten through second grade were more satisfied with school foodservice programs when their child ate four to five times per week and à la carte choices were not offered. Parents scored the factor Food Quality and Dining Environment higher when nationally branded concepts were not offered. Choices also were important to this customer group. Scores were highest when two meat/meat alternates, one bread/grain, and five fruit/vegetable choices were offered.

REPORT ON THE ANALYSIS OF THE NFSMI SCHOOL FOODSERVICE SURVEY DATA: 2003 UPDATE

INTRODUCTION

Changes in our society are putting great pressure on Child Nutrition Programs (CNPs) to monitor and respond to changing wants and needs of the student, teacher/administrator, and parent customers. This report is an update of information gathered during 2003 from analyses of the five school foodservice surveys published by the National Food Service Management Institute and analyzed in collaboration with The University of Southern Mississippi. These surveys include: High School Foodservice Survey, Middle/Junior High School Foodservice Survey, Elementary School Meal Survey (for upper-elementary grade students), Lower-Elementary School Foodservice Survey for Parents, and Teacher/Administrator School Foodservice Survey. Schools represented in the data voluntarily subscribed to the Foodservice Analysis and Benchmarking Service (FABS). As a result, these data were used only to identify trends and suggest differences in school categories.

METHOD

All schools participating in FABS completed a school profile detailing operational and demographic school characteristics. This report contains an overview of survey results broken down by school demographic characteristics according to factors identified for each category of school. The demographic characteristics were:

- Average daily attendance
- Number of students served breakfast
- Number of students served lunch
- Economic status
- Frequency of eating lunch
- Choice of eating
- Open or closed campus
- Competitive foods sold during meal service
- Foods portioned by the student
- À la carte items offered
- Nationally branded concepts offered
- Having a Nutrition Advisory Council
- Number of meats/meat alternates available daily
- Number of fruits/vegetables available daily
- Number of breads/grains available daily
- Conventional on-site preparation or satellite preparation

Data analyses for the teacher/administrator survey included the following additional variables:

- Length of lunch break
- Grade taught

- Duty-free lunch

Data analyses by factor for the lower-elementary survey for parents did not include choice of eating because that question was not appropriate for that customer group.

Due to the large sample size, a less powerful statistical methodology was needed to show meaningful differences among categories of variables. Excessive power allows a researcher to declare statistically significant differences among variables that may lack meaningful interpretation. All differences among the variables analyzed were statistically significant, but all differences were not meaningful. As a result, the effect measure methodology was chosen (Cohen, 1969). This method allows the researcher to detect meaningful differences among groups with very large sample sizes. The formula used for the effect measure calculation was: *effect size* x *standard deviation = difference of meaning.* Cohen (1969) defined a moderate effect size as a range from 0.20 to 0.33. An effect size of 0.25 was chosen for this analysis because it represented a mid-range moderate effect size. Two or more means with a difference greater than this calculated value were identified as having a *difference of meaning.* For example, using the effect measure 0.25 x (average standard deviation) 1.81 = 0.45, when the overall satisfaction mean for *have a choice* was 3.68 and *have no choice* was 2.93, a difference of meaning was identified. There is a difference of meaning because the difference between 2.93 and 3.68 is greater than 0.45.

The effect measure was applied only to data from middle/junior high schools, lower-elementary schools, and schools conducting the teacher/administrator survey for the first time. Means did not change enough to show a difference of meaning for high schools and upper-elementary schools conducting the survey for the first time since the previous January 2002 report. Also, comparative analysis was conducted on high school, middle/junior high school, and upper-elementary school data to assess differences in scores between schools using the surveys for the first and second time. No differences of meaning were found. Overall, this indicates that if any changes or enhancements were made to school foodservice programs as a result of conducting the survey, they have not impacted student satisfaction scores.

RESULTS

Middle/Junior High School Foodservice Survey Results

Analyses of the middle/junior high school data showed a difference of meaning within the variables:

- Average daily attendance
- Number of students served breakfast
- Number of students served lunch
- Economic status
- Frequency of eating lunch
- Choice of eating
- À la carte sales
- Number of meats/meat alternates available daily
- Number of fruits/vegetables available daily

- Number of breads/grains available daily

No difference of meaning was found within the variables:
- Open or closed campus
- Competitive foods sold during meal service
- Foods portioned by the student
- Nationally branded concepts offered
- Having a Nutrition Advisory Council
- Conventional on-site preparation or satellite preparation

Mean scores and standard deviation for overall satisfaction and the middle/junior high school factors of Food Quality, Ambiance, Price, Staff, and Time are shown in Table 1. Tables supporting each demographic characteristic where data showed differences of meaning are found in Appendix A.

Table 1

Middle/Junior High School Foodservice Survey Descriptive Statistics

Variables	**N**	**Mean** [a]	**Standard deviation**
Overall satisfaction	31752	3.83	1.75
Food Quality	40919	3.45	1.46
Ambiance	40918	4.17	1.41
Price	39772	3.58	1.93
Staff	40860	4.26	1.75
Time	40756	3.20	1.97

[a] 1 = strongly disagree and 7 = strongly agree

Average daily attendance

In schools with fewer than 100 students, overall satisfaction and the factor Food Quality scored lowest and the factor Time highest. Differences of meaning were shown for these variables with schools of larger size. As the size of the school increased, the score for the factor Ambiance decreased. The score for the factor Price was highest in schools with an average daily attendance of 100-199. Too many differences of meaning were found in the factor Staff to identify trends.

Number served breakfast

The score for the factor Price was highest in schools that served breakfast to 200-399 students and a difference of meaning was found between schools serving fewer than 100 students. The factor Staff had the highest score in schools serving 200-399 with a difference of meaning from schools serving 400-599 students.

Number served lunch

Too many differences of meaning were found to identify trends for overall satisfaction and the factor Food Quality. Scores for Ambiance and Price were lowest in schools with fewer than 100 students served lunch with a difference of meaning found between other categories. The factor Staff had the lowest score in schools serving between 800-999 and a difference of meaning from schools serving fewer than 800. The highest score for the factor Staff was found in the category of fewer than 100 students. Surprisingly, the factor Time was highest for schools serving over 1,000 students and difference of meaning was found with other categories.

Economic status

Overall satisfaction and the factors Food Quality, Ambiance, Price, Staff, and Time all showed differences of meaning; however, too many differences were found to identify trends.

Frequency of eating lunch

Students who ate 3-5 times per week scored overall satisfaction and the factors Food Quality, Ambiance, Price, and Staff higher than students who never ate or ate 1-2 times per week. A difference of meaning was found for these variables between the three categories.

À la carte

The factors Ambiance and Staff had higher scores with a difference of meaning when no à la carte foods were offered.

Have a choice

Overall satisfaction and the factor Food Quality scored highest with a difference of meaning when students felt they had a choice of eating school meals.

Number of meat/meat alternates available daily

When only one choice of meat/meat alternates was offered, scores for overall satisfaction and the factors Food Quality, Ambiance, Price, and Staff were lowest and a difference of meaning was found from most other categories of choices. Scores for overall satisfaction and the factors Food Quality and Ambiance were highest when three choices were offered. For the factor Price, the score was highest when five choices were offered. When two choices were offered, the score for the factor Time was highest.

Number of fruits/vegetables available daily

Scores for overall satisfaction and the factors Food Quality, Ambiance, Price, and Staff were lowest when only one choice was offered with a difference of meaning from other categories of choices. When six choices were offered, scores were highest for overall satisfaction and the

factors Food Quality and Staff. The factor Ambiance was highest when three choices were offered and the factor Price when two choices were offered.

Number of breads/grains available daily

The factor Ambiance had the highest score when three choices of breads/grains were offered and lowest when four choices were offered. A difference of meaning was found between the categories of two and three choices. Scores were highest for the factor Price when five choices were offered and lowest when four choices were offered. A difference of meaning was found between the categories of two and five choices. When two choices were offered, the scores for the factor Staff was highest and lowest when four choices were offered. A difference of meaning was found between categories of two, three, and five choices. The factor Time was highest when five choices were offered and lowest when six choices were offered with a difference of meaning between categories of two and five choices.

Teacher/Administrator Foodservice Survey Results

Analyses of teacher/administrator data showed a difference of meaning within the variables:

- Average daily attendance
- Number of students served breakfast
- Number of students served lunch
- Frequency of eating lunch
- Open or closed campus
- Competitive foods sold during meal service
- Foods portioned by the student
- À la carte sales
- Nationally branded concepts offered
- Having a Nutrition Advisory Council
- Number of meats/meat alternates available daily
- Number of fruits/vegetables available daily
- Number of breads/grains available daily
- Length of lunch break
- Grade taught

No difference of meaning was found within the variables:

- Conventional on-site preparation or satellite preparation
- Duty-free lunch

Mean scores and standard deviation for overall satisfaction and teacher/administrator factors of Food Preference, Ambiance, Price, Staff, Time, and Nutrition are shown in Table 2. Tables supporting each demographic characteristic where data showed differences of meaning are found in Appendix B.

