REFERENCES

Burghardt, John, and Barbara Devaney. *The School Nutrition Dietary Assessment Study: Summary of Findings*. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation, October 1993.

Burghardt, John, Todd Ensor, Gayle Hutchinson, Charlene Weiss, and Bruce Spencer. *The School Nutrition Dietary Assessment Study: Data Collection and Sampling*. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation, October 1993.

Burghardt, John, Anne Gordon, Nancy Chapman, Philip Gleason, and Thomas Fraker. *The School Nutrition Dietary Assessment Study: School Food Service, Meals Offered and Dietary Intakes*. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation, October 1993.

Barnow, Burt S., Glen G. Cain, and Arthur S. Goldberger. "Issues in the Analysis of Selectivity Bias." In *Evaluation Review Studies Annual*, vol. 5, edited by W.E. Stromsdorfer and G. Farkas. Beverly Hills: Sage, 1981.

Heckman, James J. "Dummy Endogenous Variables in a Simultaneous Equation System." *Econometrica*, vol. 46, no. 4, 1978, pp. 931-960.

Heckman, James J. "Sample Selection Bias as a Specification Error." *Econometrica*, vol. 47, 1979, pp. 153-161.

Heckman, James J., and Richard Robb. "Alternative Methods for Evaluating the Impact of Interventions." *Journal of Econometrics*, vol. 30, 1985, pp. 239-267.

Maddala, G.S., and Lee, Lung-Fei. "Recursive Models with Qualitative Endogenous Variables." *Annals of Economic and Social Measurement*, vol. 5, Fall 1976, pp. 525-545.

Maddala, G.S. *Limited-Dependent and Qualitative Variables in Econometrics*. Cambridge, England: Cambridge University Press, 1983.

National Research Council. *Diet and Health: Implications for Reducing Chronic Disease Risk*. Report to the Committee on Diet and Health, Food and Nutrition Board, Commission on Life Sciences. Washington, DC: National Academy Press, 1989.

U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Nutrition and Your Health: Dietary Guidelines for Americans* (3rd edition). H&G 232, 1990.

APPENDIX A

METHODOLOGY FOR ESTIMATING ADJUSTED DIFFERENCES IN DIETARY INTAKES

A key analytical issue in comparison-group study designs is how to control for the effects of self-selection. For example, National School Lunch Program (NSLP) participants are students who choose to select an NSLP lunch, and they may differ in both observed and unobserved characteristics from comparison students who choose not to select the lunch. The analysis of differences in the dietary intakes of participants and nonparticipants, therefore, must control for any such differences between NSLP participants and nonparticipants in order to obtain unbiased estimates of the differences associated with program participation.

In this appendix, we first present a model of NSLP participation and dietary intakes at lunch that controls for participant-nonparticipant differences in observed and unobserved characteristics. We then discuss extension of the approach to models of dietary intakes at breakfast and 24-hour intakes. Finally, we discuss estimation of these models and sensitivity of the results to key assumptions.

1. A Model of Lunch Intake that Controls for Observed and Unobserved Characteristics

If NSLP participants differ from nonparticipants *only* in their observed characteristics, a multiple regression model that controls for these differences provides unbiased estimates of NSLP effects. For example, the following equation, which relates the mean intake of food energy at lunch relative to the Recommended Dietary Allowances (RDA), to a set of observed explanatory variables and to NSLP participation, is a model that controls for differences in observed characteristics between NSLP participants and nonparticipants:

$$(1)\quad Y_i = X_i\beta + \delta P_i + \varepsilon_i$$

where Y is the intake of food energy at lunch relative to the RDA, X is a set of observed exogenous variables hypothesized to affect dietary intake, P is a dummy variable denoting NSLP participation, and ε is an error term. The coefficient, δ, in this equation represents the effect of NSLP participation on dietary intake, after controlling for the differences in observed characteristics (X) between NSLP participants and nonparticipants. With this model, traditional estimation procedures,

such as ordinary least squares (OLS) regression, can be used to obtain unbiased estimates of the effects of NSLP participation on intake.

All estimates of dietary intakes and "simple" differences in intakes presented in this report are derived from regression models such as the model described. The observed variables controlled for in these regressions include characteristics of the student, the student's family, and the student's school and community. Table A.1 is a complete list of control variables used in the lunch, breakfast and 24-hour dietary-intake regressions.

The simple regression model controls only for differences in observed characteristics between NSLP participants and nonparticipants. The estimation of NSLP effects is complicated considerably, however, if the self-selection of students into the NSLP is based on unobserved characteristics that also affect dietary intake. For example, relative to students who do not participate, NSLP participants might select an NSLP lunch because they have larger appetites, have higher food energy needs, or are less "picky" eaters. If such unobserved differences in appetites, needs, or preferences would lead the NSLP participants to eat more even if the NSLP were not available, then such standard multiple regression techniques as OLS regression produce biased estimates of the effects of the NSLP on food energy intakes.

In principle, consistent estimates of the effects of the NSLP can be obtained by controlling for observed differences directly in the dietary-intake regression equation, and by controlling for unobserved differences through the estimation of a joint model of dietary intake and NSLP participation. Formally, the following equations depict a model of dietary intake that accounts for the NSLP participation decision:

TABLE A.1

DEFINITIONS OF INDEPENDENT VARIABLES USED IN DIETARY-INTAKE MODELS

Variable	Definition
NSLP Participant	Binary variable = 1 if student selected an NSLP lunch, = 0 otherwise
SBP Participant	Binary variable = 1 if student selected an SBP breakfast, = 0 otherwise
A la Carte Available	Binary variable = 1 if student's school cafeteria offers foods a la carte, = 0 otherwise
Vending Machine/ School Store Available	Binary variable = 1 if student's school has vending machines or a school store that sells food, = 0 otherwise
Female	Binary variable = 1 if student is female, 0 if male
Age 11 to 14	Binary variable = 1 if student's age is 11 to 14 years, = 0 otherwise
Age 15 to 18	Binary variable = 1 if student's age is 15 to 18 years, = 0 otherwise
Black	Binary variable = 1 if student is African-American and not Hispanic, = 0 otherwise
Hispanic	Binary variable = 1 if student is Hispanic, = 0 otherwise
Other Nonwhite	Binary variable = 1 if student reported being Asian or Native American, = 0 otherwise
Low Income	Binary variable = 1 if student is eligible for a free or reduced-price meal based on family income and household size (185 percent of poverty or less), = 0 otherwise
Income Missing	Binary variable = 1 if student's family income is unknown, = 0 otherwise
Mother in Household	Binary variable = 1 if student lives with mother or "mother figure", = 0 otherwise
Mother Employed	Binary variable = 1 if student's mother (or mother figure) works outside the home, = 0 otherwise
Family Size 3 or 4	Binary variable = 1 if student's family includes 3 or 4 people, = 0 otherwise
Family Size 5 to 7	Binary variable = 1 if student's family includes 5 to 7 people, = 0 otherwise
Family Size > 7	Binary variable = 1 if student's family includes more than 7 people, = 0 otherwise

TABLE A.1 *(continued)*

Variable	Definition
Unusually High Intake	Binary variable = 1 if student (or parent of first and second grader) reported that intake for the day of the dietary recall was "more than usual", = 0 otherwise
Unusually Low Intake	Binary variable = 1 if student (or parent of first and second grader) reported that intake for the day of the dietary recall was "less than usual", = 0 otherwise
Urban	Binary variable = 1 if student's school is located in an urban area, = 0 otherwise
Suburban	Binary variable = 1 if student's school is located in a suburban area, = 0 otherwise
Midatlantic	Binary variable = 1 if student's school is located in the FNS Midatlantic region, = 0 otherwise
Southeast	Binary variable = 1 if student's school is located in the FNS Southeast region, = 0 otherwise
Midwest	Binary variable = 1 if student's school is located in the FNS Midwest region, = 0 otherwise
Southwest	Binary variable = 1 if student's school is located in the FNS Southwest region, = 0 otherwise
Mountain	Binary variable = 1 if student's school is located in the FNS Mountain region, = 0 otherwise
West	Binary variable = 1 if student's school is located in the FNS Western region, = 0 otherwise

(2) $Y_i = X\beta + \delta P_i + \varepsilon_i$

(3) $P_i^* = Z_i\psi + u_i$

(4) $P_i = 1$ *if* $P_i^* \geq 0$

$= 0$ *if* $P_i^* < 0$,

where P^* is an (unobserved) index for the "propensity" to participate in the NSLP, Z is a set of variables affecting that propensity (which may contain X, but must also contain other variables that affect NSLP participation but not intake), P is a binary variable denoting actual NSLP participation, and ε and u are random disturbance terms.[1]

Selection bias occurs if the two disturbance terms ε and u are correlated (because this implies the correlation of P and ε). A positive correlation would suggest that students who are more likely to participate in the NSLP are, on average, likely to have higher dietary intakes. The failure to adjust for selection bias leads to an overestimate of the effects of the NSLP on dietary intakes, because there would be higher intakes for participants relative to nonparticipants even without the NSLP. Conversely, a negative correlation would suggest that NSLP participants have lower dietary intakes, on average, than do nonparticipants. The failure to adjust for selection bias in this case would underestimate the effects of the NSLP, because any increases in dietary intake due to the NSLP would be at least partially offset by the fact that NSLP participants would be likely to have lower intakes than nonparticipants in the absence of the program.

One important issue that arises in the estimation of the intake and participation equations is the extent to which the determinants of the NSLP participation decision (Z variables) are the same as the set of variables affecting intake (X variables). If the determinants of intake and NSLP participation are nearly identical, then it is extremely difficult to separate the effect of a given

[1]An alternative model would specify separate equations for the dietary intake of NSLP participants and nonparticipants and would correct both for selection bias. We estimated one such model for food energy intake, using two-stage methods, and obtained similar estimates of participant-nonparticipant differences.

explanatory variable on intake from the effect of the NSLP on intake. Intuitively, to separate (or "identify") the effect of the NSLP from the effect of other characteristics, it is necessary to have a source of variation in program participation that can be distinguished from the variation in the other variables (both observed and unobserved) that affect the outcome of interest. It is often difficult to find variables that are strong predictors of participation and that do not also belong in the outcome equation as explanatory variables; we discuss below some tests to determine whether our identifying variables are properly omitted from the outcome equation. If variables that affect participation but not outcomes are not available (or are incorrectly specified), the resulting parameter estimates are often very imprecise and unreliable.

The types of variables that are preferred as identifiers of program participation decisions are variables that capture exogenous variations in program characteristics across locations. The characteristics of a program are taken as given by the individual and are, thus, more likely to be uncorrelated with the individual's unobserved preferences or needs.[2] In the present application, several variables in the participation model are plausible candidates for identifying variables, including the price of lunch, the available alternatives to the NSLP, and the characteristics of the school's food service (see Table A.2 for a complete list of identifying variables).[3] We model the price of lunch using several variables: the full price of the lunch (set at the school level), indicators of whether the student is certified for free or reduced-price meals, and interactions between the full price and meal-price certification status. In both equations, we control for whether the student is eligible for free

[2]Problems might arise if the relevant unobserved variables are similar for all students in a particular type of school or community.

[3]We were concerned that some of these variables might directly affect intake for those who eat the school lunch, particularly the availability of offer versus serve and the fat content of lunches offered. We also estimated the models including these variables in the nutrient equations, interacted with the NSLP participation indicator. The effects of the selection-bias corrections were substantially unchanged.

TABLE A.2

ADDITIONAL VARIABLES USED TO PREDICT NSLP PARTICIPATION

Variable	Definition
Full Price of Lunch	Full price of NSLP lunch at student's school (in dollars)
Certified for Free Meal	Binary variable = 1 if student is certified to receive a free USDA meal, = 0 otherwise
Certified for Reduced-Price Meal	Binary variable = 1 if student is certified to receive a reduced-price USDA meal, = 0 otherwise
Full Price-Free Meal Interaction	Full price of lunch multiplied by indicator for certified for a free meal
Full Price-Reduced Price Interaction	Full price of lunch multiplied by indicator for certified for a reduced-price meal
OVS Available	Binary variable = 1 if student's school uses OVS at lunch (allows students to decline one or two of the five required meal components), = 0 otherwise
Open Campus Available	Binary variable = 1 if student's school allows students to leave school to get lunch at off-campus commercial establishments, = 0 otherwise.
School Offers Low-Fat Lunches	Binary variable = 1 if NSLP lunches offered at student's school over a one-week period contained, on average, less than 32 percent of energy from fat, = 0 otherwise
School Offers Moderate-Fat Lunches	Binary variable = 1 if NSLP lunches offered at student's school over a one-week period contained, on average, 32 to 35 percent of energy from fat, = 0 otherwise
School Offers High-Fat Lunches	Binary variable = 1 if NSLP lunches offered at student's school over a one-week period contained, on average, 35 to 40 percent of energy from fat, = 0 otherwise
Medium Serving Capacity	Binary variable = 1 if index of serving capacity is between .25 and .5[a]
High Serving Capacity	Binary variable = 1 if index of serving capacity is greater than .5

NOTE: NSLP participation models also include all relevant variables listed in Table A.1.

[a]The index of serving capacity is defined as: number of cash registers × number of lunch seatings × duration of each lunch seating, divided by the number of students.

OVS = offer versus serve.

or reduced-price meals on the basis of data on family income; about 75 percent of eligible students are certified.

2. Models of Breakfast and 24-Hour Intakes

The models used to analyze the effects of SBP participation on dietary intakes at breakfast are analogous to those used to analyze lunch intakes. The variables used to identify the model of participation in the SBP are those pertaining to the price of the SBP breakfast and the characteristics of school food service at breakfast (see Table A.3). However, the results from the selection-bias-adjusted model are essentially the same as the results from the simple regression model. Furthermore, statistical tests rejected the presence of selection bias, suggesting that any unobserved factors influencing participation in the SBP are uncorrelated with dietary intakes.[4]

In modelling dietary intake over 24 hours, we control for participation in the SBP and the NSLP. However, we adjust for self-selection into the NSLP only, because of the lack of evidence of selection bias in breakfast intakes.

The sample for the 24-hour dietary-intake models includes all students (except for exclusions due to missing data). In contrast, the samples for the lunch and breakfast dietary-intake models include only students who eat those meals.

3. Estimation Methods

The estimators used to estimate the coefficients of selection-bias models are of three major types: (1) the instrumental variables method (Maddala and Lee 1976; Heckman 1978; Heckman and Robb 1985); (2) the Heckman two-step or "heckit" procedure (Heckman 1979); and (3) maximum likelihood estimation (MLE) (Maddala 1983).

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[4]One caveat is that the identifying variables available for SBP participation do not strongly predict SBP participation. Thus, our data might simply be unable to distinguish the effects of the SBP from the effects of unobserved characteristics.

TABLE A.3

ADDITIONAL VARIABLES USED TO PREDICT SBP PARTICIPATION

Variable	Definition
Full Price of Breakfast	Full price of SBP breakfast at student's school
OVS Available	Binary variable = 1 if student's school uses OVS at breakfast (allows students to decline one of the four required meal components), = 0 otherwise
Certified for Free Meal	Binary variable = 1 if student is certified to receive a free USDA meal, = 0 otherwise
Certified for Reduced-Price Meal	Binary variable = 1 if student is certified to receive a reduced-price USDA meal, = 0 otherwise
Full Price-Free Meal Interaction	Full price of breakfast multiplied by indicator for certified for a free meal
Full Price-Reduced Price Interaction	Full price of breakfast multiplied by indicator for certified for a reduced-price meal
Average Fat Content of SBP Breakfast	Average percentage of energy from fat in the SBP breakfast offered on the observation day
Meat/Meat Alternate Offered	Binary variable = 1 if meat or meal alternate was offered at breakfast on the day the student was observed, = 0 otherwise
Number of Entrees Offered	Number of meat and/or bread items offered at breakfast on the day the student was observed

NOTE: SBP participation models also include all relevant variables listed in Table A.1.

OVS = offer versus serve.

