

Indicators of Diet Quality, Nutrition, and Health for Americans by Program Participation Status, 2011–2016: NSLP Report



Appendix F. Usual Micronutrient Intake



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Indicators of Diet Quality, Nutrition, and Health for Americans by Program Participation Status, 2011–2016:

Appendix F. Usual Micronutrient Intake



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Appendix F. Usual Micronutrient Intake

Table F.1. Vitamin A (Micrograms Retinol Activity Equivalent): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	615	(8.0)	924	706	(15.5)	664	707	(21.4)	1,039	549 ***	(12.2)	237	730	(27.7)	688	613 ***	(15.0)
Boys	1,355	667	(10.7)	477	741	(23.4)	333	754	(27.4)	512	605 ***	(17.3)	129	758	(44.6)	335	651 *	(20.2)
Girls	1,371	561	(11.9)	447	669	(20.1)	331	659	(33.0)	527	490 ***	(17.3)	108	700	(32.1)	353	573 **	(22.3)
5–8 years old	853	646	(15.3)	339	664	(18.4)	254	669	(21.2)	298	581 **	(21.4)	78	658	(39.7)	198	718	(33.9)
Boys	434	692	(22.0)	162	724	(30.5)	119	750	(36.7)	158	623 *	(33.5)	39	684	(54.3)	109	737	(39.8)
Girls	419	599	(21.2)	177	602	(20.0)	135	584	(20.5)	140	538	(26.3)	39	631	(58.2)	89	698	(55.4)
9–13 years old	1,071	632	(12.9)	388	737	(24.7)	285	723	(29.9)	380	571 ***	(19.3)	94	807	(39.2)	276	571 ***	(21.1)
Boys	515	668	(17.4)	200	768	(32.0)	143	766	(34.1)	181	617 ***	(27.6)	51	826	(55.6)	122	579 ***	(28.5)
Girls	556	594	(19.1)	188	704	(37.8)	142	678	(49.6)	199	523 **	(26.8)	43	787	(55.1)	154	563 ***	(31.3)
14–18 years old	802	576	(13.7)	197	707	(31.7)	125	722	(47.7)	361	504 ***	(22.3)	65	710	(57.6)	214	575 *	(24.4)
Boys	406	647	(17.2)	115	728	(50.3)	71	745	(60.6)	173	580 *	(29.2)	39	748	(100.2)	104	656	(36.8)
Girls	396	500	(21.4)	82	685	(37.6)	54	697	(74.2)	188	423 ***	(34.0)	26	669	(53.5)	110	490 **	(31.8)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	73.7	(1.33)	924	83.6	(1.69)	664	83.8	(2.21)	1,039	67.4 ***	(2.47)	237	85.3	(2.75)	688	71.7 ***	(2.88)
Boys	1,355	74.3	(1.59)	477	78.9	(2.61)	333	81.2	(2.90)	512	71.0 *	(2.69)	129	78.6	(4.21)	335	71.7	(3.44)
Girls	1,371	73.0	(2.17)	447	88.6	(2.13)	331	86.6	(3.36)	527	63.6 ***	(4.20)	108	92.4	(3.51)	353	71.8 ***	(4.67)
5–8 years old	853	99.1	(0.56)	339	99.5	(0.83)	254	99.8	(0.26)	298	99.2	(0.82)	78	97.2	(3.09)	198	99.1	(1.01)
Boys	434	99.8	(0.19)	162	99.6	(0.33)	119	99.6	(0.47)	158	99.9	(0.48)	39	100.0	(0.38)	109	100.0	(0.19)
Girls	419	98.3	(1.13)	177	99.4	(1.66)	135	100.0	(0.21)	140	98.4	(1.59)	39	94.3	(6.31)	89	98.3	(2.04)

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
9–13 years old	1,071	81.9	(2.63)	388	90.9	(3.07)	285	90.4	(4.04)	380	77.6 *	(5.12)	94	94.8	(2.33)	276	75.1 **	(5.61)
Boys	515	84.4	(3.78)	200	92.3	(4.45)	143	94.5	(5.21)	181	84.1	(6.16)	51	92.2	(3.11)	122	72.2 **	(6.50)
Girls	556	79.3	(3.63)	188	89.4	(4.21)	142	86.1	(6.21)	199	70.7	(8.25)	43	97.6	(3.48)	154	78.1 *	(9.24)
14–18 years old	802	46.8	(2.56)	197	64.8	(3.46)	125	65.5	(4.57)	361	33.8 ***	(4.51)	65	67.4	(6.72)	214	48.0 *	(5.62)
Boys	406	45.7	(2.30)	115	50.6	(5.62)	71	54.6	(6.03)	173	37.0 *	(4.26)	39	49.7	(10.96)	104	50.2	(6.92)
Girls	396	47.9	(4.66)	82	79.7	(3.94)	54	77.0	(6.90)	188	30.4 ***	(8.11)	26	85.9	(7.55)	110	45.7 ***	(8.94)

See notes at end of table.

Table F.1a. Vitamin A (Micrograms Retinol Activity Equivalent): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	323	379	422	490	638	811	917	994	1,114
5–8 years old	420	470	506	562	679	804	880	932	1,013
9–13 years old	341	399	440	506	646	805	901	968	1,073
14–18 years old	234	294	341	421	599	823	961	1,064	1,229
All NSLP participants	332	397	443	521	695	911	1,046	1,142	1,311
5–8 years old	417	472	513	577	705	851	940	1,001	1,103
9–13 years old	403	471	519	593	749	919	1,021	1,089	1,206
14–18 years old	201	270	318	410	637	946	1,150	1,298	1,566
Income-eligible NSLP participants	355	419	464	542	714	921	1,051	1,145	1,290
5–8 years old	414	474	515	584	723	887	988	1,063	1,176
9–13 years old	438	499	540	608	748	904	997	1,057	1,159
14–18 years old	232	302	353	449	674	963	1,150	1,290	1,499
Income-eligible nonparticipants	317	366	401	458	582 ***	725 ***	813 ***	875 ***	978 ***
5–8 years old	404	443	469	516	609	715	778	822	894
9–13 years old	357	405	440	493	602 *	723 **	796 *	848	930
14–18 years old	214	272	312	382	542	733	854 *	941 *	1,085
Higher income NSLP participants	325	391	435	514	704	942	1,094	1,197	1,389
5–8 years old	458	504	531	578	679	786	844	877	932
9–13 years old	394	474	524	610	805	1,008	1,130	1,210	1,350
14–18 years old	160 u	227 u	280 u	376	628	995	1,246	1,423	1,766
Higher income nonparticipants	358	411	448	508	632	772	858 *	920 *	1,010 **
5–8 years old	486	537	570	626	729	840	906	949	1,012
9–13 years old	277	331	368	429 *	556 **	704 ***	795 ***	861 ***	954 ***
14–18 years old	339	394	433	496	631	785	882	955	1,062 *

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	279	327	362	418	539	679	764	825	920
5–8 years old	331	378	412	466	580	710	788	843	932
9–13 years old	295	346	383	445	572	719	808	873	972
14–18 years old	224	270	303	357	476	617	702	764	860
All NSLP participants	356	411	449	514	646	799	894	958	1,056
5–8 years old	361	407	437	485	586	702	771	821	893
9–13 years old	356	414	458	529	678	850	956	1,030	1,139
14–18 years old	352	410	449	522	660	824	927	992	1,099
Income-eligible NSLP participants	358	409	445	506	633	783	875	946	1,050
5–8 years old	448	475	494	522	579	640	675	700	737
9–13 years old	329	388	429	500	648	822	931	1,011	1,136
14–18 years old	317	380	425	500	659	854	973	1,069	1,203
Income-eligible nonparticipants	261	301 *	328 **	374 ***	473 ***	586 **	655 **	703 *	782
5–8 years old	323	362	389	431	525	628	687	731	800
9–13 years old	275	319	350	399	505	626 *	699	751	834
14–18 years old	201	236	262 *	307 **	403 **	515 *	588	636	720
Higher income NSLP participants	385	450	486	555	690	830	917	974	1,066
5–8 years old	267	330	371	440	598	783	902	992	1,121
9–13 years old	463	530	569	642	778	919	1,010	1,059	1,146
14–18 years old	400	464	495	560	675	780	840	880	948
Higher income nonparticipants	293	340	376	431	549 **	690	776	838	938
5–8 years old	338	394	442	513	665	845	961	1,040	1,175
9–13 years old	311	357	389	437	545 **	670	742	795	880
14–18 years old	242	283	314	362 *	467 *	594	669	726	816

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample t-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

u Indicates individual estimates did not meet the standards of reliability or precision because of large coefficient of variation

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.2. Vitamin B6 (Milligrams): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	1.78	(0.022)	924	1.91	(0.040)	664	1.87	(0.036)	1,039	1.66 ***	(0.030)	237	2.06	(0.085)	688	1.77 **	(0.044)
Boys	1,355	1.96	(0.036)	477	2.09	(0.062)	333	2.01	(0.055)	512	1.79 **	(0.044)	129	2.32	(0.142)	335	1.98 *	(0.072)
Girls	1,371	1.59	(0.024)	447	1.73	(0.048)	331	1.72	(0.045)	527	1.52 ***	(0.040)	108	1.80	(0.090)	353	1.55 *	(0.049)
5–8 years old	853	1.63	(0.031)	339	1.71	(0.051)	254	1.72	(0.043)	298	1.63	(0.049)	78	1.69	(0.112)	198	1.58	(0.054)
Boys	434	1.73	(0.045)	162	1.83	(0.085)	119	1.86	(0.057)	158	1.70	(0.078)	39	1.73	(0.190)	109	1.67	(0.063)
Girls	419	1.53	(0.043)	177	1.59	(0.054)	135	1.56	(0.065)	140	1.55	(0.060)	39	1.65	(0.114)	89	1.48	(0.090)
9–13 years old	1,071	1.79	(0.031)	388	1.97	(0.060)	285	1.84	(0.050)	380	1.68 *	(0.053)	94	2.39	(0.169)	276	1.70 ***	(0.069)
Boys	515	1.91	(0.049)	200	2.15	(0.104)	143	1.95	(0.067)	181	1.80	(0.077)	51	2.78	(0.298)	122	1.74 ***	(0.093)
Girls	556	1.67	(0.037)	188	1.79	(0.056)	142	1.72	(0.074)	199	1.55	(0.071)	43	1.98	(0.150)	154	1.66	(0.102)
14–18 years old	802	1.87	(0.045)	197	2.01	(0.083)	125	2.01	(0.078)	361	1.66 ***	(0.051)	65	2.02	(0.140)	214	1.98	(0.090)
Boys	406	2.18	(0.078)	115	2.22	(0.121)	71	2.18	(0.128)	173	1.84 *	(0.071)	39	2.31	(0.216)	104	2.44	(0.167)
Girls	396	1.55	(0.043)	82	1.78	(0.112)	54	1.84	(0.085)	188	1.47 ***	(0.072)	26	1.72	(0.177)	110	1.50	(0.059)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	97.8	(0.69)	924	99.0	(0.34)	664	98.6	(0.50)	1,039	96.1	(1.46)	237	99.4	(0.36)	688	99.4	(0.72)
Boys	1,355	97.5	(0.71)	477	99.8	(0.24)	333	99.7	(0.28)	512	93.8 ***	(1.35)	129	100.0	(0.32)	335	99.5	(0.46)
Girls	1,371	98.1	(1.20)	447	98.2	(0.66)	331	97.5	(0.97)	527	98.6	(2.64)	108	98.8	(0.66)	353	99.2	(1.39)
5–8 years old	853	100.0	(0.01)	339	100.0	(0.02)	254	100.0	(0.00)	298	100.0	(0.01)	78	99.9	(0.13)	198	100.0	(0.06)
Boys	434	100.0	(0.00)	162	100.0	(0.00)	119	100.0	(0.00)	158	100.0	(0.00)	39	100.0	(0.06)	109	100.0	(0.01)
Girls	419	100.0	(0.02)	177	100.0	(0.04)	135	100.0	(0.00)	140	100.0	(0.01)	39	99.7	(0.26)	89	99.9	(0.12)
9–13 years old	1,071	99.6	(0.40)	388	99.9	(0.26)	285	99.9	(0.26)	380	99.5	(1.09)	94	99.9	(0.42)	276	98.9	(0.85)
Boys	515	99.9	(0.13)	200	99.8	(0.43)	143	99.9	(0.41)	181	99.4	(1.41)	51	99.9	(0.79)	122	100.0	(0.08)
Girls	556	99.4	(0.81)	188	99.9	(0.28)	142	99.9	(0.31)	199	99.6	(1.68)	43	99.9	(0.20)	154	97.8	(1.75)
14–18 years old	802	94.4	(1.82)	197	97.5	(0.90)	125	96.3	(1.32)	361	90.0	(3.81)	65	98.5	(0.88)	214	99.3	(1.76)
Boys	406	93.3	(1.92)	115	99.7	(0.48)	71	99.3	(0.63)	173	83.9 ***	(3.37)	39	100.0	(0.42)	104	98.7	(1.25)
Girls	396	95.6	(3.15)	82	95.1	(1.77)	54	93.2	(2.62)	188	96.5	(6.97)	26	97.0	(1.76)	110	99.9	(3.36)

See notes at end of table.

Table F.2a. Vitamin B6 (Milligrams): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	1.15	1.28	1.38	1.54	1.89	2.30	2.55	2.73	3.02
5–8 years old	1.16	1.26	1.34	1.45	1.70	1.96	2.13	2.24	2.42
9–13 years old	1.25	1.38	1.46	1.60	1.87	2.18	2.36	2.49	2.68
14–18 years old	1.03	1.21	1.34	1.56	2.05	2.65	3.03	3.31	3.78
All NSLP participants	1.33	1.47	1.56	1.72	2.04	2.40	2.62	2.77	3.02
5–8 years old	1.26	1.37	1.45	1.56	1.80	2.06	2.21	2.32	2.50
9–13 years old	1.27	1.44	1.55	1.72	2.09	2.51	2.75	2.92	3.22
14–18 years old	1.42	1.57	1.66	1.82	2.16	2.56	2.79	2.95	3.22
Income-eligible NSLP participants	1.34	1.47	1.55	1.69	1.97	2.29	2.47	2.60	2.80
5–8 years old	1.43	1.52	1.57	1.67	1.84	2.04	2.15	2.23	2.35
9–13 years old	1.24	1.37	1.46	1.61	1.91	2.24	2.44	2.57	2.79
14–18 years old	1.38	1.52	1.62	1.78	2.13	2.51	2.74	2.91	3.15
Income-eligible nonparticipants	0.98	1.12	1.22	1.37 *	1.72 **	2.12	2.37	2.54	2.84
5–8 years old	1.14	1.24	1.30	1.42	1.66	1.93	2.10	2.22	2.42
9–13 years old	1.06	1.19	1.29	1.44	1.76	2.10	2.32	2.47	2.71
14–18 years old	0.79	0.96	1.08	1.28	1.73	2.27	2.61	2.86	3.27
Higher income NSLP participants	1.56	1.70	1.79	1.93	2.27	2.64	2.86	3.00	3.25
5–8 years old	1.04	1.16	1.23	1.36	1.67	2.04	2.26	2.39	2.62
9–13 years old	1.60 u	1.81 u	1.94 u	2.17	2.70	3.28	3.63	3.87	4.30
14–18 years old	1.91	2.00	2.05	2.14	2.30	2.47	2.57	2.63	2.73
Higher income nonparticipants	1.42	1.51	1.58	1.69	1.93	2.20	2.38	2.52	2.72
5–8 years old	1.15	1.25	1.32	1.43	1.65	1.89	2.03	2.13	2.27
9–13 years old	1.73	1.74	1.74	1.74	1.74	1.74 ***	1.74 ***	1.74 ***	1.74 **
14–18 years old	1.32	1.50	1.63	1.84	2.32	2.88	3.26	3.55	3.99

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	1.01	1.11	1.19	1.31	1.55	1.83	1.99	2.11	2.29
5–8 years old	0.98	1.08	1.15	1.26	1.49	1.75	1.91	2.02	2.20
9–13 years old	1.03	1.14	1.23	1.36	1.63	1.94	2.12	2.25	2.45
14–18 years old	1.01	1.11	1.18	1.29	1.52	1.78	1.93	2.04	2.21
All NSLP participants	1.07	1.19	1.27	1.40	1.68	2.01	2.21	2.34	2.56
5–8 years old	0.96	1.07	1.14	1.26	1.53	1.84	2.04	2.19	2.42
9–13 years old	1.22	1.33	1.41	1.53	1.77	2.03	2.19	2.30	2.45
14–18 years old	1.01	1.14	1.23	1.40	1.72	2.10	2.35	2.50	2.76
Income-eligible NSLP participants	1.05	1.17	1.26	1.39	1.67	2.00	2.19	2.34	2.55
5–8 years old	1.03	1.12	1.19	1.30	1.52	1.78	1.94	2.06	2.24
9–13 years old	1.19	1.29	1.36	1.48	1.70	1.94	2.08	2.18	2.33
14–18 years old	0.93	1.09	1.20	1.39	1.77	2.22	2.49	2.70	3.00
Income-eligible nonparticipants	1.05	1.14	1.20	1.29	1.49 *	1.71 **	1.85 *	1.94 *	2.09
5–8 years old	1.09	1.18	1.24	1.33	1.53	1.74	1.86	1.95	2.08
9–13 years old	1.04	1.14	1.20	1.30	1.52	1.76	1.90	2.01	2.17
14–18 years old	1.04	1.12	1.17	1.26	1.45	1.65 **	1.78 **	1.86 **	2.01 *
Higher income NSLP participants	1.05	1.18	1.26	1.42	1.73	2.10	2.34	2.51	2.79
5–8 years old	0.82	0.96	1.05	1.20	1.55	1.98	2.27	2.50	2.84
9–13 years old	1.23	1.37	1.45	1.61	1.93	2.29	2.54	2.68	2.95
14–18 years old	1.05	1.18	1.25	1.40	1.69	2.00	2.20	2.34	2.60
Higher income nonparticipants	1.04	1.14	1.21	1.31	1.52	1.76	1.91	2.01	2.16
5–8 years old	0.92	1.02	1.10	1.22	1.46	1.72	1.88	1.99	2.16
9–13 years old	0.94	1.07	1.16	1.30	1.61	1.97	2.18	2.33	2.56
14–18 years old	1.24	1.29	1.33	1.38	1.49	1.60	1.67	1.71	1.78

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample t -tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.3. Vitamin B12 (Micrograms): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	4.88	(0.066)	924	5.49	(0.130)	664	5.33	(0.141)	1,039	4.66 ***	(0.103)	237	6.01	(0.260)	688	4.58 ***	(0.118)
Boys	1,355	5.46	(0.110)	477	6.04	(0.219)	333	5.76	(0.230)	512	5.25	(0.169)	129	6.84	(0.448)	335	5.08 ***	(0.190)
Girls	1,371	4.27	(0.071)	447	4.91	(0.133)	331	4.89	(0.158)	527	4.05 ***	(0.114)	108	5.14	(0.251)	353	4.05 ***	(0.137)
5–8 years old	853	4.78	(0.093)	339	5.14	(0.163)	254	5.10	(0.166)	298	4.63 *	(0.161)	78	5.14	(0.318)	198	4.58	(0.183)
Boys	434	5.12	(0.130)	162	5.64	(0.287)	119	5.68	(0.289)	158	4.77 *	(0.220)	39	5.43	(0.543)	109	4.80	(0.215)
Girls	419	4.44	(0.134)	177	4.62	(0.145)	135	4.50	(0.155)	140	4.47	(0.237)	39	4.83	(0.316)	89	4.35	(0.300)
9–13 years old	1,071	4.93	(0.100)	388	5.67	(0.189)	285	5.34	(0.208)	380	4.84	(0.180)	94	6.91	(0.474)	276	4.30 ***	(0.179)
Boys	515	5.29	(0.153)	200	6.10	(0.329)	143	5.62	(0.328)	181	5.27	(0.291)	51	7.89	(0.841)	122	4.49 ***	(0.254)
Girls	556	4.56	(0.126)	188	5.23	(0.175)	142	5.05	(0.251)	199	4.39 *	(0.207)	43	5.87	(0.410)	154	4.09 ***	(0.251)
14–18 years old	802	4.90	(0.135)	197	5.57	(0.275)	125	5.50	(0.300)	361	4.52 **	(0.182)	65	5.81	(0.482)	214	4.84	(0.231)
Boys	406	5.89	(0.240)	115	6.27	(0.454)	71	5.95	(0.492)	173	5.58	(0.322)	39	6.88	(0.810)	104	5.85	(0.422)
Girls	396	3.86	(0.113)	82	4.83	(0.300)	54	5.02	(0.335)	188	3.40 ***	(0.156)	26	4.68	(0.501)	110	3.79	(0.168)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	98.4	(0.37)	924	98.6	(0.50)	664	98.1	(0.71)	1,039	98.7	(0.91)	237	98.9	(0.49)	688	99.2	(0.46)
Boys	1,355	98.5	(0.40)	477	98.5	(0.60)	333	98.1	(1.01)	512	99.2	(0.65)	129	99.2	(0.53)	335	98.9	(0.37)
Girls	1,371	98.2	(0.64)	447	98.6	(0.82)	331	98.0	(1.01)	527	98.1	(1.73)	108	98.5	(0.83)	353	99.5	(0.86)
5–8 years old	853	100.0	(0.00)	339	100.0	(0.00)	254	100.0	(0.00)	298	100.0	(0.01)	78	100.0	(0.05)	198	100.0	(0.03)
Boys	434	100.0	(0.00)	162	100.0	(0.00)	119	100.0	(0.00)	158	100.0	(0.00)	39	100.0	(0.00)	109	100.0	(0.03)
Girls	419	100.0	(0.01)	177	100.0	(0.00)	135	100.0	(0.00)	140	100.0	(0.02)	39	100.0	(0.10)	89	100.0	(0.05)
9–13 years old	1,071	99.8	(0.14)	388	99.8	(0.20)	285	99.9	(0.24)	380	99.8	(0.25)	94	99.8	(0.17)	276	99.8	(0.38)
Boys	515	99.9	(0.15)	200	99.7	(0.36)	143	99.9	(0.40)	181	100.0	(0.00)	51	99.7	(0.17)	122	100.0	(0.30)
Girls	556	99.7	(0.24)	188	99.9	(0.19)	142	99.8	(0.25)	199	99.6	(0.51)	43	99.9	(0.30)	154	99.6	(0.71)
14–18 years old	802	95.8	(1.00)	197	96.3	(1.35)	125	95.0	(1.92)	361	96.6	(2.44)	65	97.2	(1.31)	214	98.0	(1.20)
Boys	406	96.1	(1.07)	115	96.2	(1.58)	71	95.1	(2.68)	173	97.9	(1.74)	39	98.2	(1.42)	104	97.1	(0.95)
Girls	396	95.4	(1.72)	82	96.3	(2.22)	54	94.8	(2.73)	188	95.1	(4.66)	26	96.1	(2.24)	110	99.0	(2.24)

See notes at end of table.