Table 2

Teacher/Administrator Foodservice Survey Descriptive Statistics

Variables	N	Mean [a]	Standard deviation
Overall satisfaction	1046	4.57	2.01
Food Preference	1067	4.44	1.54
Staff	1070	5.46	1.58
Ambiance	1059	5.09	1.25
Price	1071	4.97	1.52
Nutrition	741	3.21	1.83
Time	1071	4.46	1.89

[a] 1 = strongly disagree and 7 = strongly agree

Average daily attendance

In the school category size 200-399, scores were highest for overall satisfaction and the factors Food Preference, Price, and Nutrition. Although differences of meaning were identified for these variables, the differences were too numerous to identify trends. The high score for these variables and the difference of meaning may be due to the small sample size in the school size of 200-399 students.

Number served breakfast and number served lunch

Differences of meaning were found for overall satisfaction, and the factors Food Preference, Ambiance, Price, Staff, Time, and Nutrition; however, differences were too numerous to identify trends.

Frequency of eating lunch

Scores were highest when teachers/administrators ate lunch 3-5 times per week, for overall satisfaction and the factors Food Preference, Ambiance, Price, Staff, Time, and Nutrition. Differences of meaning were found among the categories. These findings are consistent with findings from the student surveys.

Open or closed campus

Scores were highest when campuses were closed for overall satisfaction and the factors Ambiance, Prices, and Staff with differences of meaning.

Competitive foods

When competitive foods were offered scores were higher for overall satisfaction and the factors Food Preference, Price, Staff, and Nutrition with a difference of meaning.

Food portioned by students

Scores for the factor Ambiance were higher with a difference of meaning when food was not portioned by the students.

À la carte

The factor scores for Nutrition were highest with a difference of meaning when no à la carte foods were offered.

National brands

When national brands were offered scores for the factor Food Preference were highest with a difference of meaning.

Nutrition Advisory Council

When no Nutrition Advisory Council was functioning in the school scores for overall satisfaction and the factors Food Preference, Staff, and Nutrition were higher with a difference of meaning.

Number of meat/meat alternates available daily

Scores were highest when four choices of meat/meat alternates were offered for overall satisfaction and the factors Food Preference, Ambiance, Price, Staff, and Time with differences of meaning noted in each variable; however, too many differences were noted to identify trends. Scores for the factor Nutrition were higher when five choices were offered with numerous differences of meaning.

Number of fruits/vegetables available daily

When five choices of fruits/vegetables were offered, scores for overall satisfaction and the factors Ambiance, Price, Staff, Time, and Nutrition were highest with differences of meaning. However, this may be due to a small sample size.

Number of breads/grains available daily

Overall satisfaction and factors Food Preference, Ambiance, Price, Staff, Time, and Nutrition scores were highest when four choices were offered in this menu category. Numerous differences of meaning were noted, and no trends could be identified.

Length of lunch break

The most frequently identified length of lunch was 21-30 minutes. Scores were highest when lunch was 21-30 minutes for overall satisfaction and the factors Food Preference, Ambiance, and Nutrition with numerous differences of meaning. The scores for the factors Price and Time were highest in the 31-45 minute lunch category with numerous differences of meaning noted.

Grade taught

Elementary school teachers scored overall satisfaction and the factors Food Preference, Price, Staff, Time, and Nutrition higher than teachers/administrators of other grade categories with differences of meaning between the three categories. Differences of meaning were found between middle/junior high school and high school teachers/administrators for the factor Price and between middle/junior high school and elementary school teachers/administrators for the factor Time.

Lower-Elementary School Foodservice Survey for Parents

Analyses of the parent survey data showed a difference of meaning within the variables:

- Average daily attendance
- Number of students served breakfast
- Number of students served lunch
- Economic status
- Frequency of eating lunch
- Open or closed campus
- Competitive foods sold during meal service
- Foods portioned by the student
- À la carte items offered
- Nationally branded concepts offered
- Number of meat/meat alternates available daily
- Number of fruits/vegetables available daily
- Number of breads/grains available daily

No difference of meaning was found within the variables:

- Having a Nutrition Advisory Council
- Conventional on-site preparation or satellite preparation

Mean scores and standard deviation for the lower-elementary school survey for parents for overall satisfaction and factors Food Quality, Environment, and Knowledge are shown in Table 3. Tables supporting each demographic characteristic where data showed differences of meaning are found in Appendix C.

Table 3

Lower-Elementary School Foodservice Survey for Parents
Descriptive Statistics

Variables	N	Mean [a]	Standard deviation
Overall satisfaction	927	5.08	1.70
Food Quality	950	5.01	1.30
Dining Environment	950	5.07	1.21
Knowledge	949	5.34	1.61

[a] 1 = strongly disagree and 7 = strongly agree

Average daily attendance

Overall satisfaction and the factors Food Quality and Knowledge were impacted by average daily attendance. The schools in the category of 800-999 students (n=12) had the lowest score with a difference of meaning. However, this represented only one school with 12 returned surveys and trends could not be identified due to the small sample size.

Number served breakfast

The only difference of meaning was found in the factor Knowledge. Within the factor a difference of meaning was found between the schools with fewer than 100 students and those with 100-199 and between schools with 100-199 students and those with 400-599.

Number served lunch

A difference of meaning was found between the category of 100-199 and 200-399 for overall satisfaction and 100-199 and 400-599 for overall satisfaction and the factor Food Quality. The schools serving 400-599 students lunch had the highest score for overall satisfaction and the factor Food Quality.

Economic status

When schools served 21-30% of the students free, scores for overall satisfaction and the factor Food Quality showed a difference of meaning from schools that served either more or fewer free. The factor Dining Environment had a difference of meaning for the category 51-60% free from all of the other categories. Within the factor Knowledge, the category of 41-50% free had a difference of meaning from other categories.

Frequency of eating lunch

A difference of meaning was found between categories of none, 1-3 times, and 4-5 times per week for overall satisfaction and the factors Food Quality and Dining Environment. The more

frequently a student ate lunch, the higher the scores. This is consistent with data from other school foodservice surveys.

Open or closed campus

Whether the campus was open or closed impacted both overall satisfaction and the factor Food Quality. When the campus was open, parents scored overall satisfaction and the factor Food Quality higher with a difference of meaning.

Competitive foods

The factor Food Quality was impacted when competitive foods were available. Parents scored this factor higher with a difference of meaning when competitive foods were offered.

Food portioned by student

Overall satisfaction and the factor Food Quality scored higher with a difference of meaning when students were able to portion some of the foods offered.

À la carte

Scores were higher with a difference of meaning for overall satisfaction, and the factors Food Quality, and Dining Environment when à la carte was not offered.

National brands

When national brands were not offered, scores were higher with a difference of meaning for the factors Food Quality and Dining Environment.

Number of meat/meat alternates available daily

When only two entrée choices were offered, parents evaluated overall satisfaction and the factor Food Quality higher with a difference of meaning. However, scores for the factor Knowledge was highest when four choices were offered with a difference of meaning between two and four choices.

Number of fruits/vegetables available daily

In the category of fruits and vegetables, overall satisfaction and the factors Food Quality, Dining Environment, and Knowledge all scored highest when five choices were offered. Differences of meaning were too numerous to identify trends in this category.

Number of breads/grains available daily

In the breads and grains category, scores were highest for overall satisfaction and the factor Food Quality when only one category was offered. A difference of meaning was found between one

and three choices and two and three choices but not one and two choices. The factor Dining Environment was highest when two choices were offered with a difference of meaning between one and three choices and two and three choices. Scores for the factor Knowledge was highest for three choices and a difference of meaning between one and three choices and two and three choices.

CONCLUSION

Significant results for the middle/junior high school indicate that the frequency of eating, feeling they have a choice, and the number of menu choices offered continue to have great impact on how students evaluate school meals programs. When students eat more frequently, feel they have a choice of eating, and three or more menu choices are offered for meat/meat alternates, fruits/vegetables, and breads/grains, students score overall satisfaction and the attributes of service higher.

Results from the teacher/administrator analysis show that for all variables elementary teachers/administrators are more satisfied than teachers/administrators in other grade categories. As found with students, the more frequently teachers/administrators eat lunch, the more highly satisfied they are. Also, menu choices influenced teachers/administrators' evaluation of school meals. Teachers/administrators scored variables higher when four meat/meat alternates, five fruits/vegetables, and four bread/grain choices were offered. The most frequently reported lunch break category was 21-30 minutes; however, scores for the factors Price and Time were higher when 31-45 minutes were allowed for lunch. Scores were higher for overall satisfaction and the factors Food Preference, Ambiance, and Nutrition when 21-30 minutes were allowed for lunch.