For the instrumental variables estimator, the participation equation is first estimated, and a predicted value for ***P*** is then calculated for each individual. In estimating the outcome equation, the predicted value for ***P*** is then used, rather than the actual value; the predicted value of ***P*** is uncorrelated with the error term by construction--intuitively, ***P*** has been "purged" of contamination by unobserved factors. (Nonlinear two-stage least squares is used to estimate the outcome equation; standard errors thus take into account the use of the predicted participation variable.)

The Heckman two-step procedure requires the assumption that the error terms in the participation and outcome equations are bivariate normal. The participation equation is estimated first as a probit model. The estimated coefficients from that equation are used to construct a new variable (by convention, denoted "lambda"), which is then included as a control variable in the outcome equation.[5] Lambda can be interpreted as a proxy for the unmeasured characteristics of the individual that are correlated with participation; when included in the outcome equation, the remaining unobservable factors--as captured in the new error term--are uncorrelated with the participation variable. Thus, estimating the outcome equation, with lambda included, using standard regression techniques produces a consistent estimate of the effects of participation on the outcome.

MLE of both equations together produces the most precise estimates for a given set of distributional assumptions. Maximum likelihood estimates are derived using an iterative optimization algorithm. They are the coefficient estimates that maximize the probability of observing the combinations of NSLP participation and outcomes actually observed in the sample, given a specific joint distribution for the error terms (we use the bivariate normal distribution). As with the Heckit estimates, maximum likelihood estimates will not be consistent if the distributional assumptions are not met.

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[5]Heckman developed this procedure for cases in which the outcome of interest is observed only for participants; Barnow et al. (1981) generalized it to the case in which outcomes are observed for both participants and nonparticipants.

In practice, however, MLE frequently does not work very well for selection-bias models. The likelihood function might have several local maxima, and it is difficult to determine whether a global maximum has been found. When we attempted MLE to examine the effects of the NSLP on lunch intakes (using the Heckit results as starting values), we found that the resulting parameter estimates were unrealistic. The estimated correlation between the participation and dietary-intake equations approached 1 in the model for food energy and several other nutrients; some versions of the model did not converge, and those that did took many iterations and, in addition to the implausible estimate of the cross-equation correlation, led to impact estimates that differed greatly from those produced by the instrumental variables and Heckit approaches. This lack of stability in the estimates could imply that the model is not well identified, or that the distributional assumptions are not correct. However, as discussed in the next subsection, the results of the instrumental variables estimator are not very sensitive to changes in the identifying variables; thus, we believe that MLE is unreliable because the joint normality assumption is not correct.

Because they are less dependent on distributional assumptions, we report the results from the instrumental variables (two-stage least squares) approach here. However, it is worth noting that we obtained very similar estimates with Heckman's two-step estimator.[6] Regardless of the approach, the (correctly computed) standard errors of the adjusted estimates will be larger than the standard errors of the unadjusted estimates.

4. Sensitivity Tests

The crucial assumption underlying selection-bias-adjustment models is that the variables used to identify the participation equation do not directly affect the outcomes of interest. If more than one

[6]Students in schools that do not offer the NSLP or SBP do not have the option to participate. Thus, there is no selection bias for this group. We set the predicted participation probability to zero for students in nonparticipating schools when using the instrumental variables approach and set lambda to zero for students in nonparticipating schools when using the Heckit approach.

identifying variable is available, it is possible to test this assumption for the additional identifying variables.

The key result for which the selection-bias adjustment makes a difference is the effect of the NSLP on the percentage of the RDA for food energy consumed at lunch. We reestimated the joint model of NSLP participation and food energy intake using each of the identifying variables (or related groups of dummy variables) singly, and using various combinations of the identifying variables. In all of the specifications tested, the effect of the NSLP on food energy intake was close to zero and was not statistically significant.

APPENDIX B

MEANS AND STANDARD ERRORS OF DIETARY INTAKE DATA

TABLE B.1

DIETARY INTAKES AT LUNCH, BY NSLP PARTICIPATION STATUS

Dietary Component	NSLP Participants		Nonparticipants	
	Mean	Standard Error	Mean	Standard Error
Macronutrients				
Food Energy (kilocalories)	762	20	679	13
Protein (grams)	31	1	21	1
Carbohydrate (grams)	90	3	92	2
Fat (grams)	32	1	26	1
Saturated Fat (grams)	12	0	9	0
Percentage of Food Energy from Protein	17	.2	12	.2
Percentage of Food Energy from Carbohydrate	48	.4	57	.5
Percentage of Food Energy from Fat	37	.3	33	.4
Percentage of Food Energy from Saturated Fat	14	.1	12	.2
Vitamins				
Vitamin A (mcg RE)	260	9	143	8
Vitamin C (mg)	30	2	39	2
Thiamin (mg)	.52	.02	.48	.01
Riboflavin (mg)	.74	.02	.51	.01
Niacin (mg NE)	7.03	.23	5.78	.16
Vitamin B6 (mg)	.51	.01	.40	.01
Folate (mcg)	69	2	58	2
Vitamin B12 (mcg)	1.8	.05	.9	.03
Minerals				
Calcium (mg)	423	9	251	8
Iron (mg)	4.3	.11	3.6	.09
Phosphorus (mg)	526	12	366	10
Magnesium (mg)	92	2	73	1
Zinc (mg)	4.1	.11	2.7	.08
Other Dietary Components				
Sodium (mg)	1,501	39	1,146	32
Cholesterol (mg)	85	3	54	2

SOURCE: Dietary Intake Interviews with students, Student Nutrition Dietary Assessment study.

NOTE: Means are not regression adjusted. Standard errors presented account for design effects.

mg = milligrams
mcg = micrograms
RE = retinol equivalent
NE = niacin equivalent.

TABLE B.2

DIETARY INTAKES AT BREAKFAST, BY SBP PARTICIPATION STATUS

Dietary Component	SBP Participants		Nonparticipants	
	Mean	Standard Error	Mean	Standard Error
Macronutrients				
Food Energy (kilocalories)	555	23	419	7
Protein (grams)	18	1	13	0
Carbohydrate (grams)	77	3	65	1
Fat (grams)	20	1	13	0
Saturated Fat (grams)	8	0	5	0
Percentage of Food Energy from Protein	13	.3	13	.1
Percentage of Food Energy from Carbohydrate	57	1.2	65	.4
Percentage of Food Energy from Fat	31	.9	24	.4
Percentage of Food Energy from Saturated Fat	13	.4	10	.2
Vitamins				
Vitamin A (mcg RE)	278	20	335	11
Vitamin C (mg)	42	3	42	1
Thiamin (mg)	.61	.03	.55	.01
Riboflavin (mg)	.84	.03	.76	.02
Niacin (mg NE)	5.38	.26	5.60	.15
Vitamin B6 (mg)	.52	.03	.59	.02
Folate (mcg)	101	7	121	3
Vitamin B12 (mcg)	1.3	.07	1.3	.04
Minerals				
Calcium (mg)	362	15	288	5
Iron (mg)	4.2	.29	5.0	.17
Phosphorus (mg)	402	18	319	5
Magnesium (mg)	69	5	62	1
Zinc (mg)	2.4	.13	2.3	.06
Other Dietary Components				
Sodium (mg)	840	58	584	12
Cholesterol (mg)	97	13	61	3

SOURCE: Dietary Intake Interviews with students, Student Nutrition Dietary Assessment study.

NOTE: Means are not regression adjusted. Standard errors presented account for design effects.

mg = milligrams
mcg = micrograms
RE = retinol equivalent
NE = niacin equivalent.

TABLE B.3

24-HOUR DIETARY INTAKES, BY NSLP PARTICIPATION STATUS

Dietary Component	NSLP Participants		Nonparticipants	
	Mean	Standard Error	Mean	Standard Error
Macronutrients				
Food Energy (kilocalories)	2,556	38	2,509	36
Protein (grams)	97	2	89	2
Carbohydrate (grams)	325	5	335	5
Fat (grams)	101	2	95	2
Saturated Fat (grams)	38	1	35	1
Percentage of Food Energy from Protein	15	.1	14	.1
Percentage of Food Energy from Carbohydrate	51	.3	54	.3
Percentage of Food Energy from Fat	35	.2	33	.2
Percentage of Food Energy from Saturated Fat	13	.1	12	.1
Vitamins				
Vitamin A (mcg RE)	1,058	34	1,046	33
Vitamin C (mg)	135	4	152	4
Thiamin (mg)	2.05	.03	2.05	.04
Riboflavin (mg)	2.61	.04	2.47	.05
Niacin (mg NE)	25.29	.41	24.84	.50
Vitamin B6 (mg)	2.06	.03	2.03	.05
Folate (mcg)	312	6	315	7
Vitamin B12 (mcg)	6.1	.19	5.3	.15
Minerals				
Calcium (mg)	1,228	20	1,108	25
Iron (mg)	16.9	.30	17.2	.38
Phosphorus (mg)	1,643	26	1,527	27
Magnesium (mg)	309	5	299	5
Zinc (mg)	13.8	.26	12.7	.27
Other Dietary Components				
Sodium (mg)	4,819	77	4,501	78
Cholesterol (mg)	316	7	280	7

SOURCE: Dietary Intake Interviews with students, Student Nutrition Dietary Assessment study.

NOTE: Means are not regression adjusted. Standard errors presented account for design effects.

mg = milligrams
mcg = micrograms
RE = retinol equivalent
NE = niacin equivalent.

TABLE B.4

24-HOUR DIETARY INTAKES, BY SBP PARTICIPATION STATUS

Dietary Component	SBP Participants		Nonparticipants	
	Mean	Standard Error	Mean	Standard Error
Macronutrients				
Food Energy (kilocalories)	2,481	76	2,558	27
Protein (grams)	94	4	94	1
Carbohydrate (grams)	310	9	335	3
Fat (grams)	100	4	98	1
Saturated Fat (grams)	37	1	37	1
Percentage of Food Energy from Protein	15	.3	15	.1
Percentage of Food Energy from Carbohydrate	51	.5	53	.2
Percentage of Food Energy from Fat	36	.5	34	.2
Percentage of Food Energy from Saturated Fat	13	.2	13	.1
Vitamins				
Vitamin A (mcg RE)	866	47	1,103	27
Vitamin C (mg)	137	8	147	3
Thiamin (mg)	2.04	.08	2.09	.03
Riboflavin (mg)	2.51	.08	2.61	.04
Niacin (mg NE)	23.72	.85	25.57	.36
Vitamin B6 (mg)	1.91	.07	2.11	.03
Folate (mcg)	290	14	325	5
Vitamin B12 (mcg)	5.7	.29	5.9	.14
Minerals				
Calcium (mg)	1,163	39	1,193	17
Iron (mg)	15.6	.58	17.5	.27
Phosphorus (mg)	1,578	51	1,611	21
Magnesium (mg)	295	10	310	4
Zinc (mg)	13.5	.78	13.5	.20
Other Dietary Components				
Sodium (mg)	4,700	173	4,689	57
Cholesterol (mg)	334	20	303	6

SOURCE: Dietary Intake Interviews with students, Student Nutrition Dietary Assessment study.

NOTE: Means are not regression-adjusted. Standard errors presented account for design effects.

mg = milligrams
mcg = micrograms
RE = retinol equivalent
NE = niacin equivalent.

TABLE B.5

24-HOUR DIETARY INTAKES, BY PARTICIPATION IN EITHER THE SBP OR NSLP

Dietary Component	Participants in SBP or NSLP		Nonparticipants	
	Mean	Standard Error	Mean	Standard Error
Macronutrients				
Food Energy (kilocalories)	2,555	37	2,461	35
Protein (grams)	97	2	88	2
Carbohydrate (grams)	324	5	328	4
Fat (grams)	101	2	93	2
Saturated Fat (grams)	38	1	34	1
Percentage of Food Energy from Protein	15	.1	14	.2
Percentage of Food Energy from Carbohydrate	51	.3	54	.3
Percentage of Food Energy from Fat	35	.2	33	.2
Percentage of Food Energy from Saturated Fat	13	.1	12	.1
Vitamins				
Vitamin A (mcg RE)	1,049	34	1,030	31
Vitamin C (mg)	135	4	150	4
Thiamin (mg)	2.05	.03	2.02	.04
Riboflavin (mg)	2.60	.04	2.43	.05
Niacin (mg NE)	25.24	.40	24.49	.48
Vitamin B6 (mg)	2.05	.03	2.01	.04
Folate (mcg)	310	6	311	7
Vitamin B12 (mcg)	6.1	.19	5.2	.13
Minerals				
Calcium (mg)	1,220	20	1,090	22
Iron (mg)	16.8	.29	16.9	.36
Phosphorus (mg)	1,639	26	1,506	25
Magnesium (mg)	308	5	294	5
Zinc (mg)	13.8	.26	12.5	.25
Other Dietary Components				
Sodium (mg)	4,824	76	4,414	73
Cholesterol (mg)	318	7	276	7

SOURCE: Dietary Intake Interviews with students, Student Nutrition Dietary Assessment study.

NOTE: Means are not regression adjusted. Standard errors presented account for design effects.

mg = milligrams
mcg = micrograms
RE = retinol equivalent
NE = niacin equivalent

APPENDIX C

DETAILED RESULTS OF MULTIVARIATE MODELS OF SCHOOL NUTRITION PROGRAM PARTICIPATION AND DIETARY INTAKE

TABLE C.1

PROBIT MODEL OF NSLP PARTICIPATION
(Students Who Eat Lunch)

Variable	Coefficient
Constant	0.964 **
A la Carte Available at Lunch	-0.138 *
Vending Machine/School Store Available	-0.077
Female	-0.280 **
Age 11 to 14 Years	-0.072
Age 15 to 18 Years	-0.382 **
Black	0.215 *
Hispanic	0.097
Other Nonwhite	0.295
Low Income	0.013
Income Missing	0.098
Mother in Household	0.033
Mother Employed	-0.069
Family Size 3 or 4	-0.127
Family Size 5 to 7	-0.114
Family Size > 7	-0.079
Urban	-0.378 **
Suburban	-0.274 **
Midatlantic	0.003
Southeast	0.431 **
Midwest	0.083
Southwest	0.369 **
Mountain	0.420 **
West	-0.109
Full Price of Lunch	-0.470 **
Certified for Free Meal	0.442
Certified for Reduced-Price Meal	-0.111

TABLE C.1 *(continued)*

Variable	Coefficient
Full Price-Free Meal Interaction	0.344
Full Price-Reduced Price Interaction	0.579
OVS Available	0.204 *
Open Campus Available	-0.285 **
School Offers Low-Fat Lunches	-0.257 *
School Offers Moderate-Fat Lunches	-0.163
School Offers High-Fat Lunches	-0.003
Medium Serving Capacity	0.019
High Serving Capacity	0.113
Sample Size	**2,803**

SOURCE: Dietary Intake Interviews with students, Student Nutrition Dietary Assessment study.

NOTE: Weighted probit maximum likelihood estimates are reported. The dependent variable equals one for students who eat the NSLP lunch, and zero for students who eat a non-NSLP lunch. Students who skip lunch are excluded. See Appendix A for discussion of model and variable definitions. Results from this model were used to develop two-stage least squares (2SLS) estimates in Table C.2.

