

## Supplemental Information

**SUPPLEMENTAL TABLE 4** Mean Caffeine Intake Over the Study Period Among 2- to 22-Year-Olds, Including Nonconsumers

	1999–2000	2001–2002	2003–2004	2005–2006	2007–2008	2009–2010
Overall	56.3 ± 6.7	46.2 ± 2.3	50.8 ± 3.8	43.4 ± 3	49.8 ± 2.7	41.9 ± 3.6
Gender						
Male	62.0 ± 11.3	53.8 ± 3.3	56.1 ± 4.8	52.0 ± 5.2	51.4 ± 4.1	46.8 ± 5.5
Female	50.4 ± 2.5	38.7 ± 2.8	45.0 ± 3.6	34.6 ± 2.7	48.3 ± 3.4	36.9 ± 3.5
Age						
2–5 years <sup>a</sup>	11.0 ± 1.4	13.2 ± 2.5	14 ± 3.9	7.7 ± 0.5	8.3 ± 1.0	5.8 ± 0.4
6–11 years <sup>b</sup>	28.3 ± 5.8	23.2 ± 1.8	31.3 ± 3.1	18.3 ± 1.6	24.5 ± 3.0	17.2 ± 1.1
12–16 years	62.1 ± 3.7	48.9 ± 4.5	50.7 ± 2.5	43.0 ± 3.2	53.6 ± 4.3	48.4 ± 8.0
17–18 years	93.2 ± 12.2	77.8 ± 5.5	74.0 ± 9.2	86.4 ± 16.2	102.9 ± 27.6	69.4 ± 5.9
19–22 years	112.8 ± 18.0	92.6 ± 9.8	97.2 ± 13.0	92.9 ± 11.3	93.5 ± 15.9	90.3 ± 7.1
Race/ethnicity						
Non-Hispanic white	63.1 ± 8.3	52.1 ± 3.5	61 ± 5.3	53.2 ± 4.7	65.1 ± 4.4	51.3 ± 5.6
Non-Hispanic black	24.1 ± 2.2	21.6 ± 1.8	22.8 ± 2.3	24.9 ± 2.6	20.8 ± 2.7	24.6 ± 3.1
Mexican American <sup>b</sup>	38.8 ± 1.9	37.2 ± 3.3	38.3 ± 4.8	27.9 ± 3.2	30.0 ± 3.3	31.3 ± 2.7
PIR						
0%–99% of FPT	62.7 ± 8.9	39.0 ± 3.8	45.5 ± 5.3	46.2 ± 11.8	53.7 ± 10	41.9 ± 3.8
100%–199% of FPT	65.9 ± 18.8	49.4 ± 6.0	46.4 ± 6.8	43.9 ± 7.0	56.5 ± 9.7	45.4 ± 6.0
200%–299% of FPT	50.7 ± 5.3	44.2 ± 6.5	45.1 ± 7.5	37.7 ± 3.6	44.1 ± 5.8	38.3 ± 5.4
300%–399% of FPT	46.5 ± 6.2	60.2 ± 13.3	61.5 ± 9.5	42.8 ± 5.0	44.1 ± 10.6	50.0 ± 15.5
≥400% of FPT	54.2 ± 5.5	42.5 ± 5.0	57.6 ± 7.3	44.1 ± 6.0	46.8 ± 6.0	35.7 ± 5.1

Data are presented as means  $\pm$  SEs. The significance of sociodemographic differences and trends was assessed by using zero-inflated negative binomial models to account for the zero-inflated and positively skewed distribution of overall caffeine intake. FPT, federal poverty threshold.

<sup>a</sup> Indicates linear trend,  $P < .001$ .

<sup>b</sup> Indicates linear trend,  $P < .01$ .