Parents of students in kindergarten through second grade were more satisfied with school foodservice programs when their child ate four to five times per week and à la carte choices were not offered. Parents scored the factor Food Quality and Dining Environment higher when nationally branded products were not offered. Choices also were important to this customer group. Scores were highest when two meat/meat alternates, one bread/grain, and five fruit/vegetable choices were offered.

RECOMMENDATIONS

- To maintain financial stability and increase student, teacher/administrator, and parent satisfaction, school foodservice and nutrition programs should closely monitor customers' perceptions of food and services offered.

- Choices are an important attribute of service to the child, parent, and teacher/administrator customer of school nutrition programs. Schools offering limited choices should evaluate their operation and investigate ways to increase opportunities for students to make choices in school meals.

- CNP professionals should market their program to customers presently not participating. Data show that the more frequently a customer participates in the school meals program the higher the satisfaction scores.

- Individual schools should not use results of these analyses for routine decision making. Schools desiring to make changes based on customers' wants and needs should first determine the wants and needs of their student, teacher/administrator, and parent customers and use national, state, or regional averages as benchmarks.

REFERENCES

Cohen, J. (1969). *Statistical power analysis for the behavioral sciences*. New York: Academic Press.

Meyer, M. K., Conklin, M. T., & Carr, D. (1997). *High school foodservice survey*. University, MS: National Food Service Management Institute.

Meyer, M. K. (1998). *Middle/junior high school foodservice survey*. University, MS: National Food Service Management Institute.

Meyer, M. K. (2000). *Elementary school survey report*. University, MS: National Food Service Management Institute.

Meyer, M. K. (2001). *Report on the parent school foodservice survey*. University, MS: National Food Service Management Institute.

Meyer, M. K. (2002). *Report on teacher/administrator survey.* University, MS: National Food Service Management Institute.

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APPENDIX A

Middle/Junior High School Foodservice Survey Results

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Appendix A

Middle/Junior High School Foodservice Survey Results

All tables represent variables with difference of meaning

Average daily attendance

Overall satisfaction

Average daily attendance	Mean	N	Standard deviation
<100	3.41[abcd]	168	1.71
100-199	4.03[ae]	176	1.90
200-399	3.67	2948	1.82
400-599	3.92[b]	6442	1.79
600-799	3.86[c]	11838	1.70
800-999	3.51[e]	3449	1.74
>1,000	3.91[d]	6279	1.73

Effect measure (1.75 x .25 = .44)
[abcde] Difference of meaning

Food Quality

Average daily attendance	Mean	N	Standard deviation
<100	3.10[abc]	199	1.55
100-199	3.58[ad]	253	1.75
200-399	3.39	3696	1.57
400-599	3.53[b]	8023	1.52
600-799	3.48[c]	15416	1.42
800-999	3.17[d]	4486	1.38
>1,000	3.43	8162	1.44

Effect measure (1.46 x .25 = .37)
[abcd] Difference of meaning

Ambiance

Average daily attendance	Mean	N	Standard deviation
<100	4.23[a]	199	1.45
100-199	4.44[fb]	253	1.73
200-399	4.28[c]	3696	1.40
400-599	4.41[dg]	8023	1.43
600-799	4.24[e]	15416	1.38
800-999	3.74[abcde]	4485	1.38
>1,000	3.94[gf]	8162	1.40

Effect measure (1.41 x .25 = .35)
[abcdefg] Difference of meaning

Price

Average daily attendance	Mean	N	Standard deviation
<100	3.33[a]	199	1.95
100-199	4.03[abc]	247	2.21
200-399	3.67	3541	2.00
400-599	3.71	7824	1.98
600-799	3.62	14878	1.89
800-999	3.28[b]	4374	1.91
>1,000	3.45[c]	8036	1.85

Effect measure (1.92 x .25 = .48)
[abcd] Difference of meaning

Staff

Average daily attendance	Mean	N	Standard deviation
<100	4.76[abc]	199	1.78
100-199	5.22[adefgh]	253	1.83
200-399	4.57[jid]	3690	1.74
400-599	4.50[ke]	8013	1.82
600-799	4.32[f]	15389	1.71
800-999	3.76[bgik]	4482	1.70
>1,000	3.92[hj]	8151	1.68

Effect measure (1.75 x .25 = .44)
[abcdefghijk] Difference of meaning

Time

Average daily attendance	Mean	N	Standard deviation
<100	3.85[abcde]	196	2.07
100-199	3.42	252	2.00
200-399	3.20[a]	3681	2.04
400-599	3.25[b]	7992	2.00
600-799	3.26[c]	15362	1.97
800-999	3.03[d]	4468	1.92
>1,000	3.03[e]	8122	1.91

Effect measure (1.97 x .25 = .49)
[abcde] Difference of meaning

Number served breakfast

Price

Eat breakfast	Mean	N	Standard deviation
<100	3.45[a]	23889	1.90
100-199	3.71	10432	1.92
200-399	4.00[a]	2644	2.05
400-599	3.86	1292	2.03

Effect measure (1.92 x .25 = .48)
[a] Difference of meaning

Staff

Eat breakfast	Mean	N	Standard deviation
<100	4.18	24328	1.76
100-199	4.38	10781	1.70
200-399	4.45[a]	2771	1.72
400-599	3.95[a]	1452	1.75

Effect measure (1.75 x .25 = .44)
[a] Difference of meaning

Number served lunch

Overall satisfaction

Eat lunch	Mean	N	Standard deviation
<100	3.10[abcdef]	489	1.72
100-199	3.97[ag]	2473	1.76
200-399	3.90[bh]	12076	1.71
400-599	3.72[ci]	11000	1.79
600-799	3.74[dj]	3657	1.67
800-999	3.86[ke]	1028	1.79
>1,000	4.53[fghijk]	577	1.54

Effect measure (1.75 x .25 = .44)
[abcdefghijk] Difference of meaning

Food Quality

Eat lunch	Mean	N	Standard deviation
<100	2.79[abcdef]	646	1.49
100-199	3.57[ag]	2955	1.55
200-399	3.47[bh]	15444	1.45
400-599	3.38[ic]	14276	1.44
600-799	3.37[dj]	4831	1.41
800-999	3.49[ek]	1408	1.44
>1,000	4.09[fghijk]	675	1.30

Effect measure (1.46 x .25 = .37)
[abcdefghijk] Difference of meaning

Ambiance

Eat lunch	Mean	N	Standard deviation
<100	3.89[abcd]	646	1.48
100-199	4.38[aef]	2955	1.43
200-399	4.29[b]	15443	1.39
400-599	4.09[c]	14276	1.43
600-799	4.02[de]	4831	1.36
800-999	3.74[fg]	1408	1.41
>1,000	4.19[g]	675	1.36

Effect measure (1.41 x .25 = .35)
[abcdefg] Difference of meaning

Price

Eat lunch	Mean	N	Standard deviation
<100	3.11[abc]	627	1.89
100-199	3.56	2898	1.88
200-399	3.61[a]	14941	1.90
400-599	3.54	13928	1.96
600-799	3.52	4656	1.90
800-999	3.65[b]	1382	1.92
>1,000	4.00[c]	667	1.85

(Effect measure (1.92 x .25 = .48)
[abc] Difference of meaning

Staff

Eat lunch	Mean	N	Standard deviation
<100	4.32[a]	645	1.78
100-199	4.51[b]	2949	1.82
200-399	4.39[c]	15417	1.75
400-599	4.12[d]	14260	1.76
600-799	4.09	4825	1.69
800-999	3.70[abce]	1406	1.68
>1,000	4.62[de]	675	1.57

Effect measure (1.75 x .25 = .44)
[abcde] Difference of meaning

Time

Eat lunch	Mean	N	Standard deviation
<100	3.08[a]	641	2.00
100-199	3.28[b]	2944	1.97
200-399	3.22[c]	15382	1.98
400-599	3.17[d]	14221	1.98
600-799	2.98[e]	4809	1.90
800-999	3.17[f]	1404	1.98
>1,000	4.07[abcdef]	672	2.01

Effect measure (1.97 x .25 = .49)
[abcdef] Difference of meaning

Economic status

Overall satisfaction

% Free	Mean	N	Standard deviation
<10	4.01[afm]	408	1.87
11-20	4.12[bgn]	1906	1.76
21-30	4.19[cho]	1733	1.51
31-40	3.84[i]	1859	1.73
41-50	4.02[djp]	2004	1.68
51-60	3.69[k]	1346	1.82
61-70	3.43[abcde]	1633	1.65
71-80	3.88[el]	469	1.65
81-90	3.26[fghijkl]	1540	1.63
91-100	3.51[mnop]	2512	1.78

Effect measure (1.75 x .25 = .43)
[abcdefghijklmnop] Difference of meaning

Food Quality

% Free	Mean	N	Standard deviation
<10	3.90[abcdnir]	437	1.61
11-20	3.62[ejq]	2219	1.52
21-30	3.64[fkp]	2356	1.35
31-40	3.36[al]	2439	1.44
41-50	3.53[bgm]	2685	1.43
51-60	3.29[cn]	1617	1.48
61-70	3.08[defg]	2253	1.44
71-80	3.42[ho]	601	1.47
81-90	2.89[ijklmno]	2109	1.32
91-100	3.18[pqr]	3371	1.42