Table F.3a. Vitamin B12 (Micrograms): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	2.74	3.17	3.50	4.04	5.21	6.61	7.47	8.09	9.09
5–8 years old	3.27	3.61	3.86	4.24	5.03	5.87	6.38	6.73	7.28
9–13 years old	2.92	3.32	3.62	4.08	5.10	6.27	7.00	7.52	8.33
14–18 years old	2.16	2.70	3.13	3.85	5.45	7.47	8.72	9.65	11.16
All NSLP participants	2.90	3.40	3.74	4.34	5.68	7.34	8.39	9.13	10.44
5–8 years old	4.12	4.41	4.63	4.95	5.58	6.27	6.68	6.96	7.42
9–13 years old	2.75	3.30	3.69	4.33	5.77	7.48	8.57	9.33	10.69
14–18 years old	2.14	2.74	3.14	3.89	5.67	7.99	9.48	10.55	12.46
Income-eligible NSLP participants	2.86	3.32	3.64	4.20	5.45	6.97	7.93	8.63	9.72
5–8 years old	3.87	4.23	4.47	4.86	5.60	6.42	6.90	7.25	7.77
9–13 years old	2.94	3.40	3.72	4.25	5.40	6.73	7.56	8.11	9.06
14–18 years old	2.02	2.55	2.94	3.67	5.38	7.59	9.05	10.16	11.82
Income-eligible nonparticipants	3.26	3.61	3.85	4.25	5.10	6.07	6.66	7.08	7.77
5–8 years old	3.34	3.60	3.77	4.07	4.68	5.37	5.77	6.06	6.52
9–13 years old	4.02	4.27	4.45	4.71	5.23	5.78	6.10	6.32	6.68
14–18 years old	2.48	3.00	3.35	3.95	5.30	6.88	7.87	8.57	9.74
Higher income NSLP participants	3.02	3.62	4.02	4.72	6.41	8.45	9.75	10.62	12.22
5–8 years old	3.72	4.03	4.22	4.56	5.33	6.20	6.70	7.00	7.51
9–13 years old	2.99	3.69	4.15	5.00	7.19	9.88	11.69	12.98	15.38
14–18 years old	2.53	3.24	3.74	4.59	6.47	8.77	10.16	11.07	12.72
Higher income nonparticipants	2.69	3.10	3.39	3.86	4.87 **	6.05 **	6.81 *	7.36 *	8.18 *
5–8 years old	2.89	3.26	3.51	3.92	4.72	5.60	6.12	6.47	6.99
9–13 years old	2.95	3.25	3.46	3.77	4.41 **	5.12 **	5.54 **	5.84 **	6.26 **
14–18 years old	2.29	2.83	3.23	3.90	5.43	7.29	8.52	9.46	10.90

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	2.34	2.68	2.93	3.32	4.14	5.07	5.63	6.03	6.65
5–8 years old	2.65	2.98	3.22	3.59	4.34	5.17	5.67	6.01	6.55
9–13 years old	2.42	2.79	3.06	3.50	4.41	5.46	6.09	6.55	7.25
14–18 years old	2.03	2.36	2.59	2.95	3.73	4.63	5.17	5.56	6.15
All NSLP participants	2.59	3.00	3.28	3.77	4.75	5.88	6.58	7.05	7.77
5–8 years old	2.94	3.27	3.49	3.83	4.53	5.32	5.78	6.11	6.58
9–13 years old	2.79	3.21	3.52	4.02	5.07	6.25	6.98	7.48	8.23
14–18 years old	2.14	2.60	2.91	3.49	4.61	5.96	6.80	7.34	8.22
Income-eligible NSLP participants	2.51	2.93	3.22	3.71	4.71	5.88	6.58	7.11	7.88
5–8 years old	3.03	3.31	3.51	3.82	4.44	5.12	5.50	5.78	6.19
9–13 years old	2.67	3.09	3.38	3.87	4.88	6.03	6.74	7.26	8.05
14–18 years old	1.97	2.49	2.85	3.47	4.75	6.30	7.23	7.98	8.99
Income-eligible nonparticipants	2.31	2.62	2.83	3.18	3.93 ***	4.77 ***	5.28 **	5.64 **	6.22 *
5–8 years old	2.70	3.02	3.25	3.59	4.37	5.22	5.71	6.08	6.65
9–13 years old	2.32	2.69	2.93	3.34	4.22	5.24	5.86	6.31	7.03
14–18 years old	2.01	2.25	2.42	2.71	3.31 **	3.97 ***	4.39 ***	4.66 ***	5.13 **
Higher income NSLP participants	2.65	3.14	3.42	3.96	5.04	6.17	6.89	7.36	8.14
5–8 years old	2.77	3.17	3.42	3.82	4.70	5.68	6.28	6.73	7.37
9–13 years old	3.15	3.69	4.01	4.61	5.77	6.99	7.80	8.23	9.01
14–18 years old	2.09	2.60	2.86	3.45	4.58	5.76	6.48	6.99	7.89
Higher income nonparticipants	2.35	2.65	2.87	3.21 **	3.93 ***	4.76 **	5.26 **	5.61 *	6.18 *
5–8 years old	2.36	2.69	2.96	3.37	4.20	5.17	5.78	6.19	6.89
9–13 years old	2.28	2.62	2.84 *	3.19 **	3.97 **	4.86 *	5.38	5.76	6.36
14–18 years old	2.40	2.65	2.84	3.12	3.70	4.37	4.75	5.03	5.47

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample t-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.4. Vitamin C (Micrograms): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	75	(1.9)	924	88	(6.7)	664	83	(2.6)	1,039	69 ***	(1.9)	237	98	(17.0)	688	71	(2.1)
Boys	1,355	81	(3.4)	477	104	(12.8)	333	89	(4.1)	512	73 ***	(2.9)	129	133	(33.0)	335	71	(3.0)
Girls	1,371	68	(1.6)	447	72	(2.6)	331	76	(3.1)	527	65 **	(2.6)	108	62	(4.4)	353	71	(2.8)
5–8 years old	853	73	(2.0)	339	76	(3.5)	254	79	(3.6)	298	81	(3.8)	78	70	(6.7)	198	66	(3.7)
Boys	434	76	(3.1)	162	83	(6.3)	119	85	(6.4)	158	86	(5.2)	39	81	(11.7)	109	65	(3.6)
Girls	419	70	(2.5)	177	70	(3.0)	135	72	(3.0)	140	76	(5.5)	39	59	(6.4)	89	67	(6.6)
9–13 years old	1,071	78	(2.1)	388	90	(3.5)	285	91	(3.5)	380	63 ***	(3.2)	94	90	(8.9)	276	78	(3.4)
Boys	515	85	(3.4)	200	99	(6.2)	143	100	(5.3)	181	65 ***	(5.1)	51	105	(15.9)	122	83	(5.6)
Girls	556	72	(2.5)	188	80	(3.1)	142	81	(4.4)	199	61 ***	(3.9)	43	74	(7.5)	154	74	(3.7)
14–18 years old	802	73	(4.5)	197	96	(17.5)	125	78	(5.6)	361	66 *	(3.2)	65	127 u	(45.0)	214	67	(3.6)
Boys	406	82	(8.3)	115	125	(33.7)	71	83	(8.6)	173	70	(4.6)	39	197 u	(87.4)	104	64	(5.6)
Girls	396	64	(2.9)	82	65	(5.8)	54	74	(7.0)	188	61	(4.3)	26	53	(8.2)	110	70	(4.6)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	79.6	(3.05)	924	88.1	(1.70)	664	85.1	(3.56)	1,039	71.9 **	(2.99)	237	84.4	(2.80)	688	76.6	(3.49)
Boys	1,355	82.8	(5.69)	477	95.1	(2.36)	333	85.8	(6.21)	512	72.2	(3.22)	129	92.1	(3.18)	335	74.6 *	(6.11)
Girls	1,371	76.3	(1.88)	447	80.7	(2.44)	331	84.4	(3.27)	527	71.5 *	(5.10)	108	76.4	(4.67)	353	78.7	(3.17)
5–8 years old	853	98.0	(0.72)	339	98.2	(1.15)	254	98.9	(0.92)	298	99.0	(1.12)	78	96.7	(3.97)	198	97.5	(1.94)
Boys	434	96.7	(1.09)	162	97.0	(2.11)	119	98.9	(1.10)	158	98.8	(1.50)	39	93.5	(7.62)	109	95.1	(3.17)
Girls	419	99.3	(0.94)	177	99.4	(0.82)	135	98.9	(1.47)	140	99.3	(1.68)	39	100.0	(1.55)	89	99.9	(2.17)
9–13 years old	1,071	85.4	(2.10)	388	94.0	(1.98)	285	96.5	(2.12)	380	74.3 ***	(4.91)	94	91.2	(5.25)	276	85.4	(3.73)
Boys	515	86.1	(2.05)	200	88.5	(3.21)	143	93.4	(3.84)	181	75.4 *	(6.89)	51	82.7	(6.75)	122	89.6	(5.27)
Girls	556	84.5	(3.73)	188	99.8	(2.27)	142	99.7	(1.63)	199	73.1 ***	(7.00)	43	100.0	(8.09)	154	81.0 *	(5.29)
14–18 years old	802	60.4	(7.99)	197	74.9	(4.09)	125	63.9	(9.39)	361	49.1	(6.52)	65	68.8	(4.85)	214	52.6	(8.62)
Boys	406	69.2	(15.19)	115	100.0	(5.36)	71	68.9	(16.34)	173	49.2	(5.58)	39	100.0	(0.22)	104	44.9 ***u	(15.53)
Girls	396	51.1	(3.57)	82	48.4	(6.21)	54	58.7	(8.67)	188	49.1	(12.03)	26	35.9	(9.96)	110	60.6 *	(6.76)

See notes at end of table.

Table F.4a. Vitamin C (Micrograms): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	31	38	43	53	74	102	120	134	156
5–8 years old	25	32	38	47	69	97	116	130	152
9–13 years old	26	34	40	51	76	109	131	147	173
14–18 years old	39 u	45	50	59	77	99	113	124	141
All NSLP participants	63	69	73	80	98	121	136	148	168
5–8 years old	26	34	40	50	74	106	128	144	171
9–13 years old	27	37	44	57	88	128	155	174	210
14–18 years old	125 u	125 u	125 u	125 u	125	125	125	125	125
Income-eligible NSLP participants	35	43	49	59	82	112	131	145	168
5–8 years old	32	40	46	56	78	106	124	138	160
9–13 years old	35	45	51	63	91	126	150	166	195
14–18 years old	38 u	45 u	49 u	58	78	102	118	130	147
Income-eligible nonparticipants	24	31	36	44	65 **	93	111	125	148
5–8 years old	32	39	45	55	78	109	129	144	169
9–13 years old	20	26	31	39	59 ***	84 ***	100 **	113 *	135
14–18 years old	22	28	33	42	62	90	108	122	145
Higher income NSLP participants	86 u	91 u	95 u	102 u	123	152	172	186	213
5–8 years old	20 u	27 u	31 u	41 u	67	107	135	153	186
9–13 years old	20 u	30	36	50	88	139	175	201	250
14–18 years old	197 u	197 u	197 u	197 u	197 u	197 u	197 u	198 u	198 u
Higher income nonparticipants	28	34	39	47	66	89	103	114	131
5–8 years old	22	28	33	41	60	83	98	109	126
9–13 years old	30	38	44	54	77	104	122	136	155
14–18 years old	30 u	35	39	46	60	78	89	98	111

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	26	32	37	45	63	86	101	112	130
5–8 years old	33	39	43	51	66	85	97	106	120
9–13 years old	27	34	39	47	66	90	106	117	136
14–18 years old	20	26	30	38	57	82	99	111	132
All NSLP participants	34	40	44	51	66	87	100	110	126
5–8 years old	33	39	43	50	66	85	97	106	120
9–13 years old	54	59	62	68	79	91	99	104	112
14–18 years old	16	22	26	35	55	84	104	119	145
Income-eligible NSLP participants	35	41	46	54	71	93	107	118	134
5–8 years old	31	38	43	50	68	89	103	113	128
9–13 years old	53	58	61	68	80	93	101	107	116
14–18 years old	20 u	27	33	42	65	96	115	132	155
Income-eligible nonparticipants	25	31	35	42	60	82	96	107	125
5–8 years old	34 u	41	45	53	72	94	107	117	133
9–13 years old	20	26	30 *	38 **	55 ***	78	93	104	124
14–18 years old	22 u	28 u	31	39	55	77	92	102	120
Higher income NSLP participants	42	45	46	50	58	70	78	85	99
5–8 years old	41	44	46	50	58	66	72	75	81 u
9–13 years old	74 u	74	74	74	74	74	74	74	74 u
14–18 years old	13 u	17 u	20 u	27	44	69	88	103	135
Higher income nonparticipants	28	34	39	47	65	88	103	114	133
5–8 years old	37 u	42 u	46 u	52	65	80	89	96	107
9–13 years old	23	30	36	45	67	95	113	127	149
14–18 years old	25	32	37	45	64	89	104	117	137

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Totals are age adjusted to account for the different age distributions of NSLP participants and nonparticipants. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample *t*-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

u Indicates individual estimates did not meet the standards of reliability or precision because of large coefficient of variation

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.5. Vitamin D (Micrograms): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	5.7	(0.10)	924	7.0	(0.19)	664	7.2	(0.21)	1,039	5.3 ***	(0.14)	237	7.0	(0.32)	688	5.1 ***	(0.19)
Boys	1,355	6.4	(0.15)	477	7.8	(0.30)	333	7.9	(0.31)	512	6.0 ***	(0.22)	129	8.0	(0.52)	335	5.6 ***	(0.29)
Girls	1,371	4.9	(0.12)	447	6.1	(0.24)	331	6.4	(0.28)	527	4.5 ***	(0.16)	108	5.9	(0.38)	353	4.5 **	(0.24)
5–8 years old	853	6.2	(0.14)	339	7.0	(0.25)	254	7.3	(0.33)	298	5.8 ***	(0.25)	78	6.4	(0.39)	198	5.9	(0.34)
Boys	434	6.9	(0.20)	162	8.0	(0.45)	119	8.5	(0.61)	158	6.3 **	(0.38)	39	7.3	(0.61)	109	6.3	(0.37)
Girls	419	5.6	(0.20)	177	6.0	(0.19)	135	6.1	(0.22)	140	5.4	(0.32)	39	5.5	(0.49)	89	5.5	(0.58)
9–13 years old	1,071	5.8	(0.14)	388	7.2	(0.22)	285	6.9	(0.27)	380	5.5 ***	(0.22)	94	8.2	(0.46)	276	4.8 ***	(0.26)
Boys	515	6.2	(0.18)	200	7.5	(0.31)	143	7.2	(0.37)	181	6.2 *	(0.31)	51	8.5	(0.49)	122	5.0 ***	(0.40)
Girls	556	5.4	(0.22)	188	6.9	(0.31)	142	6.6	(0.41)	199	4.6 ***	(0.30)	43	7.9	(0.78)	154	4.6 ***	(0.33)
14–18 years old	802	5.2	(0.20)	197	6.7	(0.43)	125	7.3	(0.43)	361	4.7 ***	(0.24)	65	6.3	(0.70)	214	4.7 *	(0.37)
Boys	406	6.3	(0.34)	115	7.9	(0.66)	71	8.0	(0.61)	173	5.6 **	(0.41)	39	8.1	(1.25)	104	5.7	(0.64)
Girls	396	4.0	(0.20)	82	5.4	(0.55)	54	6.5	(0.61)	188	3.8 ***	(0.24)	26	4.3	(0.58)	110	3.7	(0.34)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	7.5	(0.82)	924	14.3	(1.78)	664	16.0	(2.26)	1,039	4.4 ***	(0.94)	237	15.9	(3.45)	688	5.2 **	(1.37)
Boys	1,355	11.8	(1.45)	477	21.5	(3.15)	333	23.3	(3.83)	512	6.6 ***	(1.67)	129	22.5	(5.30)	335	6.9 ***u	(2.27)
Girls	1,371	3.1	(0.72)	447	6.7	(1.56)	331	8.3	(2.30)	527	2.2 *u	(0.81)	108	8.9 u	(4.37)	353	3.3 u	(1.47)
5–8 years old	853	6.9	(1.75)	339	9.4 u	(4.21)	254	12.1 u	(6.07)	298	2.6 u	(1.67)	78	3.6 u	(4.00)	198	7.4 u	(3.10)
Boys	434	9.2 u	(3.05)	162	16.9 u	(8.19)	119	23.4 u	(11.85)	158	0.9 u	(2.59)	39	6.2 u	(7.77)	109	6.2 u	(4.11)
Girls	419	4.6 u	(1.64)	177	1.5 u	(1.11)	135	0.3 u	(0.94)	140	4.4 u	(2.07)	39	1.0 u	(1.09)	89	8.6 u	(4.64)
9–13 years old	1,071	6.4	(1.23)	388	15.7	(2.53)	285	13.5	(2.37)	380	4.6 ***u	(1.64)	94	26.4	(7.85)	276	1.9 ***u	(1.50)
Boys	515	8.8	(1.91)	200	18.7	(3.55)	143	17.2	(3.29)	181	6.7 *u	(2.89)	51	28.7 u	(9.87)	122	3.1 *u	(2.54)
Girls	556	3.9 u	(1.53)	188	12.6	(3.61)	142	9.5 u	(3.43)	199	2.4 u	(1.42)	43	24.1 u	(12.30)	154	0.6 u	(1.55)
14–18 years old	802	9.1	(1.35)	197	16.6	(2.72)	125	21.3	(3.40)	361	5.7 ***	(1.58)	65	14.9 u	(4.68)	214	6.6 u	(2.50)
Boys	406	16.6	(2.61)	115	27.6	(4.84)	71	29.0	(4.38)	173	10.8 ***	(3.00)	39	28.8 u	(9.11)	104	11.0 u	(4.72)
Girls	396	1.1 u	(0.41)	82	4.9 u	(2.28)	54	13.1 u	(5.24)	188	0.3 *u	(0.68)	26	0.3 u	(0.63)	110	2.0 u	(1.24)

See notes at end of table.

Table F.5a. Vitamin D (Micrograms): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	2.4	3.0	3.4	4.2	6.0	8.1	9.5	10.6	12.2
5–8 years old	3.6	4.2	4.6	5.3	6.7	8.2	9.2	9.9	10.9
9–13 years old	2.6	3.2	3.6	4.3	5.9	7.8	8.9	9.8	11.1
14–18 years old	1.4	1.9	2.4	3.3	5.5	8.4	10.4	11.8	14.2
All NSLP participants	3.1	3.8	4.3	5.2	7.2	9.7	11.4	12.6	14.6
5–8 years old	4.9	5.5	5.9	6.6	7.9	9.3	10.2	10.8	11.9
9–13 years old	3.2	3.9	4.4	5.3	7.1	9.3	10.6	11.5	13.1
14–18 years old	1.7	2.4	3.0	4.0	6.7	10.5	13.0	14.8	18.1
Income-eligible NSLP participants	3.1	3.8	4.3	5.2	7.3	9.9	11.6	12.8	14.7
5–8 years old	5.0	5.7	6.1	6.8	8.2	9.9	10.9	11.7	12.8
9–13 years old	3.0	3.6	4.1	5.0	6.8	9.0	10.4	11.3	12.9
14–18 years old	1.7 u	2.5	3.1	4.2	7.0	10.7	13.1	15.0	17.7
Income-eligible nonparticipants	2.7	3.2	3.6	4.2	5.6 ***	7.4 ***	8.5 ***	9.3 **	10.7 **
5–8 years old	4.2	4.6	4.8	5.3	6.2 **	7.1	7.7	8.1	8.7
9–13 years old	2.9	3.5	3.9	4.6	6.0	7.6	8.6	9.3	10.5
14–18 years old	1.4	1.9	2.3	3.1	4.9	7.4 **	9.0 *	10.2	12.3
Higher income NSLP participants	3.4	4.1	4.6	5.4	7.5	10.1	11.7	12.8	14.8
5–8 years old	4.7	5.3	5.6	6.1	7.3	8.5	9.2	9.6	10.2
9–13 years old	4.2	5.0	5.5	6.3	8.3	10.4	11.6	12.4	13.8
14–18 years old	1.6	2.3	2.9	4.0	6.8	10.9	13.6	15.5	19.2
Higher income nonparticipants	2.0 *	2.6 **	3.0 **	3.7 **	5.2 ***	7.1 **	8.3 *	9.3 *	10.6 *
5–8 years old	3.0	3.6	4.0	4.7	6.1	7.7	8.6	9.3	10.3
9–13 years old	1.9 *	2.4 **	2.7 ***	3.3 ***	4.6 ***	6.3 **	7.4 *	8.1	9.3
14–18 years old	1.5	2.0	2.5	3.2	5.1	7.4	9.0	10.3	12.2

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	1.9	2.4	2.7	3.3	4.6	6.2	7.2	7.9	9.0
5–8 years old	2.3	2.8	3.2	3.9	5.3	7.0	8.0	8.7	9.8
9–13 years old	2.2	2.7	3.1	3.7	5.1	6.7	7.7	8.5	9.6
14–18 years old	1.4	1.8	2.1	2.5	3.7	5.1	6.0	6.7	7.8
All NSLP participants	2.8	3.4	3.8	4.4	5.8	7.5	8.5	9.2	10.2
5–8 years old	3.6	4.0	4.3	4.8	5.9	7.0	7.7	8.2	8.9
9–13 years old	3.2	3.8	4.3	5.1	6.7	8.5	9.6	10.4	11.6
14–18 years old	2.0	2.5	2.9	3.6	5.0	6.8	8.0	8.7	10.0
Income-eligible NSLP participants	3.1	3.6	4.1	4.7	6.2	7.9	8.9	9.6	10.7
5–8 years old	4.2	4.6	4.8	5.2	6.0	6.9	7.4	7.8	8.3
9–13 years old	3.1	3.7	4.1	4.9	6.4	8.1	9.2	9.9	11.1
14–18 years old	2.2	2.9	3.4	4.3	6.1	8.3	9.7	10.7	12.1
Income-eligible nonparticipants	1.8 **	2.2 ***	2.5 ***	3.1 ***	4.3 ***	5.7 ***	6.6 ***	7.2 ***	8.3 *
5–8 years old	2.0 *	2.6 *	3.0 *	3.6 *	5.1	6.8	7.8	8.6	9.8
9–13 years old	1.7	2.2 *	2.5 *	3.1 **	4.3 ***	5.9 **	6.8 *	7.6	8.7
14–18 years old	1.7	2.1	2.3	2.7	3.6 **	4.7 ***	5.4 ***	5.9 ***	6.8 **
Higher income NSLP participants	2.4	3.1	3.5	4.2	5.7	7.3	8.4	9.0	10.1
5–8 years old	2.6	3.2	3.6	4.1	5.4	6.6	7.4	8.0	8.7
9–13 years old	3.1	4.1	4.6	5.7	7.7	9.9	11.3	12.1	13.4
14–18 years old	1.7 u	2.1 u	2.4 u	3.0	4.2	5.5	6.3	6.9	8.0
Higher income nonparticipants	1.5	1.9	2.3 *	2.8 **	4.1 **	5.7	6.8	7.6	8.9
5–8 years old	1.5	2.0	2.5	3.2	4.9	7.1	8.6	9.6	11.4
9–13 years old	2.1	2.5	2.8	3.3 ***	4.4 ***	5.6 *	6.4	6.9	7.8
14–18 years old	0.9 u	1.3	1.5	2.0	3.2	4.8	5.8	6.7	8.1

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample t-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

u Indicates individual estimates did not meet the standards of reliability or precision because of large coefficient of variation