OVS = offer versus serve.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.2*

RESULTS FROM REGRESSION MODELS OF DIETARY INTAKES AT LUNCH

Variable	Food Energy		Protein		Percentage of Food Energy from Fat		Percentage of Food Energy from Saturated Fat	
	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	0.348 **	0.310 **	0.972 **	0.876 **	0.308 **	0.309 **	0.108 **	0.110 **
NSLP Participation	-0.017	0.044 **	0.117	0.269 **	0.043 **	0.043 **	0.034 **	0.031 **
A la Carte Available	0.005	0.003	0.004	0.001	0.004	0.004	0.003	0.003
Vending Machine/School Store Available	0.001	0.005	-0.008	0.002	0.003	0.003	0.000	0.000
Female	-0.027 **	-0.021 **	-0.108 **	-0.093 **	-0.008	-0.008 *	-0.002	-0.002
Age 11 to 14 Years	-0.031 **	-0.028 **	-0.314 **	-0.307 **	0.007	0.007	0.002	0.002
Age 15 to 18 Years	-0.024	-0.014	-0.305 **	-0.282 **	0.010	0.009	0.002	0.002
Black	0.006	-0.003	-0.024	-0.044	0.003	0.003	0.000	0.001
Hispanic	-0.007	-0.009	0.020	0.016	0.003	0.003	0.002	0.002
Other Nonwhite	0.014	0.011	0.051	0.042	0.007	0.007	0.006	0.007
Low Income	0.005	-0.007	0.039	0.009	-0.003	-0.002	0.001	0.002
Income Missing	0.018	0.016	0.021	0.017	-0.010	-0.010	-0.003	-0.003
Mother in Household	0.017	0.017	0.004	0.004	0.001	0.001	-0.006	-0.006
Mother Employed	-0.002	0.000	-0.018	-0.011	-0.002	-0.002	0.002	0.002
Family Size 3 or 4	0.005	0.005	-0.025	-0.024	0.011	0.011	0.005	0.005
Family Size 5 to 7	0.005	0.005	-0.020	-0.019	0.019	0.019	0.007	0.007
Family Size > 7	0.039	0.037	-0.036	-0.041	0.004	0.004	0.003	0.003
Unusually High Intake	0.023	0.023	0.022	0.020	0.013	0.013	0.006	0.006
Unusually Low Intake	-0.004	-0.001	-0.007	0.000	0.006	0.006	0.003	0.003
Urban	-0.003	0.007	-0.046	-0.020	-0.012 *	-0.012 *	-0.002	-0.003
Suburban	0.004	0.014	-0.001	0.023	-0.007	-0.007	-0.001	-0.002
Midatlantic	-0.020	-0.022	-0.094 *	-0.098 *	0.011	0.011	0.007	0.007
Southeast	-0.020	-0.031 *	-0.049	-0.076 *	0.005	0.005	-0.006	-0.006
Midwest	-0.024	-0.025	-0.114 **	-0.117 **	0.016 *	0.016 *	0.005	0.005
Southwest	0.012	0.000	0.014	-0.017	0.013	0.013	0.002	0.003
Mountain	-0.014	-0.025	-0.056	-0.085 *	0.000	0.000	-0.007	-0.007
West	-0.051 **	-0.049 **	-0.119 **	-0.114 **	0.009	0.009	0.003	0.003

SOURCE: Dietary Intake Interviews with students, Student Nutrition Dietary Assessment study.

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NOTE: All dependent variables are measured as a percentage of the RDA except where noted. OLS (ordinary least squares) estimates are simple regression-adjusted estimates. 2SLS (two-stage least squares) estimates are selection-bias-adjusted instrumental variables estimates.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.2 *(continued)*

RESULTS FROM REGRESSION MODELS OF DIETARY INTAKES AT LUNCH

Variable	Percentage of Food Energy from Carbohydrate		Vitamin A		Vitamin C		Thiamin	
	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	0.549 **	0.562 **	0.219 **	0.236 **	0.921 **	0.782 **	0.576 **	0.494 **
NSLP Participation	-0.071 **	-0.091 **	0.187 **	0.161 **	-0.416 **	-0.195 **	-0.082	0.048 **
A la Carte Available	0.000	0.000	-0.007	-0.006	0.051	0.047	-0.014	-0.017
Vending Machine/School Store Available	0.000	-0.002	0.002	0.001	-0.019	-0.006	0.011	0.019
Female	0.014 **	0.012 *	0.005	0.003	-0.054	-0.032	-0.035 *	-0.022
Age 11 to 14 Years	-0.004	-0.005	-0.068 **	-0.069 **	-0.137 **	-0.127 **	-0.070 **	-0.064 **
Age 15 to 18 Years	-0.003	-0.007	-0.036	-0.040	-0.165 **	-0.131 *	-0.062 **	-0.042
Black	0.003	0.005	-0.069 **	-0.065 **	0.163 **	0.133 *	-0.004	-0.021
Hispanic	-0.010	-0.009	-0.022	-0.022	0.075	0.069	0.002	-0.002
Other Nonwhite	-0.012	-0.011	0.001	0.003	0.069	0.056	0.018	0.011
Low Income	-0.001	0.003	0.017	0.022	-0.031	-0.074	0.021	-0.005
Income Missing	0.007	0.008	-0.013	-0.013	0.027	0.021	0.021	0.018
Mother in Household	0.003	0.003	0.020	0.020	0.116	0.115	0.019	0.019
Mother Employed	0.008	0.007	-0.003	-0.004	0.008	0.017	-0.007	-0.001
Family Size 3 or 4	-0.004	-0.005	-0.037	-0.037	-0.026	-0.025	0.009	0.010
Family Size 5 to 7	-0.014	-0.015	-0.060	-0.060	0.016	0.017	0.008	0.008
Family Size > 7	0.011	0.012	-0.062	-0.061	0.134	0.127	0.097 *	0.094
Unusually High Intake	-0.017	-0.016	-0.016	-0.016	-0.018	-0.020	0.026	0.025
Unusually Low Intake	-0.002	-0.003	0.030	0.029	-0.109 *	-0.099 *	-0.004	0.003
Urban	0.024 **	0.020 **	0.003	-0.002	0.093	0.132 **	-0.019	0.003
Suburban	0.015 *	0.012	0.033	0.029	0.025	0.060	-0.001	0.020
Midatlantic	-0.011	-0.010	0.010	0.011	-0.070	-0.076	-0.061 *	-0.064 *
Southeast	-0.007	-0.004	-0.007	-0.002	-0.012	-0.052	-0.054 *	-0.078 **
Midwest	-0.006	-0.005	-0.016	-0.016	-0.142 *	-0.146 *	-0.099 **	-0.102 **
Southwest	-0.016	-0.012	-0.036	-0.030	-0.146	-0.190 **	-0.023	-0.049
Mountain	-0.001	0.003	0.022	0.027	0.005	-0.037	-0.035	-0.059 *
West	-0.007	-0.008	-0.020	-0.020	-0.191 **	-0.184 *	-0.118 **	-0.114 **

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NOTE: All dependent variables are measured as a percentage of the RDA except where noted. OLS (ordinary least squares) estimates are simple regression-adjusted estimates. 2SLS (two-stage least squares) estimates are selection-bias-adjusted instrumental variables estimates.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.2 *(continued)*

RESULTS FROM REGRESSION MODELS OF DIETARY INTAKES AT LUNCH

	Riboflavin		Niacin		Vitamin B6		Folate	
Variable	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	0.507 **	0.453 **	0.615 **	0.537 **	0.310 **	0.262 **	0.752 **	0.688 **
NSLP Participation	0.088 *	0.174 **	-0.038	0.086 **	0.003	0.080 **	-0.020	0.082 **
A la Carte Available	-0.015	-0.016	0.012	0.010	0.007	0.006	0.007	0.005
Vending Machine/School Store Available	-0.001	0.004	-0.014	-0.006	0.008	0.012	-0.007	-0.001
Female	-0.043 **	-0.035 **	-0.058 **	-0.046 **	-0.029 **	-0.022 **	-0.078 **	-0.068 **
Age 11 to 14 Years	-0.056 **	-0.052 **	-0.073 **	-0.068 **	-0.016	-0.013	-0.204 **	-0.200 **
Age 15 to 18 Years	-0.071 **	-0.058 **	-0.070 **	-0.051 *	-0.014	-0.003	-0.259 **	-0.244 **
Black	-0.028	-0.039 *	-0.013	-0.029	0.008	-0.002	-0.028	-0.041
Hispanic	-0.002	-0.005	0.017	0.014	0.018	0.016	0.011	0.008
Other Nonwhite	0.006	0.001	0.062	0.055	0.027	0.023	-0.022	-0.028
Low Income	0.030 *	0.013	-0.002	-0.026	0.001	-0.014	0.025	0.006
Income Missing	0.038 *	0.036	-0.011	-0.015	-0.011	-0.013	0.022	0.020
Mother in Household	-0.008	-0.008	0.033	0.033	0.023	0.023	0.018	0.018
Mother Employed	0.001	0.004	-0.021	-0.016	-0.019	-0.016	-0.017	-0.013
Family Size 3 or 4	0.002	0.002	-0.010	-0.009	-0.002	-0.001	-0.059	-0.059
Family Size 5 to 7	0.008	0.009	-0.010	-0.009	0.005	0.005	-0.066	-0.066
Family Size > 7	0.063	0.060	0.005	0.001	-0.009	-0.012	-0.055	-0.058
Unusually High Intake	0.021	0.020	0.036	0.035	0.030	0.029	0.000	-0.001
Unusually Low Intake	-0.011	-0.007	0.008	0.014	0.007	0.010	-0.011	-0.007
Urban	-0.012	0.003	-0.039 *	-0.018	-0.021	-0.008	0.008	0.026
Suburban	0.002	0.015	-0.014	0.006	-0.002	0.010	0.000	0.017
Midatlantic	-0.029	-0.031	-0.104 **	-0.107 **	-0.020	-0.022	-0.078 *	-0.081 *
Southeast	-0.036	-0.052 *	-0.044	-0.066 **	0.023	0.009	0.001	-0.018
Midwest	-0.014	-0.016	-0.140 **	-0.143 **	-0.020	-0.021	-0.088 **	-0.090 **
Southwest	0.005	-0.012	-0.051	-0.075 **	0.030	0.015	0.002	-0.018
Mountain	-0.018	-0.034	-0.101 **	-0.124 **	-0.001	-0.015	0.009	-0.010
West	-0.078 **	-0.075 **	-0.162 **	-0.158 **	-0.036 *	-0.034	-0.084 *	-0.081 *

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NOTE: All dependent variables are measured as a percentage of the RDA except where noted. OLS (ordinary least squares) estimates are simple regression-adjusted estimates. 2SLS (two-stage least squares) estimates are selection-bias-adjusted instrumental variables estimates.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.2 *(continued)*

RESULTS FROM REGRESSION MODELS OF DIETARY INTAKES AT LUNCH

	Vitamin B12		Calcium		Iron		Phosphorous	
Variable	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	0.815 **	0.771 **	0.420 **	0.384 **	0.442 **	0.405 **	0.559 **	0.515 **
NSLP Participation	0.437 **	0.507 **	0.114 **	0.171 **	0.000	0.060 **	0.094 *	0.164 **
A la Carte Available	-0.048	-0.049	-0.015	-0.016	0.004	0.003	-0.008	-0.010
Vending Machine/School Store Available	0.010	0.014	-0.009	-0.005	0.007	0.011	-0.007	-0.002
Female	-0.193 **	-0.186 **	-0.062 **	-0.057 **	-0.112 **	-0.106 **	-0.082 **	-0.075 **
Age 11 to 14 Years	-0.305 **	-0.302 **	-0.114 **	-0.111 **	-0.075 **	-0.073 **	-0.142 **	-0.139 **
Age 15 to 18 Years	-0.192 **	-0.181 **	-0.088 **	-0.080 **	-0.034 *	-0.025	-0.094 **	-0.083 **
Black	-0.025	-0.034	-0.031 *	-0.038 **	-0.013	-0.021	-0.033	-0.042 *
Hispanic	0.094	0.092	-0.012	-0.014	-0.005	-0.007	-0.006	-0.009
Other Nonwhite	0.000	-0.004	-0.002	-0.006	0.025	0.021	-0.008	-0.012
Low Income	0.080 *	0.066	0.029 *	0.018	0.013	0.001	0.022	0.008
Income Missing	0.109 *	0.107 *	0.015	0.013	0.024	0.022	0.009	0.007
Mother in Household	0.004	0.004	-0.029	-0.029	-0.004	-0.004	-0.003	-0.003
Mother Employed	-0.040	-0.037	0.007	0.010	-0.008	-0.006	-0.004	-0.001
Family Size 3 or 4	0.016	0.016	-0.014	-0.014	0.009	0.010	-0.009	-0.008
Family Size 5 to 7	0.031	0.031	-0.008	-0.008	0.002	0.003	-0.009	-0.009
Family Size > 7	-0.006	-0.008	-0.005	-0.007	0.014	0.012	-0.018	-0.020
Unusually High Intake	0.022	0.021	-0.014	-0.015	0.000	0.000	0.001	0.000
Unusually Low Intake	0.015	0.018	-0.013	-0.010	-0.001	0.001	-0.010	-0.007
Urban	0.026	0.038	-0.002	0.008	-0.006	0.005	-0.015	-0.002
Suburban	0.042	0.053	0.006	0.015	0.005	0.014	0.008	0.019
Midatlantic	-0.073	-0.075	0.006	0.004	-0.026	-0.028	-0.019	-0.021
Southeast	-0.085	-0.098	-0.022	-0.032	-0.026	-0.037 *	-0.035	-0.048 *
Midwest	-0.020	-0.021	0.010	0.008	-0.042 *	-0.043 *	-0.034	-0.035
Southwest	0.137 *	0.123	0.001	-0.010	0.017	0.005	0.006	-0.008
Mountain	-0.063	-0.076	0.013	0.002	-0.008	-0.019	-0.006	-0.020
West	-0.077	-0.075	-0.032	-0.030	-0.059 **	-0.057 **	-0.062 *	-0.060 *

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NOTE: All dependent variables are measured as a percentage of the RDA except where noted. OLS (ordinary least squares) estimates are simple regression-adjusted estimates. 2SLS (two-stage least squares) estimates are selection-bias-adjusted instrumental variables estimates.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.2 *(continued)*

RESULTS FROM REGRESSION MODELS OF DIETARY INTAKES AT LUNCH

Variable	Magnesium		Zinc		Cholesterol (mg)		Sodium (mg)	
	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	0.525 **	0.509 **	0.285 **	0.255 **	70.3 **	58.9 **	1247 **	1067 **
NSLP Participation	0.055 *	0.081 **	0.076 **	0.125 **	15.1	33.2 **	126	411 **
A la Carte Available	-0.008	-0.009	0.001	0.000	-1.3	-1.7	11	5
Vending Machine/School Store Available	-0.010	-0.009	0.008	0.011	2.1	3.2	120 *	138 **
Female	-0.048 **	-0.045 **	-0.033 **	-0.028 **	-16.0 **	-14.2 **	-288 **	-259 **
Age 11 to 14	-0.177 **	-0.176 **	-0.071 **	-0.069 **	2.6	3.5	61	74
Age 15 to 18	-0.224 **	-0.220 **	-0.027	-0.019	17.2 **	20.0 **	311 **	354 **
Black	-0.021	-0.025	0.005	-0.002	0.6	-1.8	28	-10
Hispanic	-0.008	-0.009	0.005	0.003	5.9	5.4	21	12
Other Nonwhite	-0.029	-0.030	0.009	0.006	4.1	3.1	99	83
Low Income	0.003	-0.002	0.013	0.003	3.6	0.0	31	-25
Income Missing	-0.009	-0.009	0.027	0.026	4.4	3.9	41	34
Mother in Household	0.006	0.006	0.009	0.009	-0.6	-0.6	113	113
Mother Employed	-0.007	-0.006	-0.011	-0.009	1.3	2.0	-21	-9
Family Size 3 or 4	-0.010	-0.010	0.007	0.007	-3.0	-2.9	9	11
Family Size 5 to 7	-0.012	-0.012	0.008	0.008	-1.2	-1.2	-5	-4
Family Size > 7	-0.015	-0.016	0.012	0.011	5.7	5.2	17	9
Unusually High Intake	-0.001	-0.001	0.011	0.011	7.6	7.5	104	101
Unusually Low Intake	-0.012	-0.010	-0.003	0.000	-0.2	0.7	4	17
Urban	0.001	0.006	-0.014	-0.005	-6.3	-3.1	-74	-23
Suburban	0.006	0.010	0.000	0.008	-1.6	1.3	-5	41
Midatlantic	-0.050 **	-0.051 **	-0.015	-0.016	-3.9	-4.3	-68	-75
Southeast	-0.019	-0.024	-0.022	-0.031	-7.3	-10.6 *	-135	-187 *
Midwest	-0.039 *	-0.039 *	-0.016	-0.017	-9.3	-9.6	-166 *	-171 *
Southwest	0.002	-0.003	0.041 *	0.031	8.6	5.0	101	44
Mountain	-0.009	-0.014	0.001	-0.008	-10.2	-13.6 *	-34	-89
West	-0.046 **	-0.045 *	-0.002	-0.001	-8.3	-7.7	-241 **	-231 **

NOTE: All dependent variables are measured as a percentage of the RDA except where noted.

