

Supplementary Information

This file presents Supplementary Tables 1 through 3. Supplementary Table 1 includes the distribution of correlates among SELF participants randomly selected for inclusion in the present study (N=766) and those not included (N=930). The correlates include age, season of enrollment clinic visit, marital status, education, household income, smoking status, alcohol use, body mass index, age at menarche, parity, and sunscreen use. Supplementary Table 2 provides the adjusted results for a sensitivity analysis using averaged baseline and 20 month concentrations of BPF, BPS, 2,4-dichlorophenol, benzophenone-3, and triclosan; Supplementary Table 3 presents these data for butyl, ethyl, and methyl parabens.

Supplemental Table 1. Distribution of correlates of interest among SELF participants included in the EDCs substudy and participants not included in the substudy^{1, 2}

Characteristic	Not included in EDCs substudy N=930	Included in EDCs substudy N=766
Age at baseline (years)		
23-25	194 (20.9)	184 (24.0)
26-28	233 (25.1)	191 (24.9)
29-31	255 (27.4)	204 (26.6)
32-35	248 (26.7)	187 (24.4)
Season of enrollment clinic visit		
Spring (March, April, May)	226 (24.3)	171 (22.3)
Summer (June, July, August)	253 (27.2)	251 (32.8)
Autumn (September, October, November)	240 (25.8)	206 (26.9)
Winter (December, January, February)	211 (22.7)	138 (18.0)
Marital status		
Never married	556 (59.8)	439 (57.3)
Currently married	248 (26.7)	217 (28.3)
Previously married	126 (13.6)	110 (14.4)
Education		
≤High school diploma/GED	207 (22.3)	163 (21.3)
Some college/Associate's/Technical	458 (49.3)	393 (51.3)
≥Bachelor's degree	265 (28.5)	210 (27.4)
Annual household income		
<\$20 000	426 (45.8)	351 (45.8)
\$20 000-\$50 000	343 (36.9)	289 (37.7)
>\$50 000	161 (17.3)	126 (16.5)
Smoking status		
Never	686 (73.8)	561 (73.20)
Past	65 (7.0)	60 (7.8)
Current	179 (19.3)	145 (18.9)
Alcohol use within the last year		
None	285 (30.7)	217 (28.3)
1-5 drinks/day or ≥4 drinks once per month or less	468 (50.3)	394 (51.4)
≥6 drinks/day or ≥4 drinks twice per month or more	177 (19.0)	155 (20.2)
Body mass index (kg/m ²)		
<25.0	190 (20.4)	146 (19.1)
25.0-29.9	190 (20.4)	160 (20.9)
30.0-34.9	179 (19.3)	150 (19.6)
≥35.0	371 (39.9)	310 (40.5)
Age at menarche (years)		
≤10	183 (19.7)	127 (16.6)

11	172 (18.5)	162 (21.2)
12	251 (27.0)	208 (27.2)
13	155 (16.7)	132 (17.2)
≥14	169 (18.2)	137 (17.9)
Parity (births)		
0	371 (39.9)	292 (38.1)
1	225 (24.2)	208 (27.2)
2	183 (19.7)	130 (17.0)
≥3	151 (16.2)	136 (17.8)
Sunscreen use		
Never/hardly ever	679 (73.0)	575 (75.1)
Sometimes	150 (16.1)	104 (13.6)
Often/always	101 (10.9)	87 (11.4)

¹Abbreviations: EDC, endocrine disrupting chemical; GED, General Educational Diploma; SELF, Study of Environment, Lifestyle, and Fibroids

²Sum of percentages may exceed 100 due to rounding.

Supplemental Table 2. Percentage difference¹ in averaged baseline and 20 month creatinine-corrected concentrations (µg/g creatinine) of BPF, BPS, 2,4-dichlorophenol, benzophenone-3, and triclosan by baseline characteristics among SELF participants