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.6. Vitamin E (Milligrams Alpha-Tocopherol): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	7.1	(0.09)	924	7.3	(0.17)	664	7.9	(0.20)	1,039	6.6 ***	(0.11)	237	6.6	(0.24)	688	7.6 ***	(0.16)
Boys	1,355	7.5	(0.13)	477	7.5	(0.23)	333	7.8	(0.21)	512	6.8 ***	(0.15)	129	7.3	(0.38)	335	8.4 **	(0.21)
Girls	1,371	6.7	(0.12)	447	7.1	(0.25)	331	7.9	(0.34)	527	6.5 ***	(0.15)	108	6.0	(0.29)	353	6.8 *	(0.23)
5–8 years old	853	6.6	(0.15)	339	6.2	(0.22)	254	6.7	(0.20)	298	6.6	(0.18)	78	5.5	(0.28)	198	7.2 ***	(0.24)
Boys	434	6.9	(0.23)	162	6.2	(0.38)	119	7.1	(0.28)	158	6.7	(0.24)	39	4.9	(0.35)	109	8.0 ***	(0.33)
Girls	419	6.4	(0.17)	177	6.3	(0.23)	135	6.3	(0.28)	140	6.5	(0.26)	39	6.1	(0.44)	89	6.4	(0.35)
9–13 years old	1,071	7.1	(0.12)	388	7.4	(0.20)	285	7.7	(0.22)	380	6.3 ***	(0.17)	94	6.9	(0.42)	276	7.5	(0.23)
Boys	515	7.5	(0.19)	200	7.8	(0.30)	143	8.1	(0.30)	181	6.6 ***	(0.26)	51	7.7	(0.55)	122	8.0	(0.31)
Girls	556	6.7	(0.15)	188	7.0	(0.26)	142	7.3	(0.31)	199	5.9 ***	(0.22)	43	6.0	(0.64)	154	7.0	(0.33)
14–18 years old	802	7.6	(0.18)	197	8.0	(0.38)	125	8.8	(0.47)	361	7.1 ***	(0.20)	65	7.3	(0.47)	214	8.0	(0.32)
Boys	406	8.0	(0.26)	115	8.2	(0.47)	71	8.0	(0.44)	173	7.0	(0.28)	39	8.6	(0.84)	104	9.1	(0.43)
Girls	396	7.0	(0.25)	82	7.8	(0.60)	54	9.7	(0.85)	188	7.2 **	(0.30)	26	5.9	(0.37)	110	6.8	(0.47)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	22.9	(1.49)	924	21.8	(2.44)	664	29.4	(3.31)	1,039	19.4 **	(1.40)	237	12.6 u	(5.70)	688	29.1 *	(3.06)
Boys	1,355	27.5	(2.20)	477	23.8	(4.04)	333	30.9	(4.74)	512	20.4 *	(2.21)	129	11.0 u	(6.24)	335	38.9 ***	(4.55)
Girls	1,371	18.1	(2.00)	447	19.7	(2.63)	331	27.7	(4.62)	527	18.5	(1.69)	108	14.3 u	(9.68)	353	18.7	(4.07)
5–8 years old	853	59.7	(3.01)	339	49.7	(5.46)	254	59.5	(4.37)	298	57.0	(3.35)	78	27.1 u	(17.11)	198	74.9 *	(8.10)
Boys	434	65.7	(4.49)	162	49.1	(8.43)	119	67.9	(6.70)	158	59.5	(4.94)	39	6.9 u	(12.07)	109	89.7 ***	(8.16)
Girls	419	53.5	(4.00)	177	50.3	(6.86)	135	50.8	(5.55)	140	54.5	(4.50)	39	48.0 u	(32.61)	89	59.5	(14.18)
9–13 years old	1,071	11.8	(3.09)	388	17.9	(4.82)	285	22.9	(6.29)	380	8.2 *u	(2.75)	94	11.7 u	(8.21)	276	11.3 u	(5.23)
Boys	515	18.1	(4.37)	200	21.6 u	(8.55)	143	26.8 u	(11.42)	181	10.2 u	(4.79)	51	20.1 u	(13.12)	122	22.0 u	(10.22)
Girls	556	5.2 u	(4.37)	188	13.9	(4.16)	142	18.9	(4.75)	199	6.1 *u	(2.55)	43	2.8 u	(9.67)	154	0.0	(0.50)
14–18 years old	802	6.0	(1.56)	197	4.7 u	(2.34)	125	12.9 u	(5.78)	361	2.0 u	(1.05)	65	2.7 u	(3.49)	214	11.7 *	(2.62)
Boys	406	8.2 u	(2.58)	115	7.0 u	(3.65)	71	7.3 u	(4.52)	173	1.0 u	(1.07)	39	5.3 u	(6.79)	104	17.1	(4.39)
Girls	396	3.7 u	(1.70)	82	2.3 u	(2.88)	54	18.8 u	(10.89)	188	3.2 u	(1.85)	26	0.0	(0.09)	110	6.0 *u	(2.72)

See notes at end of table.

Table F.6a. Vitamin E (Milligrams Alpha-Tocopherol): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	4.5	5.0	5.4	6.0	7.3	8.8	9.7	10.4	11.4
5–8 years old	4.1	4.6	5.0	5.5	6.7	8.0	8.8	9.4	10.3
9–13 years old	5.0	5.5	5.8	6.3	7.4	8.5	9.3	9.8	10.6
14–18 years old	4.2	4.9	5.4	6.1	7.8	9.7	10.8	11.6	12.9
All NSLP participants	4.6	5.1	5.5	6.1	7.3	8.7	9.5	10.1	11.1
5–8 years old	3.5	4.0	4.3	4.9	6.0	7.3	8.1	8.6	9.5
9–13 years old	5.4	5.9	6.2	6.7	7.7	8.8	9.5	9.9	10.7
14–18 years old	4.7	5.3	5.7	6.4	8.0	9.7	10.7	11.4	12.6
Income-eligible NSLP participants	4.7	5.3	5.6	6.3	7.6	9.1	10.0	10.6	11.5
5–8 years old	4.0	4.6	5.0	5.6	6.9	8.4	9.3	10.0	10.9
9–13 years old	5.9	6.3	6.6	7.1	8.0	9.1	9.7	10.1	10.8
14–18 years old	4.1	4.8	5.2	6.1	7.7	9.6	10.7	11.5	12.6
Income-eligible nonparticipants	4.1	4.6	4.9	5.4	6.6 **	7.9 **	8.7	9.2	10.1
5–8 years old	3.8	4.3	4.6	5.2	6.5	7.9	8.7	9.3	10.3
9–13 years old	4.0	4.5	4.8	5.3 *	6.4 ***	7.7	8.5	9.0	9.9
14–18 years old	4.3	4.8	5.2	5.7	6.8	8.1	8.8	9.4	10.2
Higher income NSLP participants	5.0	5.5	5.7	6.2	7.2	8.2	8.8	9.2	9.9
5–8 years old	3.8	4.0	4.1	4.3	4.8	5.4	5.7	5.9	6.1
9–13 years old	5.4	5.8	6.1	6.5	7.6	8.7	9.4	9.8	10.6
14–18 years old	5.7 u	6.3	6.6	7.2	8.5	9.9	10.7	11.2	12.1
Higher income nonparticipants	5.3	5.9	6.3	6.9	8.2	9.7	10.6	11.3	12.2
5–8 years old	5.5	6.0	6.3	6.8 **	7.9 ***	9.0 ***	9.7 ***	10.2 **	10.9 *
9–13 years old	5.9	6.3	6.6	7.0	7.9	8.8	9.4	9.9	10.4
14–18 years old	4.6	5.4	6.0	6.8	8.8	11.0	12.4	13.4	15.0

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	4.1	4.6	4.9	5.4	6.5	7.8	8.6	9.2	10.1
5–8 years old	3.8	4.2	4.5	5.0	6.2	7.5	8.2	8.8	9.7
9–13 years old	4.8	5.1	5.4	5.8	6.6	7.5	8.1	8.5	9.0
14–18 years old	3.7	4.3	4.7	5.3	6.7	8.4	9.5	10.3	11.5
All NSLP participants	4.5	5.0	5.3	5.8	6.9	8.2	9.0	9.6	10.4
5–8 years old	3.7	4.1	4.4	4.9	6.0	7.4	8.2	8.9	9.8
9–13 years old	4.5	4.9	5.2	5.7	6.8	8.1	8.9	9.5	10.3
14–18 years old	5.1 u	5.6	5.9	6.5	7.6	8.9	9.7	10.2	11.1
Income-eligible NSLP participants	4.6	5.2	5.6	6.3	7.7	9.3	10.3	11.0	12.1
5–8 years old	3.6	4.1	4.4	4.9	6.0	7.5	8.4	9.1	10.1
9–13 years old	4.4	4.9	5.3	5.9	7.1	8.5	9.4	10.0	11.0
14–18 years old	5.6 u	6.4	6.9	7.7	9.4	11.4	12.5	13.4	14.7
Income-eligible nonparticipants	3.6	4.1	4.5	5.0	6.3 **	7.7 *	8.6	9.3	10.3
5–8 years old	3.5	4.0	4.4	4.9	6.2	7.7	8.6	9.2	10.3
9–13 years old	3.3	3.7	4.0	4.5	5.7 **	7.0 **	7.8 *	8.3	9.3
14–18 years old	4.1	4.6	5.0	5.6	6.9	8.5	9.5	10.1	11.3
Higher income NSLP participants	3.9	4.3	4.5	5.0	5.9	6.9	7.5	7.9	8.7
5–8 years old	3.7 u	4.1	4.4	4.9	5.9	7.1	7.9	8.5	9.3
9–13 years old	4.0	4.4	4.6	5.1	5.9	6.9	7.5	7.9	8.5
14–18 years old	3.9	4.3	4.5	5.0	5.8	6.7	7.2	7.6	8.3
Higher income nonparticipants	4.8	5.1	5.3	5.7	6.5	7.6	8.2	8.8	9.6
5–8 years old	4.4	4.8	5.1	5.5	6.3	7.3	7.9	8.3	8.9
9–13 years old	7.0 ***	7.0 ***	7.0 ***	7.0 ***	7.0	7.0	7.0	7.0	7.0
14–18 years old	3.0	3.5	3.9	4.6	6.2	8.3	9.7	10.8	12.7

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample t-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

u Indicates individual estimates did not meet the standards of reliability or precision because of large coefficient of variation

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.7. Folate (Micrograms Dietary Folate Equivalent): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	524	(6.4)	924	568	(12.3)	664	566	(16.2)	1,039	506 **	(8.8)	237	593	(20.9)	688	505 ***	(11.9)
Boys	1,355	564	(10.3)	477	604	(20.5)	333	614	(25.9)	512	538 **	(11.1)	129	600	(30.7)	335	544	(16.9)
Girls	1,371	482	(7.6)	447	529	(13.1)	331	515	(19.1)	527	473	(13.7)	108	586	(28.2)	353	465 ***	(16.7)
5–8 years old	853	511	(8.6)	339	531	(15.2)	254	492	(15.0)	298	491	(11.8)	78	617	(30.6)	198	523 *	(24.3)
Boys	434	532	(10.3)	162	561	(16.9)	119	548	(24.1)	158	503	(15.8)	39	571	(27.8)	109	529	(21.7)
Girls	419	489	(14.0)	177	499	(25.6)	135	434	(17.4)	140	477	(17.6)	39	665	(55.3)	89	517 *	(44.1)
9–13 years old	1,071	533	(9.8)	388	588	(17.1)	285	593	(20.6)	380	516 **	(17.4)	94	605	(36.4)	276	485 **	(15.4)
Boys	515	541	(15.1)	200	594	(26.4)	143	633	(31.0)	181	540 *	(19.4)	51	549	(38.7)	122	465	(21.2)
Girls	556	525	(12.2)	188	581	(21.4)	142	552	(26.8)	199	491	(29.2)	43	664	(62.5)	154	506 *	(22.5)
14–18 years old	802	525	(13.2)	197	576	(26.6)	125	595	(37.6)	361	508 *	(14.5)	65	563	(38.3)	214	511	(22.1)
Boys	406	611	(22.5)	115	645	(47.5)	71	646	(60.7)	173	561	(20.4)	39	670	(71.2)	104	630	(37.5)
Girls	396	435	(13.2)	82	503	(21.7)	54	542	(43.2)	188	453	(20.8)	26	451	(23.2)	110	386 *	(22.2)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	94.0	(0.86)	924	94.9	(0.95)	664	94.6	(1.10)	1,039	95.6	(1.67)	237	94.5	(1.59)	688	92.2	(1.65)
Boys	1,355	97.3	(0.72)	477	96.1	(1.28)	333	97.4	(1.51)	512	98.3	(0.96)	129	94.0	(1.40)	335	97.9	(1.61)
Girls	1,371	90.5	(1.60)	447	93.6	(1.40)	331	91.8	(1.62)	527	92.8	(3.26)	108	95.0	(2.91)	353	86.2 *	(2.94)
5–8 years old	853	99.9	(0.11)	339	99.9	(0.08)	254	100.0	(0.02)	298	99.9	(0.14)	78	99.8	(0.24)	198	99.8	(0.23)
Boys	434	100.0	(0.01)	162	100.0	(0.03)	119	100.0	(0.01)	158	100.0	(0.01)	39	100.0	(0.14)	109	99.9	(0.09)
Girls	419	99.8	(0.22)	177	99.9	(0.17)	135	100.0	(0.04)	140	99.7	(0.29)	39	99.6	(0.47)	89	99.8	(0.46)
9–13 years old	1,071	99.0	(0.75)	388	98.8	(0.67)	285	98.2	(0.76)	380	97.4	(1.69)	94	99.0	(1.47)	276	99.3	(1.78)
Boys	515	100.0	(0.04)	200	100.0	(0.17)	143	100.0	(0.03)	181	100.0	(0.00)	51	98.8	(1.96)	122	98.6	(3.41)
Girls	556	98.0	(1.53)	188	97.6	(1.36)	142	96.3	(1.56)	199	94.6	(3.46)	43	99.2	(2.20)	154	100.0	(0.70)
14–18 years old	802	84.7	(2.22)	197	87.4	(2.48)	125	87.2	(2.89)	361	90.6	(4.21)	65	86.2	(4.06)	214	79.7	(4.14)
Boys	406	92.6	(1.94)	115	89.6	(3.46)	71	92.9	(4.06)	173	95.3	(2.58)	39	85.0	(3.27)	104	95.8 *	(2.87)
Girls	396	76.4	(4.08)	82	85.1	(3.56)	54	81.3	(4.12)	188	85.7	(8.20)	26	87.4	(7.60)	110	62.7 *	(7.94)

See notes at end of table.

Table F.7a. Folate (Micrograms Dietary Folate Equivalent): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	351	388	415	459	549	653	716	760	830
5–8 years old	325	361	388	430	519	617	678	720	788
9–13 years old	421	445	461	486	536	590	621	643	676
14–18 years old	304	354	392	454	585	740	833	901	1,010
All NSLP participants	341	386	417	469	580	713	795	852	950
5–8 years old	342	381	410	455	546	651	716	760	835
9–13 years old	419	454	477	513	587	666	714	745	800
14–18 years old	266	326	365	437	600	804	931	1,021	1,179
Income-eligible NSLP participants	397	437	463	509	601	705	767	811	875
5–8 years old	380	412	434	469	538	616	663	697	748
9–13 years old	508	533	550	576	629	684	717	738	772
14–18 years old	304	363	403	474	623	792	892	965	1,068
Income-eligible nonparticipants	410	433	449	475	530	591 *	627 *	653 *	694
5–8 years old	346	374	394	427	495	570	613	643	693
9–13 years old	540	540	540	540	540	541	541	541	541
14–18 years old	333	376	403	449	547	655	720	766	841
Higher income NSLP participants	276	328	362	423	566	740	848	919	1,048
5–8 years old	320	365	392	442	555	685	760	804	879
9–13 years old	305	347	373	419	528	650	727	780	876
14–18 years old	216	282	331	414	611	867	1,028	1,136	1,338
Higher income nonparticipants	306	347	377	425	525	641	715	768	847
5–8 years old	282	324	354	404	508	631	709	763	846
9–13 years old	289	321	343	378	452	537	591	629	685
14–18 years old	339 *	390	426	484	608	749	838	904	1,002

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	264	301	328	371	463	572	639	687	764
5–8 years old	260	298	327	372	470	584	654	704	785
9–13 years old	292	331	360	407	505	621	692	745	826
14–18 years old	241	274	298	335	418	516	576	620	688
All NSLP participants	276	318	347	397	503	634	717	776	867
5–8 years old	278	317	344	387	480	590	658	708	782
9–13 years old	287	331	365	422	547	702	803	877	990
14–18 years old	265	305	331	381	480	601	679	729	814
Income-eligible NSLP participants	264	305	333	382	487	618	701	766	863
5–8 years old	316	338	354	379	428	483	514	537	571
9–13 years old	267	311	342	398	518	667	766	840	960
14–18 years old	223	273	309	370	503	672	779	867	991
Income-eligible nonparticipants	264	301	326	368	458	560	623	666	739
5–8 years old	261	300	327	370	465	569	628	673	742
9–13 years old	246	288	317	365	470	592	668	722	810
14–18 years old	283	313	333	369	441	523	575	609	668
Higher income NSLP participants	296	347	377	436	561	705	801	865	973
5–8 years old	268	333	376	449	621	828	965	1,071	1,223
9–13 years old	323	381	417	487	633	802	923	990	1,117
14–18 years old	290	323	340	376	446	517	561	591	646
Higher income nonparticipants	297	324	345	378	448 *	533 ***	587 ***	625 ***	690 **
5–8 years old	260	298	330	380	487	620	708	769	876
9–13 years old	414	433	446	464	502	544 **	567 **	584 **	610 **
14–18 years old	211	239	260	293	367	457	513	556	626

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample *t*-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.8. Niacin (Milligrams): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	22.3	(0.23)	924	23.7	(0.42)	664	23.1	(0.39)	1,039	21.3 ***	(0.31)	237	25.2	(0.86)	688	22.3 **	(0.43)
Boys	1,355	24.8	(0.35)	477	26.0	(0.70)	333	25.0	(0.62)	512	22.9 **	(0.44)	129	28.1	(1.37)	335	25.4	(0.61)
Girls	1,371	19.8	(0.29)	447	21.3	(0.45)	331	21.2	(0.47)	527	19.8 *	(0.43)	108	22.2	(1.04)	353	18.9 **	(0.60)
5–8 years old	853	20.2	(0.34)	339	20.6	(0.51)	254	20.2	(0.40)	298	20.2	(0.49)	78	21.5	(1.00)	198	20.2	(0.64)
Boys	434	21.3	(0.49)	162	22.1	(0.90)	119	22.0	(0.53)	158	20.7	(0.68)	39	22.1	(1.76)	109	21.3	(0.73)
Girls	419	19.0	(0.46)	177	19.1	(0.46)	135	18.3	(0.60)	140	19.7	(0.70)	39	20.9	(0.91)	89	19.1	(1.05)
9–13 years old	1,071	22.2	(0.33)	388	23.9	(0.54)	285	23.0	(0.51)	380	21.2 *	(0.51)	94	27.0	(1.63)	276	21.3 **	(0.78)
Boys	515	23.8	(0.45)	200	25.7	(0.87)	143	24.7	(0.75)	181	22.5 *	(0.76)	51	29.7	(2.26)	122	22.5 **	(0.94)
Girls	556	20.7	(0.50)	188	22.1	(0.64)	142	21.3	(0.71)	199	19.9	(0.67)	43	24.2	(2.35)	154	20.1	(1.26)
14–18 years old	802	24.0	(0.46)	197	25.7	(0.94)	125	25.4	(0.90)	361	22.3 **	(0.57)	65	26.4	(1.58)	214	24.7	(0.74)
Boys	406	28.3	(0.75)	115	29.1	(1.57)	71	27.5	(1.47)	173	24.8	(0.79)	39	31.2	(2.69)	104	31.2	(1.25)
Girls	396	19.5	(0.53)	82	22.2	(1.00)	54	23.2	(0.98)	188	19.7 **	(0.83)	26	21.3	(1.57)	110	17.7 *	(0.74)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	99.5	(0.27)	924	99.7	(0.22)	664	99.3	(0.38)	1,039	99.1	(0.42)	237	99.5	(0.55)	688	99.7	(0.52)
Boys	1,355	99.6	(0.29)	477	99.9	(0.28)	333	99.8	(0.50)	512	98.4	(0.61)	129	100.0	(0.06)	335	100.0	(0.04)
Girls	1,371	99.4	(0.46)	447	99.3	(0.35)	331	98.8	(0.56)	527	99.9	(0.56)	108	98.9	(1.12)	353	99.5	(1.07)
5–8 years old	853	100.0	(0.00)	339	100.0	(0.00)	254	100.0	(0.00)	298	100.0	(0.00)	78	100.0	(0.06)	198	100.0	(0.07)
Boys	434	100.0	(0.00)	162	100.0	(0.00)	119	100.0	(0.00)	158	100.0	(0.00)	39	100.0	(0.05)	109	100.0	(0.00)
Girls	419	100.0	(0.01)	177	100.0	(0.00)	135	100.0	(0.00)	140	100.0	(0.00)	39	100.0	(0.12)	89	99.9	(0.15)
9–13 years old	1,071	100.0	(0.03)	388	100.0	(0.09)	285	99.9	(0.15)	380	100.0	(0.07)	94	100.0	(0.07)	276	100.0	(0.04)
Boys	515	100.0	(0.00)	200	100.0	(0.04)	143	100.0	(0.06)	181	100.0	(0.09)	51	100.0	(0.07)	122	100.0	(0.00)
Girls	556	100.0	(0.06)	188	100.0	(0.18)	142	99.8	(0.31)	199	100.0	(0.11)	43	100.0	(0.13)	154	100.0	(0.07)
14–18 years old	802	98.7	(0.73)	197	99.1	(0.60)	125	98.1	(1.01)	361	97.5	(1.12)	65	98.5	(1.48)	214	99.3	(1.42)
Boys	406	99.0	(0.79)	115	99.9	(0.75)	71	99.4	(1.34)	173	95.6	(1.65)	39	100.0	(0.14)	104	100.0	(0.10)
Girls	396	98.4	(1.24)	82	98.2	(0.94)	54	96.8	(1.50)	188	99.6	(1.52)	26	97.0	(3.03)	110	98.6	(2.91)

See notes at end of table.