OLS (ordinary least squares) estimates are simple regression-adjusted estimates. 2SLS (two-stage least squares) estimates are selection-bias-adjusted instrumental variables estimates.

mg = milligrams.

*/**indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.3

PROBIT MODEL OF SBP PARTICIPATION
(Students Who Eat Breakfast)

Variable	Coefficient
Constant	-0.396
A la Carte Available at Breakfast	0.098
Vending Machine/School Store Available	-0.141
Female	-0.242 **
Age 11 to 14 Years	-0.472 **
Age 15 to 18 Years	-0.752 **
Black	0.698 **
Hispanic	0.256
Other Nonwhite	0.077
Low Income	0.536 **
Income Missing	0.267
Mother in Household	-0.130
Mother Employed	-0.172
Family Size 3 or 4	-0.220
Family Size 5 to 7	-0.164
Family Size > 7	-0.060
Urban	-0.530 **
Suburban	-0.359 **
Midatlantic	-0.092
Southeast	0.434
Midwest	0.037
Southwest	0.143
Mountain	0.412
West	0.041
Full Price of Breakfast	-0.756
OVS Available	-0.006
Certified for Free Meal	0.035

TABLE C.3 *(continued)*

Variable	Coefficient
Certified for Reduced-Price Meal	0.814
Full Price-Free Meal Interaction	1.349 *
Full Price-Reduced Price Interaction	-1.226
Average Fat Content of SBP Breakfast	-0.351
Meat/Meat Alternate Offered	0.103
Number of Entrees Offered	-0.011
Sample Size	**1,475**

SOURCE: Dietary Intake Interviews with students, Student Nutrition Dietary Assessment study.

NOTE: Weighted probit maximum likelihood estimates are reported. The dependent variable equals one for students who eat the SBP breakfast, and zero for students who eat a non-SBP breakfast. Students who skip breakfast are excluded. See Appendix A for discussion of model and variable definitions. Results from this model were used to develop two-stage least squares (2SLS) estimates in Table C.4.

OVS = offer versus serve.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.4*

RESULTS FROM REGRESSION MODELS OF DIETARY INTAKES AT BREAKFAST

	Food Energy		Protein		Percentage of Food Energy from Fat		Percentage of Food Energy from Saturated Fat	
Variable	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	0.145 **	0.144 **	0.385 **	0.390 **	0.214 **	0.215 **	0.096 **	0.097 **
SBP Participation	0.055 **	0.064 **	0.186 **	0.149 **	0.035	0.032 **	0.015	0.010 *
A la Carte Available	-0.005	-0.005	0.002	0.003	-0.001	-0.001	0.000	0.000
Vending Machine/School Store Available	-0.011	-0.011	-0.021	-0.022	0.007	0.007	0.004	0.004
Female	-0.029 **	-0.029 **	-0.087 **	-0.088 **	-0.017 **	-0.017 **	-0.009 **	-0.009 **
Age 11 to 14 Years	0.014 *	0.015 *	-0.116 **	-0.119 **	-0.002	-0.003	-0.004	-0.004
Age 15 to 18 Years	0.009	0.010	-0.136 **	-0.139 **	-0.017	-0.017 *	-0.011 **	-0.012 **
Black	0.010	0.009	0.010	0.017	0.030 **	0.030 **	0.007	0.008 *
Hispanic	-0.010	-0.011	0.008	0.009	0.026 **	0.026 **	0.014 **	0.015 **
Other Nonwhite	-0.007	-0.007	-0.009	-0.009	0.010	0.010	0.008	0.009
Low Income	0.013 *	0.012 *	0.029 *	0.034 *	0.037 **	0.038 **	0.022 **	0.022 **
Income Missing	0.016	0.016	0.027	0.028	0.026 **	0.026 **	0.018 **	0.018 **
Mother in Household	-0.011	-0.011	-0.007	-0.008	-0.002	-0.002	0.000	-0.001
Mother Employed	0.002	0.002	0.028 *	0.027 *	0.011	0.011	0.006 *	0.006 *
Family Size 3 or 4	0.027 *	0.027 *	0.020	0.019	-0.005	-0.005	-0.004	-0.005
Family Size 5 to 7	0.026 *	0.027 *	0.032	0.031	-0.007	-0.007	-0.005	-0.005
Family Size > 7	0.046 *	0.046 *	0.078	0.078	0.005	0.006	0.005	0.005
Unusually High Intake	0.006	0.007	0.028	0.027	0.005	0.005	0.000	-0.001
Unusually Low Intake	-0.018 *	-0.018 *	-0.039 *	-0.039 *	-0.009	-0.009	0.000	0.000
Urban	0.007	0.007	0.002	0.001	-0.013	-0.014	-0.004	-0.004
Suburban	0.002	0.003	-0.010	-0.011	-0.015 *	-0.015 *	-0.006	-0.006 *
Midatlantic	0.016	0.016	-0.003	-0.003	0.012	0.012	0.002	0.002
Southeast	0.033 **	0.032 **	0.037	0.040	0.023 *	0.023 *	0.005	0.005
Midwest	0.022 *	0.022 *	0.026	0.025	0.026 *	0.026 *	0.006	0.006
Southwest	0.055 **	0.054 **	0.076 **	0.079 **	0.050 **	0.050 **	0.014 **	0.014 **
Mountain	0.032 **	0.032 **	0.020	0.021	0.005	0.005	-0.004	-0.004
West	0.033 **	0.033 **	0.072 **	0.071 **	0.033 **	0.033 **	0.006	0.006

SOURCE: Dietary Intake Interviews with students, Student Nutrition Dietary Assessment study.

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NOTE: All dependent variables are measured as a percentage of the RDA except where noted. OLS (ordinary least squares) estimates are simple regression-adjusted estimates. 2SLS (two-stage least squares) estimates are selection-bias-adjusted instrumental variables estimates.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.4 *(continued)*

RESULTS FROM REGRESSION MODELS OF DIETARY INTAKES AT BREAKFAST

	Percentage of Food Energy from Carbohydrate		Vitamin A		Vitamin C		Thiamin	
Variable	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	0.668 **	0.665 **	0.583 **	0.590 **	0.831 **	0.842 **	0.555 **	0.557 **
SBP Participation	-0.060 *	-0.038 **	0.019	-0.025	0.124	0.052	0.101	0.086 **
A la Carte Available	0.000	-0.001	0.004	0.005	0.005	0.007	-0.009	-0.008
Vending/Store Available	-0.009	-0.008	-0.054 *	-0.056 *	-0.105 *	-0.107 *	-0.062 **	-0.063 **
Female	0.023 **	0.024 **	-0.097 **	-0.098 **	-0.172 **	-0.174 **	-0.087 **	-0.087 **
Age 11 to 14 Years	0.013	0.014	-0.067 **	-0.070 **	0.136 **	0.131 *	-0.022	-0.023
Age 15 to 18 Years	0.035 **	0.037 **	-0.031	-0.036	0.045	0.037	-0.016	-0.017
Black	-0.024 *	-0.028 **	-0.107 **	-0.099 **	0.162 *	0.174 **	-0.010	-0.007
Hispanic	-0.031 **	-0.032 **	-0.062 *	-0.061	0.013	0.016	-0.102 **	-0.101 **
Other Nonwhite	-0.019	-0.019	-0.101	-0.100	-0.111	-0.109	-0.002	-0.002
Low Income	-0.038 **	-0.041 **	0.009	0.015	-0.141 *	-0.131 *	-0.007	-0.005
Income Missing	-0.025 *	-0.025 *	0.044	0.045	0.042	0.042	0.005	0.005
Mother in Household	-0.005	-0.005	-0.139 **	-0.140 **	0.049	0.047	-0.050	-0.050
Mother Employed	-0.016 *	-0.015 *	0.027	0.026	-0.060	-0.062	0.015	0.014
Family Size 3 or 4	0.005	0.005	0.019	0.018	0.135	0.133	0.024	0.024
Family Size 5 to 7	0.007	0.008	0.025	0.024	0.088	0.087	0.032	0.032
Family Size > 7	-0.012	-0.013	0.055	0.056	0.114	0.116	0.132 *	0.132 *
Unusually High Intake	-0.008	-0.007	0.008	0.006	0.136	0.133	0.007	0.006
Unusually Low Intake	0.014	0.014	-0.045	-0.045	-0.158 *	-0.158 *	-0.040	-0.040
Urban	0.016	0.017	0.045	0.043	0.030	0.027	0.029	0.028
Suburban	0.022 *	0.024 **	0.045	0.043	0.034	0.031	0.032	0.032
Midatlantic	-0.004	-0.004	-0.024	-0.024	0.007	0.006	-0.014	-0.014
Southeast	-0.013	-0.014	-0.022	-0.019	-0.031	-0.026	-0.009	-0.007
Midwest	-0.025	-0.024	0.012	0.011	-0.002	-0.004	0.014	0.013
Southwest	-0.042 **	-0.043 **	0.013	0.015	0.005	0.009	0.056	0.056
Mountain	0.011	0.010	0.023	0.023	-0.049	-0.048	0.014	0.015
West	-0.027	-0.027	0.039	0.038	-0.149	-0.151	0.012	0.012

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TABLE C.4 *(continued)*

RESULTS FROM REGRESSION MODELS OF DIETARY INTAKES AT BREAKFAST

	Riboflavin		Niacin		Vitamin B6		Folate	
Variable	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	0.619 **	0.628 **	0.474 **	0.476 **	0.487 **	0.496 **	1.382 **	1.386 **
SBP Participation	0.137 *	0.081 **	0.022	0.012	0.041	-0.014	-0.031	-0.060
A la Carte Available	0.004	0.006	-0.011	-0.011	-0.017	-0.015	-0.020	-0.019
Vending/Store Available	-0.052 *	-0.054 *	-0.059 **	-0.059 **	-0.058 **	-0.060 **	-0.150 **	-0.151 **
Female	-0.120 **	-0.121 **	-0.068 **	-0.068 **	-0.061 **	-0.063 **	-0.210 **	-0.210 **
Age 11 to 14 Years	-0.009	-0.013	-0.023	-0.024	0.014	0.011	-0.291 **	-0.293 **
Age 15 to 18 Years	-0.041	-0.047	-0.023	-0.024	-0.001	-0.007	-0.357 **	-0.360 **
Black	-0.073 *	-0.064 *	-0.038	-0.037	-0.049	-0.040	-0.155 *	-0.151 *
Hispanic	-0.067 *	-0.065 *	-0.097 **	-0.096 **	-0.077 **	-0.074 **	-0.213 **	-0.212 **
Other Nonwhite	-0.042	-0.041	-0.039	-0.039	-0.061	-0.060	-0.176	-0.175
Low Income	0.028	0.036	-0.003	-0.002	-0.009	-0.001	-0.010	-0.006
Income Missing	0.032	0.033	-0.009	-0.009	0.011	0.011	0.011	0.011
Mother in Household	-0.076 *	-0.077 *	-0.091 **	-0.091 **	-0.111 **	-0.113 **	-0.204 *	-0.205 *
Mother Employed	0.041 *	0.040 *	0.024	0.024	0.021	0.019	0.027	0.026
Family Size 3 or 4	0.031	0.030	0.017	0.017	0.012	0.011	0.063	0.062
Family Size 5 to 7	0.034	0.032	0.030	0.030	0.019	0.018	0.058	0.058
Family Size > 7	0.124	0.125	0.061	0.061	0.050	0.051	0.133	0.134
Unusually High Intake	0.024	0.022	0.004	0.004	-0.008	-0.010	0.022	0.021
Unusually Low Intake	-0.051 *	-0.052 *	-0.027	-0.027	-0.029	-0.029	-0.074	-0.074
Urban	0.040	0.038	0.025	0.025	0.036	0.034	0.092	0.091
Suburban	0.024	0.021	0.038	0.038	0.046 *	0.044 *	0.096	0.094
Midatlantic	-0.008	-0.008	0.005	0.005	0.005	0.005	-0.019	-0.020
Southeast	0.007	0.012	0.004	0.004	-0.009	-0.005	-0.072	-0.070
Midwest	0.033	0.031	0.015	0.015	0.029	0.027	0.049	0.048
Southwest	0.077 *	0.081 *	0.035	0.036	0.018	0.021	0.015	0.017
Mountain	0.029	0.030	0.028	0.028	0.025	0.026	0.020	0.021
West	0.042	0.041	0.030	0.029	0.031	0.029	0.058	0.057

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TABLE C.4 *(continued)*

RESULTS FROM REGRESSION MODELS OF DIETARY INTAKES AT BREAKFAST

	Vitamin B12		Calcium		Iron		Phosphorous	
Variable	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	0.793 **	0.801 **	0.338 **	0.340 **	0.621 **	0.613 **	0.350 **	0.352 **
SBP Participation	0.154	0.107	0.111 **	0.096 **	-0.088	-0.038	0.118 **	0.104 **
A la Carte Available	-0.009	-0.008	0.009	0.009	-0.009	-0.011	0.002	0.002
Vending/Store Available	-0.091	-0.093	-0.011	-0.012	-0.062 *	-0.060 *	-0.019	-0.020
Female	-0.239 **	-0.240 **	-0.088 **	-0.089 **	-0.154 **	-0.153 **	-0.095 **	-0.095 **
Age 11 to 14 Years	-0.127 **	-0.130 **	-0.074 **	-0.075 **	-0.059 *	-0.056 *	-0.071 **	-0.072 **
Age 15 to 18 Years	-0.012	-0.016	-0.065 **	-0.066 **	-0.029	-0.024	-0.056 **	-0.057 **
Black	-0.135 *	-0.127 *	-0.051 **	-0.049 **	-0.069	-0.077 *	-0.029	-0.027
Hispanic	-0.101	-0.099	-0.008	-0.008	-0.121 **	-0.123 **	-0.010	-0.010
Other Nonwhite	-0.040	-0.040	-0.017	-0.016	-0.118	-0.119	-0.030	-0.030
Low Income	0.110 *	0.116 *	0.023 *	0.025 *	0.020	0.013	0.016	0.018
Income Missing	0.088	0.089	0.038 *	0.038 *	-0.007	-0.008	0.034 *	0.034 *
Mother in Household	-0.124	-0.125	-0.007	-0.007	-0.132 **	-0.131 **	-0.022	-0.022
Mother Employed	0.108 *	0.106 *	0.013	0.012	0.032	0.033	0.022 *	0.022 *
Family Size 3 or 4	0.044	0.044	0.010	0.010	0.047	0.048	0.022	0.022
Family Size 5 to 7	0.086	0.085	0.009	0.008	0.052	0.053	0.030	0.030
Family Size > 7	0.150	0.151	0.059	0.059	0.063	0.062	0.077 *	0.078 *
Unusually High Intake	-0.038	-0.040	0.013	0.013	-0.041	-0.039	0.017	0.016
Unusually Low Intake	-0.081	-0.081	-0.020	-0.020	-0.055	-0.055	-0.035 *	-0.035 *
Urban	0.040	0.039	0.014	0.013	0.049	0.051	0.019	0.018
Suburban	0.076	0.073	-0.004	-0.005	0.073 *	0.075 *	-0.002	-0.002
Midatlantic	-0.017	-0.018	-0.019	-0.019	-0.053	-0.053	-0.008	-0.008
Southeast	0.035	0.039	0.002	0.003	-0.043	-0.047	0.022	0.023
Midwest	0.103	0.102	0.022	0.021	-0.018	-0.017	0.030	0.030
Southwest	0.132	0.134	0.042 *	0.043 *	0.019	0.016	0.064 **	0.065 **
Mountain	0.094	0.095	0.011	0.012	0.022	0.021	0.028	0.028
West	0.167 *	0.166 *	0.041 *	0.040 *	0.014	0.016	0.058 **	0.058 **

