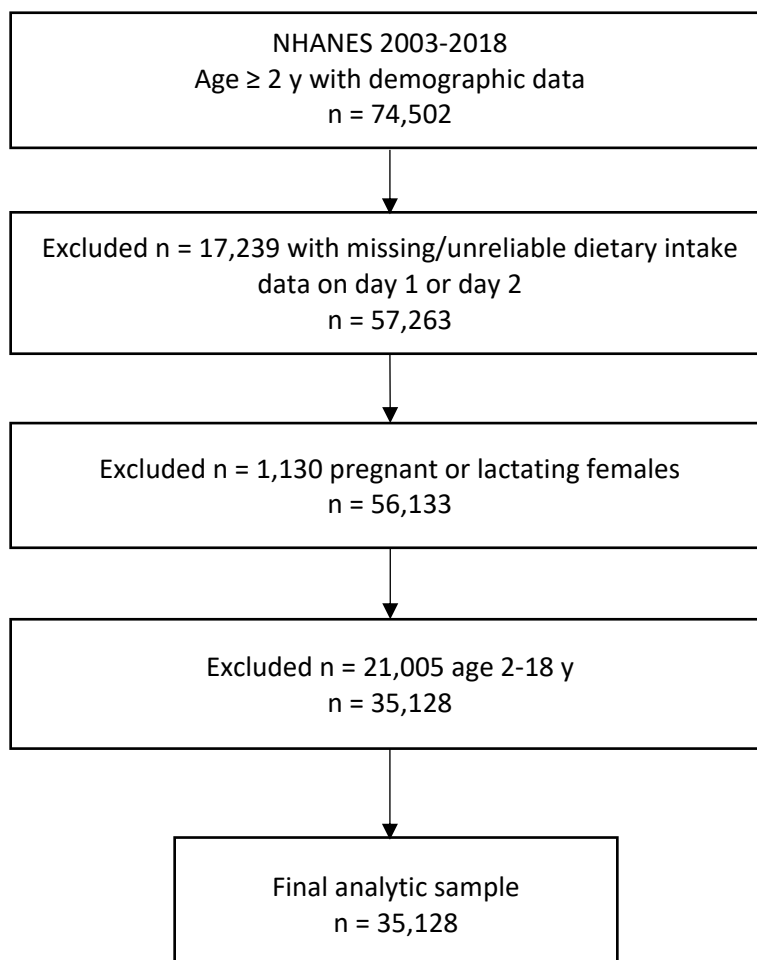


Intakes of added sugars, with a focus on beverages and the associations with nutrient adequacy in US adults (NHANES 2003-2018), Ricciuto L et al.

**Supplemental Figure S1.** NHANES 2003-2018 analytic sample flow chart



Intakes of added sugars, with a focus on beverages and the associations with nutrient adequacy in US adults (NHANES 2003-2018), Ricciuto L et al.

**Supplemental Table S1.** Demographic description of adults (19+ y) in added sugars analyses from NHANES 2003-2018

<b>Variable</b>	<b>Mean ± Standard Error</b>
Age (mean)	47.25 ± 0.23
Gender = Male (%)	48.76 ± 0.36
Underweight <sup>1</sup> (%)	1.54 ± 0.10
Normal weight (%)	29.01 ± 0.49
Overweight (%)	32.63 ± 0.47
Obese (%)	36.82 ± 0.56
Race/Ethnicity = Mexican American (%)	8.40 ± 0.63
Race/Ethnicity = Other Hispanic (%)	5.06 ± 0.39
Race/Ethnicity = White (%)	68.05 ± 1.21
Race/Ethnicity = Black (%)	11.40 ± 0.67
Race/Ethnicity = Other (%)	7.09 ± 0.35
Poverty Income Ratio (PIR) <sup>2</sup> < 1.35	22.28 ± 0.66
1.35 ≤ PIR ≤ 1.85	9.87 ± 0.30
PIR > 1.85	67.85 ± 0.80
Physical Activity (PA) <sup>3</sup> = Sedentary	24.05 ± 0.49
PA = Moderate	36.01 ± 0.47
PA = Vigorous	39.94 ± 0.59
Education < HS (%)	15.40 ± 0.51
Education = HS/GED (%)	23.89 ± 0.50
Education = Some College (%)	31.90 ± 0.49
Education ≥ Bachelor's Degree (%)	28.80 ± 0.83
Smoking = Current (%)	19.24 ± 0.51
Sample N	35,128
Population N	175,304,193

<sup>1</sup>Underweight defined as a body mass index (BMI) < 18.5; normal weight defined as BMI of 18.5-24.9; overweight defined as BMI of 25-29.9; obesity defined as BMI ≥ 30

<sup>2</sup>Poverty income ratio based on household income compared to respective poverty level in the US

<sup>3</sup>Physical activity derived from responses to the physical activity questionnaire

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**Supplemental Table S2.** Percent of adults (19+ y) reporting intake (consumers) of beverage sources of added sugars from the pooled sample (NHANES 2003-2018, n=35,128)

Food Group	Sweetened Beverages		Soft Drinks		Fruit Drinks		Sport and Energy Drinks		Coffee and Tea		Flavored Milk	
19-50 y (n=18,110)												
Year	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P
2003-04	75.65 ± 1.32		64.37 ± 1.46		32.14 ± 2.19		1.20 ± 0.26		17.78 ± 1.98		6.05 ± 0.80	
2005-06	64.32 ± 1.77	<0.01*	49.94 ± 1.95	<0.01*	25.80 ± 1.53	0.02	8.72 ± 0.78	<0.01*	18.08 ± 1.01	0.89	6.69 ± 0.67	0.54
2007-08	67.31 ± 1.90	<0.01*	52.89 ± 2.26	<0.01*	25.09 ± 2.13	0.02	8.56 ± 1.45	<0.01*	21.39 ± 1.87	0.19	4.57 ± 0.78	0.19
2009-10	63.72 ± 1.56	<0.01*	48.28 ± 1.22	<0.01*	25.65 ± 1.30	0.01	10.17 ± 0.59	<0.01*	19.32 ± 1.93	0.58	4.77 ± 0.47	0.17
2011-12	62.45 ± 2.48	<0.01*	46.27 ± 2.26	<0.01*	23.54 ± 2.44	<0.01*	12.95 ± 1.90	<0.01*	21.83 ± 1.34	0.09	4.50 ± 0.74	0.16
2013-14	62.30 ± 2.15	<0.01*	47.77 ± 1.93	<0.01*	18.40 ± 1.28	<0.01*	10.47 ± 0.63	<0.01*	22.31 ± 1.74	0.09	5.12 ± 0.53	0.34
2015-16	57.51 ± 2.43	<0.01*	42.49 ± 2.53	<0.01*	17.64 ± 1.05	<0.01*	9.88 ± 0.88	<0.01*	22.77 ± 2.06	0.08	3.95 ± 0.65	0.04
2017-18	56.53 ± 2.18	<0.01*	39.13 ± 2.81	<0.01*	17.29 ± 1.32	<0.01*	12.37 ± 1.33	<0.01*	27.81 ± 1.29	<0.01*	3.23 ± 0.52	<0.01*
Trend <sup>1</sup>	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P
	-2.19 ± 0.30	<0.01	-2.75 ± 0.35	<0.01	-1.98 ± 0.25	<0.01	1.09 ± 0.15	<0.01	1.18 ± 0.26	<0.01	-0.38 ± 0.10	<0.01
51-70 y (n=11,379)												
Year	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P
2003-04	53.82 ± 2.70		38.32 ± 2.62		21.28 ± 1.38		0.08 ± 0.06		12.65 ± 1.80		3.78 ± 0.88	
2005-06	49.73 ± 2.02	0.23	33.85 ± 2.11	0.19	20.02 ± 1.59	0.55	4.43 ± 0.87	<0.01*	12.95 ± 0.89	0.88	3.21 ± 0.49	0.57
2007-08	46.86 ± 2.47	0.06	32.77 ± 2.51	0.13	18.06 ± 1.20	0.08	2.65 ± 0.45	<0.01*	16.82 ± 1.65	0.09	3.85 ± 0.75	0.95
2009-10	42.92 ± 2.08	<0.01*	26.62 ± 1.79	<0.01*	20.76 ± 1.17	0.78	2.69 ± 0.34	<0.01*	18.07 ± 2.43	0.08	4.17 ± 0.84	0.75
2011-12	48.00 ± 2.36	0.11	33.14 ± 2.70	0.17	18.10 ± 1.81	0.16	3.94 ± 1.02	<0.01*	17.35 ± 2.26	0.11	3.16 ± 0.91	0.63
2013-14	45.50 ± 2.66	0.03	30.86 ± 2.30	0.03	12.46 ± 1.31	<0.01*	3.93 ± 0.70	<0.01*	16.03 ± 1.57	0.16	2.13 ± 0.39	0.09
2015-16	40.26 ± 2.29	<0.01*	29.00 ± 1.74	<0.01*	11.52 ± 1.64	<0.01*	4.47 ± 0.68	<0.01*	20.26 ± 2.60	0.02	4.08 ± 0.92	0.82
2017-18	44.07 ± 3.21	0.02	31.91 ± 3.47	0.14	13.92 ± 1.59	<0.01*	4.56 ± 0.98	<0.01*	18.11 ± 2.58	0.09	2.73 ± 0.50	0.30
Trend <sup>1</sup>	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P
	-1.31 ± 0.43	<0.01	-0.73 ± 0.43	0.09	-1.36 ± 0.24	<0.01	0.42 ± 0.12	<0.01	0.82 ± 0.33	0.02	-0.11 ± 0.11	0.29
71+ y (n=5,639)												
Year	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P
2003-04	42.36 ± 2.33		23.88 ± 2.32		21.09 ± 2.11		0.00 ± 0.00		12.56 ± 3.13		4.48 ± 1.04	
2005-06	42.08 ± 3.09	0.94	24.70 ± 2.66	0.82	18.74 ± 1.48	0.36	1.90 ± 0.60	<0.01*	9.13 ± 1.40	0.32	5.62 ± 0.81	0.39
2007-08	43.05 ± 2.40	0.84	23.24 ± 1.87	0.83	21.12 ± 2.62	0.99	1.55 ± 0.76	0.04	12.83 ± 1.25	0.94	4.73 ± 0.96	0.86
2009-10	37.99 ± 1.88	0.15	22.08 ± 2.03	0.56	17.90 ± 1.79	0.25	1.38 ± 0.42	<0.01*	12.81 ± 1.58	0.95	3.51 ± 0.95	0.49
2011-12	39.18 ± 2.03	0.31	21.08 ± 1.96	0.36	17.06 ± 1.79	0.15	4.29 ± 1.30	<0.01*	10.91 ± 1.65	0.64	5.03 ± 1.18	0.73
2013-14	39.01 ± 3.18	0.40	19.86 ± 2.29	0.22	17.29 ± 2.01	0.19	0.96 ± 0.41	0.02	14.63 ± 2.53	0.61	2.85 ± 0.91	0.24
2015-16	38.53 ± 2.24	0.24	20.95 ± 2.27	0.37	11.20 ± 1.31	<0.01*	1.99 ± 0.75	<0.01*	16.40 ± 2.81	0.36	4.91 ± 1.11	0.78
2017-18	35.06 ± 2.71	0.04	20.72 ± 2.31	0.34	10.81 ± 1.46	<0.01*	3.26 ± 0.69	<0.01*	15.78 ± 2.04	0.39	3.72 ± 0.86	0.58
Trend <sup>1</sup>	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P
	-0.96 ± 0.40	0.02	-0.60 ± 0.36	0.10	-1.50 ± 0.27	<0.01	0.29 ± 0.09	<0.01	0.76 ± 0.37	0.04	-0.14 ± 0.15	0.34

