Table 1: Federal expenditures on the largest U.S. food and nutrition programs

Programs	1999 federal expenditures (billions)
Food Stamps	20.31
School nutrition programs	7.60
School Lunch Program (SLP)	6.25
School Breakfast Program (SBP)	1.35
Woman, Infants, and Children (WIC)	3.96

Notes: U.S. House of Representatives, Committee on Ways and Means 2000.

Table 2: Descriptive Statistics for Children in Primary Sample

	Eligible for free meals (IPR<=1.3)	Eligible for reduced-price meals (1.3 <IPR<=1.85)	Ineligible for subsidized meals (1.85<IPR)	Income information not provided
Sample Size	2,245	646	1,578	372
Male (1=yes)	0.487	0.491	0.529	0.589
Non-Hisp. white (1=yes)	0.454	0.661	0.804	0.467
Non-Hisp. black (1=yes)	0.262	0.167	0.080	0.195
Hispanic (1=yes)	0.230	0.128	0.076	0.241
Age	10.5	10.7	10.9	11.2
Food stamp receipt (1=yes)	0.549	0.076	0.013	0.190
School information				
School in session (1=yes)	0.748	0.724	0.746	0.624
SBP available (1=yes)	0.673	0.590	0.406	0.450
NSLP available (1=yes)	0.961	0.945	0.913	0.921
Dietary recall				
Eat brk. everyday[a] (1=yes)	0.842	0.799	0.884	0.785
HEI score	63.1	61.3	64.1	60.7
Total cals	2117	2173	2147	2103
% cals from fat	33.8	34.6	33.0	35.1
% cals from sat. fat	12.3	12.4	11.9	12.9
Low mag. intake (1=yes)	0.444	0.521	0.480	0.561
Low zinc intake (1=yes)	0.307	0.322	0.348	0.286
Exam measures				
Low vitamin A (1=yes)	0.097	0.109	0.050	0.052
Low vitamin C (1=yes)	0.031	0.038	0.037	0.048
Low vitamin E (1=yes)	0.004	0.010	0.004	0.005
Low folate (1=yes)	0.062	0.044	0.061	0.063
Low any ACEF[b] (1=yes)	0.175	0.182	0.135	0.144
Anemic (1=yes)	0.040	0.029	0.023	0.018
High cholesterol (1=yes)	0.115	0.077	0.095	0.146

Notes: Author's tabulations from the NHANES. All means are weighted. [a] The question regarding breakfast consumption is only available for children under 12. [b] The variable "Low any ACEF" is an indicator variable for whether someone is low vitamins A, C, E or folate.

Table 3: Difference-in-Difference Estimates of SBP Availability for Children

| | SBP available | | | SBP not available | | | |
	School in	School out	Diff.	School in	School out	Diff	Diff-in-diff
Observations	2754	471		1263	353		
Male	0.509	0.500		0.541	0.478		
Non-Hisp. White	0.534	0.565		0.751	0.881		
Non-Hisp. Black	0.231	0.216		0.078	0.058		
Hispanic	0.191	0.110		0.127	0.040		
Age	10.7	10.8		10.9	10.7		
Income-pov. ratio	1.85	1.76		2.69	2.47		
Share income N/A	0.036	0.066		0.047	0.072		
Food Stamp receipt	0.262	0.309		0.103	0.114		
Dietary recall							
Eats brk. everyday	0.844	0.809	0.035	0.876	0.873	0.003	0.032
HEI score	63.0	60.9	2.1	63.6	64.7	-1.1	3.2*
Total cals	2108	2247	-139	2125	2178	-53	-86
% cals from fat	34.0	34.7	-0.7	33.1	32.5	0.6	-1.3+
% cals from sat. fat	12.4	12.3	0.1	11.9	11.7	0.220	-0.1
Low mag. intake	0.491	0.464	0.027	0.481	0.450	0.031	-0.004
Low zinc intake	0.317	0.319	-0.002	0.360	0.301	0.059	-0.061
Exam measures							
Low vitamin A	0.093	0.054	0.039	0.062	0.052	0.010	0.029
Low vitamin C	0.034	0.070	-0.036	0.035	0.017	0.018	-0.055**
Low vitamin E	0.005	0.010	-0.005	0.005	0.000	0.005	-0.010
Low folate	0.064	0.081	-0.017	0.058	0.031	0.027	-0.044+
Low any (ACEF)	0.177	0.192	-0.015	0.140	0.094	0.047	-0.062+
Anemic	0.036	0.026	0.010	0.022	0.025	-0.003	0.013
High cholesterol	0.105	0.139	-0.034	0.081	0.109	-0.028	-0.006

Notes: Author's tabulations from the NHANES. All means are weighted; statistical tests take into account the complex survey design.