Table F.8a. Niacin (Milligrams): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	16.3	17.8	19.0	20.7	24.3	28.3	30.6	32.3	34.9
5–8 years old	15.0	16.2	17.1	18.4	21.1	24.0	25.6	26.8	28.5
9–13 years old	18.1	19.2	20.0	21.2	23.6	26.1	27.6	28.6	30.1
14–18 years old	15.6	17.8	19.4	22.0	27.4	33.7	37.3	40.0	44.2
All NSLP participants	17.3	19.0	20.1	21.9	25.6	29.6	31.9	33.4	36.1
5–8 years old	16.2	17.4	18.2	19.5	21.9	24.5	26.0	27.0	28.6
9–13 years old	17.3	19.0	20.1	21.8	25.4	29.2	31.5	33.0	35.5
14–18 years old	18.1	20.2	21.5	23.8	28.5	33.7	36.7	38.7	42.1
Income-eligible NSLP participants	17.1	18.6	19.7	21.4	24.7	28.3	30.4	31.9	34.0
5–8 years old	18.0	18.9	19.4	20.3	22.0	23.7	24.7	25.4	26.4
9–13 years old	16.9	18.4	19.4	21.1	24.4	28.0	30.2	31.6	33.9
14–18 years old	16.6	18.7	20.0	22.4	27.1	32.1	35.0	37.1	39.9
Income-eligible nonparticipants	14.4	16.0	17.0	18.8	22.4 *	26.4	28.7	30.4	33.1
5–8 years old	14.6	15.8	16.5	17.8	20.4	23.3	24.9	26.0	27.8
9–13 years old	16.4	17.6	18.5	19.8	22.3	25.0	26.6	27.7	29.4
14–18 years old	12.3	14.6	16.1	18.5	23.9	30.0	33.6	36.2	40.5
Higher income NSLP participants	22.0	23.2	24.0	25.2	27.9	30.8	32.4	33.5	35.3
5–8 years old	15.3	16.6	17.4	18.8	21.8	25.1	26.9	28.0	29.8
9–13 years old	20.3 u	22.1	23.2	25.0	29.2	33.6	36.2	38.0	41.1
14–18 years old	28.6	29.2	29.6	30.2	31.3	32.3	32.9	33.3	33.9
Higher income nonparticipants	19.5	20.7	21.4	22.7	25.1	27.8	29.5	30.7	32.4
5–8 years old	14.1	15.5	16.4	18.0	21.0	24.3	26.4	27.7	29.7
9–13 years old	22.5	22.5	22.5	22.5	22.5	22.5 ***	22.5 ***	22.5 ***	22.5 **
14–18 years old	20.8	22.7	24.1	26.2	30.7	35.5	38.4	40.6	43.8

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	13.8	15.0	15.8	17.0	19.5	22.3	23.9	25.0	26.7
5–8 years old	12.8	14.0	14.8	16.1	18.8	21.6	23.3	24.4	26.2
9–13 years old	16.0	16.9	17.6	18.6	20.5	22.6	23.8	24.6	25.8
14–18 years old	12.6	13.9	14.8	16.1	19.1	22.4	24.4	25.8	28.0
All NSLP participants	13.7	15.1	16.1	17.7	20.9	24.5	26.6	28.0	30.2
5–8 years old	12.9	14.1	14.9	16.1	18.7	21.7	23.4	24.7	26.5
9–13 years old	15.2	16.5	17.4	18.8	21.7	24.9	26.8	28.1	30.0
14–18 years old	12.9	14.7	15.8	17.8	21.7	26.1	28.8	30.5	33.2
Income-eligible NSLP participants	12.8	14.4	15.5	17.2	20.7	24.7	26.9	28.7	31.1
5–8 years old	12.9	13.9	14.7	15.8	18.0	20.6	22.1	23.2	24.8
9–13 years old	13.6	15.2	16.2	17.9	21.0	24.4	26.4	27.8	29.9
14–18 years old	11.9	14.0	15.4	17.8	22.5	27.9	31.1	33.7	37.1
Income-eligible nonparticipants	14.4	15.4	16.1	17.3	19.6	22.0 *	23.4 *	24.4 *	25.9 *
5–8 years old	14.7	15.7	16.4	17.4	19.6	21.8	23.0	23.9	25.3
9–13 years old	14.7	15.8	16.5	17.6	19.7	22.0	23.3	24.2	25.6
14–18 years old	13.8	14.9	15.7	16.9	19.4	22.1 *	23.8 *	24.9 **	26.7 *
Higher income NSLP participants	14.3	15.9	16.8	18.5	21.9	25.5	27.7	29.2	31.6
5–8 years old	12.2	13.8	14.9	16.6	20.3	24.5	27.1	29.1	31.9
9–13 years old	18.4	19.6	20.3	21.5	24.0	26.5	28.3	29.2	30.9
14–18 years old	11.8	13.9	14.9	17.1	21.2	25.2	27.6	29.3	32.2
Higher income nonparticipants	14.8	15.5	16.1	16.9	18.7	20.7	21.9	22.7	24.0
5–8 years old	11.2	12.6	13.7	15.3	18.6	22.3	24.6	26.1	28.6
9–13 years old	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1
14–18 years old	12.3	13.3	14.0	15.1	17.4	20.0	21.5	22.6	24.4

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample *t*-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.9. Riboflavin (Milligrams): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	2.02	(0.021)	924	2.24	(0.042)	664	2.21	(0.044)	1,039	1.86 ***	(0.028)	237	2.38	(0.076)	688	1.97 ***	(0.039)
Boys	1,355	2.22	(0.031)	477	2.45	(0.069)	333	2.40	(0.064)	512	2.03 ***	(0.042)	129	2.61	(0.131)	335	2.16 **	(0.056)
Girls	1,371	1.80	(0.026)	447	2.03	(0.046)	331	2.00	(0.061)	527	1.68 ***	(0.036)	108	2.14	(0.073)	353	1.78 ***	(0.054)
5–8 years old	853	1.98	(0.029)	339	2.10	(0.048)	254	2.13	(0.050)	298	1.89 ***	(0.053)	78	2.05	(0.095)	198	1.98	(0.066)
Boys	434	2.12	(0.045)	162	2.30	(0.086)	119	2.41	(0.087)	158	1.97 ***	(0.080)	39	2.14	(0.144)	109	2.10	(0.074)
Girls	419	1.83	(0.037)	177	1.89	(0.037)	135	1.84	(0.044)	140	1.80	(0.067)	39	1.96	(0.123)	89	1.85	(0.110)
9–13 years old	1,071	2.06	(0.031)	388	2.34	(0.063)	285	2.25	(0.076)	380	1.87 ***	(0.047)	94	2.66	(0.115)	276	1.92 ***	(0.055)
Boys	515	2.17	(0.045)	200	2.45	(0.102)	143	2.38	(0.111)	181	2.02 **	(0.069)	51	2.75	(0.177)	122	1.97 ***	(0.075)
Girls	556	1.94	(0.043)	188	2.23	(0.071)	142	2.11	(0.102)	199	1.71 ***	(0.064)	43	2.56	(0.145)	154	1.87 ***	(0.081)
14–18 years old	802	2.01	(0.041)	197	2.26	(0.090)	125	2.22	(0.088)	361	1.83 ***	(0.046)	65	2.37	(0.157)	214	2.03 *	(0.076)
Boys	406	2.34	(0.064)	115	2.56	(0.146)	71	2.41	(0.119)	173	2.08 *	(0.070)	39	2.84	(0.290)	104	2.39	(0.120)
Girls	396	1.66	(0.051)	82	1.94	(0.100)	54	2.02	(0.131)	188	1.57 **	(0.058)	26	1.88	(0.104)	110	1.64	(0.093)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	98.8	(0.32)	924	99.3	(0.22)	664	99.4	(0.28)	1,039	98.4	(0.60)	237	99.0	(0.30)	688	99.3	(0.59)
Boys	1,355	98.9	(0.32)	477	99.1	(0.32)	333	99.8	(0.17)	512	97.9 *	(0.80)	129	98.4	(0.53)	335	99.9 **	(0.19)
Girls	1,371	98.7	(0.57)	447	99.5	(0.30)	331	99.0	(0.53)	527	99.0	(0.89)	108	99.5	(0.28)	353	98.7	(1.18)
5–8 years old	853	100.0	(0.00)	339	100.0	(0.00)	254	100.0	(0.00)	298	100.0	(0.01)	78	100.0	(0.06)	198	100.0	(0.01)
Boys	434	100.0	(0.00)	162	100.0	(0.00)	119	100.0	(0.00)	158	100.0	(0.00)	39	100.0	(0.00)	109	100.0	(0.00)
Girls	419	100.0	(0.00)	177	100.0	(0.00)	135	100.0	(0.00)	140	100.0	(0.01)	39	100.0	(0.13)	89	100.0	(0.02)
9–13 years old	1,071	99.8	(0.14)	388	99.9	(0.11)	285	99.8	(0.17)	380	99.7	(0.40)	94	99.8	(0.23)	276	99.8	(0.30)
Boys	515	100.0	(0.04)	200	100.0	(0.04)	143	100.0	(0.00)	181	100.0	(0.00)	51	99.6	(0.43)	122	99.9	(0.41)
Girls	556	99.5	(0.28)	188	99.9	(0.21)	142	99.6	(0.34)	199	99.5	(0.81)	43	100.0	(0.13)	154	99.7	(0.45)
14–18 years old	802	96.9	(0.87)	197	98.2	(0.58)	125	98.6	(0.73)	361	96.0	(1.57)	65	97.4	(0.79)	214	98.4	(1.56)
Boys	406	96.9	(0.87)	115	97.5	(0.87)	71	99.4	(0.47)	173	94.4 *	(2.17)	39	96.1	(1.36)	104	99.9 **	(0.34)
Girls	396	96.9	(1.53)	82	98.9	(0.78)	54	97.7	(1.41)	188	97.8	(2.27)	26	98.7	(0.74)	110	96.8	(3.18)

See notes at end of table.

Table F.9a. Riboflavin (Milligrams): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	1.38	1.53	1.64	1.81	2.17	2.57	2.82	2.99	3.26
5–8 years old	1.50	1.62	1.71	1.83	2.10	2.38	2.55	2.66	2.84
9–13 years old	1.45	1.59	1.69	1.83	2.14	2.47	2.66	2.80	3.01
14–18 years old	1.21	1.39	1.54	1.76	2.24	2.82	3.17	3.42	3.82
All NSLP participants	1.49	1.66	1.77	1.96	2.36	2.84	3.13	3.34	3.69
5–8 years old	1.73	1.84	1.92	2.04	2.28	2.53	2.68	2.78	2.95
9–13 years old	1.59	1.76	1.87	2.05	2.41	2.80	3.03	3.19	3.45
14–18 years old	1.23	1.43	1.57	1.82	2.38	3.11	3.56	3.89	4.48
Income-eligible NSLP participants	1.73	1.85	1.93	2.07	2.36	2.68	2.87	3.01	3.22
5–8 years old	1.86	1.97	2.04	2.16	2.38	2.63	2.77	2.87	3.03
9–13 years old	1.93	2.02	2.08	2.18	2.37	2.57	2.69	2.76	2.89
14–18 years old	1.44	1.60	1.71	1.91	2.33	2.82	3.13	3.35	3.67
Income-eligible nonparticipants	1.34 *	1.47 *	1.56 **	1.70 ***	1.99 ***	2.31 **	2.50	2.63	2.84
5–8 years old	1.38 **	1.49 ***	1.56 ***	1.68 ***	1.93 ***	2.21	2.37	2.49	2.68
9–13 years old	1.60	1.68	1.75	1.83	2.01	2.19	2.30	2.38	2.49
14–18 years old	1.07	1.26	1.38	1.59	2.02	2.50	2.78	2.98	3.30
Higher income NSLP participants	1.35	1.57	1.72	1.97	2.52	3.15	3.53	3.78	4.22
5–8 years old	1.55	1.67	1.74	1.86	2.12	2.40	2.55	2.63	2.77
9–13 years old	1.39	1.66	1.82	2.09	2.70	3.32	3.69	3.93	4.34
14–18 years old	1.15	1.42	1.61	1.93	2.65	3.56	4.12	4.50	5.19
Higher income nonparticipants	1.43	1.57	1.67	1.82	2.12 *	2.46 **	2.66 **	2.81 **	3.02 **
5–8 years old	1.51	1.63	1.71	1.83	2.07	2.34	2.49	2.60	2.75
9–13 years old	1.24	1.38	1.48	1.63	1.93 ***	2.27 ***	2.47 ***	2.61 **	2.81 **
14–18 years old	1.56	1.71	1.82	1.99	2.34	2.73	2.98	3.16	3.42

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	1.10	1.23	1.32	1.46	1.76	2.10	2.30	2.44	2.66
5–8 years old	1.24	1.36	1.44	1.56	1.81	2.08	2.23	2.33	2.50
9–13 years old	1.12	1.27	1.37	1.54	1.89	2.27	2.50	2.67	2.92
14–18 years old	0.97	1.09	1.18	1.31	1.61	1.94	2.15	2.30	2.53
All NSLP participants	1.24	1.39	1.49	1.65	1.98	2.35	2.58	2.73	2.96
5–8 years old	1.29	1.40	1.48	1.60	1.85	2.13	2.30	2.42	2.59
9–13 years old	1.33	1.49	1.61	1.80	2.18	2.60	2.85	3.03	3.28
14–18 years old	1.13	1.28	1.38	1.56	1.89	2.28	2.52	2.68	2.93
Income-eligible NSLP participants	1.20	1.35	1.45	1.62	1.95	2.33	2.56	2.73	2.97
5–8 years old	1.40	1.49	1.55	1.64	1.82	2.03	2.14	2.22	2.34
9–13 years old	1.21	1.38	1.49	1.69	2.06	2.48	2.74	2.91	3.19
14–18 years old	1.04	1.21	1.34	1.54	1.94	2.43	2.71	2.94	3.25
Income-eligible nonparticipants	1.08	1.20	1.27	1.40 *	1.65 ***	1.93 ***	2.10 ***	2.21 **	2.40 **
5–8 years old	1.24	1.35	1.43	1.54	1.79	2.04	2.18	2.28	2.44
9–13 years old	1.06	1.18	1.26	1.40	1.68 **	1.98 **	2.17 *	2.29 *	2.50 *
14–18 years old	1.00	1.10	1.17	1.29	1.53 *	1.80 *	1.97 *	2.08 *	2.27
Higher income NSLP participants	1.35	1.52	1.61	1.79	2.12	2.47	2.68	2.82	3.04
5–8 years old	1.11	1.27	1.37	1.53	1.90	2.31	2.57	2.76	3.04
9–13 years old	1.71	1.89	1.99	2.18	2.53	2.90	3.15	3.27	3.51
14–18 years old	1.18	1.35	1.43	1.60	1.90	2.17	2.32	2.43	2.60
Higher income nonparticipants	1.09	1.21 *	1.30 *	1.43 ***	1.72 ***	2.06 *	2.27	2.42	2.67
5–8 years old	1.20	1.31	1.41	1.54	1.81	2.11	2.30	2.43	2.64
9–13 years old	1.13	1.27	1.36 *	1.50 ***	1.81 ***	2.18 *	2.39	2.54	2.79
14–18 years old	0.96	1.07	1.15	1.28	1.56	1.91	2.13	2.29	2.56

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample t-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.10. Thiamin (Milligrams): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	1.62	(0.019)	924	1.76	(0.033)	664	1.71	(0.031)	1,039	1.53 ***	(0.022)	237	1.89	(0.061)	688	1.60 ***	(0.036)
Boys	1,355	1.78	(0.031)	477	1.91	(0.055)	333	1.90	(0.055)	512	1.64 ***	(0.031)	129	1.96	(0.092)	335	1.77	(0.056)
Girls	1,371	1.46	(0.021)	447	1.61	(0.035)	331	1.52	(0.029)	527	1.40 **	(0.031)	108	1.81	(0.080)	353	1.42 ***	(0.045)
5–8 years old	853	1.56	(0.024)	339	1.62	(0.038)	254	1.57	(0.042)	298	1.51	(0.037)	78	1.74	(0.066)	198	1.57 *	(0.053)
Boys	434	1.64	(0.035)	162	1.74	(0.060)	119	1.76	(0.073)	158	1.55 *	(0.050)	39	1.71	(0.092)	109	1.62	(0.050)
Girls	419	1.47	(0.033)	177	1.48	(0.045)	135	1.36	(0.040)	140	1.48	(0.055)	39	1.77	(0.094)	89	1.53	(0.096)
9–13 years old	1,071	1.61	(0.025)	388	1.79	(0.042)	285	1.77	(0.044)	380	1.52 ***	(0.042)	94	1.89	(0.098)	276	1.51 ***	(0.046)
Boys	515	1.69	(0.037)	200	1.87	(0.065)	143	1.91	(0.072)	181	1.59 ***	(0.058)	51	1.90	(0.118)	122	1.56 **	(0.052)
Girls	556	1.53	(0.033)	188	1.71	(0.052)	142	1.63	(0.050)	199	1.44 *	(0.060)	43	1.88	(0.159)	154	1.47 *	(0.078)
14–18 years old	802	1.68	(0.041)	197	1.85	(0.074)	125	1.76	(0.066)	361	1.54 **	(0.033)	65	1.99	(0.128)	214	1.71	(0.078)
Boys	406	1.97	(0.071)	115	2.07	(0.126)	71	1.99	(0.119)	173	1.76	(0.049)	39	2.19	(0.211)	104	2.09	(0.137)
Girls	396	1.38	(0.039)	82	1.63	(0.075)	54	1.52	(0.054)	188	1.31 **	(0.044)	26	1.78	(0.139)	110	1.30 **	(0.066)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	97.2	(0.53)	924	98.3	(0.43)	664	97.3	(0.70)	1,039	99.2 *	(0.51)	237	99.4	(0.63)	688	96.4 **	(0.87)
Boys	1,355	97.9	(0.72)	477	99.1	(0.64)	333	98.8	(0.79)	512	99.4	(0.45)	129	99.8	(0.81)	335	97.5	(0.90)
Girls	1,371	96.5	(0.78)	447	97.4	(0.55)	331	95.8	(1.17)	527	98.9 *	(0.93)	108	99.0	(0.97)	353	95.2 *	(1.50)
5–8 years old	853	100.0	(0.01)	339	100.0	(0.00)	254	100.0	(0.00)	298	100.0	(0.03)	78	100.0	(0.08)	198	100.0	(0.06)
Boys	434	100.0	(0.00)	162	100.0	(0.00)	119	100.0	(0.00)	158	100.0	(0.00)	39	100.0	(0.08)	109	100.0	(0.00)
Girls	419	100.0	(0.02)	177	100.0	(0.00)	135	100.0	(0.00)	140	100.0	(0.06)	39	100.0	(0.15)	89	100.0	(0.12)
9–13 years old	1,071	100.0	(0.11)	388	100.0	(0.07)	285	99.9	(0.17)	380	100.0	(0.25)	94	99.9	(0.11)	276	100.0	(0.15)
Boys	515	100.0	(0.02)	200	100.0	(0.06)	143	100.0	(0.02)	181	100.0	(0.03)	51	99.8	(0.22)	122	100.0	(0.04)
Girls	556	100.0	(0.23)	188	99.9	(0.13)	142	99.7	(0.34)	199	100.0	(0.51)	43	100.0	(0.04)	154	100.0	(0.30)
14–18 years old	802	92.5	(1.43)	197	95.4	(1.15)	125	92.9	(1.88)	361	97.7 *	(1.36)	65	98.6	(1.70)	214	90.3 **	(2.34)
Boys	406	94.3	(1.94)	115	97.5	(1.73)	71	96.6	(2.12)	173	98.4	(1.23)	39	99.6	(2.18)	104	93.4	(2.43)
Girls	396	90.6	(2.11)	82	93.1	(1.49)	54	88.9	(3.16)	188	97.1 *	(2.48)	26	97.4	(2.62)	110	87.1 *	(4.07)

See notes at end of table.

Table F.10a. Thiamin (Milligrams): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	1.13	1.24	1.33	1.46	1.74	2.05	2.24	2.37	2.57
5–8 years old	1.15	1.24	1.31	1.41	1.62	1.84	1.97	2.06	2.20
9–13 years old	1.27	1.36	1.41	1.50	1.68	1.86	1.97	2.05	2.16
14–18 years old	0.97	1.14	1.26	1.46	1.89	2.39	2.69	2.90	3.25
All NSLP participants	1.20	1.34	1.43	1.57	1.87	2.20	2.39	2.52	2.74
5–8 years old	1.21	1.31	1.38	1.50	1.72	1.97	2.11	2.21	2.37
9–13 years old	1.29	1.41	1.48	1.60	1.85	2.11	2.26	2.36	2.53
14–18 years old	1.12	1.29	1.40	1.60	2.00	2.47	2.73	2.92	3.22
Income-eligible NSLP participants	1.26	1.38	1.46	1.60	1.87	2.17	2.34	2.46	2.64
5–8 years old	1.23	1.33	1.40	1.52	1.74	1.98	2.13	2.24	2.39
9–13 years old	1.45	1.54	1.60	1.70	1.89	2.10	2.22	2.30	2.43
14–18 years old	1.11	1.27	1.38	1.57	1.95	2.37	2.61	2.78	3.02
Income-eligible nonparticipants	1.19	1.28	1.34	1.44	1.63 ***	1.83 ***	1.95 **	2.03 *	2.16 *
5–8 years old	1.15	1.23	1.28	1.37	1.54	1.72	1.82	1.89	2.01
9–13 years old	1.28	1.34	1.39	1.45	1.58 *	1.72	1.80	1.85	1.94
14–18 years old	1.15	1.27	1.35	1.47	1.73	2.01	2.18	2.29	2.47
Higher income NSLP participants	1.23	1.37	1.47	1.62	1.93	2.27	2.45	2.57	2.78
5–8 years old	1.20	1.31	1.37	1.48	1.70	1.94	2.06	2.13	2.25
9–13 years old	1.14	1.29	1.38	1.53	1.87	2.22	2.42	2.56	2.79
14–18 years old	1.33	1.50	1.62	1.80	2.17	2.56	2.78	2.92	3.15
Higher income nonparticipants	1.17	1.26	1.34	1.45	1.71	2.02	2.22	2.37	2.60
5–8 years old	1.06	1.16	1.23	1.35	1.58	1.85	2.02	2.13	2.31
9–13 years old	1.50	1.51	1.52	1.53	1.56	1.58 **	1.59 ***	1.60 **	1.62 **
14–18 years old	0.93	1.11	1.24	1.46	1.95	2.56	2.97	3.28	3.76

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	0.97	1.06	1.13	1.23	1.44	1.66	1.79	1.89	2.03
5–8 years old	1.00	1.09	1.16	1.26	1.45	1.67	1.79	1.87	2.00
9–13 years old	1.11	1.19	1.25	1.34	1.52	1.71	1.82	1.90	2.01
14–18 years old	0.81	0.91	0.98	1.10	1.34	1.61	1.78	1.89	2.07
All NSLP participants	1.00	1.12	1.20	1.33	1.58	1.87	2.04	2.15	2.32
5–8 years old	1.08	1.16	1.22	1.30	1.47	1.65	1.75	1.82	1.93
9–13 years old	1.12	1.23	1.31	1.43	1.68	1.95	2.11	2.23	2.39
14–18 years old	0.83	0.98	1.08	1.26	1.58	1.96	2.18	2.32	2.55
Income-eligible NSLP participants	0.92	1.03	1.11	1.24	1.49	1.76	1.92	2.04	2.21
5–8 years old	1.04	1.10	1.15	1.22	1.35	1.49	1.57	1.63	1.71
9–13 years old	1.02	1.14	1.22	1.35	1.61	1.89	2.05	2.16	2.34
14–18 years old	0.73	0.88	0.98	1.14	1.47	1.85	2.07	2.24	2.47
Income-eligible nonparticipants	1.01	1.09	1.14	1.22	1.39	1.57 **	1.67 *	1.74 *	1.85 *
5–8 years old	0.98	1.07	1.14	1.24	1.46	1.68	1.81	1.90	2.05
9–13 years old	1.10	1.17	1.22	1.29	1.43	1.57 *	1.66 *	1.71	1.80
14–18 years old	0.95	1.02	1.06	1.15	1.30	1.47 **	1.57 ***	1.63 ***	1.74 **
Higher income NSLP participants	1.26	1.38	1.44	1.56	1.80	2.04	2.19	2.29	2.45
5–8 years old	1.10	1.24	1.32	1.46	1.75	2.05	2.24	2.37	2.56
9–13 years old	1.67	1.72	1.74	1.79	1.88	1.97	2.03	2.06	2.11
14–18 years old	0.99	1.16	1.24	1.42	1.76	2.10	2.31	2.45	2.70
Higher income nonparticipants	1.03	1.10	1.16	1.23 *	1.40 ***	1.59 **	1.70	1.78	1.91
5–8 years old	0.96	1.07	1.15	1.27	1.50	1.76	1.91	2.01	2.18
9–13 years old	1.36	1.39	1.40	1.42	1.47	1.52	1.54	1.56	1.58
14–18 years old	0.77	0.86	0.92	1.03 **	1.25 **	1.52	1.69	1.81	2.01

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample t-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.11. Calcium (Milligrams): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	1,079	(11.6)	924	1,244	(24.7)	664	1,245	(25.4)	1,039	983 ***	(15.9)	237	1,280	(46.9)	688	1,035 ***	(21.7)
Boys	1,355	1,188	(17.9)	477	1,342	(44.0)	333	1,355	(37.6)	512	1,095 ***	(25.1)	129	1,359	(82.6)	335	1,125 **	(33.7)
Girls	1,371	966	(14.6)	447	1,142	(20.7)	331	1,131	(34.0)	527	865 ***	(19.1)	108	1,196	(41.7)	353	941 ***	(26.9)
5–8 years old	853	1,076	(18.6)	339	1,143	(30.9)	254	1,178	(38.0)	298	989 ***	(24.5)	78	1,090	(47.9)	198	1,100	(45.7)
Boys	434	1,165	(26.4)	162	1,263	(55.7)	119	1,362	(69.2)	158	1,026 ***	(31.6)	39	1,124	(57.5)	109	1,198	(49.5)
Girls	419	982	(26.2)	177	1,019	(24.7)	135	986	(28.9)	140	949	(37.6)	39	1,054	(77.4)	89	998	(77.8)
9–13 years old	1,071	1,101	(17.2)	388	1,300	(28.3)	285	1,303	(37.3)	380	982 ***	(27.7)	94	1,368	(43.5)	276	1,000 ***	(28.2)
Boys	515	1,168	(24.6)	200	1,341	(43.4)	143	1,380	(53.0)	181	1,093 ***	(44.5)	51	1,335	(58.7)	122	1,016 ***	(48.4)
Girls	556	1,032	(24.1)	188	1,258	(35.8)	142	1,222	(52.4)	199	865 ***	(32.3)	43	1,402	(64.4)	154	983 ***	(27.5)
14–18 years old	802	1,061	(22.8)	197	1,267	(56.5)	125	1,241	(51.5)	361	979 ***	(28.4)	65	1,338	(114.5)	214	1,021 **	(39.2)
Boys	406	1,224	(37.3)	115	1,402	(103.3)	71	1,325	(71.3)	173	1,147 *	(47.4)	39	1,558	(211.5)	104	1,174	(69.1)
Girls	396	890	(25.6)	82	1,125	(40.2)	54	1,152	(74.3)	188	802 ***	(30.3)	26	1,106	(74.8)	110	859 **	(34.3)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	54.2	(1.31)	924	72.2	(2.96)	664	74.2	(2.89)	1,039	45.5 ***	(2.22)	237	83.7	(13.61)	688	47.7 **	(2.37)
Boys	1,355	64.8	(1.66)	477	77.0	(2.98)	333	79.4	(3.40)	512	55.4 ***	(2.87)	129	78.0	(5.02)	335	58.8 **	(3.65)
Girls	1,371	43.1	(2.05)	447	67.2	(5.21)	331	68.8	(4.74)	527	35.1 ***	(3.41)	108	89.7 u	(27.37)	353	36.2	(3.00)
5–8 years old	853	85.4	(2.80)	339	93.9	(2.85)	254	99.9	(3.52)	298	79.3 **	(5.67)	78	88.3	(3.94)	198	80.5	(4.50)
Boys	434	91.1	(2.78)	162	100.0	(0.66)	119	100.0	(0.74)	158	76.7 ***	(4.68)	39	100.0	(0.83)	109	91.9	(4.28)
Girls	419	79.4	(4.93)	177	87.6	(5.78)	135	99.8	(7.15)	140	82.0	(10.51)	39	76.1	(7.99)	89	68.6	(8.02)
9–13 years old	1,071	45.6	(2.09)	388	70.1	(3.88)	285	69.2	(4.96)	380	30.9 ***	(2.85)	94	80.9	(5.75)	276	33.2 ***	(3.42)
Boys	515	53.2	(2.74)	200	73.0	(5.84)	143	76.4	(6.60)	181	43.2 ***	(4.55)	51	72.6	(9.45)	122	36.4 **	(5.68)
Girls	556	37.6	(3.18)	188	67.1	(5.07)	142	61.6	(7.43)	199	18.1 ***	(3.35)	43	89.6	(6.38)	154	29.8 ***	(3.68)
14–18 years old	802	39.1	(2.05)	197	57.9	(6.78)	125	59.8	(5.65)	361	34.1 ***	(3.24)	65	82.9 u	(36.27)	214	37.1	(4.37)
Boys	406	56.3	(3.00)	115	63.6	(5.79)	71	66.8	(6.64)	173	51.1	(5.37)	39	66.7	(10.09)	104	55.3	(7.57)
Girls	396	20.9	(2.78)	82	51.9	(12.52)	54	52.4	(9.25)	188	16.1 ***	(3.51)	26	100.0 u	(73.76)	110	17.9	(4.14)

See notes at end of table.