\*Significantly different from reference cycle (2003-04), p<0.01

<sup>1</sup>Linear trend across all cycles, statistically significant at p<0.01

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**Supplemental Table S3.** Trends in added sugars intake (% kcal) from beverage sources and the rest of the diet among all adults and consumers only from the pooled sample (NHANES 2003-2018, n=35,128)

Food Group	Sweetened Beverages		Soft Drinks		Fruit Drinks		Sport and Energy Drinks		Coffee and Tea		Flavored Milk		Rest of the Diet	
All Individuals														
19-50 y														
Year	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P
2003-04	8.46 ± 0.32		6.63 ± 0.35		1.73 ± 0.16		0.05 ± 0.02		0.69 ± 0.10		0.20 ± 0.04		7.04 ± 0.18	
2005-06	6.75 ± 0.37	<0.01*	4.92 ± 0.30	<0.01*	1.42 ± 0.12	0.13	0.33 ± 0.04	<0.01*	0.82 ± 0.10	0.39	0.15 ± 0.02	0.27	7.14 ± 0.19	0.72
2007-08	7.12 ± 0.61	0.05	5.27 ± 0.58	0.05	1.35 ± 0.12	0.06	0.43 ± 0.07	<0.01*	0.94 ± 0.08	0.07	0.11 ± 0.02	0.05	7.15 ± 0.14	0.64
2009-10	6.29 ± 0.24	<0.01*	4.43 ± 0.21	<0.01*	1.38 ± 0.08	0.05	0.43 ± 0.04	<0.01*	0.97 ± 0.14	0.11	0.10 ± 0.01	0.01	7.10 ± 0.11	0.78
2011-12	5.73 ± 0.31	<0.01*	3.90 ± 0.30	<0.01*	1.22 ± 0.16	0.02	0.59 ± 0.09	<0.01*	1.26 ± 0.11	<0.01*	0.09 ± 0.02	0.02	6.79 ± 0.18	0.32
2013-14	5.82 ± 0.32	<0.01*	4.39 ± 0.27	<0.01*	0.77 ± 0.06	<0.01*	0.57 ± 0.06	<0.01*	1.25 ± 0.16	<0.01*	0.11 ± 0.01	0.03	6.82 ± 0.20	0.40
2015-16	4.85 ± 0.32	<0.01*	3.56 ± 0.28	<0.01*	0.67 ± 0.05	<0.01*	0.54 ± 0.08	<0.01*	1.29 ± 0.14	<0.01*	0.09 ± 0.01	<0.01*	6.46 ± 0.19	0.03
2017-18	4.60 ± 0.36	<0.01*	3.19 ± 0.32	<0.01*	0.65 ± 0.06	<0.01*	0.68 ± 0.10	<0.01*	1.32 ± 0.10	<0.01*	0.08 ± 0.02	<0.01*	6.82 ± 0.23	0.45
Trend <sup>1</sup>	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P
	-0.49 ± 0.06	<0.01	-0.40 ± 0.05	<0.01	-0.16 ± 0.02	<0.01	0.07 ± 0.01	<0.01	0.09 ± 0.02	<0.01	-0.01 ± 0.00	<0.01	-0.07 ± 0.03	0.01
All Individuals														
51-70 y														
Year	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P
2003-04	4.24 ± 0.37		3.06 ± 0.35		1.09 ± 0.17		0.00 ± 0.00		0.51 ± 0.07		0.08 ± 0.02		8.08 ± 0.18	
2005-06	3.86 ± 0.27	0.41	2.79 ± 0.21	0.50	0.84 ± 0.10	0.21	0.18 ± 0.04	<0.01*	0.66 ± 0.08	0.17	0.07 ± 0.01	0.52	7.71 ± 0.21	0.18
2007-08	3.44 ± 0.30	0.10	2.54 ± 0.25	0.23	0.70 ± 0.10	0.05	0.12 ± 0.03	<0.01*	0.64 ± 0.08	0.19	0.07 ± 0.01	0.73	8.20 ± 0.16	0.62
2009-10	3.03 ± 0.21	<0.01*	1.81 ± 0.18	<0.01*	1.03 ± 0.10	0.75	0.12 ± 0.02	<0.01*	0.94 ± 0.18	0.02	0.12 ± 0.03	0.33	7.95 ± 0.16	0.59
2011-12	3.43 ± 0.22	0.06	2.28 ± 0.23	0.06	0.90 ± 0.13	0.38	0.22 ± 0.06	<0.01*	0.96 ± 0.18	0.02	0.05 ± 0.02	0.33	7.76 ± 0.21	0.25
2013-14	3.18 ± 0.27	0.02	2.31 ± 0.24	0.08	0.55 ± 0.06	<0.01*	0.16 ± 0.04	<0.01*	0.81 ± 0.10	0.01	0.08 ± 0.02	0.88	7.86 ± 0.22	0.42
2015-16	3.21 ± 0.36	0.05	2.52 ± 0.30	0.24	0.50 ± 0.09	<0.01*	0.13 ± 0.02	<0.01*	1.46 ± 0.32	<0.01*	0.09 ± 0.02	0.81	7.86 ± 0.17	0.36
2017-18	3.24 ± 0.46	0.09	2.48 ± 0.43	0.29	0.53 ± 0.07	<0.01*	0.18 ± 0.04	<0.01*	1.25 ± 0.32	0.02	0.08 ± 0.02	0.84	7.92 ± 0.17	0.50
Trend <sup>1</sup>	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P	Beta ± SE	P
	-0.12 ± 0.06	0.05	-0.06 ± 0.05	0.29	-0.07 ± 0.02	<0.01	0.01 ± 0.00	<0.01	0.12 ± 0.04	<0.01	0.00 ± 0.00	0.95	-0.02 ± 0.03	0.51
All Individuals														
71+ y														
Year	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P	Mean ± SE	P
2003-04	2.57 ± 0.20		1.60 ± 0.18		0.79 ± 0.08		0.00 ± 0.00		0.70 ± 0.27		0.12 ± 0.03		9.22 ± 0.20	
2005-06	2.16 ± 0.20	0.15	1.43 ± 0.19	0.52	0.63 ± 0.06	0.12	0.05 ± 0.02	0.03	0.45 ± 0.15	0.42	0.14 ± 0.02	0.56	9.19 ± 0.25	0.92
2007-08	2.36 ± 0.13	0.36	1.37 ± 0.13	0.31	0.78 ± 0.10	0.92	0.11 ± 0.07	0.11	0.44 ± 0.05	0.35	0.12 ± 0.03	0.88	8.78 ± 0.15	0.09