Significance: + at 0.10 level. * at 0.05 level. ** at 0.01 level.

Table 4: Regression Estimates of SBP Availability for Children, Dietary Recall Measures

	Eat brk everyday	HEI score	Total calories	% cals from fat	% cals from sat. fat	Low mag. intake	Low zinc intake
Sbav*inschool	0.04	3.89	-0.40	-2.04	-0.35	-0.00	-0.07
	(0.05)	(1.18)**	(99.82)	(0.73)**	(0.48)	(0.03)	(0.04)
Sbav	-0.01	-3.30	63.71	2.11	0.64	0.01	0.02
	(0.04)	(1.06)**	(89.36)	(0.54)**	(0.38)	(0.03)	(0.03)
Inschool	0.01	-0.86	-64.04	0.49	0.21	0.01	0.04
	(0.03)	(0.95)	(81.24)	(0.68)	(0.33)	(0.03)	(0.03)
Male	-0.06	-1.58	47.32	1.52	-0.14	0.03	0.00
	(0.03)*	(0.72)*	(42.29)	(0.47)**	(0.22)	(0.02)	(0.03)
NH-black	-0.03	0.15	-46.06	-0.15	-0.12	-0.02	0.01
	(0.03)	(0.97)	(65.20)	(0.63)	(0.29)	(0.02)	(0.03)
Hispanic	-0.00	3.69	174.34	-1.59	-0.33	-0.01	-0.09
	(0.05)	(1.67)*	(132.27)	(0.88)+	(0.48)	(0.06)	(0.05)
Other	0.03	0.01	561.34	-0.23	0.13	-0.12	-0.15
	(0.02)	(0.48)	(45.82)**	(0.39)	(0.17)	(0.02)**	(0.02)**
Obs.	3087	4841	4841	4841	4841	4841	4841
R-square	0.05	0.11	0.16	0.05	0.04	0.32	0.13

Notes: Author's tabulations from the NHANES. The regressions take into account the complex survey design. The other control variables include household size and indicator variables for age, income groups, and urban*census region.

Significance: + 0.10 level. * 0.05 level. ** 0.01 level.

Table 5: Regression Estimates of SBP Availability for Children, Exam Measures

	Low vit A	Low vit C	Low vit E	Low folate	Low ACEF	Anemic	High Chol
Sbav*inschool	0.01	-0.07	-0.01	-0.06	-0.10	0.01	-0.01
	(0.02)	(0.02)**	(0.01)+	(0.03)*	(0.04)**	(0.02)	(0.03)
Sbav	-0.00	0.06	0.01	0.04	0.09	-0.01	0.02
	(0.02)	(0.01)**	(0.01)+	(0.02)	(0.03)**	(0.01)	(0.03)
Inschool	0.01	0.02	0.00	0.02	0.04	-0.01	-0.04
	(0.02)	(0.01)*	(0.00)	(0.01)	(0.02)+	(0.01)	(0.02)+
Male	0.03	-0.04	0.00	0.03	0.03	0.07	0.07
	(0.01)*	(0.01)**	(0.00)	(0.01)*	(0.02)	(0.01)**	(0.02)**
NH-black	0.02	-0.03	0.00	-0.00	-0.01	0.00	0.02
	(0.01)	(0.01)*	(0.00)	(0.01)	(0.02)	(0.01)	(0.02)
Hispanic	-0.01	-0.06	-0.01	-0.03	-0.08	0.02	0.00
	(0.03)	(0.02)**	(0.00)	(0.02)	(0.03)*	(0.02)	(0.05)
Other	0.01	0.01	-0.00	-0.02	-0.00	-0.03	-0.01
	(0.01)	(0.01)	(0.00)	(0.01)*	(0.02)	(0.01)**	(0.01)
Obs.	4841	4150	4841	4836	4841	4841	4834
R-square	0.11	0.06	0.01	0.11	0.07	0.05	0.03

Notes: Author's tabulations from the NHANES. The regressions take into account the complex survey design. The other control variables include household size and indicator variables for age, income groups, and urban*census region.