**SUPPLEMENTAL TABLE 5** Mean Caffeine Intake Among Consumers by Age and by Food/Beverage Category: NHANES 1999–2010

	1999–2000	2001–2002	2003–2004	2005–2006	2007–2008	2009–2010
<b>All ages, mg/d</b>						
Flavored dairy	1.6 ± 0.1	1.6 ± 0.1	1.4 ± 0.1	1.3 ± 0.1	1.4 ± 0.1	1.6 ± 0.1
Sweetened grains	1.5 ± 0.2	1.5 ± 0.1	1.4 ± 0.1	1.6 ± 0.2	1.3 ± 0.1	1.8 ± 0.1
Sugars/sweets	1.1 ± 0.1	1.4 ± 0.1	1.3 ± 0.2	1.0 ± 0.1	1.0 ± 0.1	0.9 ± 0.1
Coffee <sup>a</sup>	7.5 ± 1.9	7.5 ± 1.3	12.4 ± 2.7	9.2 ± 1.7	17.1 ± 2.0	13.6 ± 2.3
Tea	17.2 ± 3.9	14.0 ± 1.8	13.2 ± 2.4	16.3 ± 2.7	19.2 ± 2.7	14.5 ± 3.1
Soda <sup>a</sup>	47.1 ± 4.2	36.6 ± 1.7	37.0 ± 2.7	29.7 ± 1.8	25.6 ± 3.3	22.3 ± 1.5
Energy drinks <sup>a</sup>	0.0 ± 0.0	0.2 ± 0.1	0.4 ± 0.2	0.9 ± 0.3	3.5 ± 0.7	3.2 ± 1.1
<b>2–5 years, mg/d</b>						
Flavored dairy <sup>d</sup>	1.8 ± 0.3	2.1 ± 0.2	2.0 ± 0.2	1.5 ± 0.2	2.0 ± 0.2	1.7 ± 0.1
Sweetened grains	1.4 ± 0.2	1.3 ± 0.1	1.4 ± 0.3	1.2 ± 0.2	1.0 ± 0.1	1.5 ± 0.2
Sugars/sweets	0.9 ± 0.2	0.5 ± 0.1	0.5 ± 0.1	0.8 ± 0.2	0.7 ± 0.1	0.7 ± 0.1
Coffee	0.4 ± 0.3	0.2 ± 0.1	0.8 ± 0.7	0.7 ± 0.3	0.8 ± 0.5	0.5 ± 0.2
Tea	4.7 ± 1.8	7.5 ± 2.5	10.1 ± 4.3	2.9 ± 0.3	4.2 ± 0.9	3.0 ± 0.7
Soda <sup>a</sup>	8.2 ± 1.0	9.1 ± 1.7	6.9 ± 1.4	5.2 ± 0.8	4.3 ± 0.8	2.7 ± 0.5
Energy drinks	0.0 ± 0.0	0.0 ± 0.0	0.1 ± 0.1	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
<b>6–11 years, mg/d</b>						
Flavored dairy	1.9 ± 0.2	2.3 ± 0.3	2.1 ± 0.2	2.2 ± 0.2	2.0 ± 0.1	2.2 ± 0.2
Sweetened grains	1.7 ± 0.2	1.5 ± 0.1	1.7 ± 0.2	2.3 ± 0.3	1.4 ± 0.1	2.0 ± 0.1
Sugars/sweets	1.2 ± 0.2	1.4 ± 0.2	0.8 ± 0.2	1.0 ± 0.1	0.9 ± 0.1	1.0 ± 0.1
Coffee	0.9 ± 0.4	1.7 ± 1.1	0.6 ± 0.2	1.1 ± 0.5	2.7 ± 0.9	1.9 ± 0.6
Tea	9.9 ± 5.0	6.7 ± 1.1	7.6 ± 1.9	5.4 ± 1.0	10.0 ± 2.5	6.8 ± 1.7
Soda <sup>a,c</sup>	23.8 ± 2.9	18.1 ± 1.8	25.0 ± 3.2	12.4 ± 1.6	14.9 ± 2.3	9.0 ± 0.7