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<b>2009-10</b>	2.40 ± 0.17	0.49	1.43 ± 0.16	0.48	0.88 ± 0.16	0.62	0.03 ± 0.01	<0.01*	0.47 ± 0.08	0.41	0.11 ± 0.03	0.83	8.66 ± 0.27	0.10
<b>2011-12</b>	2.03 ± 0.17	0.04	1.07 ± 0.13	0.02	0.75 ± 0.12	0.77	0.13 ± 0.05	<0.01*	0.58 ± 0.11	0.69	0.13 ± 0.03	0.82	9.41 ± 0.38	0.65
<b>2013-14</b>	2.26 ± 0.33	0.41	1.31 ± 0.26	0.36	0.73 ± 0.13	0.71	0.04 ± 0.02	0.05	1.05 ± 0.49	0.53	0.07 ± 0.02	0.20	8.73 ± 0.35	0.23
<b>2015-16</b>	2.00 ± 0.16	0.02	1.39 ± 0.17	0.41	0.40 ± 0.06	<0.01*	0.05 ± 0.02	<0.01*	0.92 ± 0.19	0.51	0.10 ± 0.03	0.65	8.26 ± 0.22	<0.01*
<b>2017-18</b>	2.10 ± 0.22	0.11	1.45 ± 0.18	0.55	0.44 ± 0.09	<0.01*	0.08 ± 0.02	<0.01*	0.76 ± 0.14	0.83	0.12 ± 0.03	0.98	8.56 ± 0.21	0.02
<b>Trend<sup>1</sup></b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>
	-0.06 ± 0.03	0.07	-0.02 ± 0.03	0.52	-0.05 ± 0.01	<0.01	0.00 ± 0.00	0.21	0.06 ± 0.03	0.08	0.00 ± 0.00	0.38	-0.11 ± 0.03	<0.01
<b>Consumers Only</b>														
<b>19-50 y</b>														
<b>Year</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>
<b>2003-04</b>	11.18 ± 0.37		10.30 ± 0.45		5.37 ± 0.21		4.23 ± 1.87		3.90 ± 0.27		3.31 ± 0.36		7.07 ± 0.18	
<b>2005-06</b>	10.50 ± 0.32	0.16	9.84 ± 0.31	0.41	5.51 ± 0.30	0.69	3.77 ± 0.27	0.80	4.54 ± 0.45	0.23	2.25 ± 0.24	0.01	7.16 ± 0.19	0.71
<b>2007-08</b>	10.58 ± 0.74	0.47	9.96 ± 0.76	0.70	5.38 ± 0.27	0.97	4.99 ± 0.65	0.70	4.40 ± 0.32	0.24	2.39 ± 0.27	0.04	7.20 ± 0.13	0.54
<b>2009-10</b>	9.88 ± 0.38	0.01	9.17 ± 0.37	0.06	5.37 ± 0.27	0.99	4.26 ± 0.30	0.99	5.04 ± 0.33	<0.01*	1.99 ± 0.13	<0.01*	7.13 ± 0.11	0.76
<b>2011-12</b>	9.18 ± 0.25	<0.01*	8.43 ± 0.33	<0.01*	5.19 ± 0.31	0.63	4.52 ± 0.24	0.88	5.78 ± 0.47	<0.01*	2.10 ± 0.17	<0.01*	6.82 ± 0.17	0.32
<b>2013-14</b>	9.34 ± 0.32	<0.01*	9.18 ± 0.31	0.04	4.17 ± 0.16	<0.01*	5.42 ± 0.49	0.54	5.59 ± 0.50	<0.01*	2.20 ± 0.14	<0.01*	6.84 ± 0.19	0.40
<b>2015-16</b>	8.43 ± 0.44	<0.01*	8.37 ± 0.54	<0.01*	3.79 ± 0.20	<0.01*	5.48 ± 0.47	0.52	5.68 ± 0.32	<0.01*	2.24 ± 0.27	0.02	6.51 ± 0.19	0.04
<b>2017-18</b>	8.13 ± 0.39	<0.01*	8.15 ± 0.42	<0.01*	3.76 ± 0.34	<0.01*	5.49 ± 0.64	0.53	4.74 ± 0.29	0.04	2.57 ± 0.40	0.17	6.89 ± 0.22	0.54
<b>Trend<sup>1</sup></b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>
	-0.43 ± 0.06	<0.01	-0.31 ± 0.07	<0.01	-0.26 ± 0.04	<0.01	0.25 ± 0.10	0.01	0.16 ± 0.05	<0.01	-0.09 ± 0.05	0.11	-0.07 ± 0.03	0.02
<b>Consumers Only</b>														
<b>51-70 y</b>														
<b>Year</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>
<b>2003-04</b>	7.87 ± 0.44		8.00 ± 0.51		5.11 ± 0.62		3.87 ± 1.27		4.01 ± 0.35		2.14 ± 0.30		8.11 ± 0.18	
<b>2005-06</b>	7.76 ± 0.36	0.84	8.25 ± 0.41	0.70	4.21 ± 0.33	0.20	4.17 ± 0.56	0.83	5.06 ± 0.57	0.12	2.03 ± 0.19	0.75	7.72 ± 0.21	0.17
<b>2007-08</b>	7.33 ± 0.48	0.41	7.76 ± 0.53	0.75	3.90 ± 0.39	0.10	4.47 ± 0.64	0.67	3.83 ± 0.31	0.71	1.87 ± 0.18	0.44	8.21 ± 0.16	0.68
<b>2009-10</b>	7.07 ± 0.31	0.14	6.79 ± 0.43	0.07	4.95 ± 0.31	0.82	4.36 ± 0.40	0.71	5.21 ± 0.45	0.04	2.87 ± 0.42	0.17	7.96 ± 0.16	0.53
<b>2011-12</b>	7.14 ± 0.28	0.16	6.87 ± 0.31	0.06	4.96 ± 0.49	0.86	5.69 ± 1.96	0.44	5.53 ± 0.84	0.10	1.65 ± 0.42	0.35	7.79 ± 0.21	0.25
<b>2013-14</b>	6.99 ± 0.36	0.12	7.47 ± 0.41	0.42	4.39 ± 0.36	0.32	4.19 ± 0.58	0.82	5.07 ± 0.55	0.10	3.59 ± 0.54	0.02	7.87 ± 0.22	0.41
<b>2015-16</b>	7.98 ± 0.75	0.90	8.69 ± 0.81	0.47	4.35 ± 0.43	0.32	2.84 ± 0.31	0.43	7.18 ± 0.82	<0.01*	2.17 ± 0.27	0.95	7.87 ± 0.17	0.34
<b>2017-18</b>	7.36 ± 0.69	0.53	7.77 ± 0.87	0.82	3.83 ± 0.23	0.06	3.92 ± 0.63	0.97	6.90 ± 1.06	0.01	2.76 ± 0.22	0.10	7.93 ± 0.17	0.46
<b>Trend<sup>1</sup></b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>
	-0.04 ± 0.09	0.63	0.00 ± 0.11	0.98	-0.08 ± 0.07	0.22	-0.16 ± 0.11	0.16	0.45 ± 0.13	<0.01	0.09 ± 0.05	0.06	-0.02 ± 0.03	0.50
<b>Consumers Only</b>														
<b>71+ y</b>														
<b>Year</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P<sup>2</sup></b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>

Intakes of added sugars, with a focus on beverages and the associations with nutrient adequacy in US adults (NHANES 2003-2018), Ricciuto L et al.