Characteristic	BPF		BPS		2,4-dichlorophenol		Benzophenone-3		Triclosan	
	Adj. pct. diff.	Adj. 95% CI	Adj. pct. diff.	Adj. 95% CI	Adj. pct. diff.	Adj. 95% CI	Adj. pct. diff.	Adj. 95% CI	Adj. pct. diff.	Adj. 95% CI
Age (yrs)										
23-25	-34.0	(-60.1, 9.1)	-2.6	(-25.0, 26.5)	0.5	(-19.9, 26.1)	-13.3	(-41.1, 27.5)	-21.9	(-46.5, 14.0)
26-28	-41.9	(-64.2, -5.7)	-7.4	(-28.1, 19.1)	-13.4	(-30.3, 7.5)	3.2	(-28.7, 49.3)	-17.6	(-42.6, 18.3)
29-31	-41.3	(-63.2, -6.5)	8.2	(-15.1, 37.9)	-2.8	(-21.1, 19.9)	-0.1	(-30.1, 42.7)	-8.7	(-35.7, 29.5)
32-35	0	Reference	0	Reference	0	Reference	0	Reference	0	Reference
Season of urine collection										
Spring (March, April, May)	40.7	(-16.1, 136.0)	24.3	(-5.0, 62.7)	-17.1	(-34.5, 5.0)	-23.8	(-49.1, 14.0)	-20.6	(-46.5, 17.7)
Summer (June, July, August)	59.8	(0.0, 155.4)	21.9	(-4.5, 55.6)	-17.5	(-33.4, 2.1)	-6.2	(-34.9, 35.2)	-19.6	(-43.8, 14.9)
Autumn (September, October, November)	50.0	(-8.2, 145.1)	30.9	(1.4, 69.1)	-17.6	(-33.9, 2.8)	-33.5	(-54.3, -3.0)	-21.7	(-45.9, 13.2)
Winter (December, January, February)	0	Reference	0	Reference	0	Reference	0	Reference	0	Reference
Marital status										
Never married	0	Reference	0	Reference	0	Reference	0	Reference	0	Reference
Currently married	11.6	(-26.0, 68.1)	-10.3	(-27.6, 11.0)	-7.3	(-23.0, 11.6)	-0.4	(-27.3, 36.7)	-1.0	(-27.3, 34.9)
Previously married	31.6	(-18.9, 113.4)	0	(-22.3, 28.6)	-4.5	(-23.1, 18.7)	-11.0	(-38.5, 28.9)	3.9	(-27.7, 49.3)
Education										
≤High school diploma/GED	0	Reference	0	Reference	0	Reference	0	Reference	0	Reference
Some college/Associates/Technical	-18.7	(-48.1, 27.5)	-3.2	(-23.4, 22.3)	18.4	(-3.4, 45.2)	26.1	(-11.0, 78.5)	33.9	(-4.7, 88.2)
≥Bachelors degree	-28.4	(-60.8, 30.7)	3.3	(-24.5, 41.3)	16.5	(-11.3, 53.1)	46.0	(-8.3, 132.3)	54.4	(-2.0, 143.4)
Household income										
<\$20,000	0	Reference	0	Reference	0	Reference	0	Reference	0	Reference
\$20,000-\$50,000	-5.4	(-36.5, 41.2)	-24.6	(-38.7, -7.1)	11.7	(-6.8, 33.8)	14.7	(-15.7, 56.0)	36.9	(1.3, 85.1)
>\$50,000	-16.4	(-52.2, 46.4)	-14.5	(-36.1, 14.4)	26.4	(-1.9, 62.8)	25.7	(-18.4, 93.5)	98.6	(30.1, 203.1)
Smoking status										
Never	0	Reference		Reference	0	Reference	0	Reference	0	Reference
Past	-12.0	(-51.8, 60.8)	11.3	(-18.6, 52.3)	26.4	(-4.0, 66.3)	-45.4	(-65.9, -12.8)	-10.7	(-43.6, 41.3)
Current	-6.5	(-42.0, 50.7)	25.8	(-1.9, 61.3)	0.4	(-19.0, 24.5)	-37.7	(-56.8, -10.1)	-35.1	(-54.7, -7.1)