Significance: + 0.10 level. * 0.05 level. ** 0.01 level.

Table 6: Regression Estimates of SBP Availability for Children, Dietary Recall Measures

	Eat brk everyday	HEI score	Total calories	% cals from fat	% cals from sat. fat	Low mag. intake	Low zinc intake
Sbav*inschool*	0.13	3.37	44.85	-0.97	-0.46	-0.02	0.03
low income	(0.09)	(2.50)	(213.86)	(1.51)	(0.63)	(0.08)	(0.08)
Sbav*inschool*	-0.07	1.51	-467.3	-2.57	0.43	0.15	-0.01
med. income	(0.19)	(1.71)	(313.57)	(1.81)	(0.71)	(0.17)	(0.10)
Sbav*inschool*	0.07	4.4	205.94	-3.11	-0.7	-0.03	-0.21
high income	(0.10)	(1.90)*	(176.65)	(1.04)**	(0.73)	(0.08)	(0.07)**
Sbav*inschool*	-0.1	6.47	45.85	-0.88	-0.53	-0.1	0.29
inc. unknown	(0.27)	(5.12)	(448.57)	(2.24)	(1.60)	(0.21)	(0.16)+
Observations	3087	4841	4841	4841	4841	4841	4841
R-squared	0.06	0.11	0.16	0.05	0.05	0.33	0.14

Notes: Author's tabulations from the NHANES. The regressions take into account the complex survey design. The other control variables include household size and indicator variables for age, income groups, and urban*census region.

Significance: + 0.10 level. * 0.05 level. ** 0.01 level.

Table 7: Regression Estimates of SBP Availability for Children, Exam Measures

	Low vit A	Low vit C	Low vit E	Low folate	Low ACEF	Anemic	High Chol
Sbav*inschool*	-0.02	-0.02	-0.02	-0.04	-0.12	0.01	-0.01
low income	(0.03)	(0.04)	(0.02)	(0.04)	(0.05)*	(0.03)	(0.05)
Sbav*inschool*	0.06	-0.14	-0.02	0.01	-0.09	0.01	0.08
med. income	(0.09)	(0.09)	(0.02)	(0.04)	(0.11)	(0.05)	(0.07)
Sbav*inschool*	0.01	-0.06	-0.06	-0.09	-0.13	0.02	-0.04
high income	(0.03)	(0.03)+	(0.03)+	(0.05)+	(0.05)*	(0.02)	(0.05)
Sbav*inschool*	0.01	-0.05	-0.03	-0.16	-0.18	0.01	-0.05
inc. unknown	(0.05)	(0.08)	(0.02)	(0.08)+	(0.09)+	(0.03)	(0.10)
Observations	4841	4150	4841	4836	4841	4776	4834
R-squared	0.11	0.07	0.03	0.12	0.07	0.05	0.03

Notes: Author's tabulations from the NHANES. The regressions take into account the complex survey design. The other control variables include household size and indicator variables for age, income groups, and urban*census region.

Significance: + 0.10 level. * 0.05 level. ** 0.01 level.

Table 8: Regression Estimates of SBP Availability for Children, Excluding Highest Income Families

Panel A: Key Dietary Recall Measures

	HEI score	HEI score	Total calories	Total calories	% cals from fat	% cals from fat	% cals from s.f.	% cals from s.f.
sbav*inschool	3.68		-120.28		-2.50		-0.56	
	(1.20)**		(126.38)		(0.69)**		(0.44)	
sbav*inschool* low income		3.5		7.4		-0.99		-0.58
		(2.52)		(216.3)		(1.51)		(0.62)
sbav*inschool* med. income		2.39		-598.6		-3.37		0.11
		(1.70)		(331.7)+		(1.66)*		(0.70)
sbav*inschool* high income		5.81		129.0		-6.48		-1.86
		(1.93)**		(180.7)		(1.97)**		(0.77)*
sbav*inschool* unknown		5.71		-10.3		-0.75		-0.49
		-5.08		-460.9		-2.23		-1.58
Obs.	3852	3852	3852	3852	3852	3852	3852	3852
R-square	0.11	0.12	0.15	0.16	0.04	0.05	0.03	0.04