Effect measure (1.45 x .25 = .36)
[abcdefghijklmnopqr] Difference of meaning

Ambiance

% Free	Mean	N	Standard deviation
<10	4.58[abdhjq]	437	1.39
11-20	4.56[ceikr]	2218	1.38
21-30	4.36[fls]	2356	1.33
31-40	4.13[amt]	2439	1.34
41-50	4.31[gnu]	2685	1.39
51-60	4.10[bco]	1617	1.40
61-70	3.92[defg]	2253	1.41
71-80	4.02[hivp]	601	1.60
81-90	3.61[jklmnop]	2109	1.39
91-100	3.74[qrstuv]	3371	1.46

Effect measure (1.43 x .25 = .36)
[abcdefghijklmnopqrst] Difference of meaning

Price

% Free	Mean	N	Standard deviation
<10	3.58[bce]	434	2.01
11-20	3.78[acdf]	2193	1.90
21-30	3.29[a]	2340	1.74
31-40	3.50	2413	1.85
41-50	3.49[g]	2649	1.82
51-60	3.04[b]	1605	1.88
61-70	3.32	2202	1.86
71-80	3.22[d]	596	1.98
81-90	2.95[efg]	2057	1.83
91-100	3.37	3313	1.98

Effect measure (1.88 x .25 = .47)
[abcdefg] Difference of meaning

Staff

% Free	Mean	N	Standard deviation
<10	5.40[abcdefhiq]	437	1.61
11-20	4.54[agj]	2214	1.74
21-30	4.12[kb]	2354	1.66
31-40	4.16[lc]	2436	1.75
41-50	4.22[md]	2678	1.69
51-60	4.27[ne]	1614	1.74
61-70	3.96[fgo]	2252	1.78
71-80	4.07[h]	600	1.88
81-90	3.33[ijklmnop]	2108	1.67
91-100	4.12[qp]	3365	1.77

Effect measure (1.77 x .25 = .44)
[abcdefghijklmnopq] Difference of meaning

Time

% Free	Mean	N	Standard deviation
<10	3.80[adefijm]	437	2.04
11-20	3.45[bgk]	2215	2.03
21-30	3.47[chl]	2348	1.94
31-40	2.89[abc]	2429	1.84
41-50	3.14[d]	2671	1.90
51-60	3.18[e]	1613	1.98
61-70	2.73[fgh]	2247	1.84
71-80	3.07[i]	599	1.98
81-90	2.87[jkl]	2101	1.89
91-100	3.03[m]	3354	1.94

Effect measure (1.94 x .25 = .49)
[abcdefghijklm] Difference of meaning

Frequency of eating lunch

Overall satisfaction

Eat lunch per week	Mean	N	Standard deviation
None	3.02[ab]	3745	1.85
1-2 times	3.47[ca]	5465	1.68
3-5 times	4.08[cb]	20942	1.68

Effect measure (1.75 x .25 = .44)
[abc] Difference of meaning

Food Quality

Eat lunch per week	Mean	N	Standard deviation
None	2.65[ab]	4844	1.47
1-2 times	3.06[ac]	6987	1.37
3-5 times	3.70[bc]	26645	1.40

Effect measure (1.46 x .25 = .37)
[adc] Difference of meaning

Ambiance

Eat lunch per week	Mean	N	Standard deviation
None	3.75[a]	4844	1.50
1-2 times	3.95[b]	6987	1.41
3-5 times	4.32[ab]	26644	1.37

Effect measure (1.41 x .25 = .35)
[ab] Difference of meaning

Price

Eat lunch per week	Mean	N	Standard deviation
None	3.24[a]	4669	1.93
1-2 times	3.25[b]	6794	1.83
3-5 times	3.74[ab]	25904	1.93

Effect measure (1.93 x .25 = .48)
[ab] Difference of meaning

Staff

Eat lunch per week	Mean	N	Standard deviation
None	3.74[a]	4802	1.85
1-2 times	3.98[b]	6983	1.73
3-5 times	4.43[ab]	26632	1.71

Effect measure (1.75 x .25 = .44)
[ab]Difference of meaning

Have a choice

Overall satisfaction

Choice	Mean	N	Standard deviation
No	3.43	10171	1.65
Yes	4.02	21581	1.76

Effect measure (1.75 x .25 = .44)

Food Quality

Choice	Mean	N	Standard deviation
No	3.07	13134	1.28
Yes	3.63	27785	1.51

Effect measure (1.46 x .25 = .37)

À la carte sales

Ambiance

À la carte	Mean	N	Standard deviation
No	4.50	3814	1.37
Yes	4.13	36358	1.41

Effect measure (1.41 x .25 = .35)

Staff

À la carte	Mean	N	Standard deviation
No	4.66	3812	1.69
Yes	4.20	36303	1.75

Effect measure (1.75 x .25 = .44)

Number of meat/meat alternates available daily

Overall satisfaction

Meat/ meat alt.	Mean	N	Standard deviation
1	3.03[abcde]	1510	1.77
2	3.81[a]	7393	1.85
3	4.06[b]	4329	1.73
4	3.75[c]	10153	1.72
5	4.00[d]	3087	1.67
6	3.87[e]	3351	1.67

Effect measure (1.76 x .25 = .44)

[abcde] Difference of meaning

Food Quality

Meat/ meat alt.	Mean	N	Standard deviation
1	2.68[abcde]	1946	1.42
2	3.58[a]	8927	1.47
3	3.61[b]	5774	1.47
4	3.34[c]	13386	1.43
5	3.52[d]	3828	1.43
6	3.39[e]	4389	1.42

Effect measure (1.46 x .25 = .37)
[abcde] Difference of meaning

Ambiance

Meat/ meat alt.	Mean	N	Standard deviation
1	3.75[abcde]	1946	1.49
2	4.32[a]	8927	1.39
3	4.38[b]	5774	1.38
4	4.04[c]	13386	1.43
5	4.23[d]	3828	1.40
6	4.06[e]	4388	1.38

Effect measure (1.42 x .25 = .36)
[abcde] Difference of meaning

Price

Meat/ meat alt.	Mean	N	Standard deviation
1	3.42[abc]	1759	2.06
2	3.79[a]	8529	1.99
3	3.72	5699	1.90
4	3.34[b]	13191	1.89
5	4.02[c]	3631	1.88
6	3.41	4341	1.82

Effect measure (1.42 x .25 = .36)
[abc] Difference of meaning

Staff

Meat/ meat alt.	Mean	N	Standard deviation
1	3.82[abd]	1937	1.85
2	4.51[ad]	8920	1.74
3	4.51[be]	5758	1.68
4	3.99[ce]	13374	1.76
5	4.37[c]	3820	1.74
6	4.15	4383	1.69

Effect measure (1.76 x .25 = .44)
[abcde] Difference of meaning

Time

Meat/ meat alt.	Mean	N	Standard deviation
1	3.16	1936	2.08
2	3.34[a]	8887	2.04
3	3.33[b]	5751	1.97
4	3.12	13332	1.94
5	3.25	3815	1.99
6	2.83[ab]	4376	1.84

Effect measure (1.97 x .25 = .49)
[ab] Difference of meaning

Number of fruits/vegetables available daily

Overall satisfaction

Fruits/veg.	Mean	N	Standard deviation
1	2.11[abcde]	228	1.42
2	3.80[a]	4343	1.80
3	3.95[b]	6917	1.69
4	3.73[c]	10464	1.77
5	3.73[d]	3637	1.72
6	4.01[e]	5517	1.70

Effect measure (1.75 x .25 = .44)
[abcde] Difference of meaning

Food Quality

Fruits/veg.	Mean	N	Standard deviation
1	1.76[abcde]	244	0.94
2	3.43[a]	5479	1.52
3	3.51[b]	8891	1.42
4	3.38[c]	13498	1.44
5	3.38[d]	4767	1.49
6	3.56[e]	7063	1.44

Effect measure (1.46 x .25 = .37)
[abcde] Difference of meaning

Ambiance

Fruits/veg.	Mean	N	Standard deviation
1	3.17[abcde]	244	1.33
2	4.15[a]	5479	1.46
3	4.33[b]	8891	1.36
4	4.03[c]	13498	1.43
5	4.15[d]	4767	1.43
6	4.29[e]	7062	1.36

Effect measure (1.42 x .25 = .36)
[abcde] Difference of meaning

Price

Fruits/veg.	Mean	N	Standard deviation
1	3.10[abcd]	167	2.09
2	3.80[a]	5254	1.96
3	3.60[b]	8652	1.86
4	3.41	13256	1.91
5	3.62[c]	4558	1.95
6	3.71[d]	6920	1.95