Alcohol use within the last year											
None	0	Reference	0	Reference		Reference	0	Reference	0	Reference	
1-5 drinks/day or ≥4 drinks once per month or less	-31.4	(-53.5, 1.3)	10.3	(-9.9, 35.1)	-15.6	(-29.2, 0.7)	-19.0	(-40.0, 9.4)	15.1	(-14.3, 54.4)	
≥6 drinks/day or ≥4 drinks twice per month or more	-29.5	(-56.8, 15.0)	-0.5	(-22.9, 28.3)	-20.2	(-36.0, -0.5)	-16.5	(-42.7, 21.7)	-6.6	(-35.4, 35.0)	
Body mass index (kg/m ²)											
<25.0	0	Reference	0	Reference	0	Reference	0	Reference	0	Reference	
25.0-29.9	-24.9	(-54.7, 24.6)	8.3	(-16.8, 40.9)	13.5	(-9.7, 42.7)	12.2	(-24.0, 65.8)	13.9	(-22.2, 67.0)	
30.0-34.9	24.5	(-26.3, 110.1)	6.6	(-18.8, 40.0)	11.6	(-11.8, 41.4)	6.6	(-28.7, 59.4)	8.3	(-27.0, 60.7)	
≥35.0	28.4	(-18.4, 102.0)	14.2	(-9.8, 44.6)	2.7	(-16.4, 26.1)	13.7	(-19.9, 61.3)	-5.2	(-32.7, 33.5)	
Age at menarche											
≤10	75.3	(5.0, 192.9)	4.2	(-20.2, 36.1)	-2.6	(-22.8, 23.0)	53.6	(3.2, 128.5)	34.1	(-9.1, 97.8)	
11	0.2	(-37.0, 59.4)	13.5	(-10.8, 44.5)	3.5	(-16.2, 27.8)	2.5	(-28.5, 46.8)	17.0	(-17.7, 66.3)	
12	0	Reference	0	Reference	0	Reference	0	Reference	0	Reference	
13	-16.8	(-48.3, 33.9)	5.2	(-17.9, 34.8)	9.9	(-11.2, 36.2)	34.9	(-6.3, 94.4)	1.8	(-28.8, 45.5)	
≥14	45.7	(-12.0, 141.2)	9.5	(-15.8, 42.4)	16.6	(-7.1, 46.3)	-15.3	(-42.5, 24.8)	29.4	(-11.4, 89.1)	
Parity (births)											
0	0	Reference	0	Reference	0	Reference	0	Reference	0	Reference	
1	13.5	(-25.6, 72.9)	19.8	(-3.8, 49.2)	-15.8	(-30.4, 1.7)	-38.0	(-55.1, -14.3)	-33.3	(-51.4, -8.4)	
2	-0.4	(-40.5, 66.9)	42.0	(8.6, 85.8)	-21.3	(-37.7, -0.6)	-40.8	(-60.2, -11.8)	-24.0	(-48.6, 12.2)	
≥3	-2.2	(-42.2, 65.3)	56.7	(19.2, 105.9)	-12.5	(-30.9, 10.9)	-36.1	(-57.3, -4.3)	-39.5	(-59.3, -10.3)	
Sunscreen use											
Never/hardly ever	0	Reference	0	Reference	0	Reference	0	Reference	0	Reference	
Sometimes	-0.9	(-38.8, 60.6)	-4.5	(-25.7, 22.7)	-6.2	(-24.5, 16.5)	83.0	(26.4, 164.9)	-14.9	(-40.8, 22.2)	
Often/always	15.7	(-32.9, 99.5)	1.4	(-23.6, 34.7)	1.4	(-20.8, 29.7)	248.8	(129.0, 431.3)	-5.3	(-37.7, 43.0)	

¹Adj. models are adjusted for all correlates.

Supplemental Table 3. Percentage difference¹ in averaged baseline and 20 month creatinine-corrected concentrations (µg/g creatinine) of butyl, ethyl, and methyl parabens by baseline characteristics among SELF participants