Table F.11a. Calcium (Milligrams): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	632	728	799	911	1,149	1,420	1,583	1,699	1,880
5–8 years old	733	815	873	963	1,148	1,342	1,459	1,537	1,661
9–13 years old	629	723	791	898	1,129	1,392	1,553	1,667	1,845
14–18 years old	559	668	751	886	1,170	1,506	1,705	1,849	2,077
All NSLP participants	761	861	929	1,044	1,292	1,585	1,762	1,885	2,098
5–8 years old	1,019	1,067	1,102	1,154	1,254	1,363	1,427	1,470	1,541
9–13 years old	794	897	968	1,079	1,311	1,566	1,719	1,822	2,001
14–18 years old	536	673	763	929	1,303	1,768	2,053	2,256	2,606
Income-eligible NSLP participants	839	934	997	1,104	1,325	1,571	1,718	1,821	1,977
5–8 years old	1,064	1,123	1,162	1,225	1,347	1,483	1,564	1,622	1,710
9–13 years old	836	936	1,004	1,116	1,348	1,607	1,764	1,866	2,040
14–18 years old	675	790	867	1,003	1,286	1,603	1,791	1,925	2,116
Income-eligible nonparticipants	575 **	665 ***	729 ***	833 ***	1,056 ***	1,310 ***	1,465 **	1,576	1,758
5–8 years old	594 *	671 **	724 **	816 ***	1,001 ***	1,209	1,330	1,414	1,552
9–13 years old	556 *	643 **	709 **	813 ***	1,040 ***	1,310 **	1,484	1,610	1,820
14–18 years old	579	682	751	866	1,111	1,385	1,550	1,665	1,853
Higher income NSLP participants	721	827	899	1,023	1,305	1,636	1,836	1,967	2,203
5–8 years old	984	1,015	1,032	1,062	1,124	1,186	1,218	1,236	1,266
9–13 years old	811	911	972	1,077	1,311	1,554	1,699	1,795	1,963
14–18 years old	439	607	731	943	1,433	2,050	2,426	2,676	3,131
Higher income nonparticipants	622	718	784	889	1,099	1,331	1,471	1,571	1,713 *
5–8 years old	735	833	898	1,002	1,192	1,389	1,501	1,575	1,680
9–13 years old	510	603	667	769 *	982 ***	1,225 **	1,374	1,480	1,631
14–18 years old	645	742	810	918	1,143	1,390	1,542	1,654 *	1,816 **

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	571	644	695	776	944	1,130	1,240	1,318	1,438
5–8 years old	653	716	760	828	966	1,118	1,207	1,268	1,366
9–13 years old	592	673	730	822	1,007	1,215	1,338	1,426	1,560
14–18 years old	489	562	614	694	867	1,059	1,172	1,253	1,375
All NSLP participants	762	835	885	967	1,126	1,300	1,403	1,472	1,575
5–8 years old	716	779	819	882	1,008	1,144	1,221	1,276	1,354
9–13 years old	770	860	925	1,028	1,235	1,461	1,596	1,688	1,822
14–18 years old	788	854	896	972	1,110	1,264	1,355	1,413	1,504
Income-eligible NSLP participants	730	806	858	942	1,109	1,296	1,406	1,489	1,606
5–8 years old	877	900	916	939	984	1,031	1,056	1,074	1,099
9–13 years old	728	821	883	989	1,196	1,425	1,563	1,662	1,812
14–18 years old	620	721	789	900	1,121	1,374	1,520	1,635	1,790
Income-eligible nonparticipants	499 **	565 ***	609 ***	684 ***	842 ***	1,018 ***	1,124 ***	1,197 **	1,317 *
5–8 years old	705	752	785	834	940	1,051	1,114	1,159	1,229
9–13 years old	471	544 *	594 **	674 ***	842 ***	1,029 ***	1,139 ***	1,217 ***	1,341 ***
14–18 years old	371	442	492 *	582 **	768 ***	982 **	1,117 *	1,206	1,360
Higher income NSLP participants	914	975	1,010	1,070	1,189	1,311	1,387	1,434	1,507
5–8 years old	542	647	711	815	1,034	1,266	1,405	1,507	1,646
9–13 years old	1,008	1,095	1,144	1,234	1,398	1,561	1,665	1,719	1,816
14–18 years old	1,106	1,106	1,106	1,106	1,106	1,106	1,106	1,106	1,106
Higher income nonparticipants	524 ***	595 ***	649 ***	730 ***	906 ***	1,114 *	1,241	1,332	1,481
5–8 years old	532	602	661	752	946	1,185	1,343	1,454	1,646
9–13 years old	583 **	656 ***	705 ***	780 ***	951 ***	1,151 ***	1,269 *	1,357	1,496
14–18 years old	460 **	532 ***	586 ***	666 ***	834 **	1,026	1,136	1,216	1,342

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample t-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

u Indicates individual estimates did not meet the standards of reliability or precision because of large coefficient of variation

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.12. Choline (Milligrams): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	252	(3.8)	924	282	(8.0)	664	285	(7.8)	1,039	230 ***	(4.4)	237	288	(15.4)	688	247 *	(6.7)
Boys	1,355	282	(5.8)	477	316	(12.9)	333	310	(11.9)	512	249 ***	(6.8)	129	342	(26.0)	335	279 *	(9.1)
Girls	1,371	222	(4.7)	447	246	(9.2)	331	258	(10.0)	527	210 ***	(5.6)	108	231	(15.9)	353	214	(9.9)
5–8 years old	853	231	(5.8)	339	240	(9.6)	254	258	(10.0)	298	215 ***	(7.5)	78	207	(13.1)	198	236	(11.9)
Boys	434	248	(9.3)	162	258	(17.0)	119	281	(16.7)	158	221 **	(10.9)	39	224	(21.4)	109	261	(16.4)
Girls	419	213	(6.8)	177	222	(8.5)	135	233	(10.4)	140	208	(10.1)	39	189	(14.7)	89	211	(17.3)
9–13 years old	1,071	252	(4.8)	388	288	(11.0)	285	281	(10.8)	380	226 ***	(5.9)	94	321	(28.2)	276	237 **	(10.7)
Boys	515	274	(6.2)	200	306	(18.6)	143	292	(12.6)	181	243 **	(9.2)	51	362	(49.8)	122	264	(15.3)
Girls	556	229	(7.4)	188	269	(11.2)	142	268	(17.7)	199	207 **	(7.4)	43	278	(24.9)	154	208 *	(14.9)
14–18 years old	802	269	(8.0)	197	308	(17.4)	125	309	(16.8)	361	246 ***	(9.0)	65	316	(30.3)	214	266	(12.0)
Boys	406	314	(12.8)	115	368	(27.1)	71	347	(26.9)	173	276 *	(14.0)	39	409	(49.2)	104	306 *	(15.5)
Girls	396	221	(9.3)	82	244	(21.4)	54	268	(19.6)	188	215 *	(11.0)	26	218	(34.3)	110	224	(18.5)
Mean Usual Intake as a Percent of Adequate Intake																		
All children 5–18 years old	2,726	70.1	(0.99)	924	77.4	(2.00)	664	79.0	(1.97)	1,039	64.2 ***	(1.22)	237	77.2	(3.80)	688	69.1	(1.93)
Boys	1,355	74.4	(1.46)	477	82.1	(3.15)	333	82.0	(2.85)	512	65.9 ***	(1.76)	129	86.5	(6.21)	335	74.3	(2.54)
Girls	1,371	65.6	(1.34)	447	72.4	(2.43)	331	75.9	(2.72)	527	62.5 ***	(1.67)	108	67.3	(4.27)	353	63.6	(2.93)
5–8 years old	853	92.3	(2.32)	339	96.1	(3.85)	254	103.0	(3.98)	298	85.9 ***	(2.99)	78	82.9	(5.23)	198	94.5	(4.76)
Boys	434	99.4	(3.73)	162	103.2	(6.81)	119	112.5	(6.69)	158	88.4 **	(4.38)	39	89.8	(8.56)	109	104.2	(6.55)
Girls	419	85.0	(2.71)	177	88.7	(3.40)	135	93.1	(4.18)	140	83.3	(4.04)	39	75.7	(5.88)	89	84.3	(6.91)
9–13 years old	1,071	67.2	(1.28)	388	76.8	(2.93)	285	74.8	(2.88)	380	60.1 ***	(1.59)	94	85.7	(7.52)	276	63.1 **	(2.85)
Boys	515	73.2	(1.66)	200	81.7	(4.96)	143	77.9	(3.37)	181	64.8 **	(2.46)	51	96.7	(13.27)	122	70.5	(4.09)
Girls	556	61.0	(1.97)	188	71.7	(3.00)	142	71.5	(4.71)	199	55.3 **	(1.98)	43	74.1	(6.65)	154	55.4 *	(3.97)
14–18 years old	802	56.2	(1.65)	197	64.0	(3.63)	125	65.1	(3.46)	361	51.9 ***	(1.87)	65	64.7	(6.21)	214	55.8	(2.68)
Boys	406	57.0	(2.32)	115	66.9	(4.93)	71	63.1	(4.89)	173	50.1 *	(2.54)	39	74.4	(8.95)	104	55.6 *	(2.82)
Girls	396	55.3	(2.34)	82	60.9	(5.35)	54	67.1	(4.90)	188	53.7 *	(2.76)	26	54.5	(8.58)	110	55.9	(4.63)

See notes at end of table.

Table F.12a. Choline (Milligrams): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	162	182	197	221	273	332	368	394	434
5–8 years old	168	183	194	210	244	281	304	320	344
9–13 years old	164	183	197	219	266	320	353	377	414
14–18 years old	155	180	200	232	300	381	429	465	521
All NSLP participants	181	206	222	249	306	372	411	438	484
5–8 years old	204	215	222	234	256	280	294	304	319
9–13 years old	180	203	219	245	298	358	395	419	462
14–18 years old	166	201	224	264	351	454	515	557	628
Income-eligible NSLP participants	206	225	238	260	304	353	382	402	433
5–8 years old	192	209	220	239	275	317	343	362	390
9–13 years old	199	217	229	249	288	331	356	373	400
14–18 years old	222	245	260	287	340	400	436	461	497
Income-eligible nonparticipants	140	159 *	172 **	193 ***	240 ***	294 *	327	351	391
5–8 years old	136	150	159	177	213 *	257	283	302	334
9–13 years old	149	165	177	196	235 *	281	309	330	363
14–18 years old	135	159	175	203 *	264	334	378	409	461
Higher income NSLP participants	192	218	236	266	331	405	450	479	532
5–8 years old	224	224	224	224	224	224	224	224	224 u
9–13 years old	205	231	247	276	347	427	479	515	580
14–18 years old	156	202	235	286	396	519	590	635	714
Higher income nonparticipants	187	204	216	235	273	316	342	361	389
5–8 years old	196	209	218	232	258	287	304	315	332
9–13 years old	160	179	192	212	256	307	339	362	395
14–18 years old	206	225	238	259	301	347	374	395	424

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	149	162	172	187	217	252	272	286	309
5–8 years old	162	172	178	189	211	234	247	256	270
9–13 years old	142	158	169	187	223	265	289	308	335
14–18 years old	146	160	170	185	217	253	274	289	312
All NSLP participants	173	187	196	212	243	277	297	311	332
5–8 years old	172	182	188	198	219	242	256	265	279
9–13 years old	180	197	209	227	265	306	330	347	371
14–18 years old	166	181	191	208	240	276	297	311	333
Income-eligible NSLP participants	187	201	211	226	256	288	306	320	339
5–8 years old	202	208	213	219	232	246	253	259	267
9–13 years old	176	194	206	226	264	306	331	349	376
14–18 years old	186	203	214	232	266	302	323	339	360
Income-eligible nonparticipants	143	155	163 *	177 ***	206 ***	238 *	258	272	294
5–8 years old	175	182	187	193	208	222	230	236	244
9–13 years old	122	137	147	164	201 **	243	268	287	317
14–18 years old	139	152	161	177	210	246	269	284	310
Higher income NSLP participants	159	174	183	199	230	261	280	292	313
5–8 years old	143 u	152	158	168	187	208	221	231	244
9–13 years old	210	224	232	248	276	306	325	335	354
14–18 years old	122	143	153	176	217	258	282	298	327
Higher income nonparticipants	138	152	162	177	209	246	268	284	310
5–8 years old	133	147	158	174	206	242	265	280	305
9–13 years old	143	155	164	176 *	204 *	235	253	267	288
14–18 years old	138	153	164	181	217	259	285	304	334

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Adequate intake is the recommended average daily intake level. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample t -tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.13. Copper (Milligrams): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	0.98	(0.009)	924	1.06	(0.019)	664	1.07	(0.019)	1,039	0.88 ***	(0.011)	237	1.05	(0.033)	688	1.01	(0.014)
Boys	1,355	1.05	(0.015)	477	1.15	(0.033)	333	1.15	(0.029)	512	0.92 ***	(0.017)	129	1.15	(0.054)	335	1.07	(0.020)
Girls	1,371	0.90	(0.010)	447	0.97	(0.019)	331	0.98	(0.025)	527	0.83 ***	(0.014)	108	0.95	(0.038)	353	0.94	(0.021)
5–8 years old	853	0.92	(0.013)	339	0.94	(0.022)	254	0.94	(0.020)	298	0.87 **	(0.017)	78	0.93	(0.042)	198	0.94	(0.026)
Boys	434	0.97	(0.021)	162	1.00	(0.039)	119	1.01	(0.030)	158	0.89 **	(0.024)	39	0.98	(0.074)	109	0.99	(0.035)
Girls	419	0.86	(0.016)	177	0.87	(0.021)	135	0.87	(0.026)	140	0.86	(0.025)	39	0.87	(0.038)	89	0.88	(0.039)
9–13 years old	1,071	0.97	(0.015)	388	1.07	(0.024)	285	1.09	(0.030)	380	0.83 ***	(0.019)	94	1.05	(0.050)	276	0.98	(0.023)
Boys	515	1.01	(0.024)	200	1.13	(0.039)	143	1.16	(0.043)	181	0.88 ***	(0.029)	51	1.11	(0.077)	122	0.99	(0.035)
Girls	556	0.92	(0.017)	188	1.01	(0.029)	142	1.02	(0.043)	199	0.78 ***	(0.024)	43	0.99	(0.064)	154	0.97	(0.028)
14–18 years old	802	1.03	(0.018)	197	1.14	(0.044)	125	1.14	(0.041)	361	0.92 ***	(0.021)	65	1.15	(0.069)	214	1.08	(0.025)
Boys	406	1.14	(0.030)	115	1.28	(0.075)	71	1.25	(0.064)	173	0.99 ***	(0.034)	39	1.31	(0.113)	104	1.21	(0.032)
Girls	396	0.91	(0.018)	82	1.01	(0.042)	54	1.04	(0.052)	188	0.85 **	(0.026)	26	0.97	(0.076)	110	0.95	(0.039)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	95.2	(0.65)	924	98.0	(0.79)	664	97.1	(0.94)	1,039	92.1 **	(1.44)	237	98.5	(1.14)	688	96.0	(1.23)
Boys	1,355	97.4	(0.77)	477	99.3	(0.91)	333	98.8	(1.27)	512	95.8	(1.92)	129	99.6	(0.88)	335	98.0	(0.94)
Girls	1,371	92.9	(1.06)	447	96.6	(1.30)	331	95.2	(1.39)	527	88.1 **	(2.16)	108	97.4	(2.15)	353	93.9	(2.32)
5–8 years old	853	100.0	(0.01)	339	100.0	(0.01)	254	100.0	(0.02)	298	100.0	(0.05)	78	100.0	(0.04)	198	100.0	(0.05)
Boys	434	100.0	(0.02)	162	100.0	(0.01)	119	100.0	(0.03)	158	100.0	(0.06)	39	100.0	(0.06)	109	100.0	(0.06)
Girls	419	100.0	(0.02)	177	100.0	(0.00)	135	100.0	(0.00)	140	100.0	(0.08)	39	100.0	(0.06)	89	100.0	(0.08)
9–13 years old	1,071	99.4	(0.56)	388	99.7	(0.35)	285	99.3	(0.72)	380	93.8 *	(2.40)	94	99.5	(1.09)	276	99.8	(0.52)
Boys	515	99.5	(0.48)	200	99.8	(0.31)	143	100.0	(0.12)	181	96.9	(2.38)	51	99.0	(2.13)	122	99.6	(0.97)
Girls	556	99.3	(1.03)	188	99.5	(0.63)	142	98.6	(1.47)	199	90.6	(4.23)	43	100.0	(0.03)	154	100.0	(0.32)
14–18 years old	802	87.7	(1.68)	197	94.8	(2.10)	125	92.7	(2.45)	361	84.4 *	(3.16)	65	96.5	(2.91)	214	89.3	(3.29)
Boys	406	93.5	(2.02)	115	98.2	(2.45)	71	96.8	(3.42)	173	91.7	(4.67)	39	99.9	(1.25)	104	94.9	(2.35)
Girls	396	81.5	(2.71)	82	91.2	(3.47)	54	88.5	(3.50)	188	76.8 *	(4.22)	26	92.9	(5.82)	110	83.4	(6.30)

See notes at end of table.