Effect measure (1.93 x .25 = .48)
[abcde] Difference of meaning

Staff

Fruits/veg.	Mean	N	Standard deviation
1	3.57[abcde]	240	1.78
2	4.21[a]	5469	1.83
3	4.45[b]	8874	1.69
4	4.07[c]	13484	1.75
5	4.07[d]	4761	1.76
6	4.51[e]	7056	1.70

Effect measure (1.75 x .25 = .44)
[abcde] Difference of meaning

Number of breads/grains available daily

Ambiance

Breads/grains	Mean	N	Standard deviation
1	4.15	4365	1.40
2	4.28[a]	9741	1.40
3	4.33[b]	9995	1.37
4	3.91[ab]	9030	1.44
5	4.16	4486	1.41
6	4.05	2324	1.42

Effect measure (1.42 x .25 = .36)
[ab] Difference of meaning

Price

Breads/grains	Mean	N	Standard deviation
1	3.60	4116	1.91
2	3.70[a]	9396	1.95
3	3.64	9841	1.90
4	3.21[ab]	8878	1.89
5	3.92[b]	4269	1.94
6	3.57	2307	1.82

Effect measure (1.93 x .25 = .48)
[ab] Difference of meaning

Staff

Breads/grains	Mean	N	Standard deviation
1	4.28	4358	1.78
2	4.43[a]	9727	1.74
3	4.42[b]	9978	1.71
4	3.87[abc]	9022	1.75
5	4.28[c]	4480	1.75
6	4.08	2319	1.70

Effect measure (1.75 x .25 = .44)
[abc] Difference of meaning

Time

Breads/grains	Mean	N	Standard deviation
1	3.09	4350	2.00
2	3.33[a]	9691	1.99
3	3.19[b]	9963	1.94
4	3.13	8989	1.96
5	3.41[c]	4468	2.03
6	2.64[abc]	2320	1.76

Effect measure (1.97 x .25 = .49)
[abc] Difference of meaning

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APPENDIX B

Teacher/Administrator School Foodservice Survey Results

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Appendix B

Teacher/Administrator School Foodservice Survey Results

All tables represent variables with difference of meaning

Average daily attendance

Overall satisfaction

Average daily attendance	Mean	N	Standard deviation
200-399	6.25[abcd]	8	0.70
400-599	4.80[a]	89	1.64
600-799	4.64[b]	259	2.12
800-999	4.34[c]	241	2.03
>1,000	4.52[d]	380	2.05

Effect measure (2.03 x .25 = .51)
[abcd] Difference of meaning

Food Preference

Average daily attendance	Mean	N	Standard deviation
200-399	5.95[abcd]	8	0.75
400-599	4.34[a]	88	1.29
600-799	4.65[b]	265	1.66
800-999	4.31[c]	249	1.53
>1,000	4.35[d]	387	1.56

Effect measure (1.56 x .25 = .39)
[abcd] Difference of meaning

Price

Average daily attendance	Mean	N	Standard deviation
200-399	5.82[abcd]	8	0.81
400-599	4.98[a]	90	1.30
600-799	4.92[b]	265	1.62
800-999	4.73[c]	249	1.55
>1,000	5.13[d]	388	1.48

Effect measure (1.52 x .25 = .38)
[abcd] Difference of meaning

Staff

Average daily attendance	Mean	N	Standard deviation
200-399	6.88[abcd]	8	0.35
400-599	5.80[aef]	90	1.11
600-799	5.44[b]	265	1.58
800-999	5.36[ce]	249	1.63
>1,000	5.31[df]	388	1.68

Effect measure (1.60 x .25 = .40)
[abcdef] Difference of meaning

Time

Average daily attendance	Mean	N	Standard deviation
200-399	5.75[abcd]	8	1.07
400-599	4.68[ae]	90	1.51
600-799	4.77[bf]	265	1.84
800-999	3.89[cefg]	248	1.93
>1,000	4.52[dg]	389	1.94

Effect measure (1.90 x .25 = .48)
[abcdefg] Difference of meaning

Nutrition

Average daily attendance	Mean	N	Standard deviation
200-399	4.72[abcd]	6	1.89
400-599	3.45[a]	55	1.52
600-799	3.50[b]	177	1.98
800-999	3.21[c]	178	1.84
>1,000	3.04[d]	290	1.74

Effect measure (1.83 x .25 = .46)
[abcd] Difference of meaning

Number served breakfast

Overall satisfaction

Eat breakfast	Mean	N	Standard deviation
<100	5.10[abc]	379	1.72
100-199	3.76[a]	46	1.57
200-399	4.02[bd]	405	2.09
400-599	4.85[cd]	216	2.11

Effect measure (2.01 x .25 = .50)
[abcd] Difference of meaning

Food Preference

Eat breakfast	Mean	N	Standard deviation
<100	4.88[ab]	383	1.27
100-199	4.06[ac]	47	1.08
200-399	4.02[bd]	414	1.64
400-599	4.54[cd]	223	1.64

Effect measure (1.54 x .25 = .39)
[abcd] Difference of meaning

Ambiance

Eat breakfast	Mean	N	Standard deviation
<100	5.19[a]	379	1.15
100-199	4.86[a]	47	0.70
200-399	5.05	415	1.32
400-599	5.06	218	1.37

Effect measure (1.25 x .25 = .31)
[a] Difference of meaning

Price

Eat breakfast	Mean	N	Standard deviation
<100	5.07[a]	384	1.33
100-199	3.73[abc]	47	1.23
200-399	4.85[bd]	416	1.60
400-599	5.26[cd]	224	1.59

Effect measure (1.52 x .25 = .38)
[abcd] Difference of meaning

Staff

Eat breakfast	Mean	N	Standard deviation
<100	5.76[a]	383	1.38
100-199	4.28[abc]	47	1.32
200-399	5.19[bd]	417	1.64
400-599	5.69[cd]	223	1.65

Effect measure (1.58 x .25 = .40)
[abcd] Difference of meaning

Time

Eat breakfast	Mean	N	Standard deviation
<100	4.61[a]	385	1.58
100-199	3.98[ab]	47	1.36
200-399	4.25	416	2.02
400-599	4.66[b]	223	2.16

Effect measure (1.89 x .25 = .47)
[ab] Difference of meaning

Nutrition

Eat breakfast	Mean	N	Standard deviation
<100	3.69[ac]	241	1.68
100-199	3.35[b]	36	1.28
200-399	3.01[c]	307	1.90
400-599	2.83[ab]	157	1.89

Effect measure (1.83 x .25 = .46)
[abc] Difference of meaning

Number served lunch

Overall satisfaction

Eat lunch	Mean	N	Standard deviation
100-299	3.54[abcd]	37	2.04
300-399	4.95[af]	319	1.77
400-599	4.36[bfgh]	474	2.14
600-799	4.01[ij]	107	1.98
800-999	5.19[cgi]	42	1.92
1000-4999	5.27[dhj]	67	1.53

Effect measure (2.01 x .25 = .50)
[abcdefghij] Difference of meaning

Food Preference

Eat lunch	Mean	N	Standard deviation
100-299	4.06[abc]	37	1.44
300-399	4.74[ad]	324	1.33
400-599	4.31[efg]	488	1.67
600-799	3.80[dehi]	108	1.49
800-999	4.74[bfh]	44	1.52
1000-4999	5.05[cgi]	66	1.04

Effect measure (1.54 x .25 = .39)
[abcdefghi] Difference of meaning

Ambiance

Eat lunch	Mean	N	Standard deviation
100-299	4.10[abcde]	37	1.05
300-399	5.23[af]	320	1.90
400-599	5.09[bg]	488	1.37
600-799	4.66[cfhi]	109	1.15
800-999	5.75[dgh]	38	0.98
1000-4999	5.34[ei]	67	0.89

Effect measure (1.25 x .25 = .31)
[abcdefghi] Difference of meaning

Price

Eat lunch	Mean	N	Standard deviation
2.00	4.17[abcd]	37	1.38
3.00	4.98[aef]	325	1.47
4.00	5.07[bgh]	489	1.59
5.00	4.30[egjk]	109	1.45
6.00	5.69[cfhjl]	44	1.29
7.00	5.19[dkl]	67	1.04

Effect measure (1.52 x .25 = .38)
[abcdefghijklmnop] Difference of meaning

Staff

Eat lunch	Mean	N	Standard deviation
100-299	3.93[abcd]	37	2.02
300-399	5.81[afgh]	324	1.22
400-599	5.26[afij]	489	1.70
600-799	5.21[cgkl]	109	1.71
800-999	6.47[dhikm]	44	1.00
1000-4999	5.76[ejlm]	67	1.04

Effect measure (1.58 x .25 = .40)
[abcdefghijklm] Difference of meaning

Time

Eat lunch	Mean	N	Standard deviation
100-299	4.18[abc]	37	1.50
300-399	4.70[ade]	325	1.58
400-599	4.37[gf]	490	2.03
600-799	3.47[bdfhij]	108	1.93
800-999	6.43[cegn]	44	1.00
1000-4999	4.35[ij]	67	1.55

