

Supplemental Table 1. Associations of snacking parameters with Healthy Eating Index-2015 (HEI-2015) component scores among US children aged 2-5 y (n=3,679)¹

	Maximum Score	HEI-2015 component score	Daily Snacking Occasions			Mean snack size			Mean snack energy density		
		Mean (SE) (95% CI)	b	SE	t	b	SE	t	b	SE	t
HEI-2015 adequacy components											
Whole fruit	5	3.54 (0.06) (3.43, 3.65)	0.15	0.04	4.02***	-0.0002	0.0006	-2.34	-0.27	0.05	-4.96***
Total Fruit	5	3.84 (0.04) (3.76, 3.92)	0.15	0.04	3.92***	-0.0005	0.001	-0.84	-0.25	0.05	-5.15***
Total vegetables	5	2.01 (0.04) (1.94, 2.08)	-0.08	0.03	-2.64**	-0.002	0.0005	-4.03***	-0.03	0.04	-0.91
Greens and beans	5	1.24 (0.06) (1.13, 1.35)	-0.004	0.04	-0.09	-0.001	0.0007	-1.91	0.09	0.06	1.47
Whole grains	10	2.93 (0.07)	-0.04	0.05	-0.73	0.0002	0.001	0.13	0.19	0.10	1.81

		2.78, 3.08									
Dairy	10	8.31 (0.06)	0.14	0.05	2.70**	-0.001	0.0009	-1.29	-0.24	0.11	-2.22*
		(8.19, 8.42)									
Total protein foods	5	3.54 (0.03)	-0.18	0.03	-6.28***	-0.0005	0.0004	-1.25	-0.04	0.04	-0.95
		(3.48, 3.60)									
Seafood and plant proteins	5	2.08 (0.06)	-0.07	0.04	-1.51	0.0000004	0.0007	0.00	0.11	0.07	1.55
		(1.95, 2.20)									
Fatty acids	10	1.42 (0.08)	-0.20	0.07	-2.83	-0.0006	0.001	-0.60	0.15	0.10	1.52
		(1.26, 1.57)									
HEI-2015 moderation components											
Refined grains	10	6.10 (0.08)	0.42	0.06	7.55***	-0.00006	0.001	-0.05	-0.36	0.10	-3.76***
		(5.95, 6.25)									
Sodium	10	5.65 (0.07)	0.05	0.05	8.55***	0.004	0.001	3.94***	-0.034	0.09	-0.39
		(5.51, 5.79)									
Added sugar	10	6.94 (0.06)	-0.28	0.07	-4.15***	-0.004	0.001	-3.07**	-0.17	0.08	-2.08*
		(6.82, 7.07)									
Saturated fats	10	5.42 (0.09)	-0.01	0.07	-0.17	-0.000001	0.0009	-0.00***	-0.20	0.09	-2.26*
		(5.23, 5.61)									

b=unstandardized beta weight, SE=standard error for the unstandardized beta, t=t test statistic; *p<0.05; **p<0.01; ***p<0.001

¹Reflects sample sizes for the following covariates: dietary weights, survey cycle year, child gender, child age, child race, HH age, HH marital status, HH level of education, ratio of income to poverty, and ratio of reported energy intake to estimated energy requirements

²HEI-2015 consists of 13 component scores reflecting adequacy and moderation; maximum scores for each component score are either 5 or 10¹⁵

³Number of daily snacking occasions as given by “snack”, “beverage”, or “extended consumption” labels, excluding trivial energy (<5 kcal) occasions (e.g. water)

⁴Mean energy (kcal) per snacking occasion

⁵Mean energy (kcal) per gram of foods/beverages consumed per snacking occasion

Supplemental Table 2. Associations of snacking parameters with nutrient adequacy ratios for 5 shortfall nutrients among US children aged 2-5 y (n=3,679)¹

	Nutrient adequacy ratio²	Daily snacking occasions³			Mean snack size⁴			Mean snack energy density⁵		
	Mean (SE) (95% CI)	b	SE	t	b	SE	t	b	SE	t
Potassium	58.76 (0.46) (57.85, 59.68)	1.03	0.27	5.62***	-0.01	0.004	1.19	-3.27	0.41	-8.07***
Fiber	52.84 (0.52) (51.81, 53.87)	-1.09	0.41	-1.47**	-0.02	0.01	-2.29***	-0.41	0.56	-1.00
Calcium	87.26 (0.41) (86.44, 88.08)	0.57	0.30	3.24	-0.01	0.004	-0.11*	-1.54	0.52	-3.21**
Vitamin D⁶	40.77 (0.59) (39.60, 41.94)	2.04	0.50	4.85***	-0.003	0.005	1.09	-4.27	0.60	-7.26***
Iron	93.85 (0.27) (93.29, 94.38)	-0.40	0.25	-0.56	-0.005	0.004	0.21	0.64	0.35	1.54

b=unstandardized beta weight, SE=standard error for the unstandardized beta, t= *t* test statistic; *p<0.05; **p<0.01; ***p<0.001

¹Reflects sample sizes for the following covariates: dietary weights, survey cycle year, child gender, child age, child race, HH age, HH marital status, HH level of education, ratio of income to poverty, ratio of reported energy intake to estimated energy requirements, and mean total daily energy

²Ratio of daily nutrient intake to the Recommended Dietary Allowance (calcium, iron, Vitamin D) or Adequate Intake (fiber, potassium) ^{28,29}

³Number of daily snacking occasions as given by “snack”, “beverage”, or “extended consumption” labels, excluding trivial energy (<5 kcal) occasions (e.g. water)

⁴Mean energy (kcal) per snacking occasion

⁵Mean energy (kcal) per gram of foods/beverages consumed per snacking occasion

⁶n=3,437

Supplemental Table 3. Associations of snacking parameters with children's % of recommended limits consumed from added sugar, saturated fat, and sodium among US children aged 2-5 y (n=3,679)¹

	Mean % of recommended limits consumed ²	Daily snack occasions ³			Mean snack size ⁴			Mean snack ED ⁵		
	Mean (SE) (95% CI)	b	SE	t	b	SE	t	b	SE	t
Added sugar	128.35 (1.49) (125.39, 131.31)	6.66	1.57	4.20***	0.09	0.03	2.77**	4.25	1.98	2.18*
Saturated fat	116.70 (0.92) (114.88, 118.53)	0.26	0.74	0.51	0.01	0.01	0.83	1.89	0.97	1.91
Sodium	119.02 (1.04) (116.96, 121.08)	-4.04	0.46	-4.16***	-0.04	0.01	-0.23***	0.58	0.88	-0.05

b=unstandardized beta weight, SE=standard error for the unstandardized beta, t= t test statistic; *p<0.05, **p<0.01, ***p<0.001

¹Reflects sample sizes for the following covariates: dietary weights, survey cycle year, child gender, child age, child race, HH age, HH marital status, HH level of education, ratio of income to poverty, ratio of reported energy intake to estimated energy requirements, and mean total daily energy

²Mean daily nutrient intakes as the % of recommended limits per the 2015-2020 Dietary Guidelines for Americans¹⁶ for added sugar and saturated fat and the tolerable upper intake level (UL) for sodium²⁸

³Number of daily snacking occasions as given by “snack”, “beverage”, or “extended consumption” labels, excluding trivial energy (<5 kcal) occasions (e.g. water)

⁴Mean energy (kcal) per snacking occasion

⁵Mean energy (kcal) per gram of foods/beverages consumed per snacking occasion