Panel B: Key Exam Measures

	Low vit C	Low vit C	Low vit E	Low vit E	Low folate	Low folate	High chol.	High chol.
sbav*inschool	-0.07		-0.03		-0.05		-0.02	
	(0.02)**		(0.01)+		(0.03)		(0.03)	
sbav*inschool* low income		-0.03		-0.02		-0.04		-0.02
		(0.04)		(0.02)		(0.04)		(0.06)
sbav*inschool* med. income		-0.15		-0.02		0.01		0.08
		(0.10)		(0.02)		(0.04)		(0.07)
sbav*inschool* high income		-0.03		-0.06		-0.09		-0.15
		(0.03)		(0.03)+		(0.07)		(0.06)*
sbav*inschool* unknown		-0.05		-0.03		-0.17		-0.04
		-0.07		-0.02		(0.08)*		-0.1
Obs.	3275	3275	3852	3852	3848	3848	3846	3846
R-square	0.06	0.08	0.02	0.03	0.11	0.12	0.04	0.04

Notes: Author's tabulations from the NHANES. The regressions take into account the complex survey design. The other control variables include household size and indicator variables for age, income groups, and urban*census region.

Significance: + 0.10 level. * 0.05 level. ** 0.01 level.

Table 9: Sample Size of Children by Census Region and Season

Census region	Winter	Spring	Summer	Fall	Row totals
Northeast	0	20	276	198	494
Midwest	0	312	508	34	854
South + Texas	799	263	44	1,030	2,136
West	521	747	66	23	1,357
Column totals	1,320	1,342	894	1,285	4,841

Notes: Author's tabulations form the NHANES. The sample includes all children used in the primary analysis.

Table 10: Regression Estimates of SBP Availability for Children, Excluding Highest Income, South, and West Families

Panel A: Key Dietary Recall Measures

	HEI score	HEI score	Total calories	Total calories	% cals from fat	% cals from fat	% cals from s.f.	% cals from s.f.
Sbav*inschool	1.7		-3.95		-1.5		-0.07	
	(1.54)		(177.88)		(1.26)		(0.48)	
Sbav*inschool* low income		-2.36		145.9		0.86		-0.1
		(3.08)		(241.6)		(2.00)		(0.74)
Sbav*inschool* med. income		1.51		32.0		-2.7		0.36
		(2.65)		(355.6)		(2.23)		(0.70)
Sbav*inschool* high income		10.66		324.0		-6.12		-1.01
		(2.24)**		(179.0)+		(2.84)*		(1.64)
Sbav*inschool* unknown		-4.5		-1181.9		2.5		0.45
		-4.54		(412.3)*		-3.2		-1.92
Obs.	1012	1012	1012	1012	1012	1012	1012	1012
R-square	0.11	0.14	0.19	0.22	0.10	0.12	0.09	0.10

Panel B: Key Exam Measures

	Low vit C	Low vit C	Low vit E	Low vit E	Low folate	Low folate	High chol.	High chol.
Sbav*inschool	-0.07		-0.05		-0.05		0.01	
	(0.03)+		(0.02)*		(0.04)		(0.04)	
Sbav*inschool* low income		-0.01		-0.13		-0.06		0.11
		(0.05)		(0.06)*		(0.07)		(0.07)
Sbav*inschool* med. income		-0.24		0.04		0.05		0.07
		(0.15)		(0.03)		(0.05)		(0.09)
Sbav*inschool* high income		-0.05		-0.02		-0.14		-0.26
		(0.05)		(0.02)		(0.11)		(0.07)**
Sbav*inschool* unknown		-0.08		-0.02		-0.16		-0.02
		-0.09		-0.04		-0.12		-0.14
Obs.	895	895	1012	1012	1009	1009	1011	1011
R-square	0.11	0.17	0.11	0.14	0.18	0.20	0.05	0.07

Notes: Author's tabulations from the NHANES. The regressions take into account the complex survey design. The other control variables include household size and indicator variables for age, income groups, and urban*census region.