<b>2003-04</b>	6.08 ± 0.36		6.69 ± 0.47		3.75 ± 0.35		NA	NA	5.55 ± 1.00		2.58 ± 0.32		9.22 ± 0.20	
<b>2005-06</b>	5.14 ± 0.22	0.03	5.80 ± 0.37	0.14	3.34 ± 0.27	0.36	2.59 ± 0.90	0.87	4.92 ± 1.25	0.70	2.42 ± 0.22	0.67	9.19 ± 0.25	0.92
<b>2007-08</b>	5.47 ± 0.26	0.18	5.90 ± 0.43	0.21	3.68 ± 0.31	0.88	6.83 ± 3.21	0.18	3.41 ± 0.22	0.04	2.58 ± 0.24	0.99	8.79 ± 0.15	0.09
<b>2009-10</b>	6.30 ± 0.40	0.67	6.47 ± 0.47	0.73	4.91 ± 0.66	0.12	2.18 ± 0.48	0.81	3.64 ± 0.50	0.09	3.02 ± 0.40	0.39	8.67 ± 0.27	0.11
<b>2011-12</b>	5.19 ± 0.33	0.07	5.06 ± 0.35	<0.01*	4.38 ± 0.48	0.29	2.97 ± 0.43	0.50	5.32 ± 0.58	0.84	2.50 ± 0.16	0.81	9.44 ± 0.38	0.62
<b>2013-14</b>	5.79 ± 0.46	0.62	6.58 ± 0.60	0.88	4.24 ± 0.40	0.36	3.97 ± 1.22	0.27	7.18 ± 2.33	0.52	2.41 ± 0.33	0.71	8.74 ± 0.35	0.23
<b>2015-16</b>	5.19 ± 0.21	0.03	6.66 ± 0.55	0.96	3.56 ± 0.52	0.77	2.40 ± 0.58	1.00	5.58 ± 0.75	0.98	1.99 ± 0.21	0.12	8.29 ± 0.22	<0.01*
<b>2017-18</b>	6.00 ± 0.47	0.89	6.98 ± 0.46	0.66	4.04 ± 0.65	0.70	2.39 ± 0.73		4.84 ± 0.39	0.51	3.14 ± 0.42	0.29	8.58 ± 0.21	0.03
<b>Trend<sup>1</sup></b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>
	-0.01 ± 0.06	0.89	0.09 ± 0.07	0.23	0.06 ± 0.07	0.37	-0.27 ± 0.24 <sup>2</sup>	0.27 <sup>2</sup>	0.13 ± 0.14	0.35	0.00 ± 0.05	0.97	-0.10 ± 0.03	<0.01

\*Significantly different from reference cycle (2003-04), p<0.01

<sup>1</sup>Linear trend across all cycles, statistically significant at p<0.01

NA: Not available; there were no consumers of this beverage for this age group

<sup>2</sup>Given there were no consumers of this beverage for this age group, the trend Beta is for 2005-2018 and the p-value represents the comparison of all other values to values for 2017-18 rather than for 2003-04

<b>Food Group</b>	<b>Sweetened Beverages</b>		<b>Soft Drinks</b>		<b>Fruit Drinks</b>		<b>Sport and Energy Drinks</b>		<b>Coffee and Tea</b>		<b>Flavored Milk</b>		<b>Rest of the Diet</b>	
<b>All Individuals 19-50 y</b>														
<b>Year</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>
<b>2003-04</b>	51.11 ± 2.13		39.90 ± 2.31		10.69 ± 0.97		0.25 ± 0.05		3.96 ± 0.68		1.14 ± 0.20		41.77 ± 1.01	
<b>2005-06</b>	39.24 ± 1.70	<0.01*	29.06 ± 1.41	<0.01*	7.72 ± 0.67	0.01	2.08 ± 0.18	<0.01*	4.70 ± 0.59	0.42	0.95 ± 0.13	0.45	40.92 ± 1.39	0.62
<b>2007-08</b>	40.16 ± 2.98	<0.01*	29.93 ± 3.00	<0.01*	7.47 ± 0.68	<0.01*	2.45 ± 0.39	<0.01*	4.51 ± 0.46	0.50	0.55 ± 0.10	0.01	39.62 ± 1.18	0.17
<b>2009-10</b>	36.51 ± 1.77	<0.01*	25.82 ± 1.51	<0.01*	7.82 ± 0.53	0.01	2.55 ± 0.20	<0.01*	5.19 ± 0.65	0.19	0.54 ± 0.08	<0.01*	39.70 ± 0.99	0.15
<b>2011-12</b>	32.67 ± 1.77	<0.01*	22.04 ± 1.79	<0.01*	7.00 ± 0.87	<0.01*	3.50 ± 0.57	<0.01*	7.02 ± 0.71	<0.01*	0.54 ± 0.11	0.01	38.34 ± 1.16	0.03
<b>2013-14</b>	32.45 ± 2.24	<0.01*	24.71 ± 2.00	<0.01*	4.03 ± 0.30	<0.01*	3.23 ± 0.37	<0.01*	6.77 ± 0.80	<0.01*	0.62 ± 0.05	0.02	37.51 ± 1.36	0.01
<b>2015-16</b>	26.62 ± 2.01	<0.01*	19.73 ± 1.87	<0.01*	3.44 ± 0.23	<0.01*	2.97 ± 0.36	<0.01*	7.19 ± 0.74	<0.01*	0.50 ± 0.08	<0.01*	35.37 ± 1.11	<0.01*
<b>2017-18</b>	25.89 ± 1.89	<0.01*	18.34 ± 1.76	<0.01*	3.49 ± 0.25	<0.01*	3.70 ± 0.56	<0.01*	7.11 ± 0.62	<0.01*	0.47 ± 0.10	<0.01*	37.49 ± 1.27	<0.01*
<b>Trend<sup>1</sup></b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>
	-3.17 ± 0.33	<0.01	-2.58 ± 0.32	<0.01	-0.99 ± 0.10	<0.01	0.38 ± 0.06	<0.01	0.51 ± 0.10	<0.01	-0.08 ± 0.02	<0.01	-0.78 ± 0.18	<0.01
<b>All Individuals 51-70 y</b>														
<b>Year</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>
<b>2003-04</b>	21.29 ± 2.05		15.22 ± 1.73		5.70 ± 1.13		0.02 ± 0.01		2.42 ± 0.32		0.44 ± 0.12		39.26 ± 1.39	
<b>2005-06</b>	20.11 ± 1.61	0.65	14.43 ± 1.33	0.72	4.34 ± 0.49	0.27	1.19 ± 0.24	<0.01*	3.17 ± 0.40	0.15	0.35 ± 0.05	0.48	39.38 ± 1.73	0.96
<b>2007-08</b>	17.24 ± 1.58	0.12	12.86 ± 1.30	0.28	3.50 ± 0.50	0.08	0.59 ± 0.13	<0.01*	3.39 ± 0.46	0.09	0.36 ± 0.08	0.60	41.31 ± 0.91	0.22
<b>2009-10</b>	15.46 ± 1.11	0.01	9.26 ± 0.92	<0.01*	5.25 ± 0.61	0.72	0.60 ± 0.08	<0.01*	4.69 ± 0.89	0.02	0.65 ± 0.16	0.27	41.80 ± 1.29	0.18
<b>2011-12</b>	17.83 ± 1.22	0.15	11.64 ± 1.20	0.09	4.79 ± 0.82	0.51	1.26 ± 0.37	<0.01*	5.23 ± 1.21	0.03	0.27 ± 0.08	0.24	40.37 ± 1.40	0.58
<b>2013-14</b>	16.53 ± 1.55	0.07	12.03 ± 1.43	0.16	2.95 ± 0.30	0.02	0.74 ± 0.15	<0.01*	4.23 ± 0.49	<0.01*	0.31 ± 0.07	0.33	40.27 ± 1.54	0.63
<b>2015-16</b>	17.06 ± 2.11	0.15	13.48 ± 1.85	0.49	2.55 ± 0.48	0.01	0.72 ± 0.14	<0.01*	7.74 ± 1.58	<0.01*	0.48 ± 0.11	0.80	39.89 ± 1.09	0.72
<b>2017-18</b>	17.33 ± 2.09	0.18	13.01 ± 1.98	0.40	2.90 ± 0.43	0.02	1.15 ± 0.34	<0.01*	6.28 ± 1.63	0.02	0.36 ± 0.07	0.58	42.44 ± 1.55	0.13
<b>Trend<sup>1</sup></b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>						

Intakes of added sugars, with a focus on beverages and the associations with nutrient adequacy in US adults (NHANES 2003-2018), Ricciuto L et al.