Effect measure (1.89 x .25 = .47)
[abcdefghij] Difference of meaning

Nutrition

Eat lunch	Mean	N	Standard deviation
100-299	3.14[a]	31	1.57
300-399	3.49[abc]	192	1.73
400-599	3.16[def]	358	1.97
600-799	2.78[bdg]	84	1.73
800-999	2.52[ceh]	29	1.55
1000-4999	3.70[fgh]	47	1.27

Effect measure (1.83 x .25 = .46)
[abcdefgh] Difference of meaning

Frequency of eating lunch

Overall satisfaction

Eat lunch per week	Mean	N	Standard deviation
None	3.71[ab]	126	1.88
1-2 times	4.34[ac]	373	1.94
3-5 times	4.97[bc]	519	2.00

Effect measure (2.0 x .25 = .50)
[abc] Difference of meaning

Food Preference

Eat lunch per week	Mean	N	Standard deviation
None	3.77[ab]	127	1.48
1-2 times	4.29[ac]	382	1.45
3-5 times	4.72[bc]	530	1.55

Effect measure (1.54 x .25 = .39)
[abc] Difference of meaning

Ambiance

Eat lunch per week	Mean	N	Standard deviation
None	4.70[ab]	131	1.22
1-2 times	5.06[a]	376	1.19
3-5 times	5.22[b]	524	1.28

Effect measure (1.25 x .25 = .31)
[ab] Difference of meaning

Price

Eat lunch per week	Mean	N	Standard deviation
None	4.28[a]	132	1.54
1-2 times	4.81	382	1.52
3-5 times	5.26[a]	529	1.46

Effect measure (1.53 x .25 = .38)
[a] Difference of meaning

Staff

Eat lunch per week	Mean	N	Standard deviation
None	4.72[ab]	131	1.88
1-2 times	5.46[a]	382	1.44
3-5 times	5.65[b]	529	1.55

Effect measure (1.58 x .25 = .40)

[ab] Difference of meaning

Time

Eat lunch per week	Mean	N	Standard deviation
None	3.82[ab]	130	1.74
1-2 times	4.44[a]	382	1.84
3-5 times	4.64[b]	531	1.93

Effect measure (1.89 x .25 = .47)
[ab] Difference of meaning

Nutrition

Eat lunch per week	Mean	N	Standard deviation
None	2.79[a]	85	1.59
1-2 times	3.10	247	1.80
3-5 times	3.38[a]	393	1.90

Effect measure (1.84 x .25 = .46)
[a] Difference of meaning

Open or closed campus

Overall satisfaction

Campus	Mean	N	Standard deviation
Closed	4.60	978	2.02
Open	4.07	68	1.85

Effect measure (2.0 x .25 = .50)

Ambiance

Campus	Mean	N	Standard deviation
Closed	5.14	988	1.25
Open	4.47	71	1.06

Effect measure (1.25 x .25 = .31)

Price

Campus	Mean	N	Standard deviation
Closed	5.01	1000	1.52
Open	4.35	71	1.40

Effect measure (1.52 x .25 = .38)

Staff

Campus	Mean	N	Standard deviation
Closed	5.52	999	1.55
Open	4.60	71	1.71

Effect measure (1.57 x .25 = .39)

Competitive food sales

Overall satisfaction

Competitive foods	Mean	N	Standard deviation
No	4.82	530	1.76
Yes	5.78	49	1.30

Effect measure (1.75 x .25 = .44)

Food Preference

Competitive foods	Mean	N	Standard deviation
No	4.64	534	1.30
Yes	5.45	51	1.08

Effect measure (1.30 x .25 = .32)

Price

Competitive foods	Mean	N	Standard deviation
No	4.86	536	1.40
Yes	5.55	51	1.07

Effect measure (1.38 x .25 = .35)

Staff

Competitive foods	Mean	N	Standard deviation
No	5.61	535	1.41
Yes	6.06	51	1.11

Effect measure (1.39 x .25 = .35)

Nutrition

Competitive foods	Mean	N	Standard deviation
No	3.43	355	1.58
Yes	4.76	28	1.60

Effect measure (1.62 x .25 = .41)

Food portioned by student

Ambiance

Student	Mean	N	Standard deviation
No	5.25	595	1.19
Yes	4.82	398	1.32

Effect measure (1.26 x .25 = .32)

À la carte

Nutrition

Á la carte	Mean	N	Standard deviation
No	3.88	46	1.45
Yes	3.16	695	1.85

Effect measure (1.83 x .25 = .46)

Nationally branded concepts offered

Food Preference

Brands	Mean	N	Standard deviation
No	4.33	818	1.59
Yes	4.79	249	1.33

Effect measure (1.54 x .25 = .39)

Having a Nutrition Advisory Council

Overall satisfaction

NAC	Mean	N	Standard deviation
No	4.96	504	1.77
Yes	4.20	542	2.15

Effect measure (2.01 x .25 = .50)

Food Preference

NAC	Mean	N	Standard deviation
No	4.77	509	1.32
Yes	4.14	558	1.66

Effect measure (1.54 x .25 = .39)

Staff

NAC	Mean	N	Standard deviation
No	5.68	510	1.42
Yes	5.25	560	1.69

Effect measure (1.58 x .25 = .40)

Nutrition

NAC	Mean	N	Standard deviation
No	3.55	334	1.66
Yes	2.93	407	1.92

Effect measure (1.83 x .25 = .46)

Number of meat/meat alternates available daily

Overall satisfaction

Meat/ meat alt.	Mean	N	Standard deviation
1	5.13^{ag}	45	1.74
2	4.19^{abcd}	524	2.16
3	4.73^{be}	201	1.90
4	5.53^{cef}	58	1.51
5	4.50^{fgh}	18	1.62
6	5.06^{dh}	131	1.73

Effect measure (2.03 x .25 = .51)
^{abcdefgh} Difference of meaning

Food Preference

Meat/ meat alt.	Mean	N	Standard deviation
1	4.68^{ab}	45	1.33
2	4.13^{bcdef}	539	1.67
3	4.70^{cg}	203	1.37
4	5.28^{adgf}	57	0.99
5	4.71^{ef}	18	1.47
6	4.75^{f}	135	1.38

Effect measure (1.56 x .25 = .39)
^{abcdefg} Difference of meaning

Ambiance

Meat/ meat alt.	Mean	N	Standard deviation
1	4.88[a]	45	0.96
2	5.05[bc]	541	1.34
3	5.01	202	1.23
4	5.58[adcde]	58	0.75
5	5.16[d]	18	1.21
6	5.15[e]	129	1.20

Effect measure (1.26 x .25 = .32)
[abcde] Difference of meaning

Price

Meat/ meat alt.	Mean	N	Standard deviation
1	4.86[a]	45	1.31
2	4.96[b]	542	1.64
3	4.75[c]	202	1.46
4	5.43[abcde]	58	0.88
5	5.01[d]	18	1.28
6	5.14[e]	135	1.38

Effect measure (1.52 x .25 = .38)
[abcde] Difference of meaning

Staff

Meat/ meat alt.	Mean	N	Standard deviation
1	5.55[a]	45	1.20
2	5.27[bc]	542	1.69
3	5.27[de]	202	1.70
4	5.99[abdf]	58	1.02
5	5.25[fg]	18	1.40
6	5.93[ceg]	135	1.23

Effect measure (1.60 x .25 = .40)
[abcdefg] Difference of meaning

Time

Meat/ meat alt.	Mean	N	Standard deviation
1	4.62[a]	45	1.30
2	4.27[b]	541	2.08
3	4.46[c]	203	1.69
4	4.70	58	1.46
5	4.44[d]	18	1.64
6	5.03[abcd]	135	1.70

Effect measure (1.90 x .25 = .48)
[abcd] Difference of meaning

Nutrition

Meat/ meat alt.	Mean	N	Standard deviation
1	3.94[af]	31	1.33
2	2.96[abcd]	395	1.94
3	3.54[be]	142	1.59
4	3.94[cg]	41	1.41
5	4.40[deh]	12	1.73
6	3.35[fgh]	85	1.75

Effect measure (1.83 x .25 = .46)
[abcdefgh] Difference of meaning

Number of fruits/vegetables available daily

Overall satisfaction

Fruits/veg.	Mean	N	Standard deviation
2	4.48[a]	195	1.79
3	4.90[b]	119	1.91
4	4.40[c]	566	2.17
5	6.19[abcd]	16	1.38
6	4.89[d]	81	1.59

Effect measure (2.03 x .25 = .50)
[abcd] Difference of meaning

Food Preference

Fruits/veg	Mean	N	Standard deviation
2	4.41[a]	196	1.29
3	4.74[b]	122	1.44
4	4.30[c]	580	1.69
5	5.77[abcd]	16	1.33
6	4.67[d]	83	1.25