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NOTE: All dependent variables are measured as a percentage of the RDA except where noted. OLS (ordinary least squares) estimates are simple regression-adjusted estimates. 2SLS (two-stage least squares) estimates are selection-bias-adjusted instrumental variables estimates.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.4 *(continued)*

RESULTS FROM REGRESSION MODELS OF DIETARY INTAKES AT BREAKFAST

	Magnesium		Zinc		Cholesterol (mg)		Sodium (mg)	
Variable	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	0.335 **	0.337 **	0.204 **	0.203 **	25.385	25.787	458.03 **	447.23 **
SBP Participation	0.086 **	0.071 **	0.011	0.013	21.080	18.531 *	141.96	210.47 **
A la Carte Available	-0.005	-0.004	0.000	0.000	-5.312	-5.231	-29.41	-31.59
Vending/Store Available	-0.024 *	-0.025 *	-0.024 *	-0.024 *	5.174	5.093	-44.91	-42.73
Female	-0.057 **	-0.057 **	-0.028 **	-0.028 **	-28.785 **	-28.849 **	-167.61 **	-165.88 **
Age 11 to 14 Years	-0.086 **	-0.087 **	-0.025 *	-0.025 *	7.743	7.570	129.27 **	133.91 **
Age 15 to 18 Years	-0.125 **	-0.127 **	-0.001	0.000	12.045	11.777	163.78 **	170.97 **
Black	-0.021	-0.018	-0.011	-0.011	12.604	13.031	83.83 *	72.35 *
Hispanic	-0.026	-0.025	-0.018	-0.018	24.535 **	24.637 **	-0.04	-2.79
Other Nonwhite	-0.048	-0.048	-0.008	-0.008	18.544	18.589	137.61 *	136.39 *
Low Income	-0.001	0.001	0.020	0.020	20.770 **	21.119 **	49.25	39.85
Income Missing	0.020	0.020	0.017	0.017	7.613	7.640	30.60	29.87
Mother in Household	-0.018	-0.018	-0.047 *	-0.047 *	-0.305	-0.359	-57.78	-56.30
Mother Employed	0.014	0.014	0.013	0.013	10.416 *	10.340 *	26.81	28.85
Family Size 3 or 4	0.017	0.017	0.019	0.019	13.172	13.128	60.70	61.88
Family Size 5 to 7	0.028	0.027	0.028	0.028	8.560	8.508	80.95	82.34
Family Size > 7	0.058	0.058	0.046	0.046	22.044	22.094	101.36	100.02
Unusually High Intake	0.006	0.005	0.000	0.000	16.959 *	16.862 *	41.69	44.30
Unusually Low Intake	-0.025	-0.025	-0.001	-0.001	-18.495 **	-18.506 **	-68.21 *	-67.90 *
Urban	0.028 *	0.028 *	0.002	0.002	-3.666	-3.757	-53.58	-51.14
Suburban	0.011	0.010	0.015	0.015	-8.057	-8.177	-43.81	-40.58
Midatlantic	-0.020	-0.020	0.002	0.002	13.348	13.328	63.63	64.14
Southeast	-0.016	-0.015	0.015	0.014	29.921 **	30.122 **	214.03 **	208.66 **
Midwest	0.011	0.010	0.020	0.020	14.367	14.305	94.25 *	95.92 *
Southwest	0.026	0.027	0.032	0.032	27.931 **	28.076 **	201.26 **	197.35 **
Mountain	0.021	0.022	0.020	0.020	2.828	2.880	100.58 *	99.17 *
West	0.044 *	0.044 *	0.052 *	0.052 *	16.376	16.300	160.15 **	162.19 **

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NOTE: All dependent variables are measured as a percentage of the RDA except where noted. OLS (ordinary least squares) estimates are simple regression-adjusted estimates. 2SLS (two-stage least squares) estimates are selection-bias-adjusted instrumental variables estimates.

mg = milligrams.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.5

PROBIT MODEL OF NSLP PARTICIPATION
(All Students)

Variable	Coefficient
Constant	0.775 **
A la Carte Available at Lunch	-0.120
Vending Machine/School Store Available	-0.104
Open Campus Available	-0.254 **
Female	-0.253 **
Age 11 to 14 Years	-0.104
Age 15 to 18 Years	-0.406 **
Black	0.141
Hispanic	0.068
Other Nonwhite	0.304
Low Income	-0.041
Income Missing	0.093
Mother in Household	0.038
Mother Employed	-0.044
Family Size 3 or 4	-0.089
Family Size 5 to 7	-0.060
Family Size > 7	0.064
Urban	-0.361 **
Suburban	-0.243 **
Midatlantic	-0.020
Southeast	0.385 **
Midwest	0.064
Southwest	0.356 **
Mountain	0.376 **
West	-0.143
Full Price of Lunch	-0.414 **
Certified for Free Meal	0.462

TABLE C.5 *(continued)*

Variable	Coefficient
Certified for Reduced-Price Meal	0.179
Full Price-Free Meal Interaction	0.313
Full Price-Reduced Price Interaction	0.377
OVS Available	0.167 *
School Offers Low-Fat Lunches	-0.252 *
School Offers Moderate-Fat Lunches	-0.110
School Offers High-Fat Lunches	0.018
Medium Serving Capacity	0.036
High Serving Capacity	0.113
Sample Size	**2,999**

SOURCE: Dietary Intake Interviews with students, Student Nutrition Dietary Assessment study.

NOTE: Weighted probit maximum likelihood estimates are reported. The dependent variable equals one for students who eat the NSLP lunch, and zero for other students. See Appendix A for discussion of model and variable definitions. Results from this model were used to develop two-stage least squares (2SLS) estimates in Table C.6.

OVS = offer versus serve.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.6

RESULTS FROM REGRESSION MODELS OF 24-HOUR DIETARY INTAKES

Variable	Food Energy		Protein		Percentage of Food Energy from Fat		Percentage of Food Energy from Saturated Fat	
	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	1.125 **	1.082 **	2.965 **	2.938 **	0.302 **	0.312 **	0.112 **	0.115 **
NSLP Participation	-0.019	0.050 **	0.195	0.239 **	0.032 **	0.015 **	0.014 **	0.009 **
SBP Participation	0.064 *	0.057	0.233 **	0.228 **	0.004	0.006	0.002	0.003
A la Carte Available at Lunch	-0.018	-0.019	-0.075	-0.076	-0.001	-0.001	0.001	0.001
A la Carte Available at Breakfast	0.012	0.010	0.007	0.006	0.000	0.001	-0.001	-0.001
Vending Machine/ School Store Available	0.000	0.004	-0.014	-0.011	0.008 *	0.007 *	0.002	0.002
Open Campus Available	0.016	0.022	0.096	0.100	0.004	0.003	0.004 *	0.004 *
Female	-0.137 **	-0.131 **	-0.484 **	-0.480 **	-0.006 *	-0.007 **	-0.002	-0.003 *
Age 11 to 14 Years	0.010	0.013	-0.795 **	-0.793 **	0.001	0.000	0.000	-0.001
Age 15 to 18 Years	-0.011	-0.001	-0.826 **	-0.819 **	0.003	0.000	0.000	-0.001
Black	0.042	0.036	-0.022	-0.026	0.007	0.009 *	-0.002	-0.002
Hispanic	-0.031	-0.031	-0.023	-0.023	-0.006	-0.006	-0.001	-0.001
Other Nonwhite	-0.006	-0.011	-0.057	-0.060	-0.014	-0.013	-0.005	-0.004
Low Income	-0.025	-0.037	-0.019	-0.026	0.006	0.008 **	0.005 **	0.006 **
Income Missing	0.047	0.046	0.082	0.081	0.003	0.003	0.004 *	0.004 *
Mother in Household	0.004	0.004	0.079	0.079	0.008	0.008	0.001	0.001
Mother Employed	0.005	0.007	0.016	0.018	-0.001	-0.001	0.001	0.001
Family Size 3 or 4	0.048	0.048	0.087	0.087	-0.008	-0.008	-0.006	-0.006
Family Size 5 to 7	0.051	0.050	0.078	0.077	-0.006	-0.006	-0.003	-0.003
Family Size > 7	0.137 *	0.133 *	0.296	0.293	-0.008	-0.007	-0.002	-0.001
Unusually High Intake	0.119 **	0.117 **	0.254 **	0.253 **	0.009	0.009 *	0.004	0.004
Unusually Low Intake	-0.099 **	-0.095 **	-0.344 **	-0.341 **	0.003	0.002	0.002	0.002
Urban	-0.007	0.005	-0.002	0.006	0.001	-0.002	0.001	0.000
Suburban	-0.003	0.008	0.043	0.050	0.002	0.000	0.002	0.001
Midatlantic	0.015	0.014	-0.077	-0.078	0.020 **	0.020 **	0.010 **	0.010 **
Southeast	0.018	0.009	-0.036	-0.042	0.011 *	0.014 *	0.001	0.002
Midwest	-0.038	-0.039	-0.165	-0.165	0.022 **	0.022 **	0.009 **	0.009 **
Southwest	0.085 *	0.073 *	0.089	0.081	0.019 **	0.022 **	0.008 **	0.009 **
Mountain	0.001	-0.011	-0.145	-0.152	0.011	0.014 *	0.004	0.004
West	-0.003	0.000	-0.018	-0.016	0.019 **	0.018 **	0.009 **	0.008 **

SOURCE: *Dietary Intake Interviews with students, Student Nutrition Dietary Assessment study.*

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NOTE: All dependent variables are measured as a percentage of the RDA except where noted. OLS (ordinary least squares) estimates are simple regression-adjusted estimates. 2SLS (two-stage least squares) estimates are selection-bias-adjusted instrumental variables estimates.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.6 *(continued)*

RESULTS FROM REGRESSION MODELS OF 24-HOUR DIETARY INTAKES

Variable	Percentage of Food Energy from Carbohydrate		Vitamin A		Vitamin C		Thiamin	
	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	0.570 **	0.557 **	1.450 **	1.569 **	3.551 **	3.021 **	2.106 **	2.059 **
NSLP Participation	-0.048 **	-0.026 **	0.328 *	0.135 **	-1.050 **	-0.190	-0.052	0.023
SBP Participation	-0.007	-0.010	-0.176	-0.155	0.324	0.230	0.141 *	0.133 *
A la Carte Available at Lunch	0.004	0.003	-0.101	-0.099	0.134	0.126	-0.077	-0.078
A la Carte Available at Breakfast	0.003	0.002	0.130	0.134	-0.022	-0.040	-0.003	-0.005
Vending Machine/School Store Available	-0.005	-0.004	0.008	-0.003	-0.238 *	-0.189	-0.072	-0.068
Open Campus Available	-0.008	-0.006	0.082	0.066	0.009	0.080	0.059	0.065
Female	0.012 **	0.014 **	-0.185 **	-0.203 **	-0.447 **	-0.369 **	-0.278 **	-0.271 **
Age 11 to 14 Years	-0.002	-0.001	-0.178 **	-0.187 **	0.042	0.083	-0.050	-0.046
Age 15 to 18 Years	-0.012 *	-0.009	-0.151	-0.179 *	-0.277	-0.155	-0.029	-0.018
Black	-0.005	-0.007	-0.196 **	-0.178 *	0.509 **	0.428 **	0.036	0.029
Hispanic	0.000	0.000	-0.124	-0.122	0.279	0.269	-0.112	-0.113 *
Other Nonwhite	0.010	0.008	-0.317 *	-0.304 *	-0.091	-0.150	0.063	0.058
Low Income	-0.008	-0.011 **	-0.031	0.001	-0.202	-0.347 **	-0.072	-0.085 *
Income Missing	-0.005	-0.006	0.047	0.050	-0.074	-0.091	0.011	0.010
Mother in Household	-0.010	-0.010	-0.057	-0.058	0.263	0.265	-0.016	-0.015
Mother Employed	0.002	0.003	-0.014	-0.019	-0.127	-0.102	0.022	0.024
Family Size 3 or 4	0.010	0.010	0.052	0.051	0.329	0.330	0.057	0.057
Family Size 5 to 7	0.008	0.008	0.010	0.012	0.239	0.231	0.078	0.077
Family Size > 7	0.010	0.009	0.363 *	0.374 *	0.566	0.514	0.378 **	0.373 **
Unusually High Intake	-0.009	-0.010	-0.079	-0.073	-0.020	-0.048	0.034	0.032
Unusually Low Intake	0.005	0.006	-0.163 *	-0.174 **	-0.624 **	-0.576 **	-0.189 **	-0.185 **
Urban	0.000	0.004	0.116	0.083	-0.053	0.097	-0.007	0.006
Suburban	-0.006	-0.002	0.172 *	0.141 *	-0.033	0.104	0.040	0.052
Midatlantic	-0.017 *	-0.018 *	-0.066	-0.063	-0.126	-0.137	-0.158 *	-0.159 *
Southeast	-0.009	-0.012	-0.214 *	-0.188	-0.318	-0.438 *	-0.111	-0.122
Midwest	-0.020 **	-0.020 **	-0.091	-0.089	-0.454 *	-0.462 *	-0.220 **	-0.221 **
Southwest	-0.017 *	-0.021 **	-0.173	-0.140	-0.190	-0.339	0.008	-0.005
Mountain	-0.006	-0.009	-0.129	-0.096	-0.285	-0.431 *	-0.143	-0.156
West	-0.019 *	-0.017 *	0.050	0.040	-0.277	-0.235	-0.166 *	-0.162 *

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NOTE: All dependent variables are measured as a percentage of the RDA except where noted. OLS (ordinary least squares) estimates are simple regression-adjusted estimates. 2SLS (two-stage least squares) estimates are selection-bias-adjusted instrumental variables estimates.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.6 *(continued)*

RESULTS FROM REGRESSION MODELS OF 24-HOUR DIETARY INTAKES

Variable	Riboflavin		Niacin		Vitamin B6		Folate	
	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	2.127 **	2.052 **	1.991 **	1.929 **	1.504 **	1.446 **	3.692 **	3.409 **
NSLP Participation	0.044	0.164 **	-0.030	0.070 *	-0.029	0.065 *	-0.351	0.108
SBP Participation	0.120	0.107	0.034	0.023	0.031	0.020	0.086	0.036
A la Carte Available at Lunch	-0.081 *	-0.082 *	-0.065	-0.066	-0.045	-0.046	-0.094	-0.098
A la Carte Available at Breakfast	0.024	0.021	-0.015	-0.017	0.011	0.009	0.124	0.114
Vending Machine/School Store Available	-0.054	-0.047	-0.077	-0.071	-0.062	-0.056	-0.173 *	-0.147 *
Open Campus Available	0.094	0.104 *	-0.002	0.007	0.023	0.031	0.020	0.058
Female	-0.320 **	-0.309 **	-0.295 **	-0.286 **	-0.200 **	-0.191 **	-0.574 **	-0.533 **
Age 11 to 14 Years	-0.051	-0.045	-0.080	-0.075	0.041	0.046	-0.785 **	-0.764 **
Age 15 to 18 Years	-0.136 *	-0.119 *	-0.027	-0.013	0.008	0.021	-1.073 **	-1.008 **
Black	-0.136 **	-0.148 **	-0.026	-0.035	-0.011	-0.020	-0.180 *	-0.223 *
Hispanic	-0.113 *	-0.114 *	-0.093	-0.095	-0.041	-0.042	-0.104	-0.109
Other Nonwhite	-0.180	-0.188	0.001	-0.006	-0.070	-0.077	-0.298	-0.330
Low Income	-0.051	-0.071	-0.070	-0.087 *	-0.069	-0.085 *	-0.054	-0.131
Income Missing	0.045	0.043	-0.039	-0.041	-0.029	-0.031	-0.004	-0.012
Mother in Household	-0.063	-0.063	-0.055	-0.055	-0.087	-0.087	-0.216	-0.215
Mother Employed	0.017	0.020	0.017	0.020	0.013	0.015	0.005	0.019
Family Size 3 or 4	0.070	0.070	0.126	0.126	0.077	0.078	0.092	0.092
Family Size 5 to 7	0.097	0.096	0.112	0.111	0.081	0.080	0.104	0.100
Family Size > 7	0.313 *	0.306 *	0.275 *	0.269 *	0.218 *	0.212 *	0.384	0.356
Unusually High Intake	0.082	0.079	0.139 *	0.136 *	0.089	0.086	0.081	0.066
Unusually Low Intake	-0.186 **	-0.179 **	-0.187 **	-0.181 **	-0.143 **	-0.137 **	-0.270 **	-0.244 **
Urban	0.020	0.041	0.004	0.021	0.026	0.042	0.029	0.109
Suburban	0.036	0.056	0.045	0.060	0.051	0.066	0.045	0.118
Midatlantic	-0.072	-0.073	-0.125	-0.126	-0.032	-0.033	-0.161	-0.167
Southeast	-0.082	-0.099	-0.064	-0.078	-0.028	-0.041	-0.106	-0.170
Midwest	-0.053	-0.054	-0.223 **	-0.224 **	-0.073	-0.074	-0.223	-0.228 *
Southwest	0.083	0.062	-0.044	-0.061	0.036	0.020	0.069	-0.010
Mountain	-0.046	-0.067	-0.162 *	-0.179 *	-0.042	-0.058	-0.030	-0.108
West	-0.015	-0.009	-0.177 *	-0.172 *	-0.013	-0.008	0.122	0.145