Characteristic	Butyl paraben		Ethyl paraben		Methyl paraben	
	Adj. pct. diff.	Adj. 95% CI	Adj. pct. diff.	Adj. 95% CI	Adj. pct. diff.	Adj. 95% CI
Age (yrs)						
23-25	-28.4	(-54.0, 11.5)	-14.4	(-44.5, 32.0)	-1.2	(-27.6, 34.8)
26-28	-36.5	(-58.4, -3.1)	-10.4	(-40.8, 35.4)	-4.9	(-29.4, 27.9)
29-31	-36.4	(-57.8, -4.2)	-25.1	(-49.8, 11.7)	-20.9	(-40.6, 5.4)
32-35	0	Reference	0	Reference	0	Reference
Season of urine collection						
Spring (March, April, May)	-14.7	(-46.2, 35.4)	-28.0	(-54.1, 13.0)	-7.1	(-32.8, 28.4)
Summer (June, July, August)	28.3	(-15.6, 95.0)	8.4	(-28.0, 63.1)	2.4	(-23.6, 37.3)
Autumn (September, October, November)	-5.0	(-38.3, 46.2)	-2.7	(-36.2, 48.2)	-13.8	(-36.3, 16.6)
Winter (December, January, February)	0	Reference	0	Reference	0	Reference
Marital status						
Never married	0	Reference	0	Reference	0	Reference
Currently married	5.5	(-26.5, 51.5)	-37.1	(-55.8, -10.4)	-21.8	(-39.3, 0.8)
Previously married	33.8	(-12.5, 104.5)	22.9	(-18.8, 86.1)	15.0	(-14.6, 54.8)
Education						
≤High school diploma/GED	0	Reference	0	Reference	0	Reference
Some college/Associates/Technical	1.4	(-32.0, 51.0)	-2.7	(-34.1, 43.6)	87.7	(42.0, 148.2)
≥Bachelors degree	14.8	(-32.6, 95.6)	24.8	(-25.8, 109.9)	87.0	(28.7, 171.6)
Household income						
<\$20,000	0	Reference	0	Reference	0	Reference
\$20,000-\$50,000	18.0	(-17.1, 68.0)	19.6	(-15.3, 68.8)	1.5	(-20.7, 30.0)
>\$50,000	61.5	(-1.5, 164.9)	3.0	(-36.4, 67.1)	-10.7	(-36.9, 26.4)
Smoking status						
Never	0	Reference	0	Reference	0	Reference
Past	25.7	(-26.6, 115.0)	-4.3	(-43.4, 61.7)	-12.3	(-39.9, 27.8)
Current	-3.6	(-36.7, 46.7)	23.2	(-18.3, 85.7)	-0.2	(-25.7, 34.0)
Alcohol use within the last year						

None	0	Reference	0	Reference	0	Reference
1-5 drinks/day or ≥ 4 drinks once per month or less	-6.0	(-33.4, 32.6)	19.8	(-14.4, 67.7)	-21.7	(-38.5, -0.3)
≥ 6 drinks/day or ≥ 4 drinks twice per month or more	-29.6	(-54.3, 8.5)	85.4	(21.6, 182.7)	-10.3	(-33.7, 21.4)
Body mass index (kg/m ²)						
<25.0	0	Reference	0	Reference	0	Reference
25.0-29.9	-2.6	(-37.7, 52.3)	-31.0	(-55.4, 6.8)	-10.1	(-34.3, 23.1)
30.0-34.9	10.3	(-30.5, 74.9)	-0.8	(-36.8, 55.7)	-11.1	(-35.7, 22.8)
≥ 35.0	-21.7	(-47.6, 16.9)	-26.2	(-50.1, 9.1)	-21.3	(-40.6, 4.2)
Age at menarche						
≤ 10	33.2	(-15.5, 110.0)	6.5	(-31.7, 66.2)	-3.8	(-30.1, 32.3)
11	6.1	(-29.7, 60.1)	-17.5	(-44.9, 23.3)	6.2	(-20.5, 41.7)
12	0	Reference	0	Reference	0	Reference
13	53.5	(1.1, 133.3)	9.5	(-27.2, 64.8)	4.3	(-22.2, 39.8)
≥ 14	-20.3	(-48.9, 24.2)	18.9	(-22.9, 83.5)	38.2	(1.2, 88.7)
Parity (births)						
0	0	Reference	0	Reference	0	Reference
1	-31.8	(-52.9, -1.2)	20.9	(-15.8, 73.7)	12.3	(-13.4, 45.6)
2	-21.1	(-50.0, 24.6)	5.6	(-32.4, 64.9)	-5.6	(-31.5, 30.0)
≥ 3	-24.3	(-52.3, 20.1)	17.5	(-25.1, 84.5)	23.9	(-10.4, 71.3)
Sunscreen use						
Never/hardly ever	0	Reference	0	Reference	0	Reference
Sometimes	14.1	(-25.3, 74.4)	-0.8	(-34.4, 50.1)	0.8	(-25.1, 35.8)
Often/always	48.1	(-8.6, 139.9)	72.2	(7.5, 175.7)	35.7	(-3.2, 90.3)

¹Adj. models are adjusted for all correlates.