Effect measure (1.56 x .25 = .39)
[abcd] Difference of meaning

Ambiance

Fruits/veg.	Mean	N	Standard deviation
2	4.73[abc]	196	1.05
3	5.40[ad]	116	1.07
4	5.15[bef]	582	1.35
5	5.88[cdeg]	16	1.18
6	4.77[gf]	83	1.09

Effect measure (1.26 x .25 = .32)
[abcdefg] Difference of meaning

Price

Fruits/veg.	Mean	N	Standard deviation
2	4.62[ab]	196	1.31
3	4.94[c]	122	1.57
4	5.09[a]	583	1.59
5	5.69[bc]	16	1.22
6	4.80	83	1.32

Effect measure (1.52 x .25 = .38)
[abc] Difference of meaning

Staff

Fruits/veg.	Mean	N	Standard deviation
2	5.32[ab]	196	1.55
3	5.54[c]	122	1.57
4	5.36[ade]	583	1.67
5	5.84[bcdf]	16	1.51
6	5.76[ef]	83	1.19

Effect measure (1.60 x .25 = .40)
[abcdef] Difference of meaning

Time

Fruits/veg.	Mean	N	Standard deviation
2	4.19[abe]	197	1.56
3	5.24[acg]	122	1.69
4	4.38[cd]	582	2.06
5	5.00[bdef]	16	1.24
6	4.36[gf]	83	1.60

Effect measure (1.90 x .25 = .48)
[abcdefg] Difference of meaning

Nutrition

Fruits/veg.	Mean	N	Standard deviation
2	3.52[a]	137	1.46
3	3.29[b]	85	1.63
4	3.06[c]	422	1.96
5	5.15[abcd]	10	1.62
6	3.62[d]	52	1.65

Effect measure (1.83 x .25 = .46) Report
[abcd] Difference of meaning

Number of breads/grains available daily

Overall satisfaction

Breads/grains	Mean	N	Standard deviation
1	4.90[ae]	39	1.83
2	4.43[b]	243	1.78
3	4.38[c]	551	2.19
4	5.76[abcf]	99	1.44
6	4.33[ef]	45	1.65

Effect measure (2.03 x .25 = .50)
[abcde] Difference of meaning

Food Preference

Breads/grains	Mean	N	Standard deviation
1	4.62[ae]	39	1.34
2	4.42[b]	245	1.31
3	4.27[c]	570	1.70
4	5.44[abcd]	98	1.07
6	4.14[de]	45	1.24

Effect measure (1.56 x .25 = .39)

[abcde] Difference of meaning

Ambiance

Breads/grains	Mean	N	Standard deviation
1	5.00[a]	39	0.87
2	4.83[b]	245	1.09
3	5.13	565	1.36
4	5.72[abc]	99	0.97
6	4.45[c]	45	1.05

Effect measure (1.26 x .25 = .63)
[abc] Difference of meaning

Price

Breads/grains	Mean	N	Standard deviation
1	4.98[ae]	39	1.21
2	4.62[cd]	245	1.37
3	5.07[bdg]	572	1.64
4	5.56[acdf]	99	1.04
6	4.25[efg]	45	1.29

Effect measure (1.52 x .25 = .38)
[abcdefg] Difference of meaning

Staff

Breads/grains	Mean	N	Standard deviation
1	5.76	39	1.22
2	5.22	245	1.60
3	5.36[a]	572	1.70
4	6.01[a]	99	1.05
6	5.44	45	1.33

Effect measure (1.60 x .25 = .40)
[a] Difference of meaning

Time

Breads/grains	Mean	N	Standard deviation
1	4.69[a]	39	1.44
2	4.22[bc]	246	1.63
3	4.50[d]	571	2.09
4	4.92[de]	99	1.50
6	3.86[acde]	45	1.66

Effect measure (1.90 x .25 = .48)
[abcde] Difference of meaning

Nutrition

Breads/grains	Mean	N	Standard deviation
1	3.82[ab]	21	1.42
2	3.46[cd]	183	1.60
3	2.99[bde]	406	1.95
4	4.27[cef]	65	1.52
6	2.88[af]	31	1.26

Effect measure (1.83 x .25 = .46)
[abcdef] Difference of meaning

Length of lunch break

Overall satisfaction

Lunch break/ minutes	Mean	N	Standard deviation
<20	4.50[a]	169	1.90
21 to 30	4.69[b]	680	1.98
31 to 45	4.36[c]	168	2.16
46 to 60	3.25[abc]	16	2.11

Effect measure (2.07 x .25 = .52)
[abc] Difference of meaning

Food Preference

Lunch break/ minutes	Mean	N	Standard deviation
<20	4.26[a]	175	1.50
21 to 30	4.55[b]	691	1.52
31 to 45	4.31[c]	172	1.65
46 to 60	3.47[abc]	16	1.42

Effect measure (1.54 x .25 = .39)
[abc] Difference of meaning

Ambiance

Lunch break/ minutes	Mean	N	Standard deviation
<20	4.84[ad]	174	1.18
21 to 30	5.16[b]	691	1.25
31 to 45	5.19[cd]	165	1.29
46 to 60	4.13[abc]	16	1.08

Effect measure (1.25 x .25 = .31)
[abcd] Difference of meaning

Price

Lunch break/ minutes	Mean	N	Standard deviation
<20	4.71[ad]	175	1.55
21 to 30	5.00[b]	695	1.51
31 to 45	5.29[cd]	172	1.44
46 to 60	3.66[abc]	16	1.43

Effect measure (1.52 x .25 = .38)
[abcd] Difference of meaning

Staff

Lunch break/ minutes	Mean	N	Standard deviation
<20	5.22[a]	175	1.63
21 to 30	5.57[b]	694	1.51
31 to 45	5.40[c]	[172]	1.69
46 to 60	3.76[abc]	16	2.03

Effect measure (1.58 x .25 = .40)
[abc] Difference of meaning

Time

Lunch break/ minutes	Mean	N	Standard deviation
<20	3.51[abc]	174	1.88
21 to 30	4.46[ad]	696	1.83
31 to 45	5.39[bdc]	172	1.70
46 to 60	4.09[ce]	16	1.70

Effect measure (1.89 x .25 = .47)
[abcde] Difference of meaning

Nutrition

Lunch break/ minutes	Mean	N	Standard deviation
<20	3.22[ac]	129	1.74
21 to 30	3.36[bd]	474	1.90
31 to 45	2.62[ab]	118	1.61
46 to 60	2.89[cd]	12	1.42

Effect measure (1.84 x .25 = .46)
[abcd] Difference of meaning

Grade taught

Overall satisfaction

Grade taught	Mean	N	Standard deviation
Elementary school	5.24[ab]	116	1.62
Middle/junior high school	4.22[a]	383	2.10
High school	4.54[b]	428	2.04

Effect measure (2.02 x .25 = .50)
[ab] Difference of meaning

Food Preference

Grade taught	Mean	N	Standard deviation
Elementary school	4.87[ab]	116	1.23
Middle/junior high school	4.20[a]	392	1.60
High school	4.40[b]	440	1.57

Effect measure (1.55 x .25 = .39)
[ab] Difference of meaning

Price

Grade taught	Mean	N	Standard deviation
Elementary school	4.96	117	1.45
Middle/junior high school	4.66[a]	395	1.60
High school	5.18[a]	439	1.48

Effect measure (1.54 x .25 = .39)
[a] Difference of meaning

Staff

Grade taught	Mean	N	Standard deviation
Elementary school	6.02[ab]	116	1.11
Middle/junior high school	5.29[a]	395	1.67
High school	5.39[b]	439	1.62

Effect measure (1.59 x .25 = .40)
[ab] Difference of meaning

Time

Grade taught	Mean	N	Standard deviation
Elementary school	4.84[a]	117	1.49
Middle/junior high school	4.18[a]	393	1.99
High school	4.43	441	1.96

Effect measure (1.92 x .25 = .48)
[a] Difference of meaning

Nutrition

Grade taught	Mean	N	Standard deviation
Elementary school	3.70[ab]	64	1.71
Middle/junior high school	2.96[a]	274	1.90
High school	3.08[b]	319	1.79

Effect measure (1.84 x .25 = .46)
[ab] Difference of meaning

APPENDIX C

Lower-Elementary School Foodservice Survey for Parents Results

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Appendix C

Lower-Elementary School Foodservice Survey for Parents

All tables represent variables with difference of meaning

Average daily attendance

Overall satisfaction

Average daily attendance	Mean	N	Standard deviation
<199	5.37[a]	19	1.07
200-399	5.40[bf]	187	1.43
400-599	4.93[cf]	331	1.75
600-799	5.16[d]	94	1.47
800-999	4.42[abcd]	12	2.39