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TABLE C.6 *(continued)*

RESULTS FROM REGRESSION MODELS OF 24-HOUR DIETARY INTAKES

	Vitamin B12		Calcium		Iron		Phosphorous	
Variable	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	3.288 **	3.368 **	1.455 **	1.377 **	1.910 **	1.847 **	1.828 **	1.790 **
NSLP Participation	0.672	0.543 **	0.059	0.185 **	-0.059	0.043	0.111	0.172 **
SBP Participation	0.195	0.209	0.113 **	0.099 *	0.001	-0.010	0.132 **	0.126 **
A la Carte Available at Lunch	-0.305 *	-0.303 *	-0.039	-0.040	-0.059	-0.060	-0.048	-0.049
A la Carte Available at Breakfast	0.162	0.165	-0.005	-0.008	0.057	0.055	0.007	0.005
Vending Machine/School Store Available	0.060	0.052	-0.008	-0.001	-0.053	-0.048	-0.011	-0.007
Open Campus Available	0.139	0.129	0.093 **	0.103 **	0.015	0.024	0.090 *	0.095 *
Female	-1.078 **	-1.089 **	-0.284 **	-0.272 **	-0.577 **	-0.568 **	-0.380 **	-0.375 **
Age 11 to 14 Years	-0.426 **	-0.432 **	-0.304 **	-0.298 **	-0.179 **	-0.174 **	-0.360 **	-0.357 **
Age 15 to 18 Years	-0.347	-0.365 *	-0.262 **	-0.244 **	-0.021	-0.007	-0.244 **	-0.235 **
Black	-0.073	-0.061	-0.150 **	-0.162 **	-0.064	-0.073	-0.103 *	-0.108 **
Hispanic	-0.071	-0.070	-0.018	-0.019	-0.100	-0.101	-0.013	-0.014
Other Nonwhite	-0.391	-0.382	-0.133 *	-0.142 *	-0.073	-0.080	-0.133	-0.137
Low Income	0.074	0.096	-0.040	-0.061 *	-0.031	-0.048	-0.049	-0.059
Income Missing	0.225	0.227	0.049	0.047	0.013	0.011	0.056	0.055
Mother in Household	0.175	0.174	-0.023	-0.023	-0.176 *	-0.175 *	-0.007	-0.007
Mother Employed	0.051	0.047	0.008	0.012	0.037	0.040	0.021	0.022
Family Size 3 or 4	0.205	0.205	0.010	0.011	0.142	0.142	0.068	0.068
Family Size 5 to 7	0.252	0.253	0.029	0.028	0.143	0.142	0.070	0.070
Family Size > 7	0.561	0.569	0.074	0.066	0.221	0.215	0.164	0.161
Unusually High Intake	0.027	0.031	0.057	0.053	0.018	0.014	0.126 **	0.124 **
Unusually Low Intake	-0.464 **	-0.472 **	-0.122 **	-0.115 **	-0.134 **	-0.128 **	-0.180 **	-0.177 **
Urban	0.117	0.094	0.001	0.023	0.065	0.082	0.001	0.012
Suburban	0.052	0.031	0.014	0.035	0.091	0.107 *	0.023	0.033
Midatlantic	0.320	0.322	-0.014	-0.016	-0.079	-0.080	-0.016	-0.017
Southeast	-0.148	-0.130	-0.048	-0.066	-0.073	-0.088	-0.036	-0.045
Midwest	0.098	0.099	0.027	0.026	-0.140 *	-0.141 *	-0.034	-0.034
Southwest	0.328	0.351	0.042	0.020	0.062	0.044	0.089	0.078
Mountain	-0.098	-0.076	0.024	0.002	-0.012	-0.030	0.004	-0.007
West	0.096	0.089	0.078	0.084	-0.039	-0.034	0.066	0.069

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TABLE C.6 *(continued)*

RESULTS FROM REGRESSION MODELS OF 24-HOUR DIETARY INTAKES

	Magnesium		Zinc		Cholesterol (mg)		Sodium (mg)	
Variable	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS
Constant	1.778 **	1.747 **	1.041 **	1.032 **	244.290 **	239.530 **	4038.70 **	4031.50 **
NSLP Participation	0.046	0.097 **	0.102	0.116 **	17.105	24.826 **	386.65	398.18 **
SBP Participation	0.099 *	0.094 *	0.099	0.097	24.308	23.466	191.77	190.51
A la Carte Available at Lunch	-0.042	-0.043	-0.024	-0.024	-8.627	-8.696	-49.26	-49.36
A la Carte Available at Breakfast	0.058	0.057	0.034	0.033	4.053	3.884	-60.34	-60.60
Vending Machine/School Store Available	-0.018	-0.015	0.010	0.011	10.501	10.944	92.55	93.21
Open Campus Available	0.044	0.048	0.042	0.043	8.799	9.434	57.00	57.95
Female	-0.240 **	-0.236 **	-0.171 **	-0.169 **	-97.395 **	-96.696 **	-1,213.40 **	-1,212.40 **
Age 11 to 14 Years	-0.492 **	-0.490 **	-0.147 **	-0.146 **	39.693 **	40.058 **	747.97 **	748.52 **
Age 15 to 18 Years	-0.693 **	-0.685 **	-0.044	-0.042	67.651 **	68.749 **	1,376.60 **	1,378.20 **
Black	-0.043	-0.048	0.007	0.005	18.145	17.423	122.42	121.35
Hispanic	-0.046	-0.046	-0.021	-0.022	23.217	23.129	18.79	18.66
Other Nonwhite	-0.132 *	-0.135 *	-0.037	-0.038	31.315	30.781	339.64	338.84
Low Income	-0.064 *	-0.072 **	-0.033	-0.035	24.663 *	23.365 *	0.68	-1.26
Income Missing	0.014	0.013	0.061	0.061	20.009	19.864	246.29	246.07
Mother in Household	-0.015	-0.015	-0.015	-0.015	19.832	19.847	-68.46	-68.44
Mother Employed	0.000	0.002	-0.005	-0.005	9.773	9.995	97.05	97.38
Family Size 3 or 4	0.060	0.060	0.083	0.083	-4.815	-4.811	255.96	255.97
Family Size 5 to 7	0.073	0.072	0.088	0.088	-8.827	-8.901	262.44	262.33
Family Size > 7	0.147	0.144	0.232 *	0.231 *	28.687	28.221	451.30	450.61
Unusually High Intake	0.077	0.076	0.088	0.088	35.664 *	35.412 *	424.13 **	423.75 **
Unusually Low Intake	-0.165 **	-0.162 **	-0.118 **	-0.117 **	-41.682 **	-41.246 **	-484.22 **	-483.57 **
Urban	0.023	0.032	0.047	0.050	-0.038	1.304	-101.59	-99.58
Suburban	0.012	0.020	0.045	0.047	-1.312	-0.085	41.60	43.43
Midatlantic	-0.089	-0.089	0.044	0.044	29.721	29.623	109.68	109.53
Southeast	-0.077	-0.084	0.033	0.031	33.833 *	32.754 *	190.07	188.46
Midwest	-0.093 *	-0.094 *	0.000	-0.001	5.814	5.740	-62.20	-62.31
Southwest	0.007	-0.002	0.149 *	0.146 *	57.137 **	55.798 **	394.51 *	392.51 *
Mountain	-0.020	-0.029	0.045	0.042	-3.523	-4.835	116.80	114.84
West	0.050	0.052	0.090	0.091	16.444	16.829	-40.87	-40.30

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NOTE: All dependent variables are measured as a percentage of the RDA except where noted. OLS (ordinary least squares) estimates are simple regression-adjusted estimates. 2SLS (two-stage least squares) estimates are selection-bias-adjusted instrumental variables estimates.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.7

24-HOUR DIETARY INTAKES OF PARTICIPANTS IN BOTH THE SBP AND THE NSLP

Dietary Component	Regression-Adjusted Dietary Intakes: Participants in SBP and NSLP	Regression-Adjusted Dietary Intakes: Nonparticipants	Regression-Adjusted Dietary Intakes: Difference	Selection-Bias Adjusted Difference
Macronutrients				
Food Energy (Percentage of the RDA)	118	107	11 **	5
Protein (Percentage of the RDA)	277	231	47 **	43 **
Percentage of Food Energy from:				
Fat	35	33	2 **	4 **
Saturated Fat	13	12	1 **	2 **
Carbohydrate	51	54	-4 **	-5 **
Vitamins (Percentage of the RDA)				
Vitamin A	121	123	-2	15
Vitamin C	292	288	4	-73 *
Thiamin	190	174	16 *	9
Riboflavin	203	176	27 **	16
Niacin	169	160	9	0
Vitamin B6	137	128	9	0
Folate	246	231	14	-27
Vitamin B12	377	302	75 **	87 *
Minerals (Percentage of the RDA)				
Calcium	133	104	28 **	17 *
Iron	145	142	3	-6
Phosphorus	175	146	30 **	24 **
Magnesium	145	125	19 **	15
Zinc	124	103	21 **	20 *
Other Components (Intake)				
Cholesterol (mg)	330	281	48 **	41
Sodium (mg)	4,975	4,387	589 **	578

SOURCE: Weighted tabulations of data collected from Dietary Intake Interviews with students, School Nutrition Dietary Assessment study.

NOTE: The estimation sample includes students at schools offering the SBP and students at schools not offering the SBP. Intakes and differences in the intakes of SBP participants and nonparticipants are based on multiple regression models of students' dietary intakes. Selection-bias adjusted differences in estimated intakes of SBP participants and nonparticipants are based on models of NSLP participation and students' dietary intakes.

mg = milligrams.

*/** indicates the difference is statistically significant at the 95/99 percent confidence level with a two-tailed test.

TABLE C.8

24-HOUR DIETARY INTAKES OF PARTICIPANTS IN EITHER THE SBP AND/OR THE NSLP

Dietary Component	Regression-Adjusted Dietary Intakes: Participants in Either Program	Regression-Adjusted Dietary Intakes: Nonparticipants	Regression-Adjusted Dietary Intakes: Difference	Selection-Bias Adjusted Difference
Macronutrients				
Food Energy (Percentage of the RDA)	113	107	6 **	-1
Protein (Percentage of the RDA)	258	231	27 **	23
Percentage of Food Energy from:				
Fat	35	33	2 **	3 **
Saturated Fat	13	12	1 **	1 **
Carbohydrate	51	54	-3 **	-5 **
Vitamins (Percentage of the RDA)				
Vitamin A	134	123	11 *	29
Vitamin C	274	288	-14	-96 **
Thiamin	179	174	5	-3
Riboflavin	194	176	18 **	6
Niacin	167	160	7 *	-2
Vitamin B6	135	128	7 *	-2
Folate	243	231	12	-33
Vitamin B12	359	302	57 **	69
Minerals (Percentage of the RDA)				
Calcium	124	104	20 **	8
Iron	146	142	4	-6
Phosphorus	164	146	18 **	13
Magnesium	137	125	12 **	6
Zinc	116	103	13 **	12
Other Components (Intake)				
Cholesterol (mg)	309	281	28 **	21
Sodium (mg)	4,807	4,387	420 **	409

SOURCE: Weighted tabulations of data collected from Dietary Intake Interviews with students, School Nutrition Dietary Assessment study.

NOTE: The estimation sample includes students at schools offering the SBP and students at schools not offering the SBP. Intakes and differences in the intakes of SBP participants and nonparticipants are based on multiple regression models of students' dietary intakes. Selection-bias adjusted differences in estimated intakes of SBP participants and nonparticipants are based on models of NSLP participation and students' dietary intakes.

mg = milligrams.

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APPENDIX D

FOOD SOURCES OF DIETARY COMPONENTS CONSUMED

TABLE D.1

FOOD SOURCES OF NUTRIENT INTAKE AT LUNCH, BY NSLP PARTICIPATION STATUS

Food Group	Food Energy (Percent of RDA)		Protein (Percent of RDA)		Vitamin A (Percent of RDA)		Vitamin C (Percent of RDA)	
	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant
Milk and Milk Products	7.3	3.7 **	22.5	10.6 **	15.5	6.6 **	4.0	1.6 **
White milk	2.0	0.7 **	7.7	2.6 **	4.5	1.7 **	1.5	0.7 **
Flavored milk	3.8	1.0 **	11.2	2.7 **	8.7	1.9 **	2.3	0.6 **
Cheese	0.9	1.2 *	2.9	4.2 *	1.8	2.4	0.0	0.1
Other milk products	0.6	0.8	0.7	1.1 *	0.6	0.7	0.1	0.2 *
Meat, Poultry, Fish, Meat Mixtures	8.1	4.6 **	36.1	20.7 **	2.8	1.1 **	7.0	7.2
Eggs	0.1	0.1	0.1	0.3	0.1	0.2	0.0	0.0
Dry Beans, Peas, Other Legumes	0.6	1.4 **	1.7	3.3 **	0.0	0.0	0.1	0.1
Grain Products	11.3	11.3	20.7	16.4 **	4.8	4.2	7.4	3.4 **
Yeast breads, rolls	3.3	3.5	5.6	6.5 *	0.1	0.1	0.0	0.0
Quick breads and tortillas	0.4	0.2 *	0.6	0.3 *	0.1	0.1	0.0	0.0
Cakes, cookies, pies, pastries	2.7	3.7 *	1.9	2.7 **	1.0	1.4	0.3	0.4
Crackers and salty snacks	0.5	1.8 **	0.5	1.8 **	0.1	0.2 **	0.0	0.0
Pancakes, waffles, french toast	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0
Pastas, cooked cereals, rice	0.3	0.1 *	0.4	0.1 **	0.0	0.0	0.0	0.0
Cereals, not cooked	0.0	0.1 **	0.0	0.1 **	0.0	0.6 **	0.0	0.6 **
Grain mixtures	4.2	1.9 **	11.7	4.8 **	3.5	1.7 **	7.0	2.3 **
Fruits and Fruit Juices	1.9	1.8	0.9	1.0	1.2	0.9 *	21.3	28.0 *
Vegetables	3.3	2.3 **	3.8	1.9 **	8.4	4.2 **	12.1	6.8 **
White potatoes	2.4	2.1	1.8	1.4 *	0.6	0.1 **	4.7	4.8
Dark-green vegetables	0.0	0.0	0.1	0.0 *	0.3	0.1	1.2	0.2 *
Deep-yellow vegetables	0.0	0.0	0.1	0.0	3.6	2.9	0.2	0.1
Tomatoes and tomato mixtures	0.2	0.1 **	0.3	0.1 **	0.6	0.3 **	1.9	0.8 **
Other vegetables	0.7	0.1 **	1.6	0.3 **	3.3	0.8 **	4.1	0.8 **
Fat, Oils, and Salad Dressings	0.6	0.5 *	0.1	0.1 **	0.5	0.5	0.0	0.0 **
Sugar, Sweets, Sweetened Beverages	1.3	4.3 **	0.4	0.7 **	0.1	0.6 **	8.0	31.1 **
All Foods	34.3	29.9 **	86.2	54.9 **	33.3	18.1 **	59.9	78.1 **

(*Continued on next page*)

NOTE: Table entries are the mean percentage of the RDA provided by foods in each food group, except for those for fat, saturated fat, carbohydrate, cholesterol, and sodium. Entries for fat, saturated fat, carbohydrate, sodium, and cholesterol show mean levels of these dietary components contributed by foods in each food group. Means are not regression-adjusted.