<b>2003-04</b>	10.28 ± 0.79		6.15 ± 0.63		3.27 ± 0.34		0.00 ± 0.00		2.38 ± 0.84		0.53 ± 0.15		38.89 ± 1.11	
<b>2005-06</b>	8.78 ± 0.85	0.20	5.79 ± 0.70	0.71	2.53 ± 0.33	0.12	0.21 ± 0.09	0.02	1.74 ± 0.43	0.50	0.58 ± 0.10	0.78	40.41 ± 1.64	0.44
<b>2007-08</b>	9.43 ± 0.58	0.39	5.48 ± 0.50	0.41	3.12 ± 0.38	0.78	0.41 ± 0.24	0.09	1.79 ± 0.22	0.50	0.46 ± 0.09	0.71	36.99 ± 1.33	0.28
<b>2009-10</b>	9.41 ± 0.63	0.39	5.94 ± 0.66	0.82	3.12 ± 0.46	0.80	0.13 ± 0.04	<0.01*	1.93 ± 0.34	0.62	0.42 ± 0.13	0.62	37.65 ± 1.59	0.52
<b>2011-12</b>	8.97 ± 0.64	0.20	4.56 ± 0.50	0.05	3.36 ± 0.54	0.88	0.59 ± 0.19	<0.01*	2.79 ± 0.53	0.68	0.59 ± 0.16	0.78	43.03 ± 2.55	0.14
<b>2013-14</b>	10.22 ± 1.69	0.98	6.28 ± 1.42	0.93	3.01 ± 0.55	0.69	0.16 ± 0.08	0.04	7.06 ± 4.28	0.28	0.33 ± 0.09	0.28	40.70 ± 2.11	0.45
<b>2015-16</b>	8.65 ± 0.61	0.11	5.75 ± 0.66	0.66	2.00 ± 0.39	0.02	0.27 ± 0.10	<0.01*	4.08 ± 0.69	0.12	0.44 ± 0.12	0.67	37.25 ± 1.43	0.37
<b>2017-18</b>	9.02 ± 0.85	0.28	6.07 ± 0.68	0.94	1.95 ± 0.38	0.01	0.36 ± 0.11	<0.01*	3.41 ± 0.58	0.31	0.50 ± 0.12	0.91	41.77 ± 1.08	0.07
<b>Trend<sup>1</sup></b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>
	-0.09 ± 0.13	0.47	0.01 ± 0.11	0.93	-0.15 ± 0.06	<0.01	0.03 ± 0.02	0.07	0.41 ± 0.16	0.01	-0.01 ± 0.02	0.55	0.24 ± 0.20	0.25
<b>Consumers Only</b>														
<b>19-50 y</b>														
<b>Year</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>
<b>2003-04</b>	67.57 ± 2.39		61.99 ± 2.93		33.27 ± 1.32		21.09 ± 1.90		22.27 ± 1.82		18.78 ± 1.77		41.90 ± 1.02	
<b>2005-06</b>	61.00 ± 1.40	0.02	58.19 ± 1.53	0.25	29.90 ± 1.34	0.08	23.89 ± 0.87	0.18	25.97 ± 2.43	0.22	14.22 ± 1.56	0.06	41.06 ± 1.37	0.62
<b>2007-08</b>	59.67 ± 3.56	0.07	56.60 ± 3.64	0.25	29.77 ± 1.35	0.07	28.64 ± 2.66	0.02	21.11 ± 1.30	0.60	11.94 ± 0.94	<0.01*	39.92 ± 1.14	0.19
<b>2009-10</b>	57.30 ± 2.69	<0.01*	53.48 ± 2.79	0.04	30.47 ± 1.67	0.19	25.10 ± 1.10	0.07	26.87 ± 1.47	0.05	11.24 ± 0.90	<0.01*	39.86 ± 0.98	0.15
<b>2011-12</b>	52.32 ± 1.64	<0.01*	47.63 ± 2.23	<0.01*	29.75 ± 1.90	0.13	27.04 ± 1.89	0.03	32.16 ± 2.59	<0.01*	11.94 ± 0.72	<0.01*	38.46 ± 1.14	0.03
<b>2013-14</b>	52.09 ± 2.33	<0.01*	51.73 ± 2.88	0.01	21.93 ± 0.76	<0.01*	30.89 ± 3.16	<0.01*	30.35 ± 2.26	<0.01*	12.15 ± 0.82	<0.01*	37.62 ± 1.37	0.01
<b>2015-16</b>	46.28 ± 3.01	<0.01*	46.43 ± 3.90	<0.01*	19.52 ± 0.92	<0.01*	30.03 ± 1.79	<0.01*	31.56 ± 1.95	<0.01*	12.71 ± 1.43	<0.01*	35.64 ± 1.12	<0.01*
<b>2017-18</b>	45.79 ± 2.08	<0.01*	46.87 ± 2.33	<0.01*	20.18 ± 1.84	<0.01*	29.90 ± 3.90	0.04	25.58 ± 1.63	0.18	14.48 ± 1.96	0.11	37.88 ± 1.26	0.01
<b>Trend<sup>1</sup></b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>
	-3.05 ± 0.38	<0.01	-2.26 ± 0.46	<0.01	-1.92 ± 0.22	<0.01	0.99 ± 0.52	0.06	0.90 ± 0.29	<0.01	-0.58 ± 0.28	0.04	-0.76 ± 0.18	<0.01
<b>Consumers Only</b>														
<b>51-70 y</b>														
<b>Year</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>
<b>2003-04</b>	39.55 ± 2.48		39.72 ± 2.69		26.81 ± 4.40		19.05 ± 2.45		19.10 ± 1.68		11.56 ± 1.01		39.40 ± 1.43	
<b>2005-06</b>	40.44 ± 2.23	0.79	42.63 ± 2.81	0.46	21.70 ± 1.56	0.28	26.80 ± 3.29	0.06	24.44 ± 2.90	0.11	10.80 ± 0.99	0.59	39.44 ± 1.73	0.98
<b>2007-08</b>	36.78 ± 2.59	0.44	39.23 ± 2.86	0.90	19.40 ± 2.17	0.13	22.21 ± 3.36	0.45	20.17 ± 2.03	0.69	9.44 ± 0.82	0.11	41.36 ± 0.91	0.25
<b>2009-10</b>	36.02 ± 1.64	0.24	34.80 ± 2.03	0.15	25.29 ± 2.19	0.76	22.41 ± 2.33	0.32	25.97 ± 2.20	0.01	15.66 ± 2.01	0.07	41.83 ± 1.29	0.21
<b>2011-12</b>	37.14 ± 1.69	0.42	35.11 ± 1.49	0.14	26.45 ± 3.13	0.95	32.06 ± 11.44	0.27	30.17 ± 6.09	0.08	8.51 ± 1.63	0.11	40.51 ± 1.38	0.58
<b>2013-14</b>	36.34 ± 2.02	0.32	38.99 ± 2.56	0.84	23.70 ± 2.17	0.53	18.82 ± 2.42	0.95	26.36 ± 2.56	0.02	14.38 ± 1.15	0.07	40.35 ± 1.54	0.65
<b>2015-16</b>	42.37 ± 4.76	0.60	46.48 ± 5.24	0.25	22.16 ± 1.81	0.33	16.05 ± 1.77	0.32	38.21 ± 4.06	<0.01*	11.72 ± 1.35	0.92	39.96 ± 1.10	0.75



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<b>2017-18</b>	39.33 ± 3.28	0.96	40.77 ± 3.88	0.82	20.81 ± 1.37	0.20	25.28 ± 6.08	0.34	34.67 ± 5.50	<0.01*	13.25 ± 1.22	0.29	42.49 ± 1.56	0.15
<b>Trend<sup>1</sup></b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>
	0.08 ± 0.48	0.86	0.31 ± 0.55	0.58	-0.31 ± 0.44	0.48	-0.78 ± 0.86	0.36	2.50 ± 0.66	<0.01	0.24 ± 0.19	0.21	0.24 ± 0.23	0.30
<b>Consumers Only 71+ y</b>														
<b>Year</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P<sup>2</sup></b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>	<b>Mean ± SE</b>	<b>P</b>
<b>2003-04</b>	24.26 ± 1.30		25.74 ± 1.47		15.49 ± 1.38		NA	NA	18.92 ± 2.92		11.73 ± 1.74		38.89 ± 1.11	
<b>2005-06</b>	20.85 ± 0.91	0.03	23.45 ± 1.39	0.26	13.51 ± 1.30	0.30	10.83 ± 3.48	0.94	19.10 ± 2.82	0.97	10.25 ± 1.19	0.48	40.41 ± 1.64	0.44
<b>2007-08</b>	21.91 ± 1.15	0.18	23.59 ± 1.47	0.30	14.78 ± 1.22	0.70	26.54 ± 11.45	0.20	13.91 ± 0.97	0.11	9.71 ± 0.65	0.28	37.00 ± 1.33	0.28
<b>2009-10</b>	24.77 ± 1.24	0.78	26.89 ± 1.83	0.62	17.42 ± 1.75	0.39	9.66 ± 1.92	0.69	15.06 ± 2.18	0.29	12.09 ± 1.58	0.88	37.70 ± 1.58	0.54
<b>2011-12</b>	22.89 ± 1.20	0.44	21.63 ± 1.09	0.03	19.69 ± 2.20	0.11	13.77 ± 1.92	0.49	25.60 ± 3.88	0.17	11.64 ± 1.17	0.97	43.13 ± 2.55	0.13
<b>2013-14</b>	26.20 ± 2.57	0.50	31.64 ± 3.81	0.15	17.41 ± 1.78	0.40	16.82 ± 4.49	0.31	48.26 ± 22.45	0.20	11.70 ± 1.69	0.99	40.72 ± 2.11	0.44
<b>2015-16</b>	22.44 ± 1.09	0.28	27.43 ± 2.41	0.55	17.88 ± 3.72	0.55	13.48 ± 1.32	0.51	24.91 ± 2.45	0.12	9.03 ± 1.17	0.20	37.40 ± 1.43	0.41
<b>2017-18</b>	25.72 ± 1.83	0.52	29.30 ± 1.72	0.12	18.04 ± 2.51	0.37	11.17 ± 3.26		21.61 ± 1.68	0.43	13.50 ± 1.50	0.44	41.89 ± 1.09	0.06
<b>Trend<sup>1</sup></b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>	<b>Beta ± SE</b>	<b>P</b>
	0.33 ± 0.23	0.15	0.75 ± 0.29	0.01	0.62 ± 0.33	0.06	-0.71 ± 0.93 <sup>2</sup>	0.44 <sup>2</sup>	1.66 ± 0.75	0.03	0.10 ± 0.23	0.65	0.26 ± 0.20	0.21