Effect measure (1.63 x .25 = .41)
[abcdef] Difference of meaning

Food Quality

Average daily attendance	Mean	N	Standard deviation
<199	5.49[ab]	20	0.97
200-399	5.29[cd]	189	1.15
400-599	4.91[ae]	337	1.35
600-799	5.03[bf]	95	1.10
800-999	4.53[cde]	12	1.53

Effect measure (1.26 x .25 =.32)
[abcde] Difference of meaning

Knowledge

Average daily attendance	Mean	N	Standard deviation
<199	5.35[ab]	20	1.51
200-399	5.30[cd]	189	1.64
400-599	5.64[ef]	337	1.42
600-799	4.72[ace]	95	1.55
800-999	6.36[bdf]	11	1.05

Effect measure (1.43 x .25 =.36)
[abcdef] Difference of meaning

Number served breakfast

Knowledge

Breakfast	Mean	N	Standard deviation
<100	5.29[a]	479	1.57
100-199	5.88[a]	48	1.45
400-599	5.32[b]	75	1.35

Effect measure (1.54 x .25 =.39)
[ab] Difference of meaning

Number served lunch

Overall satisfaction

Lunch	Mean	N	Standard deviation
100-199	4.65[ab]	51	1.56
200-399	5.09[a]	429	1.67
400-599	5.28[b]	163	1.55
>5,000	4.91	74	1.84

Effect measure (1.66 x .25 = .42)
[ab] difference of meaning

Food Quality

Lunch	Mean	N	Standard deviation
100-199	4.81[a]	52	1.20
200-399	5.03	436	1.28
400-599	5.18[a]	165	1.23
>5,000	5.02	75	1.30

Effect measure (x .25 = .)
[a] Difference of meaning

Economic status

Overall satisfaction

% Free	Mean	N	Standard deviation
<10	5.29	41	1.44
11-20	5.41[a]	82	1.64
21-30	4.89[abcd]	257	1.66
31-40	5.35[b]	49	1.45
41-50	5.35[c]	126	1.51
51-60	5.38[d]	13	1.45

Effect measure (1.60 x .25 = .40)
[abcd] Difference of meaning

Food Quality

% Free	Mean	N	Standard deviation
<10	5.31[a]	41	1.08
11-20	5.28[b]	84	1.39
21-30	4.88[abcde]	262	1.22
31-40	5.21[c]	50	1.23
41-50	5.14[d]	128	1.19
51-60	5.34[e]	13	1.19

Effect measure (1.24 x .25 = .31)
[abcde] Difference of meaning

Dining Environment

% Free	Mean	N	Standard deviation
<10	4.90[a]	41	1.10
11-20	5.10[b]	84	1.15
21-30	4.92[c]	262	1.17
31-40	5.20[d]	50	0.97
41-50	5.09[e]	128	1.22
51-60	4.67[abcde]	13	1.16

Effect measure (1.16 x .25 = .29)
[abcde] Difference of meaning

Knowledge

% Free	Mean	N	Standard deviation
<10	5.37	41	1.32
11-20	5.48[a]	84	1.51
21-30	5.44[b]	262	1.54
31-40	5.43[c]	50	1.71
41-50	4.98[abcd]	128	1.58
51-60	5.69[d]	13	1.55

Effect measure (1.55 x .25 = .39)
[abcd] Difference of meaning

Frequency of eating lunch

Overall satisfaction

Eat lunch per week	Mean	N	Standard deviation
None	3.00[ab]	23	2.07
1-3 times	4.56[ac]	342	1.74
4-5 times	5.51[bc]	528	1.50

Effect measure (1.70 x .25 = .43)
[abc] Difference of meaning

Food Quality

Eat lunch per week	Mean	N	Standard deviation
None	3.59[ab]	29	1.57
1-3 times	4.72[ac]	345	1.20
4-5 times	5.29[cb]	539	1.24

Effect measure (1.29 x .25 =.32)
[abc] Difference of meaning

Dining Environment

Eat lunch per week	Mean	N	Standard deviation
None	4.09[ab]	29	1.38
1-3 times	4.87[ac]	345	1.18
4-5 times	5.25[bc]	539	1.15

Effect measure (1.20 x .25 =)
[abc] Difference of meaning

Open or closed campus

Overall satisfaction

Campus	Mean	N	Standard deviation
Closed	4.63	254	1.78
Open	5.37	260	1.46

Effect measure (1.67 x .25 = .42)

Food Quality

Campus	Mean	N	Standard deviation
Closed	4.69	258	1.26
Open	5.28	265	1.20

Effect measure (1.26 x .25 =.32)

Competitive foods offered

Food Quality

Competitive foods	Mean	N	Standard deviation
No	4.87	426	1.27
Yes	5.29	302	1.22

Effect measure (1.27 x .25 = .32)

Foods portioned by students

Overall satisfaction

Student	Mean	N	Standard deviation
No	4.84	376	1.72
Yes	5.35	341	1.55

Effect size (1.65 x .25 = .41)

Food Quality

Student	Mean	N	Standard deviation
No	4.83	381	1.24
Yes	5.28	347	1.26

Effect size (1.26 x .25 = .32)

À la carte items offered

Overall satisfaction

À la carte	Mean	N	Standard deviation
No	5.91	32	1.51
Yes	5.04	685	1.65

Effect measure (1.66 x .25 = .41)

Food Quality

À la carte	Mean	N	Standard deviation
No	5.43	33	1.40
Yes	5.03	695	1.26

Effect measure (1.27 x .25 = .32)

Dining Environment

À la carte	Mean	N	Standard deviation
No	5.34	33	1.12
Yes	5.03	695	1.19

Effect measure (1.18 x .25 = .30)

Nationally branded concepts offered

Food Quality

Brands	Mean	N	Standard deviation
No	5.15	508	1.29
Yes	4.79	220	1.18

Effect measure (1.27 x .25 = .32)

Dining Environment

Brands	Mean	N	Standard deviation
No	5.14	508	1.17
Yes	4.82	220	1.21

Effect measure (1.20 x .25 = .30)

Number of meat/meat alternates available daily

Overall satisfaction

Meat/ meat alt.	Mean	N	Standard deviation
2	5.33	423	1.49
3	4.83	224	1.78
4	4.37	70	1.87

Effect measure (1.66 x .25 = .42)

Food Quality

Meat/ meat alt.	Mean	N	Standard deviation
2	5.24[ab]	430	1.21
3	4.85[a]	228	1.27
4	4.46[b]	70	1.29

Effect measure (1.27 x .25 = .32)
[ab] Difference of meaning

Knowledge

Meat/ meat alt.	Mean	N	Standard deviation
2	5.25[a]	430	1.59
3	5.56	228	1.41
4	5.76[a]	69	1.31

Effect measure (1.52 x .25 = .38)
[a] Difference of meaning

Overall satisfaction

Fruits/veg.	Mean	N	Standard deviation
2	4.36[abc]	58	1.76
3	4.89[ad]	265	1.77
4	5.28[b]	366	1.51
5	5.75[cd]	28	1.51

Effect measure (1.66 x .25 =.42)
[abcd] Difference of meaning

Food Quality

Fruits/veg.	Mean	N	Standard deviation
2	4.44[abc]	58	1.25
3	4.93[ad]	270	1.31
4	5.19[b]	372	1.20
5	5.47[cd]	28	1.29

Effect measure (1.27 x .25 = .32)
[abcd] Difference of meaning

Dining Environment

Fruits/veg.	Mean	N	Standard deviation
2	5.19	58	1.21
3	5.00[a]	270	1.19
4	5.03[b]	372	1.19
5	5.45[ab]	28	1.05

Effect measure (1.19 x .25 = .30)
[ab] Difference of meaning

Number of fruits/vegetables available daily

Knowledge

Fruits/veg.	Mean	N	Standard deviation
2	5.65[a]	58	1.33
3	5.59[b]	270	1.40
4	5.19[abc]	371	1.59
5	5.71[c]	28	1.66

Effect measure (1.52 x .25 = .38)
[abc] Difference of meaning

Number of breads/grains available daily

Overall satisfaction

Breads/grains	Mean	N	Standard deviation
1	5.26[a]	334	1.56
2	5.12[b]	249	1.65
3	4.57[ab]	134	1.80

Effect measure (1.66 x .25 = .41)
[ab] Difference of meaning

Food Quality

Breads/grains	Mean	N	Standard deviation
1	5.22[a]	340	1.23
2	5.04[b]	251	1.28
3	4.61[ab]	137	1.23

Effect measure (1.27 x .25 = .32)
[ab] difference of meaning

Dining Environment

Breads/grains	Mean	N	Standard deviation
1	5.08[a]	340	1.14
2	5.18[b]	251	1.19
3	4.70[ab]	137	1.24

Effect measure (1.18 x .25 =.30)
[ab] Difference of meaning

Knowledge

Breads/grains	Mean	N	Standard deviation
1	5.31[a]	340	1.53
2	5.33[b]	251	1.56
3	5.73[ab]	136	1.37

Effect measure (1.52 x .25 =.38)
[ab] Difference of meaning