*/** indicates that participant/nonparticipant differences are statistically significant at the 95/99 percent confidence level.

TABLE D.1 *(continued)*

FOOD SOURCES OF NUTRIENT INTAKE AT LUNCH, BY NSLP PARTICIPATION STATUS

Food Group	Thiamin (Percent of RDA)		Riboflavin (Percent of RDA)		Niacin (Percent or RDA)		Vitamin B6 (Percent of RDA)	
	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant
Milk and Milk Products	7.2	2.7 **	26.6	10.7 **	1.7	0.8 **	6.0	2.3 **
White milk	2.8	1.0 **	9.8	3.5 **	0.5	0.2 **	2.3	0.8 **
Flavored milk	3.9	1.0 **	14.4	3.6 **	1.0	0.3 **	3.2	0.8 **
Cheese	0.2	0.3	1.4	2.1 *	0.1	0.1	0.3	0.5 **
Other milk products	0.3	0.4	1.0	1.5 *	0.1	0.2 *	0.2	0.3
Meat, Poultry, Fish, Meat Mixtures	9.5	10.5	9.8	6.4 **	22.9	14.0 **	11.9	7.6 **
Eggs	0.0	0.1	0.1	0.3	0.0	0.0	0.1	0.1
Dry Beans, Peas, Other Legumes	0.8	1.3 *	0.4	0.8 **	1.3	3.8 **	0.6	1.2 **
Grain Products	20.7	21.1	14.5	15.0	15.3	15.1	5.7	5.5
Yeast breads, rolls	8.8	10.5 **	4.8	6.3 **	5.7	7.1 **	1.1	1.3 **
Quick breads and tortillas	0.9	0.4 *	0.6	0.3	0.5	0.2 *	0.2	0.1 **
Cakes, cookies, pies, pastries	2.3	3.5 **	1.9	2.8 **	1.5	2.2 **	0.5	1.0 **
Crackers and salty snacks	0.5	2.2 **	0.5	1.9 **	0.4	1.7 **	0.3	1.0 **
Pancakes, waffles, french toast	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.0
Pastas, cooked cereals, rice	0.6	0.2 *	0.1	0.0 *	0.4	0.1 *	0.2	0.1 *
Cereals, not cooked	0.0	0.6 **	0.0	0.6 **	0.0	0.7 **	0.0	0.7 **
Grain mixtures	7.5	3.6 **	6.6	3.0 **	6.8	3.1 **	3.3	1.5 **
Fruits and Fruit Juices	2.5	2.8	1.3	1.6 *	1.4	1.1 *	2.5	3.7 **
Vegetables	5.8	2.4 **	2.5	1.3 **	4.8	2.8 **	6.9	4.6 **
White potatoes	3.0	1.8 **	0.9	0.9	2.9	2.3 *	5.1	4.1 *
Dark-green vegetables	0.1	0.0 *	0.1	0.0 *	0.0	0.0 *	0.1	0.0 *
Deep-yellow vegetables	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1
Tomatoes and tomato mixtures	0.4	0.1 **	0.2	0.1 **	0.5	0.2 **	0.5	0.2 **
Other vegetables	2.2	0.3 **	1.2	0.2 **	1.3	0.2 **	1.1	0.2 **
Fat, Oils, and Salad Dressings	0.0	0.0	0.1	0.0 **	0.0	0.0	0.2	0.3 **
Sugar, Sweets, Sweetened Beverages	0.3	1.1 **	0.5	1.7 **	0.2	0.5 **	0.3	0.7 **
All Foods	46.8	41.8 **	55.8	37.8 **	47.7	38.1 **	34.0	25.9 **

(*Continued on next page*)

NOTE: Table entries are the mean percentage of the RDA provided by foods in each food group, except for those for fat, saturated fat, carbohydrate, cholesterol, and sodium. Entries for fat, saturated fat, carbohydrate, sodium, and cholesterol show mean levels of these dietary components contributed by foods in each food group. Means are not regression-adjusted.

*/** indicates that participant/nonparticipant differences are statistically significant at the 95/99 percent confidence level.

TABLE D.1 *(continued)*

FOOD SOURCES OF NUTRIENT INTAKE AT LUNCH, BY NSLP PARTICIPATION STATUS

Food Group	Folate (Percent of RDA)		Vitamin B12 (Percent of RDA)		Calcium (Percent of RDA)		Iron (Percent of RDA)	
	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant
Milk and Milk Products	9.0	3.5 **	47.2	17.6 **	28.3	12.7 **	3.5	1.4 **
White milk	3.4	1.2 **	18.1	6.2 **	10.1	3.5 **	0.3	0.1 **
Flavored milk	4.9	1.2 **	25.6	6.2 **	14.4	3.5 **	2.7	0.6 **
Cheese	0.4	0.6 *	2.1	3.4 **	3.0	4.5 *	0.2	0.4
Other milk products	0.4	0.5	1.4	1.8	0.8	1.2 *	0.2	0.3
Meat, Poultry, Fish, Meat Mixtures	7.9	3.2 **	50.1	29.2 **	2.5	1.6 **	10.7	6.0 **
Eggs	0.1	0.2	0.2	0.4	0.0	0.1	0.0	0.1
Dry Beans, Peas, Other Legumes	2.9	3.9	0.2	0.0	0.3	0.4 *	0.9	1.3
Grain Products	18.0	18.5	11.0	6.8 **	9.7	7.3 **	16.6	16.6
Yeast breads, rolls	7.6	8.3	0.1	0.1	2.4	2.8 *	6.1	7.1 *
Quick breads and tortillas	0.4	0.2 *	0.2	0.1	0.4	0.2 **	0.6	0.3 *
Cakes, cookies, pies, pastries	1.3	2.4 **	1.0	1.4 *	0.9	1.1	2.4	3.5 **
Crackers and salty snacks	0.5	2.4 **	0.1	0.5 **	0.2	0.7 **	0.5	1.9 **
Pancakes, waffles, french toast	0.0	0.1	0.0	0.2	0.0	0.2	0.0	0.1
Pastas, cooked cereals, rice	0.1	0.1	0.0	0.0	0.1	0.0 *	0.4	0.1 *
Cereals, not cooked	0.0	1.4 **	0.0	0.6 *	0.0	0.0	0.0	0.8 *
Grain mixtures	8.0	3.5 **	9.7	3.9 **	5.7	2.3 **	6.6	3.0 **
Fruits and Fruit Juices	5.9	7.4	0.0	0.0	0.7	0.9	1.6	1.5
Vegetables	11.2	4.2 **	0.8	0.2 **	1.5	0.6 **	3.5	1.6 **
White potatoes	2.5	2.5	0.4	0.1 **	0.5	0.3 **	1.4	1.1 *
Dark-green vegetables	0.4	0.2	0.0	0.0	0.1	0.0	0.1	0.0
Deep-yellow vegetables	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0
Tomatoes and tomato mixtures	0.9	0.3 **	0.0	0.0	0.1	0.1 **	0.4	0.2 **
Other vegetables	7.3	1.1 **	0.3	0.1	0.7	0.2 **	1.6	0.3 **
Fat, Oils, and Salad Dressings	0.1	0.1	0.3	0.2 *	0.1	0.1 **	0.1	0.1 *
Sugar, Sweets, Sweetened Beverages	0.6	2.3 **	0.2	0.6 **	0.3	1.3 **	0.5	1.7 **
All Foods	55.7	43.1 **	109.9	55.0 **	43.4	24.9 **	37.3	30.3 **

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NOTE: Table entries are the mean percentage of the RDA provided by foods in each food group, except for those for fat, saturated fat, carbohydrate, cholesterol, and sodium. Entries for fat, saturated fat, carbohydrate, sodium, and cholesterol show mean levels of these dietary components contributed by foods in each food group. Means are not regression-adjusted.

*/** indicates that participant/nonparticipant differences are statistically significant at the 95/99 percent confidence level.

TABLE D.1 *(continued)*

FOOD SOURCES OF NUTRIENT INTAKE AT LUNCH, BY NSLP PARTICIPATION STATUS

Food Group	Phosphorus (Percent of RDA)		Magnesium (Percent of RDA)		Zinc (Percent of RDA)		Fat (Grams)	
	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant
Milk and milk products	25.1	11.7 **	14.6	5.4 **	8.7	4.4 **	6.2	4.0 **
White milk	7.9	2.8 **	5.2	1.7 **	2.7	1.0 **	2.0	0.6 **
Flavored milk	13.0	3.2 **	8.3	2.0 **	4.5	1.1 **	2.0	0.6 **
Cheese	3.4	4.6	0.5	0.8 **	1.2	1.8 *	1.5	2.0
Other milk products	0.9	1.2	0.6	0.9 *	0.4	0.6 *	0.7	0.8
Meat, Poultry, Fish, Meat Mixtures	11.8	7.8 **	7.1	3.7 **	15.6	8.3 **	11.1	6.4 **
Eggs	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1
Dry Beans, Peas, Other Legumes	1.0	1.7 *	1.8	3.4 **	0.9	1.2	0.8	2.0 **
Grain Products	11.4	10.3	10.3	11.1	7.5	6.4 *	9.0	8.8
Yeast breads, rolls	2.5	3.3 **	2.9	4.5 **	1.6	2.1 **	1.4	1.2
Quick breads and tortillas	0.5	0.2 **	0.5	0.1 **	0.2	0.1 **	0.3	0.1 *
Cakes, cookies, pies, pastries	1.4	2.4 **	1.7	2.5 *	0.7	0.1 **	2.5	3.6 **
Crackers and salty snacks	0.4	1.4 **	0.6	1.9 **	0.2	0.8 **	0.5	1.8 **
Pancakes, waffles, french toast	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.1
Pastas, cooked cereals, rice	0.2	0.1 *	0.3	0.1 **	0.2	0.0 *	0.0	0.0 *
Cereals, not cooked	0.0	0.1 *	0.0	0.2 *	0.0	0.2 **	0.0	0.0 *
Grain mixtures	6.3	2.7 **	4.3	1.7 **	4.6	2.0 **	4.3	2.0 **
Fruits and Fruit Juices	0.8	0.9	2.6	2.8	0.4	0.4	0.1	0.2 **
Vegetables	3.2	1.7 **	5.8	2.9 **	1.8	1.0 **	3.4	3.1
White potatoes	1.4	1.3	2.7	2.3	0.8	0.7	2.9	2.9
Dark-green vegetables	0.1	0.0 *	0.1	0.0 *	0.0	0.0 *	0.0	0.0
Deep-yellow vegetables	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0 *
Tomatoes and tomato mixtures	0.2	0.1 **	0.5	0.2 **	0.1	0.0 **	0.0	0.0
Other vegetables	1.4	0.3 **	2.4	0.4 **	0.9	0.2 **	0.4	0.1 **
Fat, Oils, and Salad Dressings	0.1	0.1 **	0.1	0.0 **	0.0	0.0 **	1.4	1.1 *
Sugar, Sweets, Sweetened Beverages	0.5	1.7 **	0.6	1.9 **	0.3	1.0 **	0.3	0.8 **
All Foods	53.8	36.0 **	42.7	31.3 **	35.3	22.7 **	32.3	26.5 **

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NOTE: Table entries are the mean percentage of the RDA provided by foods in each food group, except for those for fat, saturated fat, carbohydrate, cholesterol, and sodium. Entries for fat, saturated fat, carbohydrate, sodium, and cholesterol show mean levels of these dietary components contributed by foods in each food group. Means are not regression-adjusted.

*/** indicates that participant/nonparticipant differences are statistically significant at the 95/99 percent confidence level.

TABLE D.1 *(continued)*

FOOD SOURCES OF NUTRIENT INTAKE AT LUNCH, BY NSLP PARTICIPATION STATUS

Food Group	Saturated Fat (Grams)		Carbohydrate (Grams)		Cholesterol (mg)		Sodium (mg)	
	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant	NSLP Participant	Nonparticipant
Milk and milk products	3.9	2.4 **	18.7	7.8 **	21.2	12.4 **	185	129 **
White milk	1.3	0.4 **	3.7	1.4 **	8.1	2.6 **	39	14 **
Flavored milk	1.2	0.4 **	13.0	3.4 **	6.9	2.2 **	71	18 **
Cheese	0.9	1.3	0.3	0.4	4.4	5.9	66	86
Other milk products	0.4	0.4	1.8	2.5 *	1.8	1.8	10	10
Meat, Poultry, Fish, Meat Mixtures	3.9	2.2 **	6.3	3.6 **	43.9	25.1 **	525	395 **
Eggs	0.0	0.0	0.0	0.0	1.3	2.6	2	4
Dry Beans, Peas, Other Legumes	0.1	0.4 **	1.1	2.2 **	0.1	0.1	21	35 *
Grain Products	3.0	2.7	35.6	38.8	16.1	12.7 *	449	421
Yeast breads, rolls	0.6	0.3	12.9	14.3	0.5	1.0	123	149 **
Quick breads and tortillas	0.1	0.0	1.3	0.7 *	0.5	0.5	14	7 *
Cakes, cookies, pies, pastries	0.8	1.2 **	9.1	12.8 *	4.2	5.6	38	63 **
Crackers and salty snacks	0.1	0.4 **	1.5	5.2 **	0.2	0.4 **	20	70 **
Pancakes, waffles, french toast	0.0	0.0 *	0.0	0.2	0.1	0.6	0	4
Pastas, cooked cereals, rice	0.0	0.0	1.1	0.3 *	0.1	0.0	13	4 *
Cereals, not cooked	0.0	0.0 *	0.0	0.5 **	0.0	0.0	0	5 **
Grain mixtures	1.7	0.7 **	9.6	4.8 **	10.5	4.6 **	241	119 **
Fruits and Fruit Juices	0.0	0.0 **	10.5	10.0	0.0	0.0	2	1 **
Vegetables	1.0	0.9	10.5	6.0 **	1.0	0.3 **	272	116 **
White potatoes	0.9	0.8	6.6	5.2 *	0.4	0.1 *	136	76 **
Dark-green vegetables	0.0	0.0	0.1	0.0 *	0.0	0.1	5	1 *
Deep-yellow vegetables	0.0	0.0 *	0.2	0.1	0.0	0.0	2	0 *
Tomatoes and tomato mixtures	0.0	0.0	1.0	0.3 **	0.0	0.0	43	15 **
Other vegetables	0.1	0.0 **	2.6	0.4 **	0.6	0.1 *	87	24 **
Fat, Oils, and Salad Dressings	0.3	0.2 *	0.2	0.2	1.0	0.7	26	13 **
Sugar, Sweets, Sweetened Beverages	0.1	0.4 **	7.0	23.3 **	0.1	0.5 **	10	30 **
All Foods	12.3	9.3 **	89.9	91.9	84.6	54.4 **	1,503	1,149 **

NOTE: Table entries are the mean percentage of the RDA provided by foods in each food group, except for those for fat, saturated fat, carbohydrate, cholesterol, and sodium. Entries for fat, saturated fat, carbohydrate, sodium, and cholesterol show mean levels of these dietary components contributed by foods in each food group. Means are not regression-adjusted.

*/** indicates that participant/nonparticipant differences are statistically significant at the 95/99 percent confidence level.

mg = milligrams.