Significance: + 0.10 level. * 0.05 level. ** 0.01 level.

Table 11: Difference-in-Difference Estimates of NSLP Availability for Children

| | NSLP available, IPR<=1.3 | | | NSLP available, IPR>1.85 | | | |
	School in	School out	Diff.	School in	School out	Diff	Diff-in-diff
Observations	1,867	312		1,164	282		
Male	0.481	0.444		0.535	0.512		
Non-Hisp. White	0.387	0.609		0.785	0.870		
Non-Hisp. Black	0.286	0.212		0.088	0.070		
Hispanic	0.280	0.102		0.082	0.028		
Age	10.6	10.3		11.0	11.2		
Food Stamp receipt	0.555	0.576		0.012	0.020		
Dietary recall							
HEI score	63.3	62.7	0.6	63.6	64.5	-0.9	1.5
Total cals	2052	2286	-234	2156	2214	-58	-176
% cals from fat	33.9	33.2	0.7	33.3	32.9	0.4	0.3
% cals from sat. fat	12.4	11.8	0.6	12.1	11.7	0.4	0.2
Low mag. intake	0.465	0.428	0.037	0.495	0.460	0.035	0.002
Low zinc intake	0.311	0.301	0.010	0.345	0.318	0.027	-0.017
Exam measures							
Low vitamin A	0.097	0.070	0.027	0.058	0.035	0.023	0.004
Low vitamin C	0.025	0.052	-0.027	0.042	0.034	0.008	-0.035
Low vitamin E	0.030	0.011	0.019	0.006	0.022	-0.016	0.035*
Low folate	0.068	0.050	0.018	0.064	0.072	-0.008	0.026
Low any (ACEF)	0.195	0.159	0.036	0.150	0.133	0.017	0.019
Anemic	0.045	0.033	0.012	0.023	0.023	0.000	0.012
High cholesterol	0.120	0.113	0.007	0.086	0.100	-0.014	0.021

Notes: Author's tabulations from the NHANES. All means are weighted; statistical tests take into account the complex survey design.

Significance: + at 0.10 level. * at 0.05 level. ** at 0.01 level.

Table 12: Difference-in-Difference Estimates of SBP Availability for Adults

| | SBP available | | | SBP not available | | | |
	School in	School out	Diff.	School in	School out	Diff	Diff-in-diff
Observations	1946	317		873	242		
Male	0.452	0.444		0.494	0.465		
Non-Hisp. White	0.583	0.657		0.782	0.878		
Non-Hisp. Black	0.190	0.187		0.066	0.059		
Hispanic	0.185	0.076		0.101	0.045		
Age	37.4	37.7		38.7	38.1		
Income-pov. Ratio	2.13	2.17		3.09	2.60		
Food Stamp receipt	0.197	0.176		0.076	0.058		
Dietary recall							
HEI score	60.4	59.9	0.5	62.8	64.2	-1.4	1.9
Total cals	2242	2302	-60	2294	2350	-56	-4
% cals from fat	33.7	34.0	-0.3	34.0	33.2	0.8	-1.1
% cals from sat. fat	11.3	11.2	0.1	11.7	11.3	0.4	-0.3
Exam measures							
Low vitamin C	0.210	0.153	0.057	0.170	0.113	0.057	0.000
Low folate	0.269	0.243	0.026	0.245	0.229	0.016	0.010
Low any (CF)	0.390	0.291	0.099	0.314	0.272	0.042	0.057
Anemic	0.065	0.069	-0.004	0.048	0.076	-0.028	0.024
High cholesterol	0.463	0.482	-0.019	0.484	0.448	0.036	-0.055

Notes: Author's tabulations from the NHANES. All means are weighted; statistical tests take into account the complex survey design.

Significance: + at 0.10 level. * at 0.05 level. ** at 0.01 level.