\*Significantly different from reference cycle (2003-04), p<0.01

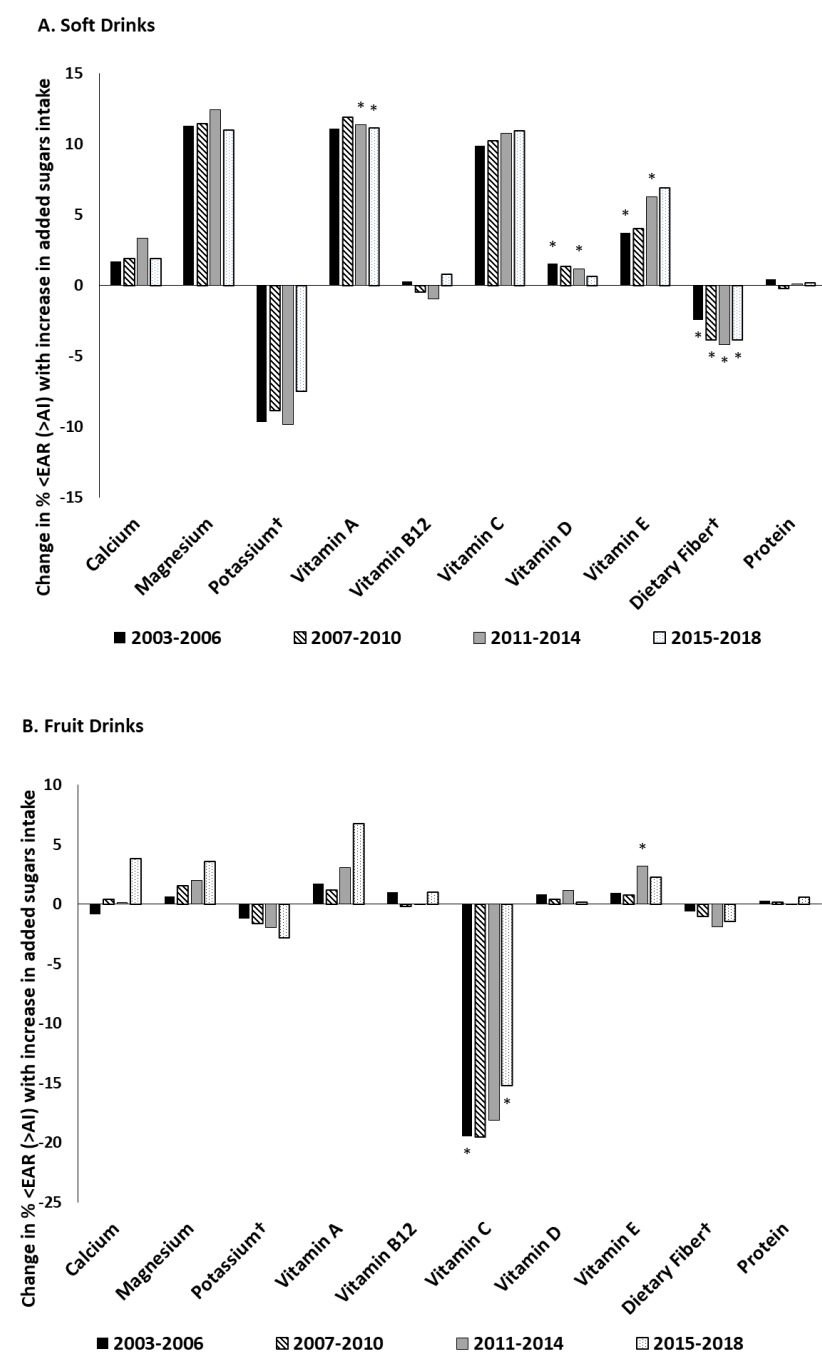
<sup>1</sup>Linear trend across all cycles, statistically significant at p<0.01

NA: Not available; there were no consumers of this beverage for this age group

<sup>2</sup>Given there were no consumers of this beverage for this age group, the trend Beta is for 2005-2018 and the p-value represents the comparison of all other values to values for 2017-18 rather than for 2003-04

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**Supplemental Figure S2.** Change in % <EAR (>AI<sup>†</sup>) in association with increased added sugars intake from select beverage sources: **A.** soft drinks and **B.** fruit drinks, by NHANES 4-y cycles, among adults (19+ y)



EAR, estimated average requirement; AI, adequate intake

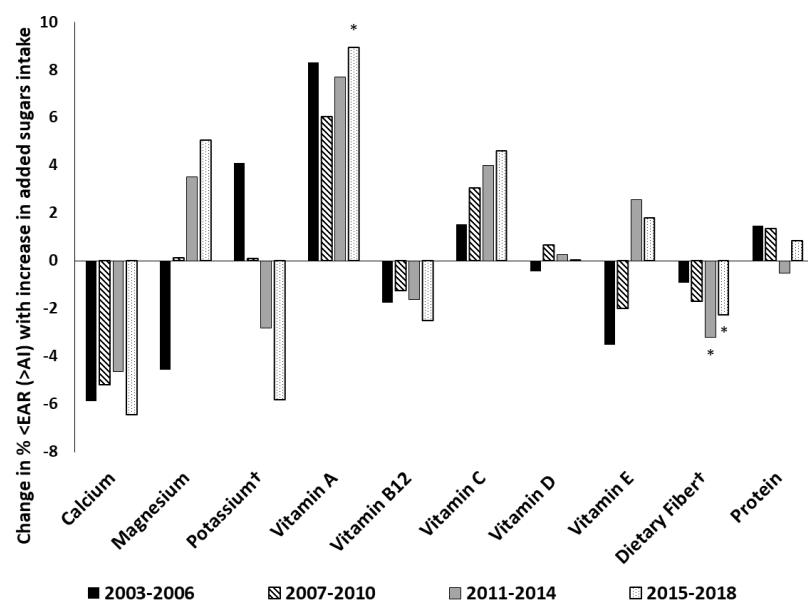
<sup>†</sup>>AI for potassium and dietary fiber

\*Statistically significant at  $p < 0.05$ ; from regression analysis, test for trend across quantiles of added sugars intake

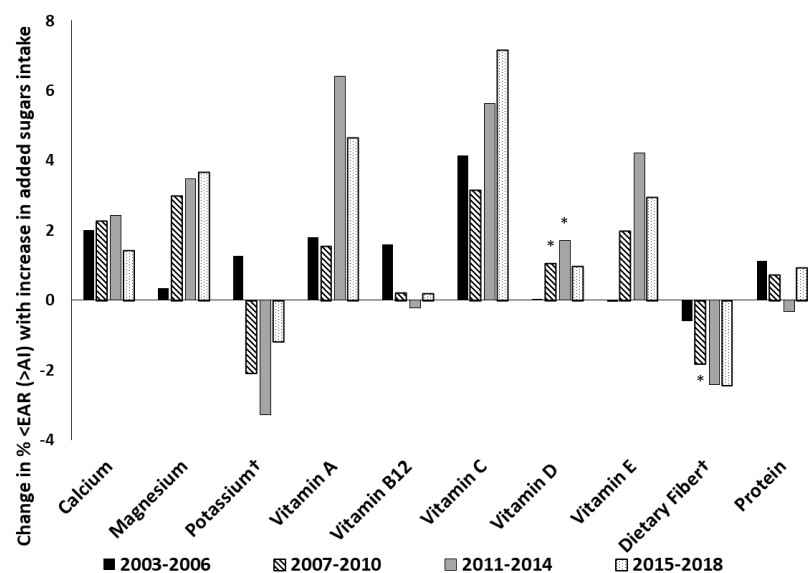
Intakes of added sugars, with a focus on beverages and the associations with nutrient adequacy in US adults (NHANES 2003-2018), Ricciuto L et al.