Energy drinks <sup>c</sup>	0.0 ± 0.0	0.0 ± 0.0	0.6 ± 0.5	0.0 ± 0.0	1.8 ± 1.0	0.0 ± 0.0
<b>12–16 years, mg/d</b>						
Flavored dairy <sup>c</sup>	1.9 ± 0.2	1.7 ± 0.2	1.0 ± 0.2	1.0 ± 0.2	1.1 ± 0.2	1.6 ± 0.2
Sweetened grains	1.7 ± 0.3	1.8 ± 0.1	1.4 ± 0.2	1.7 ± 0.2	1.5 ± 0.1	2.2 ± 0.4
Sugars/sweets <sup>c</sup>	1.2 ± 0.1	1.1 ± 0.2	1.3 ± 0.2	1.2 ± 0.2	1.1 ± 0.2	0.8 ± 0.2
Coffee <sup>b</sup>	4.1 ± 1.6	2.5 ± 0.5	7.1 ± 2.0	6.8 ± 1.2	15.3 ± 2.7	7.8 ± 2.1
Tea	19.4 ± 2.7	14.1 ± 2.1	15.5 ± 3.2	12.7 ± 1.2	17.6 ± 3.2	20.4 ± 8.4
Soda <sup>a</sup>	51.7 ± 4.8	40.4 ± 3.7	42.3 ± 3.8	35.1 ± 3.1	31.8 ± 4.5	29.5 ± 4.6
Energy drinks <sup>b</sup>	0.0 ± 0.0	0.4 ± 0.3	0.2 ± 0.2	1.0 ± 0.6	3.7 ± 1.7	2.0 ± 1.0
<b>17–18 years, mg/d</b>						
Flavored dairy	0.9 ± 0.2	0.8 ± 0.1	0.9 ± 0.2	0.7 ± 0.2	1.2 ± 0.4	1.2 ± 0.3
Sweetened grains	1.4 ± 0.4	1.6 ± 0.4	1.1 ± 0.2	1.2 ± 0.2	1.1 ± 0.2	1.1 ± 0.2
Sugars/sweets	1.1 ± 0.2	1.2 ± 0.2	1.3 ± 0.3	0.9 ± 0.1	1.3 ± 0.4	1.4 ± 0.5
Coffee <sup>b</sup>	18.2 ± 6.6	13.3 ± 4.5	23.1 ± 8.9	20.3 ± 9.9	35.5 ± 12.2	27.5 ± 4.9
Tea	24.2 ± 4.3	21.1 ± 3.8	15.7 ± 6.6	28.3 ± 8.8	42.2 ± 15.0	24.4 ± 5.5
Soda <sup>a</sup>	75.8 ± 12.3	66.4 ± 5.6	50.0 ± 4.3	61.2 ± 11.4	38.5 ± 5.3	38.3 ± 6.3
Energy drinks <sup>b,c</sup>	0.0 ± 0.0	0.2 ± 0.2	0.3 ± 0.3	4.7 ± 3.1	11.1 ± 6.2	2.1 ± 1.1
<b>19–22 years, mg/d</b>						
Flavored dairy	1.1 ± 0.3	0.6 ± 0.1	0.5 ± 0.2	0.6 ± 0.1	0.6 ± 0.3	0.7 ± 0.2
Sweetened grains	1.1 ± 0.3	1.3 ± 0.6	1.0 ± 0.3	0.9 ± 0.2	1.1 ± 0.2	1.3 ± 0.3
Sugars/sweets	1.0 ± 0.3	2.8 ± 0.7	2.5 ± 0.7	1.1 ± 0.2	1.0 ± 0.2	0.9 ± 0.2
Coffee <sup>a</sup>	19.8 ± 6.4	25.8 ± 6.2	38.1 ± 10.4	24.2 ± 5.6	42.4 ± 9.9	39.8 ± 6.5
Tea <sup>d</sup>	30.0 ± 7.6	26.6 ± 8.2	19.6 ± 7.0	39.9 ± 12.0	34.2 ± 5.2	21.8 ± 3.5
Soda <sup>a</sup>	86.7 ± 9.4	65.8 ± 7.3	63.3 ± 6.1	50.5 ± 5.0	43.3 ± 9.1	39.0 ± 4.7
Energy drinks <sup>b</sup>	0.0 ± 0.0	0.2 ± 0.2	0.6 ± 0.6	0.7 ± 0.4	4.6 ± 1.8	12.0 ± 3.9