Table 13: Regression Estimates of SBP Availability for Adults

Panel A: Key Dietary Recall Measures

	HEI score	HEI score	Total calories	Total calories	% cals from fat	% cals from fat	% cals from s.f.	% cals from s.f.
Sbav*inschool	3.59		55		-2.66		-0.45	
	(1.28)**		(131)		(1.46)+		(0.65)	
Sbav*inschool* low income		4.25		204		1.25		0.38
		(2.63)		(277)		(1.99)		(1.07)
Sbav*inschool* med. income		5.54		328		-5.32		-1.95
		(3.37)		(217)		(2.44)*		(1.14)+
Sbav*inschool* high income		3.49		4.00		-3.09		-0.14
		(1.74)+		(150)		(1.76)+		(0.76)
Sbav*inschool* unknown		-2.06		-88		-2.73		-1.38
		(3.85)		(526)		(3.37)		(1.35)
Obs.	3378	3378	3378	3378	3378	3378	3378	3378
R-square	0.11	0.11	0.22	0.23	0.10	0.10	0.09	0.10

Panel B: Key Exam Measures

	Low vit C	Low vit C	Low folate	Low folate	Anemic	Anemic	High chol.	High chol.
Sbav*inschool	-0.06		-0.04		0.02		-0.04	
	(0.05)		(0.08)		(0.03)		(0.09)	
Sbav*inschool* low income		-0.14		-0.11		-0.05		0.04
		(0.07)+		(0.10)		(0.06)		(0.12)
Sbav*inschool* med. income		-0.02		-0.16		-0.10		-0.07
		(0.08)		(0.14)		(0.09)		(0.11)
Sbav*inschool* high income		-0.03		0.01		0.06		-0.07
		(0.08)		(0.08)		(0.04)		(0.09)
Sbav*inschool* unknown		0.10		0.12		0.00		-0.15
		(0.14)		(0.14)		(0.08)		(0.25)
Obs.	3263	3263	3376	3376	3337	3337	3374	3374
R-square	0.11	0.11	0.08	0.08	0.10	0.11	0.10	0.10

Notes: Author's tabulations from the NHANES. The regressions take into account the complex survey design. The other control variables include household size and indicator variables for age, income groups, and urban*census region.

Significance: + 0.10 level. * 0.05 level. ** 0.01 level.

Table 14: Regression Estimates of SBP Availability for Adults, Excluding Highest Income, South, and West Families

Panel A: Key Dietary Recall Measures

	HEI score	HEI score	Total calories	Total calories	% cals from fat	% cals from fat	% cals from s.f.	% cals from s.f.
Sbav*inschool	0.54		807		-0.32		0.05	
	(2.79)		(234)**		(2.23)		(0.90)	
Sbav*inschool* low income		0.16		1,152		1.94		0.70
		(4.03)		(347)**		(3.74)		(1.74)
Sbav*inschool* med. income		-1.89		850		-2.59		-0.81
		(3.33)		(357)*		(2.88)		(1.05)
Sbav*inschool* high income		1.63		504		2.90		1.45
		(7.24)		(262)+		(4.27)		(1.91)
Sbav*inschool* unknown		-1.40		675		-2.76		0.78
		(6.08)		(691)		(3.39)		(1.54)
Obs.	636	636	636	636	636	636	636	636
R-square	0.23	0.24	0.32	0.33	0.15	0.17	0.15	0.17

Panel B: Key Exam Measures

	Low vit C	Low vit C	Low folate	Low folate	Anemic	Anemic	High chol.	High chol.
Sbav*inschool	-0.10		-0.07		-0.01		-0.02	
	(0.09)		(0.15)		(0.04)		(0.08)	
Sbav*inschool* low income		-0.27		-0.23		0.03		0.19
		(0.13)+		(0.17)		(0.04)		(0.09)+
Sbav*inschool* med. income		-0.16		-0.08		-0.21		-0.30
		(0.12)		(0.21)		(0.12)+		(0.15)+
Sbav*inschool* high income		0.09		0.40		-0.01		0.18
		(0.17)		(0.28)		(0.08)		(0.23)
Sbav*inschool* unknown		0.31		-0.11		0.15		-0.38
		(0.24)		(0.23)		(0.17)		(0.22)
Obs.	626	626	636	636	630	630	636	636
R-square	0.18	0.21	0.14	0.16	0.22	0.24	0.21	0.23

Notes: Author's tabulations from the NHANES. The regressions take into account the complex survey design. The other control variables include household size and indicator variables for age, income groups, and urban*census region.

Significance: + 0.10 level. * 0.05 level. ** 0.01 level.