**Supplemental Figure S2.** Change in % <EAR (>AI<sup>†</sup>) in association with increased added sugars intake from select beverage sources: **C.** sport and energy drinks and **D.** coffee and tea, by NHANES 4-y cycles, among adults (19+ y)

**C. Sport and Energy Drinks**



**1D Coffee and Tea**



EAR, estimated average requirement; AI, adequate intake

†>AI for potassium and dietary fiber

\*Statistically significant at  $p < 0.05$ ; from regression analysis, test for trend across quantiles of added sugars intake

Intakes of added sugars, with a focus on beverages and the associations with nutrient adequacy in US adults (NHANES 2003-2018), Ricciuto L et al.

**Supplemental Table S5.** Association between added sugars intake from select beverages and % <EAR (>AI<sup>1</sup>) among adults (19+ y) by NHANES 4-y cycles

	NHANES 2003-2006	NHANES 2007-2010	NHANES 2011-2014	NHANES 2015-2018
<b>Soft Drinks</b>				
<b>Nutrient</b>	<b>Beta (SE), P<sup>2</sup></b>	<b>Beta (SE), P</b>	<b>Beta (SE), P</b>	<b>Beta (SE), P</b>
Calcium	1.70 (4.68), 0.75	1.89 (5.21), 0.75	3.37 (4.45), 0.53	1.91 (3.90), 0.67
Magnesium	11.29 (4.39), 0.12	11.44 (4.21), 0.11	12.42 (3.87), 0.08	11.01 (4.46), 0.13
Potassium <sup>1</sup>	-9.64 (3.75), 0.12	-8.87 (3.49), 0.13	-9.83 (2.57), 0.06	-7.50 (2.84), 0.12
Vitamin A	11.08 (3.21), 0.07	11.91 (2.84), 0.05	11.36 (1.10), 0.01*	11.15 (2.01), 0.03*
Vitamin B12	0.27 (1.27), 0.85	-0.45 (0.56), 0.50	-0.93 (0.78), 0.35	0.81 (1.49), 0.64
Vitamin C	9.88 (4.37), 0.15	10.25 (3.83), 0.12	10.77 (2.64), 0.06	10.94 (2.67), 0.05
Vitamin D	1.54 (0.28), 0.03*	1.35 (0.93), 0.28	1.19 (0.16), 0.02*	0.65 (0.78), 0.49
Vitamin E	3.72 (0.78), 0.04*	4.02 (1.28), 0.09	6.30 (0.97), 0.02*	6.93 (2.50), 0.11
Dietary Fiber <sup>1</sup>	-2.44 (0.36), 0.02*	-3.83 (0.65), 0.03*	-4.20 (0.41), 0.01*	-3.86 (0.34), 0.01*
Protein	0.44 (0.86), 0.66	-0.21 (0.57), 0.75	0.09 (0.49), 0.87	0.22 (0.74), 0.79
<b>Fruit Drinks</b>				
<b>Nutrient</b>	<b>Beta (SE), P</b>	<b>Beta (SE), P</b>	<b>Beta (SE), P</b>	<b>Beta (SE), P</b>
Calcium	-0.81 (3.00), 0.81	0.42 (2.66), 0.89	0.13 (2.63), 0.97	3.84 (4.57), 0.49
Magnesium	0.66 (3.97), 0.88	1.58 (3.88), 0.72	1.98 (3.32), 0.61	3.62 (3.61), 0.42
Potassium <sup>1</sup>	-1.19 (3.64), 0.77	-1.61 (2.99), 0.64	-1.97 (2.19), 0.46	-2.79 (2.24), 0.34
Vitamin A	1.72 (4.82), 0.76	1.19 (3.27), 0.75	3.06 (2.40), 0.33	6.79 (4.87), 0.30
Vitamin B12	1.03 (1.50), 0.56	-0.19 (0.35), 0.65	-0.05 (0.66), 0.95	1.00 (0.54), 0.20
Vitamin C	-19.45 (4.20), 0.04*	-19.49 (5.09), 0.06	-18.08 (4.24), 0.05	-15.22 (2.45), 0.02*
Vitamin D	0.82 (1.20), 0.57	0.43 (1.15), 0.74	1.16 (0.35), 0.08	0.21 (0.21), 0.41
Vitamin E	0.93 (1.13), 0.50	0.80 (1.59), 0.67	3.18 (0.45), 0.02*	2.29 (3.57), 0.59
Dietary Fiber <sup>1</sup>	-0.60 (0.24), 0.13	-1.03 (0.40), 0.13	-1.91 (1.34), 0.29	-1.41 (0.51), 0.11
Protein	0.27 (0.70), 0.74	0.20 (0.40), 0.66	-0.02 (0.52), 0.98	0.62 (0.57), 0.39
<b>Sport and Energy Drinks</b>				
<b>Nutrient</b>	<b>Beta (SE), P</b>	<b>Beta (SE), P</b>	<b>Beta (SE), P</b>	<b>Beta (SE), P</b>
Calcium	-5.87 (7.90), 0.53	-5.19 (6.12), 0.49	-4.65 (4.67), 0.42	-6.44 (3.47), 0.20
Magnesium	-4.55 (7.76), 0.62	0.11 (6.65), 0.99	3.50 (6.34), 0.64	5.04 (5.59), 0.46
Potassium <sup>1</sup>	4.10 (6.63), 0.60	0.10 (6.84), 0.99	-2.82 (4.38), 0.59	-5.82 (2.45), 0.14
Vitamin A	8.30 (5.97), 0.30	6.02 (3.55), 0.23	7.69 (2.07), 0.07	8.92 (1.74), 0.04*
Vitamin B12	-1.76 (0.56), 0.09	-1.26 (0.38), 0.08	-1.63 (0.66), 0.13	-2.51 (0.66), 0.06
Vitamin C	1.54 (5.79), 0.81	3.05 (3.72), 0.50	3.99 (1.33), 0.10	4.60 (1.35), 0.08
Vitamin D	-0.45 (2.19), 0.86	0.66 (0.55), 0.35	0.26 (0.88), 0.80	0.04 (0.70), 0.96
Vitamin E	-3.53 (3.91), 0.46	-2.01 (3.22), 0.60	2.55 (3.83), 0.57	1.80 (4.36), 0.72
Dietary Fiber <sup>1</sup>	-0.92 (0.31), 0.10	-1.70 (0.41), 0.05	-3.21 (0.22), 0.00*	-2.27 (0.46), 0.04*
Protein	1.48 (1.22), 0.35	1.33 (0.83), 0.25	-0.51 (0.25), 0.18	0.83 (1.07), 0.52
<b>Coffee and Tea</b>				
<b>Nutrient</b>	<b>Beta (SE), P</b>	<b>Beta (SE), P</b>	<b>Beta (SE), P</b>	<b>Beta (SE), P</b>

Intakes of added sugars, with a focus on beverages and the associations with nutrient adequacy in US adults (NHANES 2003-2018), Ricciuto L et al.