Table F.13a. Copper (Milligrams): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	0.65	0.72	0.77	0.85	1.02	1.21	1.33	1.41	1.54
5–8 years old	0.61	0.67	0.72	0.79	0.94	1.11	1.22	1.29	1.41
9–13 years old	0.68	0.74	0.79	0.85	1.00	1.15	1.24	1.30	1.40
14–18 years old	0.66	0.74	0.80	0.90	1.10	1.35	1.49	1.60	1.76
All NSLP participants	0.74	0.82	0.87	0.95	1.12	1.32	1.43	1.51	1.64
5–8 years old	0.66	0.73	0.77	0.85	0.99	1.14	1.24	1.30	1.40
9–13 years old	0.76	0.83	0.88	0.96	1.11	1.28	1.38	1.44	1.55
14–18 years old	0.78	0.87	0.93	1.03	1.24	1.48	1.63	1.73	1.90
Income-eligible NSLP participants	0.78	0.85	0.90	0.98	1.14	1.31	1.41	1.48	1.58
5–8 years old	0.68	0.75	0.79	0.86	1.00	1.15	1.24	1.30	1.40
9–13 years old	0.88	0.93	0.97	1.03	1.15	1.28	1.36	1.40	1.48
14–18 years old	0.75	0.84	0.91	1.01	1.23	1.46	1.59	1.68	1.81
Income-eligible nonparticipants	0.60 *	0.66 **	0.70 ***	0.76 ***	0.90 ***	1.06 ***	1.15 ***	1.22 **	1.33 *
5–8 years old	0.57	0.63	0.67	0.74	0.87 *	1.02	1.11	1.17	1.27
9–13 years old	0.57	0.63 *	0.67 **	0.73 ***	0.86 ***	1.01 ***	1.10	1.16	1.27
14–18 years old	0.64	0.70	0.75	0.82	0.97 **	1.14 **	1.24 *	1.31	1.43
Higher income NSLP participants	0.76	0.84	0.88	0.96	1.13	1.31	1.43	1.50	1.63
5–8 years old	0.69	0.75	0.78	0.84	0.97	1.11	1.19	1.24	1.31
9–13 years old	0.65	0.73	0.78	0.87	1.07	1.30	1.45	1.55	1.74
14–18 years old	0.92	1.00	1.05	1.13	1.29	1.48	1.58	1.65	1.77
Higher income nonparticipants	0.66	0.73	0.79	0.87	1.04	1.24	1.36	1.45	1.58
5–8 years old	0.60	0.67	0.72	0.80	0.96	1.15	1.28	1.37	1.50
9–13 years old	0.68	0.74	0.78	0.85	0.98	1.12	1.20	1.26	1.34
14–18 years old	0.68	0.77	0.84	0.94	1.16	1.42	1.58	1.70	1.87

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	0.60	0.65	0.69	0.76	0.88	1.03	1.11	1.17	1.26
5–8 years old	0.61	0.65	0.69	0.74	0.85	0.97	1.04	1.08	1.16
9–13 years old	0.64	0.69	0.73	0.79	0.91	1.04	1.12	1.18	1.26
14–18 years old	0.55	0.61	0.66	0.73	0.88	1.06	1.16	1.23	1.35
All NSLP participants	0.66	0.72	0.76	0.82	0.95	1.10	1.19	1.25	1.34
5–8 years old	0.67	0.71	0.74	0.78	0.86	0.95	1.01	1.04	1.10
9–13 years old	0.68	0.74	0.78	0.85	1.00	1.15	1.25	1.31	1.41
14–18 years old	0.63	0.70	0.74	0.83	0.98	1.16	1.27	1.34	1.46
Income-eligible NSLP participants	0.63	0.70	0.74	0.81	0.96	1.13	1.23	1.31	1.42
5–8 years old	0.68	0.71	0.74	0.78	0.87	0.95	1.00	1.04	1.09
9–13 years old	0.63	0.71	0.75	0.83	0.99	1.17	1.28	1.36	1.48
14–18 years old	0.59	0.67	0.73	0.81	1.00	1.22	1.35	1.46	1.60
Income-eligible nonparticipants	0.53	0.59 *	0.63 **	0.69 ***	0.81 ***	0.95 ***	1.03 ***	1.08 **	1.17 **
5–8 years old	0.58	0.64	0.67	0.73	0.85	0.97	1.04	1.09	1.17
9–13 years old	0.49	0.55	0.58	0.64 **	0.76 ***	0.90 ***	0.98 ***	1.04 ***	1.13 **
14–18 years old	0.54	0.59	0.63	0.70	0.83 *	0.98 *	1.07 *	1.13 *	1.23
Higher income NSLP participants	0.71	0.76	0.79	0.85	0.95	1.05	1.11	1.15	1.21
5–8 years old	0.61	0.66	0.69	0.74	0.85	0.98	1.05	1.11	1.19
9–13 years old	0.86	0.89	0.90	0.93	0.99	1.05	1.08	1.10	1.14
14–18 years old	0.63	0.72	0.76	0.85	0.99	1.11	1.18	1.22	1.30
Higher income nonparticipants	0.66	0.71	0.75	0.80	0.92	1.05	1.14	1.19	1.29
5–8 years old	0.59	0.64	0.68	0.74	0.86	1.00	1.09	1.15	1.26
9–13 years old	0.83	0.86	0.88	0.91	0.97	1.03	1.07	1.09	1.13
14–18 years old	0.56	0.62	0.67	0.75	0.91	1.11	1.23	1.32	1.47

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample *t*-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.14. Iron (Milligrams): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	14.4	(0.15)	924	15.5	(0.26)	664	15.3	(0.33)	1,039	14.0 **	(0.24)	237	16.3	(0.52)	688	14.1 ***	(0.28)
Boys	1,355	15.6	(0.23)	477	16.9	(0.43)	333	16.9	(0.55)	512	14.9 **	(0.33)	129	17.3	(0.74)	335	15.1 **	(0.32)
Girls	1,371	13.2	(0.19)	447	14.0	(0.29)	331	13.6	(0.36)	527	13.1	(0.35)	108	15.3	(0.72)	353	13.0 **	(0.46)
5–8 years old	853	13.9	(0.25)	339	14.5	(0.30)	254	14.0	(0.34)	298	13.8	(0.39)	78	15.8	(0.60)	198	13.6 **	(0.55)
Boys	434	14.6	(0.33)	162	15.7	(0.45)	119	15.8	(0.51)	158	14.1 *	(0.51)	39	15.4	(0.83)	109	13.9	(0.49)
Girls	419	13.2	(0.37)	177	13.3	(0.41)	135	12.2	(0.44)	140	13.6	(0.61)	39	16.3	(0.85)	89	13.3 *	(1.01)
9–13 years old	1,071	14.8	(0.25)	388	15.7	(0.40)	285	15.6	(0.47)	380	14.3 *	(0.47)	94	16.8	(1.03)	276	14.1 *	(0.50)
Boys	515	15.4	(0.37)	200	17.0	(0.68)	143	17.2	(0.80)	181	14.9 *	(0.58)	51	17.9	(1.41)	122	13.8 **	(0.51)
Girls	556	14.1	(0.34)	188	14.4	(0.41)	142	14.0	(0.50)	199	13.6	(0.74)	43	15.7	(1.50)	154	14.4	(0.86)
14–18 years old	802	14.5	(0.27)	197	15.9	(0.56)	125	16.0	(0.74)	361	13.9 *	(0.37)	65	16.1	(0.89)	214	14.4	(0.41)
Boys	406	16.6	(0.43)	115	17.6	(0.91)	71	17.6	(1.23)	173	15.5	(0.59)	39	18.2	(1.35)	104	17.1	(0.61)
Girls	396	12.3	(0.30)	82	14.1	(0.62)	54	14.3	(0.79)	188	12.1 *	(0.44)	26	14.0	(1.14)	110	11.5 *	(0.55)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	97.6	(0.38)	924	98.4	(0.57)	664	97.7	(0.71)	1,039	98.4	(0.75)	237	98.7	(0.96)	688	96.9	(0.86)
Boys	1,355	99.4	(0.36)	477	99.6	(0.53)	333	98.9	(0.66)	512	99.5	(0.56)	129	99.9	(0.27)	335	99.2	(0.78)
Girls	1,371	95.8	(0.69)	447	97.2	(1.03)	331	96.3	(1.27)	527	97.3	(1.41)	108	97.4	(1.95)	353	94.5	(1.57)
5–8 years old	853	100.0	(0.01)	339	100.0	(0.01)	254	100.0	(0.01)	298	100.0	(0.03)	78	100.0	(0.05)	198	100.0	(0.05)
Boys	434	100.0	(0.00)	162	100.0	(0.00)	119	100.0	(0.00)	158	100.0	(0.00)	39	100.0	(0.00)	109	100.0	(0.00)
Girls	419	100.0	(0.03)	177	100.0	(0.02)	135	100.0	(0.02)	140	100.0	(0.06)	39	100.0	(0.11)	89	99.9	(0.09)
9–13 years old	1,071	100.0	(0.12)	388	100.0	(0.05)	285	100.0	(0.08)	380	99.8	(0.42)	94	99.9	(0.12)	276	100.0	(0.19)
Boys	515	100.0	(0.01)	200	100.0	(0.06)	143	100.0	(0.06)	181	100.0	(0.00)	51	99.8	(0.23)	122	100.0	(0.05)
Girls	556	99.9	(0.24)	188	100.0	(0.09)	142	99.9	(0.14)	199	99.7	(0.87)	43	100.0	(0.03)	154	100.0	(0.38)
14–18 years old	802	93.7	(1.03)	197	95.8	(1.55)	125	93.7	(1.91)	361	96.0	(1.98)	65	96.5	(2.60)	214	91.7	(2.33)
Boys	406	98.5	(0.98)	115	99.0	(1.43)	71	97.1	(1.79)	173	98.8	(1.52)	39	99.8	(0.69)	104	97.9	(2.11)
Girls	396	88.6	(1.86)	82	92.3	(2.80)	54	90.1	(3.45)	188	93.0	(3.74)	26	92.9	(5.28)	110	85.1	(4.23)

See notes at end of table.

Table F.14a. Iron (Milligrams): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	10.3	11.3	12.0	13.1	15.3	17.8	19.3	20.4	22.1
5–8 years old	9.9	10.8	11.4	12.3	14.3	16.5	17.8	18.8	20.2
9–13 years old	11.7	12.4	13.0	13.7	15.2	16.9	17.8	18.5	19.4
14–18 years old	9.3	10.6	11.5	13.0	16.1	19.7	21.9	23.5	26.0
All NSLP participants	10.7	11.9	12.7	13.9	16.5	19.5	21.2	22.3	24.3
5–8 years old	11.5	12.3	12.9	13.8	15.5	17.5	18.6	19.4	20.7
9–13 years old	11.0	12.2	13.0	14.2	16.7	19.5	21.2	22.3	24.3
14–18 years old	9.8	11.3	12.2	13.8	17.1	20.9	23.1	24.6	27.1
Income-eligible NSLP participants	10.7	11.9	12.7	14.0	16.6	19.6	21.3	22.5	24.2
5–8 years old	11.9	12.7	13.2	14.0	15.6	17.4	18.4	19.2	20.3
9–13 years old	11.8	12.8	13.5	14.6	16.9	19.5	21.0	22.0	23.6
14–18 years old	8.9	10.5	11.5	13.4	17.1	21.3	23.7	25.4	27.7
Income-eligible nonparticipants	11.4	12.0	12.4	13.2	14.7 *	16.4 ***	17.4 **	18.1 **	19.3 *
5–8 years old	9.7	10.5	11.0	11.9	13.8	15.9	17.1	18.0	19.4
9–13 years old	14.9	14.9	14.9	14.9	14.9	14.9 **	14.9 **	14.9 *	14.9 *
14–18 years old	9.3	10.4	11.1	12.4	15.1	18.2	20.0	21.3	23.5
Higher income NSLP participants	10.9	12.1	12.9	14.1	17.0	20.1	21.9	23.1	25.1
5–8 years old	10.6	11.5	12.0	13.0	15.1	17.6	19.0	19.8	21.3
9–13 years old	10.5	11.8	12.6	14.0	17.3	21.0	23.3	24.8	27.6
14–18 years old	11.5	12.8	13.7	15.1	17.9	21.0	22.7	23.8	25.7
Higher income nonparticipants	10.0	10.9	11.5	12.5	14.6	17.1 *	18.7	19.9	21.7
5–8 years old	9.1	9.9	10.5	11.5	13.5	15.9	17.3	18.3	19.8
9–13 years old	12.0	12.4	12.7	13.1	13.8	14.6 ***	15.0 ***	15.3 ***	15.7 ***
14–18 years old	8.8	10.1	11.1	12.7	16.2	20.4	23.2	25.4	28.7

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	7.9	8.8	9.5	10.6	12.8	15.4	17.0	18.1	19.9
5–8 years old	8.0	8.9	9.6	10.7	12.8	15.4	16.9	17.9	19.7
9–13 years old	9.0	9.9	10.6	11.7	13.8	16.3	17.7	18.8	20.4
14–18 years old	6.7	7.7	8.4	9.5	11.9	14.7	16.4	17.7	19.6
All NSLP participants	8.4	9.4	10.1	11.2	13.6	16.3	18.0	19.2	21.0
5–8 years old	8.3	9.2	9.8	10.8	12.9	15.4	16.9	18.1	19.8
9–13 years old	9.7	10.6	11.2	12.2	14.1	16.3	17.6	18.6	19.9
14–18 years old	7.2	8.4	9.2	10.7	13.5	17.0	19.2	20.6	22.9
Income-eligible NSLP participants	8.0	9.0	9.6	10.8	13.1	15.9	17.6	18.9	20.8
5–8 years old	8.2	8.9	9.4	10.2	11.9	13.8	15.0	15.8	17.1
9–13 years old	9.1	10.0	10.6	11.7	13.7	16.0	17.3	18.3	19.8
14–18 years old	6.7	8.0	8.8	10.3	13.5	17.4	19.8	21.8	24.6
Income-eligible nonparticipants	8.0	8.9	9.5	10.6	12.7	15.2	16.6	17.6	19.3
5–8 years old	8.3	9.3	9.9	11.0	13.3	15.8	17.2	18.3	20.0
9–13 years old	8.2	9.2	9.9	11.0	13.3	15.9	17.4	18.6	20.3
14–18 years old	7.5	8.3	8.9	9.9	11.8	14.0	15.4	16.3	17.8
Higher income NSLP participants	9.2	10.4	11.0	12.3	14.9	17.7	19.6	20.8	22.9
5–8 years old	8.3	9.7	10.5	11.9	15.3	19.5	22.2	24.4	27.7
9–13 years old	12.0	12.8	13.2	14.0	15.6	17.2	18.3	18.9	20.0
14–18 years old	7.1	8.6	9.3	10.9	13.9	16.9	18.7	20.0	22.2
Higher income nonparticipants	8.0	8.8	9.4	10.4	12.5	15.1	16.7	17.9	19.8
5–8 years old	7.6	8.4	9.2	10.3	12.7	15.6	17.5	18.9	21.2
9–13 years old	9.8	10.6	11.2	12.1	14.1	16.4	17.7	18.7	20.3
14–18 years old	6.5	7.3	7.9	8.8	10.9	13.5	15.1	16.3	18.3

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample *t*-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.15. Magnesium (Milligrams): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	243	(2.1)	924	265	(4.2)	664	267	(3.8)	1,039	220 ***	(2.5)	237	267	(7.2)	688	248 *	(3.5)
Boys	1,355	262	(3.4)	477	286	(7.4)	333	287	(5.9)	512	235 ***	(3.9)	129	288	(12.2)	335	267	(4.7)
Girls	1,371	223	(2.4)	447	244	(3.4)	331	245	(4.8)	527	205 ***	(3.1)	108	245	(7.1)	353	228	(5.1)
5–8 years old	853	227	(2.8)	339	232	(5.3)	254	240	(5.1)	298	219 **	(4.2)	78	218	(7.6)	198	232	(5.9)
Boys	434	240	(4.3)	162	247	(9.6)	119	265	(8.2)	158	227 ***	(6.3)	39	217	(12.8)	109	246 *	(7.0)
Girls	419	214	(3.4)	177	217	(4.0)	135	215	(6.0)	140	210	(5.6)	39	218	(8.0)	89	218	(9.7)
9–13 years old	1,071	244	(3.2)	388	272	(5.4)	285	274	(6.6)	380	213 ***	(4.6)	94	276	(10.8)	276	240 **	(5.7)
Boys	515	255	(4.9)	200	283	(7.8)	143	289	(8.9)	181	231 ***	(7.5)	51	287	(15.0)	122	245 *	(9.1)
Girls	556	231	(4.2)	188	260	(7.4)	142	258	(9.7)	199	195 ***	(5.3)	43	265	(15.6)	154	236	(6.8)
14–18 years old	802	254	(4.2)	197	284	(9.2)	125	279	(7.2)	361	228 ***	(4.1)	65	296	(15.3)	214	267	(6.1)
Boys	406	285	(7.1)	115	318	(17.2)	71	301	(12.0)	173	244 ***	(6.2)	39	343	(28.2)	104	304	(7.6)
Girls	396	222	(4.3)	82	249	(5.0)	54	255	(7.7)	188	211 ***	(5.4)	26	246	(10.2)	110	228	(9.7)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	61.2	(1.21)	924	69.0	(1.95)	664	68.9	(2.46)	1,039	49.5 ***	(1.14)	237	70.6	(3.30)	688	67.3	(2.59)
Boys	1,355	66.0	(1.51)	477	73.5	(3.27)	333	70.9	(3.75)	512	54.7 ***	(1.32)	129	77.9	(5.94)	335	71.3	(3.02)
Girls	1,371	56.2	(1.90)	447	64.2	(2.07)	331	66.7	(3.16)	527	44.0 ***	(1.89)	108	62.9	(2.64)	353	63.2	(4.24)
5–8 years old	853	99.9	(0.05)	339	100.0	(0.07)	254	100.0	(0.07)	298	99.9	(0.19)	78	99.9	(0.48)	198	100.0	(0.06)
Boys	434	99.9	(0.07)	162	100.0	(0.12)	119	100.0	(0.14)	158	99.9	(0.25)	39	99.7	(0.93)	109	100.0	(0.06)
Girls	419	100.0	(0.08)	177	100.0	(0.04)	135	100.0	(0.04)	140	99.9	(0.28)	39	100.0	(0.13)	89	99.9	(0.11)
9–13 years old	1,071	79.1	(2.90)	388	90.4	(2.61)	285	92.2	(3.25)	380	54.8 ***	(2.94)	94	92.9	(4.12)	276	90.2	(6.66)
Boys	515	84.7	(3.20)	200	93.7	(3.44)	143	97.7	(2.62)	181	66.7 ***	(3.08)	51	92.3	(7.19)	122	93.3	(7.67)
Girls	556	73.3	(4.89)	188	87.0	(3.95)	142	86.3	(6.07)	199	42.3 ***	(5.07)	43	93.5	(3.79)	154	87.0	(11.00)
14–18 years old	802	15.1	(1.75)	197	25.2	(4.66)	125	23.2	(5.90)	361	6.7 **	(1.28)	65	27.4	(8.02)	214	21.0	(2.91)
Boys	406	22.9	(2.72)	115	34.5	(8.19)	71	23.8 u	(9.81)	173	9.7	(2.00)	39	47.9 u	(14.48)	104	29.0	(3.63)
Girls	396	6.8 u	(2.16)	82	15.4	(4.13)	54	22.7	(6.30)	188	3.6 ** u	(1.58)	26	5.7 u	(6.16)	110	12.7 u	(4.60)

See notes at end of table.

Table F.15a. Magnesium (Milligrams): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	168	186	198	217	257	301	327	345	373
5–8 years old	164	179	189	204	237	271	292	306	328
9–13 years old	173	188	200	216	252	290	312	328	351
14–18 years old	167	188	204	228	278	334	367	390	427
All NSLP participants	193	211	223	242	281	324	349	366	394
5–8 years old	172	187	197	213	244	277	297	310	331
9–13 years old	194	212	225	243	280	319	342	356	382
14–18 years old	207	228	241	263	310	364	395	417	453
Income-eligible NSLP participants	207	223	234	251	284	320	341	355	376
5–8 years old	188	203	214	230	262	296	316	331	352
9–13 years old	215	230	240	256	287	320	340	352	373
14–18 years old	215	232	243	262	299	337	360	375	397
Income-eligible nonparticipants	144 ***	161 ***	172 ***	191 ***	229 ***	272 ***	297 **	316	345
5–8 years old	155	168	177	193	223 **	257 **	277	291	313
9–13 years old	144 **	159 **	170 ***	188 ***	224 ***	266 **	292	311	341
14–18 years old	137 *	157 **	171 **	193 ***	238 ***	288	318	339	372
Higher income NSLP participants	187	207	219	240	284	332	359	377	407
5–8 years old	150	164	172	186	216	247	264	273	288
9–13 years old	189	208	219	239	282	327	354	372	404
14–18 years old	213	238	255	281	336	399	435	458	499
Higher income nonparticipants	189	204	215	231	263	299	320	335	357
5–8 years old	175	189	198	213	242	275	295	309	329
9–13 years old	196	206	213	223	243	264 *	277 *	285	296
14–18 years old	193	214	229	251	298	349	381	403	437

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	154	167	176	191	220	252	270	283	303
5–8 years old	157	168	176	188	212	237	252	262	277
9–13 years old	159	173	182	198	228	261	281	294	315
14–18 years old	146	161	171	186	219	254	274	288	310
All NSLP participants	174	188	197	212	241	273	292	305	324
5–8 years old	168	178	185	195	215	237	249	258	271
9–13 years old	178	193	204	222	257	294	317	332	354
14–18 years old	175	189	198	215	245	280	301	314	335
Income-eligible NSLP participants	167	183	193	210	242	277	298	313	335
5–8 years old	167	176	183	193	214	235	247	256	269
9–13 years old	176	192	203	221	255	292	314	330	354
14–18 years old	159	179	191	212	251	295	320	340	366
Income-eligible nonparticipants	140	153 **	161 ***	175 ***	203 ***	232 ***	249 ***	261 ***	279 **
5–8 years old	152	164	172	184	209	235	249	259	275
9–13 years old	131	143 *	152 **	165 ***	192 ***	222 ***	239 ***	252 ***	271 **
14–18 years old	141	154	163	179 *	208 ***	240 ***	259 *	271 *	291
Higher income NSLP participants	187	199	205	218	243	269	285	295	313
5–8 years old	163	175	182	192	216	241	256	267	283
9–13 years old	194	208	217	232	262	293	314	326	347
14–18 years old	197	207	212	224	245	266	279	288	304
Higher income nonparticipants	159	172	181	195	223	256	276	290	312
5–8 years old	154	166	175	188	214	244	262	274	295
9–13 years old	185	196	203	213	234	257	270	279	293
14–18 years old	138	154	165	182	220	265	291	312	344

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample t-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

u Indicates individual estimates did not meet the standards of reliability or precision because of large coefficient of variation

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.16. Phosphorus (Milligrams): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	1,331	(11.5)	924	1,487	(23.1)	664	1,482	(21.0)	1,039	1,227 ***	(14.5)	237	1,533	(42.7)	688	1,288 ***	(20.4)
Boys	1,355	1,466	(19.3)	477	1,625	(41.4)	333	1,606	(32.0)	512	1,328 ***	(22.8)	129	1,681	(77.0)	335	1,425 **	(30.9)
Girls	1,371	1,191	(12.2)	447	1,343	(18.8)	331	1,351	(26.8)	527	1,121 ***	(17.7)	108	1,378	(34.0)	353	1,144 ***	(26.4)
5–8 years old	853	1,266	(18.0)	339	1,330	(32.0)	254	1,373	(35.1)	298	1,187 ***	(22.4)	78	1,263	(38.0)	198	1,253	(41.9)
Boys	434	1,361	(27.1)	162	1,449	(58.8)	119	1,558	(61.5)	158	1,211 ***	(28.1)	39	1,273	(55.7)	109	1,378	(47.2)
Girls	419	1,167	(23.5)	177	1,205	(22.5)	135	1,180	(32.1)	140	1,161	(35.3)	39	1,253	(51.5)	89	1,122	(70.0)
9–13 years old	1,071	1,342	(15.8)	388	1,518	(28.9)	285	1,516	(35.1)	380	1,220 ***	(23.7)	94	1,600	(56.2)	276	1,262 ***	(30.7)
Boys	515	1,423	(25.4)	200	1,582	(43.8)	143	1,603	(46.7)	181	1,310 ***	(38.2)	51	1,638	(81.0)	122	1,319 **	(53.9)
Girls	556	1,257	(18.5)	188	1,451	(37.4)	142	1,424	(52.5)	199	1,125 ***	(27.5)	43	1,560	(77.7)	154	1,202 ***	(27.9)
14–18 years old	802	1,370	(23.7)	197	1,575	(50.7)	125	1,531	(37.5)	361	1,264 ***	(27.3)	65	1,671	(98.4)	214	1,339 **	(34.6)
Boys	406	1,584	(41.3)	115	1,796	(94.0)	71	1,644	(58.1)	173	1,431 **	(44.9)	39	2,025	(188.2)	104	1,561 *	(55.6)
Girls	396	1,146	(21.6)	82	1,343	(32.0)	54	1,411	(46.6)	188	1,088 ***	(30.1)	26	1,297	(37.9)	110	1,104 ***	(40.2)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	84.7	(1.06)	924	94.5	(1.22)	664	95.6	(1.43)	1,039	76.1 ***	(1.64)	237	96.1	(1.53)	688	85.0 ***	(2.62)
Boys	1,355	91.2	(1.28)	477	95.9	(1.31)	333	98.7	(1.16)	512	84.4 ***	(2.22)	129	96.2	(1.84)	335	92.2	(2.99)
Girls	1,371	77.8	(1.71)	447	93.0	(2.08)	331	92.5	(2.67)	527	67.4 ***	(2.42)	108	96.0	(2.47)	353	77.5 ***	(4.36)
5–8 years old	853	100.0	(0.00)	339	100.0	(0.00)	254	100.0	(0.00)	298	100.0	(0.00)	78	100.0	(0.01)	198	99.9	(0.08)
Boys	434	100.0	(0.00)	162	100.0	(0.00)	119	100.0	(0.00)	158	100.0	(0.00)	39	100.0	(0.00)	109	100.0	(0.00)
Girls	419	100.0	(0.00)	177	100.0	(0.00)	135	100.0	(0.00)	140	100.0	(0.01)	39	100.0	(0.03)	89	99.9	(0.16)
9–13 years old	1,071	82.4	(2.09)	388	92.5	(2.15)	285	93.4	(2.86)	380	66.0 ***	(2.72)	94	96.1	(2.62)	276	85.3	(6.42)
Boys	515	87.3	(2.39)	200	95.5	(3.05)	143	98.8	(2.43)	181	74.3 ***	(2.88)	51	94.7	(4.52)	122	86.5	(7.28)
Girls	556	77.2	(3.46)	188	89.3	(3.04)	142	87.7	(5.26)	199	57.4 ***	(4.67)	43	97.5	(2.50)	154	84.1	(10.70)
14–18 years old	802	75.4	(2.06)	197	92.2	(2.57)	125	94.5	(2.75)	361	67.8 ***	(3.60)	65	93.3	(3.30)	214	73.6 ***	(3.57)
Boys	406	88.4	(2.59)	115	93.1	(2.02)	71	97.5	(2.11)	173	82.5 **	(5.31)	39	94.9	(2.44)	104	91.8	(4.13)
Girls	396	61.7	(3.23)	82	91.3	(4.83)	54	91.4	(5.19)	188	52.4 ***	(4.82)	26	91.5	(6.26)	110	54.3 ***	(5.90)

See notes at end of table.