Data are presented as means +/- SEs.

<sup>a</sup> Indicates significant linear trend,  $P < .001$ .

<sup>b</sup> Indicates significant linear trend,  $P < .01$ .

<sup>c</sup> Indicates significant quadratic trend,  $P < .05$ .

<sup>d</sup> Indicates significant linear trend,  $P < .05$ .

**SUPPLEMENTAL TABLE 6** Proportion of Total Caffeine Intake From Different Sources, by Race/  
Ethnicity: NHANES 1999–2010

	1999–2000	2001–2002	2003–2004	2005–2006	2007–2008	2009–2010
<b>Non-Hispanic white</b>						
Flavored dairy	1.9 ± 0.4	2.5 ± 0.2	1.8 ± 0.3	1.9 ± 0.3	1.6 ± 0.2	2.2 ± 0.4
Sweetened grains	2.0 ± 0.4	2.2 ± 0.2	1.8 ± 0.3	2.3 ± 0.4	1.4 ± 0.2	2.8 ± 0.4
Sugars/sweets	1.5 ± 0.2	2.2 ± 0.4	1.6 ± 0.4	1.6 ± 0.2	1.1 ± 0.2	1.5 ± 0.3
Coffee <sup>a</sup>	7.0 ± 1.7	12.8 ± 2.8	16.6 ± 3.4	15.9 ± 3.2	24.1 ± 3.3	22.8 ± 3.8
Tea	23.9 ± 3.5	22.9 ± 2.5	19.5 ± 3.7	26.9 ± 3.9	28.8 ± 4.2	23.3 ± 5.8
Soda <sup>a</sup>	63.6 ± 3.6	57.0 ± 2.8	57.7 ± 3.1	49.6 ± 3.6	37.0 ± 5.8	41.2 ± 4.9
Energy drinks <sup>a</sup>	0.0 ± 0.0	0.3 ± 0.2	0.6 ± 0.4	1.6 ± 0.6	5.9 ± 1.3	5.8 ± 1.9
<b>Non-Hispanic black</b>						
Flavored dairy	3.3 ± 0.5	4.0 ± 0.5	2.7 ± 0.4	2.7 ± 0.4	2.9 ± 0.4	3.5 ± 0.9
Sweetened grains	3.8 ± 0.5	4.3 ± 0.8	4.1 ± 0.4	3.7 ± 0.5	4.1 ± 0.9	4.0 ± 0.6
Sugars/sweets	2.7 ± 0.7	4.5 ± 1.1	2.9 ± 0.6	2.0 ± 0.4	2.0 ± 0.6	2.0 ± 0.4
Coffee <sup>b,c</sup>	8.2 ± 2.9	5.9 ± 2.1	6.8 ± 2.2	5.7 ± 3	25.4 ± 7.4	19.8 ± 5.5
Tea <sup>b</sup>	22.1 ± 4.8	18.9 ± 4.1	29.4 ± 3.9	38.4 ± 6.7	28.5 ± 5.4	36.6 ± 6.2
Soda <sup>a</sup>	59.9 ± 3.8	61.1 ± 5.1	53.9 ± 4.8	45.8 ± 5.5	34.2 ± 3.5	29.1 ± 5.2
Energy drinks <sup>a</sup>	0.0 ± 0.0	0.0 ± 0.0	0.2 ± 0.1	1.5 ± 1.1	2.8 ± 1.1	4.1 ± 2.9
<b>Mexican American</b>						
Flavored dairy	3.9 ± 0.3	3.4 ± 0.6	3.1 ± 0.6	3.7 ± 0.5	4.4 ± 0.6	4.5 ± 0.7
Sweetened grains	2.7 ± 0.3	2.6 ± 0.4	2.2 ± 0.4	3.4 ± 0.6	3.0 ± 0.4	3.4 ± 0.6
Sugars/sweets	1.3 ± 0.2	1.6 ± 0.3	2.8 ± 1.1	1.6 ± 0.3	2.3 ± 0.7	1.5 ± 0.3
Coffee <sup>a</sup>	11.6 ± 2.4	11.8 ± 1.6	18.3 ± 5.9	21.5 ± 2.1	27.1 ± 4.5	24.0 ± 4.8
Tea	17.8 ± 3.1	14.5 ± 5.0	16.3 ± 4.3	19.4 ± 4.1	20.4 ± 3.4	22.1 ± 5.2
Soda <sup>a</sup>	62.4 ± 2.5	65.7 ± 4.3	56.6 ± 2.2	49 ± 3.8	41.8 ± 7.5	41.0 ± 5.2
Energy drinks	0.0 ± 0.0	0.5 ± 0.1	0.6 ± 0.4	1.3 ± 0.5	0.8 ± 0.6	3.5 ± 1.8

Data are presented as proportions +/- SEs.

<sup>a</sup> Indicates significant linear trend,  $P < .001$ .

<sup>b</sup> Indicates significant linear trend,  $P < .05$ .

<sup>c</sup> Indicates significant quadratic trend,  $P < .05$ .