<b>Calcium</b>	2.01 (2.36), 0.48	2.26 (4.15), 0.64	2.42 (2.52), 0.44	1.43 (4.18), 0.76
<b>Magnesium</b>	0.33 (3.02), 0.92	2.98 (3.53), 0.49	3.47 (2.76), 0.34	3.66 (5.00), 0.54
<b>Potassium<sup>1</sup></b>	1.26 (2.90), 0.71	-2.08 (2.51), 0.49	-3.28 (3.00), 0.39	-1.19 (3.34), 0.76
<b>Vitamin A</b>	1.80 (3.59), 0.67	1.55 (3.42), 0.69	6.40 (2.73), 0.14	4.66 (2.68), 0.22
<b>Vitamin B12</b>	1.58 (1.30), 0.35	0.22 (0.74), 0.80	-0.23 (1.13), 0.86	0.19 (0.74), 0.82
<b>Vitamin C</b>	4.14 (3.35), 0.34	3.16 (4.42), 0.55	5.63 (3.42), 0.24	7.15 (2.41), 0.10
<b>Vitamin D</b>	0.02 (1.51), 0.99	1.05 (0.19), 0.03*	1.70 (0.18), 0.01*	0.97 (0.33), 0.10
<b>Vitamin E</b>	-0.05 (0.80), 0.96	1.98 (1.21), 0.24	4.21 (1.45), 0.10	2.95 (2.49), 0.36
<b>Dietary Fiber<sup>1</sup></b>	-0.60 (0.86), 0.56	-1.81 (0.38), 0.04*	-2.42 (0.95), 0.13	-2.44 (0.97), 0.13
<b>Protein</b>	1.11 (0.63), 0.22	0.73 (0.72), 0.42	-0.33 (0.29), 0.37	0.94 (0.87), 0.39

EAR, estimated average requirement; AI, adequate intake

<sup>1</sup>>AI for potassium and dietary fiber

<sup>2</sup>Beta represents the regression coefficient (change) in percentage of the population <EAR (>AI) across quantiles of added sugars from the select beverage, testing hypothesis that regression coefficient (slope) equals 0

\*Statistically significant at p<0.05

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**Supplemental Table S6.** Quartiles of added sugars intake (% kcal) from the rest of the diet and trends in % <EAR (>AI<sup>1</sup>) for selected nutrients among adults from the pooled sample (NHANES 2003-2018, n=35,128); weighted n's are shown in the table

<b>19-50 y</b> <b>(n=18,110)</b>					
<b>Added Sugars</b> (% kcal)	<b>Q1</b> n=31,557,211 <3.48	<b>Q2</b> n=31,579,320 3.48 to ≤6.08	<b>Q3</b> n=31,574,933 >6.08 to ≤9.33	<b>Q4</b> n=31,575,369 >9.33	<b>Quartile Trend<sup>2</sup></b>
	<b>% &lt;EAR* (SE)</b>	<b>% &lt;EAR* (SE)</b>	<b>% &lt;EAR* (SE)</b>	<b>% &lt;EAR* (SE)</b>	<b>Beta (SE), P</b>
<b>Calcium</b>	54.98 (1.50)	38.10 (1.32)	26.05 (1.53)	16.57 (0.93)	-12.80 (1.18), 0.01†
<b>Magnesium</b>	69.85 (1.26)	59.39 (1.54)	49.00 (1.52)	32.09 (1.33)	-12.30 (1.11), 0.01†
<b>Potassium<sup>1</sup></b>	16.02 (1.15)	23.29 (1.30)	31.59 (1.32)	52.98 (1.42)	11.78 (2.38), 0.04§
<b>Vitamin A</b>	70.25 (1.56)	55.97 (1.68)	43.59 (1.67)	24.95 (1.65)	-14.78 (0.89), 0.00†
<b>Vitamin B12</b>	10.63 (0.92)	2.52 (0.48)	1.69 (0.47)	1.21 (0.32)	-2.98 (1.31), 0.15
<b>Vitamin C</b>	54.49 (1.42)	51.08 (1.43)	46.09 (1.73)	41.28 (1.44)	-4.45 (0.26), 0.00†
<b>Vitamin D</b>	98.89 (0.26)	97.69 (0.45)	95.06 (0.67)	91.95 (0.87)	-2.32 (0.31), 0.02§
<b>Vitamin E</b>	93.69 (0.70)	91.06 (1.28)	84.77 (1.35)	70.53 (1.48)	-7.46 (1.85), 0.06
<b>Dietary Fiber<sup>1</sup></b>	1.79 (0.30)	1.72 (0.30)	2.03 (0.36)	4.47 (0.62)	0.81 (0.41), 0.19
<b>Protein</b>	4.92 (0.71)	0.89 (0.20)	0.16 (0.09)	0.15 (0.07)	-1.54 (0.66), 0.15
<b>51-70 y</b> <b>(n=11,379)</b>					
<b>Added Sugars</b> (% kcal)	<b>Q1</b> n=17,907,711 <4.41	<b>Q2</b> n=17,073,548 4.41 to ≤7.21	<b>Q3</b> n=17,258,187 >7.21 to ≤10.43	<b>Q4</b> n=17,734,287 >10.43	<b>Quartile Trend<sup>2</sup></b>
	<b>% &lt;EAR (SE)</b>	<b>% &lt;EAR (SE)</b>	<b>% &lt;EAR (SE)</b>	<b>% &lt;EAR (SE)</b>	<b>Beta (SE), P</b>
<b>Calcium</b>	68.78 (1.32)	62.69 (1.65)	48.62 (1.83)	34.44 (1.60)	-11.49 (1.41), 0.01§
<b>Magnesium</b>	65.84 (1.52)	63.59 (1.79)	49.38 (2.20)	33.10 (2.00)	-10.87 (2.34), 0.04§
<b>Potassium<sup>1</sup></b>	24.78 (1.44)	26.98 (1.57)	39.48 (2.01)	57.30 (2.06)	10.61 (2.48), 0.05
<b>Vitamin A</b>	57.64 (1.77)	48.74 (1.88)	37.51 (2.40)	21.72 (2.00)	-11.74 (1.06), 0.01†
<b>Vitamin B12</b>	10.32 (1.05)	3.38 (0.70)	2.19 (0.64)	1.13 (0.35)	-3.04 (1.02), 0.10
<b>Vitamin C</b>	45.97 (1.37)	46.34 (2.27)	41.81 (2.12)	37.70 (2.03)	-2.81 (0.81), 0.07
<b>Vitamin D</b>	97.93 (0.38)	97.45 (0.53)	94.95 (0.62)	92.18 (0.91)	-1.91 (0.39), 0.04§
<b>Vitamin E</b>	92.14 (0.93)	91.54 (1.15)	85.79 (1.75)	71.12 (2.03)	-6.56 (2.17), 0.09
<b>Dietary Fiber<sup>1</sup></b>	9.36 (0.92)	8.26 (0.77)	11.70 (1.23)	18.43 (1.61)	2.87 (1.23), 0.14
<b>Protein</b>	5.59 (0.67)	1.57 (0.34)	0.35 (0.12)	0.28 (0.11)	-1.81 (0.63), 0.10
<b>71+ y</b> <b>(n=5,639)</b>					
<b>Added Sugars</b> (% kcal)	<b>Q1</b> n=5,798,155 <5.27	<b>Q2</b> n=6,615,333 5.27 to ≤8.33	<b>Q3</b> n=6,471,226 >8.33 to ≤11.52	<b>Q4</b> n=6,001,044 >11.52	<b>Quartile Trend<sup>2</sup></b>
	<b>% &lt;EAR (SE)</b>	<b>% &lt;EAR (SE)</b>	<b>% &lt;EAR (SE)</b>	<b>% &lt;EAR (SE)</b>	<b>Beta (SE), P</b>
<b>Calcium</b>	85.95 (1.35)	77.66 (1.98)	67.60 (2.15)	55.11 (1.83)	-10.21 (0.67), 0.00†
<b>Magnesium</b>	76.67 (1.57)	71.50 (1.61)	64.67 (2.07)	48.82 (1.95)	-8.91 (1.76), 0.04§
<b>Potassium<sup>1</sup></b>	17.74 (1.47)	22.76 (1.69)	29.68 (2.12)	46.59 (2.02)	9.20 (1.95), 0.04§
<b>Vitamin A</b>	47.88 (2.35)	36.73 (2.03)	26.80 (2.28)	14.73 (2.13)	-10.92 (0.28), 0.00†

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<b>Vitamin B12</b>	10.52 (1.73)	3.06 (0.77)	1.80 (0.63)	1.55 (0.51)	-2.88 (1.24), 0.15
<b>Vitamin C</b>	43.28 (2.28)	37.29 (2.17)	34.52 (2.02)	31.13 (1.79)	-3.94 (0.52), 0.02§
<b>Vitamin D</b>	96.25 (0.59)	94.66 (0.79)	93.01 (1.10)	91.08 (1.00)	-1.71 (0.06), 0.00†
<b>Vitamin E</b>	94.83 (0.83)	93.98 (0.96)	91.06 (1.19)	80.93 (1.75)	-4.35 (1.51), 0.10
<b>Dietary Fiber</b> <sup>1</sup>	8.49 (0.92)	7.69 (0.78)	10.33 (1.17)	15.47 (1.67)	2.30 (0.96), 0.14
<b>Protein</b>	12.88 (1.49)	5.04 (0.78)	1.60 (0.42)	1.38 (0.33)	-3.88 (1.23), 0.09

EAR, estimated average requirement; AI, adequate intake

<sup>1</sup>>AI for potassium and dietary fiber

<sup>2</sup>From regression analysis, test for trend

†Statistically significant at  $p < 0.01$ ; §Statistically significant at  $p < 0.05$