Table F.16a. Phosphorus (Milligrams): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	926	1,027	1,099	1,211	1,440	1,688	1,834	1,939	2,101
5–8 years old	968	1,044	1,098	1,178	1,345	1,522	1,623	1,699	1,813
9–13 years old	920	1,017	1,084	1,190	1,403	1,632	1,763	1,857	2,004
14–18 years old	901	1,022	1,113	1,255	1,545	1,867	2,059	2,195	2,408
All NSLP participants	1,094	1,195	1,264	1,373	1,600	1,845	1,988	2,088	2,249
5–8 years old	1,264	1,303	1,330	1,369	1,447	1,526	1,570	1,599	1,644
9–13 years old	1,067	1,169	1,238	1,349	1,564	1,795	1,929	2,021	2,160
14–18 years old	992	1,139	1,239	1,400	1,748	2,130	2,357	2,516	2,785
Income-eligible NSLP participants	1,163	1,253	1,312	1,405	1,590	1,789	1,902	1,981	2,107
5–8 years old	1,157	1,237	1,292	1,375	1,543	1,722	1,826	1,901	2,016
9–13 years old	1,188	1,275	1,332	1,419	1,594	1,775	1,876	1,946	2,058
14–18 years old	1,143	1,243	1,308	1,414	1,623	1,853	1,982	2,073	2,221
Income-eligible nonparticipants	817 ***	911 ***	977 ***	1,081 ***	1,299 ***	1,539 ***	1,680 *	1,784	1,942
5–8 years old	845	914 *	962 **	1,036 ***	1,194 ***	1,363 **	1,461 *	1,531	1,642
9–13 years old	788	879 *	943 **	1,048 ***	1,270 ***	1,525 *	1,679	1,796	1,976
14–18 years old	824	940	1,021 *	1,145 *	1,405 *	1,683	1,844	1,960	2,131
Higher income NSLP participants	1,111	1,211	1,280	1,401	1,645	1,926	2,088	2,204	2,384
5–8 years old	1,273	1,273	1,273	1,273	1,273	1,273	1,273	1,273	1,273
9–13 years old	1,046	1,154	1,228	1,350	1,598	1,883	2,055	2,180	2,366
14–18 years old	1,051	1,220	1,336	1,545	1,966	2,454	2,726	2,921	3,228
Higher income nonparticipants	958	1,048	1,111	1,208	1,406 *	1,617	1,739	1,827	1,962
5–8 years old	948	1,037	1,098	1,187	1,368	1,553	1,658 *	1,733 *	1,845 **
9–13 years old	939	1,016	1,069	1,150	1,310	1,475 **	1,565 *	1,629 *	1,732 *
14–18 years old	982	1,086	1,160	1,279	1,525	1,800	1,965	2,086	2,267

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	816	889	940	1,019	1,178	1,345	1,442	1,510	1,615
5–8 years old	861	922	963	1,029	1,158	1,292	1,368	1,423	1,507
9–13 years old	858	935	989	1,072	1,241	1,423	1,526	1,602	1,717
14–18 years old	742	819	875	961	1,132	1,311	1,415	1,489	1,600
All NSLP participants	993	1,066	1,115	1,189	1,336	1,486	1,569	1,627	1,719
5–8 years old	1,054	1,086	1,109	1,141	1,204	1,268	1,303	1,325	1,362
9–13 years old	944	1,044	1,114	1,221	1,436	1,659	1,786	1,874	2,015
14–18 years old	995	1,072	1,120	1,195	1,341	1,484	1,562	1,616	1,704
Income-eligible NSLP participants	1,002	1,074	1,123	1,197	1,344	1,495	1,579	1,641	1,731
5–8 years old	1,124	1,137	1,145	1,157	1,179	1,202	1,215	1,223	1,236
9–13 years old	923	1,022	1,092	1,200	1,409	1,630	1,756	1,847	1,980
14–18 years old	985	1,076	1,135	1,225	1,405	1,586	1,684	1,759	1,865
Income-eligible nonparticipants	762 **	831 ***	879 ***	954 ***	1,106 ***	1,270 ***	1,366 **	1,432 *	1,535
5–8 years old	910	964	999	1,053	1,157	1,263	1,324	1,365	1,429
9–13 years old	727	800	854 *	935 **	1,104 ***	1,290 ***	1,399 ***	1,476 ***	1,594 **
14–18 years old	683	760 *	814 **	898 ***	1,070 ***	1,255 ***	1,366 *	1,441	1,559
Higher income NSLP participants	1,037	1,110	1,158	1,228	1,365	1,517	1,605	1,664	1,750
5–8 years old	959	1,025	1,064	1,127	1,246	1,374	1,443	1,489	1,562
9–13 years old	1,125	1,221	1,279	1,365	1,539	1,736	1,854	1,933	2,051
14–18 years old	1,011	1,067	1,111	1,174	1,288	1,414	1,487	1,538	1,602
Higher income nonparticipants	777 *	847 ***	895 ***	971 ***	1,127 ***	1,294 **	1,395	1,464	1,577
5–8 years old	680	759	814	902	1,092	1,305	1,436	1,525	1,679
9–13 years old	969	1,019	1,050	1,098 **	1,198 ***	1,299 *	1,355	1,395	1,459
14–18 years old	664 *	749 **	808 **	902 ***	1,086 **	1,281	1,402	1,483	1,614

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample *t*-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.17. Potassium (Milligrams): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	2,264	(29.2)	924	2,571	(63.2)	664	2,589	(51.1)	1,039	2,070 ***	(36.3)	237	2,592	(116.5)	688	2,195 **	(43.5)
Boys	1,355	2,471	(47.1)	477	2,841	(105.8)	333	2,811	(73.9)	512	2,226 ***	(55.2)	129	2,968	(204.8)	335	2,358 **	(62.0)
Girls	1,371	2,048	(33.7)	447	2,288	(66.8)	331	2,356	(70.4)	527	1,907 ***	(46.5)	108	2,197	(104.4)	353	2,025	(61.0)
5–8 years old	853	2,166	(44.2)	339	2,296	(79.9)	254	2,403	(81.8)	298	2,094 **	(62.6)	78	2,121	(100.1)	198	2,110	(86.9)
Boys	434	2,309	(70.9)	162	2,493	(142.7)	119	2,697	(135.7)	158	2,179 **	(101.2)	39	2,188	(173.7)	109	2,230	(92.6)
Girls	419	2,017	(52.0)	177	2,091	(67.1)	135	2,096	(88.8)	140	2,004	(72.5)	39	2,051	(94.9)	89	1,984	(148.8)
9–13 years old	1,071	2,294	(40.9)	388	2,658	(73.5)	285	2,633	(79.1)	380	2,030 ***	(60.1)	94	2,800	(207.7)	276	2,146 **	(69.1)
Boys	515	2,440	(62.9)	200	2,830	(118.8)	143	2,784	(105.2)	181	2,195 ***	(94.9)	51	3,102	(363.4)	122	2,202 *	(111.5)
Girls	556	2,141	(51.8)	188	2,479	(84.7)	142	2,474	(118.8)	199	1,856 ***	(72.8)	43	2,484	(190.1)	154	2,089	(80.0)
14–18 years old	802	2,309	(59.9)	197	2,693	(143.9)	125	2,687	(98.1)	361	2,092 ***	(64.1)	65	2,745	(233.1)	214	2,306	(72.4)
Boys	406	2,620	(98.6)	115	3,111	(239.3)	71	2,922	(139.5)	173	2,289 ***	(91.5)	39	3,422	(410.6)	104	2,601	(109.1)
Girls	396	1,981	(66.0)	82	2,253	(153.8)	54	2,438	(137.7)	188	1,884 ***	(89.7)	26	2,032	(204.6)	110	1,996	(94.2)
Mean Usual Intake as a Percent of Adequate Intake																		
All children 5–18 years old	2,726	91.9	(1.14)	924	104.0	(2.41)	664	105.2	(2.07)	1,039	84.2 ***	(1.47)	237	104.1	(4.44)	688	89.1 **	(1.77)
Boys	1,355	94.6	(1.73)	477	108.3	(3.81)	333	107.8	(2.80)	512	85.5 ***	(2.13)	129	112.4	(7.51)	335	90.0 **	(2.35)
Girls	1,371	89.0	(1.46)	447	99.5	(2.90)	331	102.4	(3.06)	527	82.9 ***	(2.02)	108	95.5	(4.54)	353	88.1	(2.65)
5–8 years old	853	94.2	(1.92)	339	99.8	(3.47)	254	104.5	(3.56)	298	91.0 **	(2.72)	78	92.2	(4.35)	198	91.7	(3.78)
Boys	434	100.4	(3.08)	162	108.4	(6.20)	119	117.3	(5.90)	158	94.8 **	(4.40)	39	95.1	(7.55)	109	97.0	(4.03)
Girls	419	87.7	(2.26)	177	90.9	(2.92)	135	91.1	(3.86)	140	87.1	(3.15)	39	89.2	(4.13)	89	86.3	(6.47)
9–13 years old	1,071	95.4	(1.69)	388	110.6	(3.02)	285	109.5	(3.32)	380	84.3 ***	(2.48)	94	116.2	(8.46)	276	89.4 **	(2.84)
Boys	515	97.6	(2.52)	200	113.2	(4.75)	143	111.4	(4.21)	181	87.8 ***	(3.79)	51	124.1	(14.54)	122	88.1 *	(4.46)
Girls	556	93.1	(2.25)	188	107.8	(3.68)	142	107.6	(5.17)	199	80.7 ***	(3.16)	43	108.0	(8.26)	154	90.8	(3.48)
14–18 years old	802	86.8	(2.19)	197	100.9	(5.23)	125	101.6	(3.77)	361	79.0 ***	(2.46)	65	101.5	(8.25)	214	86.7	(2.73)
Boys	406	87.3	(3.29)	115	103.7	(7.98)	71	97.4	(4.65)	173	76.3 ***	(3.05)	39	114.1	(13.69)	104	86.7	(3.64)
Girls	396	86.1	(2.87)	82	98.0	(6.69)	54	106.0	(5.99)	188	81.9 ***	(3.90)	26	88.3	(8.90)	110	86.8	(4.09)

See notes at end of table.

Table F.17a. Potassium (Milligrams): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	1,517	1,694	1,822	2,020	2,426	2,868	3,127	3,308	3,587
5–8 years old	1,499	1,649	1,758	1,924	2,271	2,641	2,865	3,018	3,259
9–13 years old	1,476	1,657	1,786	1,983	2,393	2,840	3,104	3,288	3,569
14–18 years old	1,570	1,763	1,905	2,128	2,571	3,064	3,344	3,542	3,849
All NSLP participants	1,813	2,010	2,141	2,353	2,787	3,268	3,551	3,742	4,068
5–8 years old	1,708	1,852	1,957	2,119	2,445	2,815	3,043	3,197	3,459
9–13 years old	1,713	1,936	2,086	2,318	2,790	3,291	3,583	3,776	4,108
14–18 years old	1,986	2,197	2,330	2,560	3,038	3,583	3,899	4,117	4,483
Income-eligible NSLP participants	1,983	2,145	2,252	2,428	2,776	3,155	3,377	3,531	3,765
5–8 years old	1,864	2,016	2,120	2,291	2,633	3,034	3,282	3,465	3,746
9–13 years old	1,884	2,067	2,188	2,380	2,761	3,159	3,389	3,536	3,778
14–18 years old	2,167	2,315	2,411	2,574	2,898	3,241	3,438	3,576	3,769
Income-eligible nonparticipants	1,370 *	1,531 **	1,641 **	1,819 ***	2,183 ***	2,580 ***	2,815 *	2,979	3,243
5–8 years old	1,317	1,469	1,572	1,755 *	2,124 *	2,543	2,788	2,961	3,244
9–13 years old	1,345	1,501	1,615	1,788 *	2,146 ***	2,542 *	2,782	2,952	3,224
14–18 years old	1,433	1,607	1,717	1,897	2,261 **	2,645	2,866	3,019	3,261
Higher income NSLP participants	1,771	1,994	2,137	2,376	2,897	3,475	3,816	4,038	4,434
5–8 years old	1,408	1,572	1,665	1,831	2,178	2,536	2,728	2,836	3,013
9–13 years old	1,746	1,969	2,110	2,361	2,964	3,656	4,101	4,410	4,977
14–18 years old	2,064 u	2,334 u	2,514	2,796	3,370	4,001	4,356	4,581	4,976
Higher income nonparticipants	1,591	1,747	1,852	2,016	2,335	2,671 **	2,869 **	3,007 *	3,202 *
5–8 years old	1,616	1,744	1,829	1,966	2,218	2,483	2,636	2,736	2,881
9–13 years old	1,402	1,562	1,669	1,835	2,168	2,530	2,745 *	2,898 *	3,109 *
14–18 years old	1,751	1,925	2,044	2,224	2,580	2,946	3,160	3,313	3,530

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	1,453	1,571	1,653	1,779	2,029	2,295	2,447	2,552	2,712
5–8 years old	1,504	1,608	1,679	1,788	2,002	2,229	2,357	2,445	2,582
9–13 years old	1,437	1,574	1,669	1,820	2,114	2,434	2,618	2,749	2,943
14–18 years old	1,430	1,542	1,618	1,733	1,966	2,211	2,349	2,445	2,588
All NSLP participants	1,628	1,756	1,842	1,985	2,259	2,562	2,740	2,859	3,038
5–8 years old	1,607	1,706	1,771	1,871	2,073	2,291	2,417	2,505	2,633
9–13 years old	1,780	1,914	2,010	2,159	2,454	2,770	2,955	3,083	3,265
14–18 years old	1,498	1,642	1,735	1,904	2,213	2,566	2,778	2,911	3,127
Income-eligible NSLP participants	1,593	1,747	1,849	2,013	2,329	2,672	2,867	3,012	3,216
5–8 years old	1,587	1,688	1,758	1,865	2,078	2,309	2,439	2,534	2,670
9–13 years old	1,734	1,882	1,978	2,140	2,448	2,778	2,973	3,110	3,317
14–18 years old	1,463	1,661	1,793	2,002	2,403	2,842	3,089	3,279	3,531
Income-eligible nonparticipants	1,354	1,463	1,536	1,652 **	1,887 ***	2,137 ***	2,281 ***	2,381 **	2,539 *
5–8 years old	1,530	1,627	1,692	1,790	1,994	2,202	2,316	2,398	2,522
9–13 years old	1,155	1,289 *	1,378 *	1,521 **	1,818 ***	2,146 **	2,339 *	2,475	2,691
14–18 years old	1,413	1,508	1,569	1,674	1,872 *	2,079 **	2,200 **	2,277 *	2,406 *
Higher income NSLP participants	1,669	1,779	1,840	1,956	2,181	2,414	2,559	2,654	2,813
5–8 years old	1,503	1,618	1,687	1,798	2,031	2,276	2,424	2,533	2,682
9–13 years old	2,017	2,116	2,172	2,276	2,471	2,673	2,804	2,874	3,001
14–18 years old	1,460	1,578	1,638	1,767	2,015	2,269	2,425	2,534	2,730
Higher income nonparticipants	1,485	1,593	1,670	1,782	2,007	2,249	2,386	2,481	2,630
5–8 years old	1,373	1,486	1,576	1,706	1,959	2,234	2,399	2,508	2,686
9–13 years old	1,542	1,658	1,732	1,843	2,072	2,318	2,452	2,547	2,693
14–18 years old	1,514	1,611	1,680	1,781	1,981	2,195	2,314	2,398	2,527

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Adequate intake is the recommended average daily intake level. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample t -tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.18. Selenium (Micrograms): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	100	(0.9)	924	109	(1.9)	664	108	(1.9)	1,039	95 ***	(1.3)	237	115	(3.5)	688	95 ***	(1.7)
Boys	1,355	110	(1.5)	477	120	(3.1)	333	118	(3.1)	512	103 ***	(1.9)	129	126	(5.6)	335	106 ***	(2.5)
Girls	1,371	89	(1.0)	447	99	(2.0)	331	97	(2.2)	527	87 ***	(1.7)	108	103	(4.2)	353	84 ***	(2.2)
5–8 years old	853	92	(1.2)	339	92	(2.2)	254	94	(2.4)	298	90	(1.7)	78	90	(3.0)	198	95	(2.8)
Boys	434	98	(1.7)	162	101	(3.8)	119	106	(3.9)	158	93 **	(2.0)	39	93	(4.5)	109	97	(3.6)
Girls	419	87	(1.7)	177	84	(2.1)	135	82	(3.0)	140	86	(2.8)	39	87	(3.8)	89	94	(4.3)
9–13 years old	1,071	98	(1.3)	388	110	(2.5)	285	110	(2.7)	380	90 ***	(1.8)	94	116	(6.1)	276	90 ***	(2.9)
Boys	515	106	(2.1)	200	116	(3.8)	143	116	(3.8)	181	97 ***	(2.8)	51	121	(7.4)	122	98 **	(4.3)
Girls	556	90	(1.7)	188	105	(3.2)	142	104	(3.8)	199	83 ***	(2.2)	43	110	(9.8)	154	82 **	(3.8)
14–18 years old	802	106	(2.0)	197	121	(4.2)	125	115	(4.1)	361	104 *	(2.7)	65	132	(7.2)	214	101 ***	(2.9)
Boys	406	123	(3.4)	115	138	(7.1)	71	127	(6.9)	173	115	(4.1)	39	156	(12.8)	104	120 **	(4.6)
Girls	396	89	(1.9)	82	104	(4.1)	54	102	(4.1)	188	92	(3.5)	26	108	(5.8)	110	80 ***	(3.5)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	99.8	(0.13)	924	99.9	(0.09)	664	99.9	(0.10)	1,039	99.8	(0.14)	237	100.0	(0.25)	688	99.8	(0.50)
Boys	1,355	99.9	(0.09)	477	100.0	(0.08)	333	100.0	(0.04)	512	99.8	(0.20)	129	100.0	(0.12)	335	100.0	(0.09)
Girls	1,371	99.8	(0.25)	447	99.9	(0.16)	331	99.9	(0.21)	527	99.8	(0.19)	108	100.0	(0.50)	353	99.7	(1.02)
5–8 years old	853	100.0	(0.00)	339	100.0	(0.00)	254	100.0	(0.00)	298	100.0	(0.00)	78	100.0	(0.00)	198	100.0	(0.00)
Boys	434	100.0	(0.00)	162	100.0	(0.00)	119	100.0	(0.00)	158	100.0	(0.00)	39	100.0	(0.00)	109	100.0	(0.00)
Girls	419	100.0	(0.00)	177	100.0	(0.00)	135	100.0	(0.00)	140	100.0	(0.00)	39	100.0	(0.00)	89	100.0	(0.00)
9–13 years old	1,071	100.0	(0.02)	388	100.0	(0.04)	285	100.0	(0.08)	380	99.9	(0.10)	94	100.0	(0.01)	276	100.0	(0.01)
Boys	515	100.0	(0.00)	200	100.0	(0.00)	143	100.0	(0.00)	181	100.0	(0.03)	51	100.0	(0.00)	122	100.0	(0.02)
Girls	556	100.0	(0.04)	188	100.0	(0.08)	142	99.9	(0.16)	199	99.9	(0.21)	43	100.0	(0.02)	154	100.0	(0.00)
14–18 years old	802	99.5	(0.36)	197	99.9	(0.23)	125	99.9	(0.27)	361	99.6	(0.37)	65	100.0	(0.68)	214	99.5	(1.36)
Boys	406	99.6	(0.24)	115	99.9	(0.21)	71	99.9	(0.10)	173	99.5	(0.55)	39	99.9	(0.31)	104	99.9	(0.25)
Girls	396	99.4	(0.68)	82	99.9	(0.43)	54	99.8	(0.55)	188	99.6	(0.48)	26	100.0	(1.35)	110	99.2	(2.78)

See notes at end of table.

Table F.18a. Selenium (Micrograms): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	74	80	85	93	108	125	135	142	152
5–8 years old	74	79	82	87	97	107	114	118	124
9–13 years old	79	84	88	93	105	117	124	129	136
14–18 years old	68	78	85	97	120	146	162	172	189
All NSLP participants	83	91	95	103	118	135	145	151	162
5–8 years old	88	90	92	95	101	106	109	111	114
9–13 years old	88	94	98	104	115	127	133	138	145
14–18 years old	76	87	94	107	133	164	182	194	215
Income-eligible NSLP participants	86	92	96	103	116	131	140	146	155
5–8 years old	86	91	93	98	106	115	120	123	128
9–13 years old	96	100	103	107	116	125	130	133	139
14–18 years old	77	86	92	102	124	149	163	174	189
Income-eligible nonparticipants	67	74	78 *	86 **	101 ***	117	127	134	145
5–8 years old	69	73	76	81	92 *	103	110	115	122
9–13 years old	68	74	78	84	96 ***	109	117	122	130
14–18 years old	65	74	80	91	112	136	150	160	176
Higher income NSLP participants	97	103	107	113	126	139	147	151	159
5–8 years old	75	79	81	85	93	101	106	108	113
9–13 years old	121	121	121	121	121	121	121	121	121
14–18 years old	89	103	112	126	154	184	201	211	230
Higher income nonparticipants	73	80	84	91 *	104 **	119	128	134	143
5–8 years old	71	76	79	85	96	108	115	119	126
9–13 years old	76	81	84	88	97 *	106	112	116	121
14–18 years old	73	82	88	98	118	139	153	162	176

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	60	65	69	75	87	101	108	114	122
5–8 years old	62	66	70	75	85	97	105	109	117
9–13 years old	61	67	71	77	89	101	109	114	122
14–18 years old	57	64	68	74	88	102	111	116	125
All NSLP participants	65	72	76	83	97	113	122	128	137
5–8 years old	62	67	69	74	83	93	99	103	108
9–13 years old	65	73	78	86	103	121	132	140	151
14–18 years old	67	75	79	88	103	119	129	135	144
Income-eligible NSLP participants	63	70	74	81	96	111	120	127	136
5–8 years old	58	63	66	71	81	92	98	102	109
9–13 years old	64	72	77	86	102	120	130	138	149
14–18 years old	64	72	77	85	101	118	128	135	145
Income-eligible nonparticipants	59	65	68	74	86 **	99 *	106	111	119
5–8 years old	66	70	73	77	86	95	99	103	108
9–13 years old	53	59	62	68 *	81 ***	95 ***	103 **	108 *	118
14–18 years old	60	66	70	77	90	105	114	120	130
Higher income NSLP participants	76	82	85	91	102	114	121	126	133
5–8 years old	63	68	71	76	86	97	104	109	116
9–13 years old	82	88	91	97	109	121	129	133	141
14–18 years old	78	85	89	96	108	120	127	131	139
Higher income nonparticipants	65	69	71	75	83 ***	92 **	98	102	108
5–8 years old	62	68	72	78	91	107	116	123	134
9–13 years old	79	80	80	81	82	83	84	84	85
14–18 years old	54	59	62	68	79 ***	91 ***	98 **	103	111