TABLE D.2

FOOD SOURCES OF NUTRIENT INTAKE AT BREAKFAST, BY SBP PARTICIPATION STATUS

Food Group	Food Energy (Percent of RDA)		Protein (Percent of RDA)		Vitamin A (Percent of RDA)		Vitamin C (Percent of RDA)	
	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant
Milk and Milk Products	6.1	4.2 **	21.9	15.4 **	12.2	10.4 *	4.0	3.4 *
White milk	4.2	3.6 *	16.2	13.8	8.1	9.2	3.1	3.0
Flavored milk	1.6	0.3 **	4.8	0.7 **	3.5	0.4 **	0.9	0.2 **
Cheese	0.2	0.2	0.9	0.6	0.5	0.4	0.0	0.0
Other milk products	0.1	0.2 **	0.1	0.4 **	0.1	0.4 **	0.0	0.3 **
Meat, Poultry, Fish, Meat Mixtures	2.5	0.7 **	9.5	2.4 **	0.2	0.1	1.3	0.8
Eggs	1.1	0.7	5.0	2.8	3.3	1.8	0.1	0.1
Dry Beans, Peas, Other Legumes	0.6	0.2	1.7	0.5	0.0	0.0	0.0	0.0
Grain Products	11.0	8.6 **	16.6	12.1 **	19.7	25.7 *	16.4	19.5
Yeast breads, rolls	2.3	1.7	3.7	2.9	0.2	0.1	0.0	0.0
Quick breads and tortillas	2.5	0.6 **	3.5	0.8 **	0.4	0.1 **	0.2	0.0 **
Cakes, cookies, pies, pastries	1.8	1.5	1.2	1.1	0.7	0.6	0.2	0.2
Crackers and salty snacks	0.1	0.1	0.1	0.1	0.0	0.0 **	0.0	0.0 *
Pancakes, waffles, french toast	0.7	0.7	1.5	1.4	0.5	0.4	0.1	0.1
Pastas, cooked cereals, rice	0.4	0.4	0.7	0.9	0.4	1.3 **	0.0	0.0 *
Cereals, not cooked	2.3	3.4 **	3.0	4.5 **	16.9	23.0 *	14.7	19.1 *
Grain mixtures	0.9	0.1 *	2.8	0.3 *	0.7	0.2	1.2	0.1 *
Fruits and Fruit Juices	2.9	1.8 **	1.8	1.3 **	1.5	1.2	60.9	49.7
Vegetables	0.2	0.3	0.2	0.2	0.2	0.4	0.4	0.9
White potatoes	0.1	0.2	0.1	0.2	0.0	0.0	0.3	0.6
Dark-green vegetables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deep-yellow vegetables	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0
Tomatoes and tomato mixtures	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Other vegetables	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1
Fat, Oils, and Salad Dressings	0.3	0.4	0.0	0.0	1.0	1.5 *	0.0	0.0
Sugar, Sweets, Sweetened Beverages	1.6	1.7	0.1	0.2	0.0	0.3 **	5.9	9.5
All Foods	26.1	18.5 **	56.7	34.9 **	38.0	41.5	89.1	84.1

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NOTE: Table entries are the mean percentage of the RDA provided by foods in each food group, except for those for fat, saturated fat, carbohydrate, cholesterol, and sodium. Entries for fat, saturated fat, carbohydrate, sodium, and cholesterol show mean levels of these dietary components contributed by foods in each food group. Means are not regression-adjusted.

*/** indicates that participant/nonparticipant differences are statistically significant at the 95/99 percent confidence level.

TABLE D.2 *(continued)*

FOOD SOURCES OF NUTRIENT INTAKE AT BREAKFAST, BY SBP PARTICIPATION STATUS

Food Group	Thiamin (Percent of RDA)		Riboflavin (Percent of RDA)		Niacin (Percent of RDA)		Vitamin B6 (Percent of RDA)	
	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant
Milk and Milk Products	7.3	5.8 **	26.3	20.1 **	1.4	1.2	5.9	4.8 **
White milk	5.6	5.3	19.7	18.5	0.9	0.9	4.5	4.3
Flavored milk	1.6	0.3 **	6.0	1.0 **	0.4	0.1 **	1.3	0.2 **
Cheese	0.1	0.0	0.4	0.3	0.0	0.0	0.1	0.1
Other milk products	0.1	0.3 **	0.1	0.4 *	0.0	0.2 **	0.0	0.2 **
Meat, Poultry, Fish, Meat Mixtures	8.4	1.9 **	3.0	0.8 **	5.2	1.5 **	3.3	0.8 **
Eggs	0.9	0.7	5.0	3.1	0.1	0.2	1.0	0.7
Dry Beans, Peas, Other Legumes	2.6	0.2	0.3	0.1	1.3	0.6	0.9	0.2
Grain Products	33.1	34.6	29.1	29.9	28.4	31.9	19.9	26.9 **
Yeast breads, rolls	5.8	4.5	4.2	3.3	4.2	3.5	0.8	0.7
Quick breads and tortillas	5.4	1.4 **	4.4	1.0 **	3.5	0.8 **	0.9	0.2 **
Cakes, cookies, pies, pastries	1.8	1.8	1.7	1.5	1.5	1.4	1.0	0.9
Crackers and salty snacks	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
Pancakes, waffles, french toast	1.2	1.3	1.6	1.6	0.7	0.7	0.3	0.3
Pastas, cooked cereals, rice	1.3	1.9	0.5	0.8	0.7	1.2	0.4	1.2 **
Cereals, not cooked	15.8	23.3 **	15.1	21.4 **	16.2	23.9 **	15.8	23.4 **
Grain mixtures	1.7	0.3 *	1.5	0.2 *	1.4	0.2 *	0.6	0.1 *
Fruits and Fruit Juices	5.4	4.3 *	2.2	1.6 **	2.0	1.4 **	4.9	4.4
Vegetables	0.3	0.3	0.1	0.1	0.2	0.4	0.3	0.7
White potatoes	0.2	0.3	0.1	0.1	0.2	0.3	0.3	0.6
Dark-green vegetables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deep-yellow vegetables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tomatoes and tomato mixtures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Other vegetables	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0
Fat, Oils, and Salad Dressings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sugar, Sweets, Sweetened Beverages	0.1	0.2 *	0.3	0.5 **	0.1	0.2 **	0.1	0.2 *
All Foods	58.0	48.0 **	66.2	56.2 **	38.6	37.3	36.3	38.6

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NOTE: Table entries are the mean percentage of the RDA provided by foods in each food group, except for those for fat, saturated fat, carbohydrate, cholesterol, and sodium. Entries for fat, saturated fat, carbohydrate, sodium, and cholesterol show mean levels of these dietary components contributed by foods in each food group. Means are not regression-adjusted.

*/** indicates that participant/nonparticipant differences are statistically significant at the 95/99 percent confidence level.

TABLE D.2 *(continued)*

FOOD SOURCES OF NUTRIENT INTAKE AT BREAKFAST, BY SBP PARTICIPATION STATUS

Food Group	Folate (Percent of RDA)		Vitamin B12 (Percent of RDA)		Calcium (Percent of RDA)		Iron (Percent of RDA)	
	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant
Milk and Milk Products	9.3	7.0 **	48.4	36.4 **	27.6	20.5 **	1.9	1.2 **
White milk	7.1	6.1	37.1	33.5	20.6	18.7	0.7	0.7
Flavored milk	2.1	0.3 **	10.6	1.7 **	5.9	0.9 **	1.1	0.2 **
Cheese	0.1	0.1	0.6	0.5	0.9	0.5	0.1	0.1
Other milk products	0.1	0.5 **	0.1	0.8 **	0.1	0.4 **	0.0	0.3 **
Meat, Poultry, Fish, Meat Mixtures	0.7	0.2 *	15.4	3.7 **	0.6	0.2 **	2.1	0.6 **
Eggs	4.6	2.6	9.1	5.3	1.3	0.6	1.3	0.9
Dry Beans, Peas, Other Legumes	3.4	0.7	0.0	0.0	0.2	0.1	1.0	0.2
Grain Products	53.6	67.0 *	14.8	27.7 **	9.0	6.0 **	29.4	38.2 **
Yeast breads, rolls	6.2	4.6	0.4	0.2	1.5	1.1	4.1	3.3 *
Quick breads and tortillas	1.7	0.5 **	1.6	0.4 **	3.0	0.6 **	3.7	1.0 **
Cakes, cookies, pies, pastries	2.8	2.3	0.7	0.5	0.7	0.8	1.9	1.9
Crackers and salty snacks	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1
Pancakes, waffles, french toast	0.9	0.9	1.4	1.3	1.6	1.5	1.0	0.9
Pastas, cooked cereals, rice	0.7	2.8 **	0.0	0.2 **	0.1	0.5 **	1.0	2.0 *
Cereals, not cooked	39.3	55.6 **	9.0	24.8 **	0.6	1.3 **	16.4	28.7 **
Grain mixtures	2.0	0.3 *	1.7	0.3 *	1.4	0.1 *	1.4	0.2 *
Fruits and Fruit Juices	19.8	14.7 *	0.0	0.0	1.2	0.8 **	2.7	1.9 **
Vegetables	0.4	0.4	0.0	0.0	0.0	0.1	0.2	0.2
White potatoes	0.2	0.3	0.0	0.0	0.0	0.0	0.1	0.1
Dark-green vegetables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deep-yellow vegetables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tomatoes and tomato mixtures	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Other vegetables	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0
Fat, Oils, and Salad Dressings	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Sugar, Sweets, Sweetened Beverages	0.2	1.0 **	0.1	0.2 **	0.3	0.4 **	0.4	0.5
All Foods	92.1	93.6	87.9	73.4 **	40.2	28.7 **	39.0	43.6

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NOTE: Table entries are the mean percentage of the RDA provided by foods in each food group, except for those for fat, saturated fat, carbohydrate, cholesterol, and sodium. Entries for fat, saturated fat, carbohydrate, sodium, and cholesterol show mean levels of these dietary components contributed by foods in each food group. Means are not regression-adjusted.

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TABLE D.2 *(continued)*

FOOD SOURCES OF NUTRIENT INTAKE AT BREAKFAST, BY SBP PARTICIPATION STATUS

Food Group	Phosphorus (Percent of RDA)		Magnesium (Percent of RDA)		Zinc (Percent of RDA)		Fat (Grams)	
	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant
Milk and Milk Products	22.7	16.4 **	14.8	10.2 **	7.6	5.8 **	5.7	4.0 **
White milk	16.2	14.7	11.1	9.1 *	5.3	5.0	4.3	3.4 **
Flavored milk	5.3	0.8 **	3.5	0.6 **	1.8	0.3 **	0.9	0.2 **
Cheese	1.1	0.5	0.2	0.1	0.4	0.2	0.4	0.3
Other milk products	0.1	0.4 **	0.1	0.4 **	0.1	0.3 **	0.1	0.1
Meat, Poultry, Fish, Meat Mixtures	3.3	0.9 **	1.5	0.4 **	3.7	1.0 **	4.2	1.3 **
Eggs	2.7	1.5	0.9	0.5	1.3	0.8	1.7	1.2
Dry Beans, Peas, Other Legumes	1.5	0.3	3.1	0.5	0.8	0.2	1.1	0.3
Grain Products	12.4	10.7	10.1	10.9	7.3	10.5 **	6.5	4.2 **
Yeast breads, rolls	1.8	1.6	2.0	2.0	1.0	1.0	1.1	0.7
Quick breads and tortillas	3.4	1.0 **	2.0	0.6 **	0.9	0.3 **	1.8	0.5 **
Cakes, cookies, pies, pastries	1.1	1.2	0.9	0.9	0.6	0.5	1.6	1.5
Crackers and salty snacks	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.2 *
Pancakes, waffles, french toast	1.9	1.8	0.6	0.6	0.4	0.4	0.6	0.5
Pastas, cooked cereals, rice	0.4	0.8 *	0.6	1.0 *	0.2	0.4 **	0.1	0.1
Cereals, not cooked	2.2	4.2 **	3.0	5.5 **	3.3	7.8 **	0.3	0.7 **
Grain mixtures	1.5	0.2 *	0.9	0.1 *	0.9	0.1 *	0.9	0.2 *
Fruits and Fruit Juices	1.6	1.1	5.2	3.6 **	0.6	0.4 **	0.1	0.1 **
Vegetables	0.1	0.2	0.2	0.3	0.1	0.1	0.2	0.3
White potatoes	0.1	0.2	0.2	0.3	0.0	0.1	0.1	0.3
Dark-green vegetables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Deep-yellow vegetables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tomatoes and tomato mixtures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 *
Other vegetables	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Fat, Oils, and Salad Dressings	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.0 *
Sugar, Sweets, Sweetened Beverages	0.4	0.6	0.6	0.7	0.3	0.4	0.1	0.2
All Foods	44.6	31.7 **	36.4	27.1 **	21.6	19.1	20.2	12.6 **

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NOTE: Table entries are the mean percentage of the RDA provided by foods in each food group, except for those for fat, saturated fat, carbohydrate, cholesterol, and sodium. Entries for fat, saturated fat, carbohydrate, sodium, and cholesterol show mean levels of these dietary components contributed by foods in each food group. Means are not regression-adjusted.

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TABLE D.2 *(continued)*

FOOD SOURCES OF NUTRIENT INTAKE AT BREAKFAST, BY SBP PARTICIPATION STATUS

Food Group	Saturated Fat (Grams)		Carbohydrate (Grams)		Cholesterol (mg)		Sodium (mg)	
	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant	SBP Participant	Nonparticipant
Milk and Milk Products	3.5	2.5 **	12.6	9.0 **	22.2	15.8 **	125	95 **
White milk	2.7	2.1 **	7.2	7.4	17.5	13.9 **	75	77
Flavored milk	0.6	0.1 **	5.2	1.0 **	3.0	0.8 **	29	6 **
Cheese	0.3	0.2	0.1	0.0	1.2	0.8	19	9
Other milk products	0.0	0.1	0.1	0.5 **	0.4	0.3	2	3
Meat, Poultry, Fish, Meat Mixtures	1.5	0.4 **	0.7	0.3	11.9	3.6 **	178	54 **
Eggs	0.6	0.4	0.3	0.4	46.6	30.8	57	38
Dry Beans, Peas, Other Legumes	0.2	0.1	0.5	0.2	0.0	0.0	6	4
Grain Products	2.0	1.3 **	38.7	34.9	15.7	9.7 **	449	350 **
Yeast breads, rolls	0.3	0.2	8.2	6.6	1.9	1.2	64	60 *
Quick breads and tortillas	0.5	0.1 **	8.5	2.1 **	4.4	1.1 **	132	28 **
Cakes, cookies, pies, pastries	0.5	0.5	5.3	5.3	2.0	1.8	30	32
Crackers and salty snacks	0.0	0.0	0.2	0.4	0.1	0.0	3	5
Pancakes, waffles, french toast	0.2	0.2	2.3	2.3	5.7	5.0	44	43
Pastas, cooked cereals, rice	0.0	0.0	1.5	1.7	0.0	0.2	26	27
Cereals, not cooked	0.1	0.2 **	10.7	16.2 **	0.0	0.0	102	147 **
Grain mixtures	0.4	0.1 *	1.9	0.3 *	1.8	0.4 *	47	10 *
Fruits and Fruit Juices	0.0	0.0	15.0	9.6 **	0.0	0.0	2	1 **
Vegetables	0.1	0.1	0.4	0.8	0.0	0.0	9	16
White potatoes	0.1	0.1	0.3	0.7	0.0	0.0	7	12
Dark-green vegetables	0.0	0.0	0.0	0.0	0.0	0.0	0	0
Deep-yellow vegetables	0.0	0.0	0.0	0.0	0.0	0.0	0	0
Tomatoes and tomato mixtures	0.0	0.0	0.0	0.0	0.0	0.0	1	2
Other vegetables	0.0	0.0	0.1	0.0	0.0	0.0	1	2
Fat, Oils, and Salad Dressings	0.2	0.3	0.1	0.0	0.7	0.8	8	11
Sugar, Sweets, Sweetened Beverages	0.1	0.1	8.4	10.0	0.0	0.1 *	7	12 **
All Foods	8.1	5.2 **	76.7	65.1 **	97.2	60.8 **	841	585 **

NOTE: Table entries are the mean percentage of the RDA provided by foods in each food group, except for those for fat, saturated fat, carbohydrate, cholesterol, and sodium. Entries for fat, saturated fat, carbohydrate, sodium, and cholesterol show mean levels of these dietary components contributed by foods in each food group. Means are not regression-adjusted.

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mg = milligrams.