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample *t*-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.19. Sodium (Milligrams): Mean Usual Intakes From Foods and Beverages for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	3,141	(50.3)	924	3,444	(97.0)	664	3,435	(104.4)	1,039	2,981 ***	(66.2)	237	3,498	(151.8)	688	3,045 **	(84.5)
Boys	1,355	3,449	(82.7)	477	3,775	(156.1)	333	3,725	(174.9)	512	3,155 **	(95.2)	129	3,902	(236.0)	335	3,416	(133.3)
Girls	1,371	2,818	(55.6)	447	3,098	(112.6)	331	3,131	(109.9)	527	2,799 *	(91.8)	108	3,075	(188.4)	353	2,657	(101.9)
5–8 years old	853	2,840	(63.8)	339	2,904	(97.7)	254	2,903	(113.8)	298	2,768	(104.3)	78	2,938	(144.6)	198	2,862	(123.9)
Boys	434	2,974	(92.6)	162	3,075	(143.1)	119	3,192	(163.4)	158	2,753 *	(111.3)	39	2,901	(199.4)	109	3,080	(137.1)
Girls	419	2,700	(87.5)	177	2,726	(132.5)	135	2,602	(158.1)	140	2,783	(178.7)	39	2,976	(209.6)	89	2,634	(208.9)
9–13 years old	1,071	3,156	(75.4)	388	3,498	(117.6)	285	3,574	(135.5)	380	2,918 ***	(109.1)	94	3,464	(255.3)	276	3,003	(159.8)
Boys	515	3,395	(124.2)	200	3,698	(176.0)	143	3,830	(208.2)	181	3,112 **	(175.8)	51	3,646	(340.0)	122	3,262	(250.4)
Girls	556	2,906	(83.4)	188	3,288	(155.0)	142	3,306	(171.7)	199	2,715 **	(126.5)	43	3,273	(382.5)	154	2,732	(195.5)
14–18 years old	802	3,353	(105.0)	197	3,798	(225.4)	125	3,702	(235.9)	361	3,202	(122.8)	65	3,950	(312.1)	214	3,224 *	(142.4)
Boys	406	3,856	(176.2)	115	4,369	(371.2)	71	4,024	(410.3)	173	3,495	(176.1)	39	4,890	(527.7)	104	3,814	(249.2)
Girls	396	2,823	(109.4)	82	3,196	(247.4)	54	3,362	(218.3)	188	2,892	(170.8)	26	2,959	(318.8)	110	2,602	(128.6)
Mean Usual Intake as a Percent of Adequate Intake																		
All children 5–18 years old	2,726	254.2	(3.84)	924	277.0	(7.08)	664	276.9	(7.72)	1,039	241.5 ***	(5.28)	237	280.7	(11.48)	688	247.1 *	(6.80)
Boys	1,355	277.3	(6.23)	477	301.7	(11.25)	333	300.3	(12.68)	512	254.0 **	(7.43)	129	308.3	(17.33)	335	275.3	(10.32)
Girls	1,371	230.0	(4.38)	447	251.1	(8.45)	331	252.3	(8.58)	527	228.4 *	(7.50)	108	251.8	(14.91)	353	217.6 *	(8.77)
5–8 years old	853	284.0	(6.38)	339	290.4	(9.77)	254	290.3	(11.38)	298	276.8	(10.43)	78	293.8	(14.46)	198	286.2	(12.39)
Boys	434	297.4	(9.26)	162	307.5	(14.31)	119	319.2	(16.34)	158	275.3 *	(11.13)	39	290.1	(19.94)	109	308.0	(13.71)
Girls	419	270.0	(8.75)	177	272.6	(13.25)	135	260.2	(15.81)	140	278.3	(17.87)	39	297.6	(20.96)	89	263.4	(20.89)
9–13 years old	1,071	263.0	(6.29)	388	291.5	(9.80)	285	297.8	(11.30)	380	243.1 ***	(9.09)	94	288.6	(21.27)	276	250.2	(13.31)
Boys	515	282.9	(10.35)	200	308.2	(14.66)	143	319.1	(17.35)	181	259.3 **	(14.65)	51	303.8	(28.33)	122	271.8	(20.87)
Girls	556	242.1	(6.95)	188	274.0	(12.92)	142	275.5	(14.31)	199	226.2 **	(10.54)	43	272.7	(31.88)	154	227.7	(16.29)
14–18 years old	802	223.6	(7.00)	197	253.2	(15.03)	125	246.8	(15.72)	361	213.4	(8.19)	65	263.4	(20.81)	214	214.9 *	(9.49)
Boys	406	257.1	(11.75)	115	291.2	(24.75)	71	268.3	(27.35)	173	233.0	(11.74)	39	326.0	(35.18)	104	254.2	(16.61)
Girls	396	188.2	(7.29)	82	213.1	(16.49)	54	224.1	(14.55)	188	192.8	(11.39)	26	197.3	(21.25)	110	173.4	(8.57)

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Percent of Children With Usual Intake Above the Chronic Disease Risk Reduction Level																		
All children 5–18 years old	2,726	94.3	(0.92)	924	97.4	(1.41)	664	97.3	(1.78)	1,039	93.2	(1.44)	237	95.6	(2.19)	688	94.0	(1.50)
Boys	1,355	97.8	(0.88)	477	99.1	(1.28)	333	99.2	(2.10)	512	96.3	(1.67)	129	99.9	(0.77)	335	98.9	(1.12)
Girls	1,371	90.6	(1.65)	447	95.6	(2.55)	331	95.4	(2.91)	527	90.0	(2.39)	108	91.2	(4.42)	353	88.8	(2.84)
5–8 years old	853	99.9	(0.14)	339	100.0	(0.12)	254	99.8	(0.55)	298	99.8	(0.36)	78	99.9	(0.15)	198	99.8	(0.75)
Boys	434	99.9	(0.14)	162	100.0	(0.06)	119	99.9	(0.50)	158	99.8	(0.49)	39	100.0	(0.00)	109	99.7	(0.87)
Girls	419	99.9	(0.25)	177	99.9	(0.24)	135	99.7	(0.99)	140	99.9	(0.52)	39	99.8	(0.31)	89	99.8	(1.22)
9–13 years old	1,071	98.7	(0.75)	388	99.1	(0.95)	285	98.7	(1.31)	380	97.0	(1.93)	94	100.0	(0.37)	276	99.9	(0.17)
Boys	515	99.9	(0.38)	200	99.9	(0.20)	143	100.0	(0.13)	181	99.2	(1.94)	51	100.0	(0.55)	122	100.0	(0.10)
Girls	556	97.5	(1.48)	188	98.2	(1.94)	142	97.3	(2.67)	199	94.7	(3.39)	43	100.0	(0.47)	154	99.9	(0.34)
14–18 years old	802	85.9	(2.38)	197	93.8	(3.69)	125	94.2	(4.63)	361	84.7	(3.43)	65	88.2	(5.92)	214	83.9	(4.02)
Boys	406	94.3	(2.33)	115	97.7	(3.46)	71	98.0	(5.65)	173	91.0	(4.09)	39	99.6	(1.99)	104	97.2	(2.95)
Girls	396	77.0	(4.23)	82	89.8	(6.66)	54	90.2	(7.43)	188	78.0	(5.58)	26	76.2	(11.97)	110	69.9	(7.64)

See notes at end of table.

Table F.19a. Sodium (Milligrams): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	2,297	2,513	2,668	2,909	3,397	3,930	4,239	4,456	4,791
5–8 years old	2,094	2,266	2,389	2,574	2,948	3,333	3,561	3,714	3,951
9–13 years old	2,501	2,675	2,797	2,981	3,360	3,763	4,000	4,164	4,413
14–18 years old	2,255	2,541	2,754	3,089	3,767	4,533	4,973	5,287	5,777
All NSLP participants	2,524	2,766	2,924	3,183	3,711	4,295	4,636	4,866	5,255
5–8 years old	2,362	2,506	2,609	2,762	3,055	3,368	3,551	3,671	3,869
9–13 years old	2,623	2,840	2,985	3,209	3,661	4,140	4,421	4,607	4,926
14–18 years old	2,550	2,888	3,101	3,473	4,248	5,134	5,650	6,003	6,600
Income-eligible NSLP participants	2,589	2,812	2,959	3,202	3,682	4,200	4,500	4,708	5,017
5–8 years old	2,187	2,386	2,518	2,733	3,144	3,601	3,870	4,064	4,352
9–13 years old	2,876	3,067	3,193	3,395	3,798	4,226	4,476	4,637	4,903
14–18 years old	2,615 u	2,887	3,063	3,367	3,973	4,621	4,993	5,255	5,622
Income-eligible nonparticipants	2,052	2,265	2,408	2,638	3,106 *	3,611	3,908	4,115	4,446
5–8 years old	1,951	2,106	2,208	2,384	2,725	3,091	3,297	3,439	3,666
9–13 years old	2,113	2,303	2,441	2,646	3,065	3,518	3,789	3,980	4,283
14–18 years old	2,070	2,346	2,526	2,819	3,428	4,088	4,477	4,747	5,182
Higher income NSLP participants	2,878	3,076	3,206	3,414	3,854	4,335	4,613	4,793	5,109
5–8 years old	2,901	2,901	2,901	2,901	2,901	2,901	2,901	2,901	2,901
9–13 years old	2,757 u	2,932	3,037	3,216	3,611	4,016	4,256	4,415	4,692
14–18 years old	2,975 u	3,344	3,593	3,986	4,797	5,708	6,228	6,562	7,151
Higher income nonparticipants	2,623	2,775	2,880	3,047	3,379	3,740	3,958	4,112	4,337
5–8 years old	2,029	2,234	2,373	2,602	3,037	3,514	3,798	3,989	4,269
9–13 years old	3,257 u	3,258	3,259	3,260	3,262	3,264	3,265	3,265	3,266
14–18 years old	2,461	2,719	2,898	3,176	3,747	4,363	4,738	5,010	5,406

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	1,903	2,080	2,204	2,395	2,781	3,198	3,439	3,608	3,864
5–8 years old	1,976	2,116	2,214	2,366	2,669	2,998	3,189	3,320	3,530
9–13 years old	1,964	2,148	2,275	2,477	2,870	3,296	3,542	3,716	3,974
14–18 years old	1,789	1,989	2,128	2,339	2,780	3,255	3,530	3,721	4,010
All NSLP participants	2,054	2,251	2,385	2,608	3,044	3,531	3,822	4,018	4,313
5–8 years old	2,026	2,165	2,256	2,398	2,691	3,014	3,204	3,339	3,535
9–13 years old	2,053	2,278	2,443	2,701	3,225	3,802	4,148	4,388	4,734
14–18 years old	2,076	2,290	2,427	2,677	3,136	3,660	3,976	4,175	4,496
Income-eligible NSLP participants	1,983	2,212	2,364	2,611	3,088	3,606	3,905	4,124	4,436
5–8 years old	1,877	2,018	2,116	2,267	2,571	2,905	3,095	3,235	3,437
9–13 years old	1,999	2,259	2,429	2,715	3,261	3,844	4,188	4,429	4,791
14–18 years old	2,048	2,313	2,490	2,771	3,311	3,906	4,243	4,502	4,848
Income-eligible nonparticipants	1,848	2,031	2,153	2,353	2,758	3,194	3,450	3,624	3,906
5–8 years old	2,000	2,148	2,250	2,406	2,747	3,110	3,318	3,471	3,709
9–13 years old	1,788	1,974	2,096	2,288	2,679	3,097 *	3,338 *	3,506	3,768
14–18 years old	1,791	1,997	2,135	2,374	2,842	3,349	3,656	3,853	4,188
Higher income NSLP participants	2,084	2,287	2,398	2,615	3,039	3,483	3,760	3,944	4,254
5–8 years old	2,066	2,246	2,356	2,535	2,922	3,349	3,614	3,813	4,094
9–13 years old	2,543	2,694	2,780	2,942	3,247	3,568	3,780	3,894	4,102
14–18 years old	1,657	1,927	2,064	2,362	2,928	3,502	3,850	4,091	4,520
Higher income nonparticipants	1,953	2,094	2,195	2,342	2,635	2,948	3,124	3,247	3,437
5–8 years old	1,909	2,046	2,154	2,309	2,609	2,929	3,121	3,246	3,451
9–13 years old	2,213	2,324	2,395	2,500	2,718	2,949	3,076	3,166	3,303
14–18 years old	1,738	1,911	2,035	2,216	2,575	2,961	3,173	3,325	3,556

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. The sodium chronic disease risk reduction level is the intake above which intake reduction is expected to reduce chronic disease risk within an apparently healthy population. Adequate intake is the recommended average daily intake level. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements or table salt. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample t -tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.

Table F.20. Zinc (Milligrams): Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	All School Children			All NSLP Participants			Income-Eligible NSLP Participants			Income-Eligible Nonparticipants			Higher Income NSLP Participants			Higher Income Nonparticipants		
	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error	Sample Size	Mean	Standard Error
Mean Usual Intake																		
All children 5–18 years old	2,726	10.4	(0.12)	924	11.7	(0.27)	664	11.2	(0.22)	1,039	9.8 ***	(0.17)	237	12.8	(0.54)	688	9.9 ***	(0.17)
Boys	1,355	11.5	(0.20)	477	12.8	(0.44)	333	12.2	(0.33)	512	10.5 ***	(0.24)	129	14.1	(0.88)	335	11.1 **	(0.25)
Girls	1,371	9.3	(0.13)	447	10.6	(0.29)	331	10.1	(0.30)	527	9.0 **	(0.23)	108	11.4	(0.60)	353	8.7 ***	(0.23)
5–8 years old	853	9.5	(0.15)	339	10.0	(0.27)	254	10.2	(0.28)	298	9.5 *	(0.27)	78	9.9	(0.42)	198	9.0	(0.28)
Boys	434	10.0	(0.24)	162	10.6	(0.45)	119	11.3	(0.44)	158	9.5 **	(0.35)	39	9.5	(0.64)	109	9.9	(0.30)
Girls	419	9.0	(0.18)	177	9.5	(0.28)	135	9.1	(0.36)	140	9.4	(0.40)	39	10.2	(0.53)	89	8.1 **	(0.49)
9–13 years old	1,071	10.6	(0.19)	388	12.1	(0.34)	285	11.8	(0.38)	380	9.9 ***	(0.33)	94	13.7	(0.86)	276	9.6 ***	(0.26)
Boys	515	11.4	(0.29)	200	13.1	(0.57)	143	12.9	(0.59)	181	10.4 **	(0.45)	51	15.0	(1.33)	122	10.2 ***	(0.37)
Girls	556	9.8	(0.24)	188	11.0	(0.37)	142	10.6	(0.46)	199	9.4	(0.47)	43	12.4	(1.07)	154	9.1 **	(0.37)
14–18 years old	802	10.9	(0.25)	197	12.6	(0.61)	125	11.3	(0.44)	361	9.9 **	(0.26)	65	14.1	(1.16)	214	10.9 **	(0.33)
Boys	406	12.6	(0.44)	115	14.2	(1.00)	71	12.2	(0.59)	173	11.3	(0.42)	39	16.7	(1.96)	104	12.9	(0.54)
Girls	396	9.0	(0.25)	82	10.9	(0.68)	54	10.4	(0.64)	188	8.4 **	(0.29)	26	11.4	(1.18)	110	8.8 *	(0.36)
Percent of Children With Usual Intake Greater Than Estimated Average Requirements																		
All children 5–18 years old	2,726	89.6	(1.14)	924	93.0	(1.28)	664	92.0	(1.57)	1,039	86.0 *	(2.18)	237	95.1	(1.41)	688	91.5	(2.21)
Boys	1,355	92.8	(1.35)	477	93.9	(1.70)	333	93.4	(1.59)	512	91.1	(3.06)	129	96.4	(2.00)	335	95.1	(2.38)
Girls	1,371	86.2	(1.86)	447	92.1	(1.92)	331	90.5	(2.76)	527	80.7 *	(3.12)	108	93.8	(1.99)	353	87.7	(3.78)
5–8 years old	853	100.0	(0.04)	339	100.0	(0.08)	254	100.0	(0.06)	298	100.0	(0.06)	78	99.8	(0.21)	198	99.7	(0.36)
Boys	434	100.0	(0.07)	162	100.0	(0.14)	119	100.0	(0.10)	158	100.0	(0.11)	39	99.8	(0.40)	109	100.0	(0.04)
Girls	419	100.0	(0.06)	177	100.0	(0.08)	135	100.0	(0.06)	140	100.0	(0.06)	39	99.7	(0.12)	89	99.5	(0.74)
9–13 years old	1,071	94.5	(2.21)	388	94.5	(1.85)	285	94.1	(2.10)	380	90.2	(3.73)	94	97.2	(2.14)	276	96.9	(4.02)
Boys	515	99.1	(1.49)	200	98.2	(1.82)	143	99.9	(1.32)	181	97.2	(3.65)	51	96.3	(3.42)	122	100.0	(2.92)
Girls	556	89.6	(4.24)	188	90.7	(3.26)	142	88.1	(4.07)	199	82.9	(6.61)	43	98.2	(2.52)	154	93.7	(7.63)
14–18 years old	802	77.1	(2.26)	197	86.3	(2.97)	125	83.9	(3.75)	361	71.5 *	(4.71)	65	89.7	(3.21)	214	80.1	(4.58)
Boys	406	81.4	(3.36)	115	85.2	(4.24)	71	82.4	(4.09)	173	78.6	(7.48)	39	94.0	(4.27)	104	86.7	(5.79)
Girls	396	72.6	(2.99)	82	87.5	(4.15)	54	85.5	(6.40)	188	63.9 *	(5.60)	26	85.1	(4.83)	110	73.2	(7.16)

See notes at end of table.

Table F.20a. Zinc (Milligrams): Percentile Distribution of Mean Usual Intakes for NSLP Participants and Nonparticipants by Age and Gender

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Boys									
All children 5–18 years old	7.0	7.7	8.3	9.2	11.2	13.4	14.7	15.6	17.1
5–8 years old	6.5	7.2	7.6	8.3	9.8	11.4	12.4	13.1	14.2
9–13 years old	8.1	8.8	9.2	9.9	11.3	12.8	13.6	14.2	15.1
14–18 years old	6.1	7.2	8.0	9.3	12.0	15.4	17.3	18.8	21.1
All NSLP participants	7.2	8.1	8.8	9.9	12.3	15.1	16.9	18.1	20.2
5–8 years old	6.8	7.5	8.1	8.9	10.4	12.2	13.2	13.9	15.0
9–13 years old	8.1	9.0	9.7	10.7	12.9	15.1	16.5	17.4	19.0
14–18 years old	6.6	7.8	8.5	10.0	13.2	17.3	19.9	21.8	25.1
Income-eligible NSLP participants	7.8	8.6	9.2	10.1	12.0	14.0	15.2	16.1	17.3
5–8 years old	7.5	8.3	8.8	9.6	11.1	12.8	13.8	14.5	15.6
9–13 years old	9.4	10.1	10.5	11.3	12.7	14.3	15.2	15.8	16.8
14–18 years old	6.6	7.6	8.2	9.4	11.8	14.6	16.2	17.4	19.1
Income-eligible nonparticipants	6.8	7.5	7.9	8.7	10.3 ***	12.0 **	13.1	13.8	15.0
5–8 years old	6.6	7.1	7.4	8.1	9.3 *	10.8 *	11.6	12.2	13.2
9–13 years old	7.4	8.0	8.4	9.0	10.3 *	11.6	12.5	13.1	14.0
14–18 years old	6.3	7.2	7.8	8.9	11.0	13.3	14.7	15.7	17.3
Higher income NSLP participants	7.3	8.4	9.2	10.5	13.5	17.0	19.2	20.6	23.2
5–8 years old	5.9	6.6	7.0	7.7	9.4	11.2	12.2	12.8	13.8
9–13 years old	7.5	8.7	9.4	10.8	14.1	18.1	20.6	22.4	25.6
14–18 years old	8.1	9.6	10.6	12.3	16.0	20.4	23.0	24.8	27.9
Higher income nonparticipants	8.0	8.5	8.9	9.5	10.8 *	12.3 **	13.3 **	14.0 *	15.1 **
5–8 years old	6.6	7.2	7.6	8.3	9.7	11.2	12.2	12.9	13.9
9–13 years old	10.2	10.2	10.2	10.2	10.2	10.2 ***	10.2 ***	10.2 ***	10.2 ***
14–18 years old	7.1	8.0	8.8	9.9	12.4	15.3	17.1	18.5	20.6

Subgroup	5th	10th	15th	25th	50th	75th	85th	90th	95th
Girls									
All children 5–18 years old	5.9	6.5	6.9	7.6	9.1	10.7	11.7	12.4	13.5
5–8 years old	6.0	6.6	7.0	7.6	8.8	10.2	11.0	11.6	12.5
9–13 years old	6.3	7.0	7.4	8.2	9.6	11.3	12.3	13.0	14.1
14–18 years old	5.3	5.9	6.4	7.1	8.8	10.6	11.7	12.5	13.7
All NSLP participants	6.3	7.1	7.6	8.5	10.3	12.3	13.6	14.4	15.7
5–8 years old	6.4	7.0	7.4	8.0	9.3	10.7	11.6	12.2	13.1
9–13 years old	6.3	7.1	7.7	8.7	10.7	13.0	14.4	15.4	16.9
14–18 years old	6.2	7.0	7.6	8.7	10.6	12.9	14.3	15.2	16.6
Income-eligible NSLP participants	6.1	6.9	7.4	8.2	9.9	11.8	12.9	13.7	14.9
5–8 years old	6.6	7.1	7.4	8.0	9.0	10.1	10.8	11.3	12.0
9–13 years old	6.0	6.8	7.4	8.3	10.3	12.6	14.0	15.0	16.5
14–18 years old	5.9	6.8	7.4	8.3	10.2	12.2	13.4	14.3	15.6
Income-eligible nonparticipants	5.8	6.4	6.8	7.4	8.8 *	10.4	11.3	11.9	13.0
5–8 years old	7.1	7.5	7.9	8.3	9.3	10.4	10.9	11.4	12.0
9–13 years old	5.7	6.4	6.8	7.6	9.2	11.0	12.0	12.8	14.0
14–18 years old	4.9	5.5	5.9	6.6	8.1 *	9.8	10.9	11.6	12.8
Higher income NSLP participants	6.5	7.5	8.0	9.1	11.2	13.4	14.9	15.8	17.5
5–8 years old	6.1	6.9	7.3	8.2	9.9	11.9	13.2	14.2	15.5
9–13 years old	7.8	8.7	9.2	10.2	12.2	14.2	15.6	16.3	17.7
14–18 years old	5.6	6.7	7.3	8.6	11.2	13.8	15.5	16.6	18.7
Higher income nonparticipants	5.9	6.4	6.8	7.3 **	8.5 ***	9.9 ***	10.7 ***	11.2 **	12.2 **
5–8 years old	5.1	5.5	6.0	6.6	7.8 *	9.3 *	10.3 *	10.9 *	12.1
9–13 years old	6.8	7.3	7.6	8.0	9.0 *	10.0	10.6	11.1	11.7
14–18 years old	5.6	6.1	6.6	7.2	8.5	10.1	11.0	11.7	12.7

Notes: “All school children” includes children with missing NSLP participation or income. “All NSLP participants” includes children with missing income. Estimated average requirement is the average daily nutrient intake level estimated to meet the requirements for half the healthy children in a life stage or gender group. Estimates are based on two dietary recalls per person. The data reflect nutrient intakes from foods and beverages but do not include the contribution of vitamin and mineral supplements. Usual intake was estimated using the National Cancer Institute method. Estimates are weighted to account for differential probabilities of selection, nonresponse to survey instruments, and differences between the final sample and the U.S. civilian noninstitutionalized population to ensure different age distributions of NSLP participants and nonparticipants are accounted for. Significant differences in estimates are noted by * $p < .05$, ** $p < .01$, or *** $p < .001$. Differences were tested using two-sample *t*-tests comparing NSLP participants with nonparticipants within income and age groups. NSLP participants are identified as school children likely to have received a reimbursable school lunch on the intake day (see appendix A). Standard errors were estimated using balanced repeated replication to account for complex survey design.

Source: National Health and Nutrition Examination Survey (NHANES) 2011–2016 dietary recalls. Sample includes NHANES children 5–18 years old with complete day 1 and day 2 dietary recall data, where day 1 recall was on a weekday, who attend a school that serves lunch, and who did not eat all lunch foods at home on the day of dietary recall.