

Supplemental Table 1. *Beta* coefficients from chunk-wise modeling approach for acrylamide biomarkers by sociodemographic and lifestyle variables for adults ≥ 20 y, NHANES 2003–2004¹

Variable	Acrylamide hemoglobin adduct	Glycidamide hemoglobin adduct
Age: continuous, every 10 y increase		
Model 1	-0.07*	-0.08*
Model 2	-0.08*	-0.09*
Model 3	-0.03*	-0.06*
Sex: males vs. females		
Model 1	0.11*	0.02
Model 2	0.10*	-0.01
Model 3	-0.04	-0.08*
Race-ethnicity ² :		
MA vs. NHW		
Model 1	-0.01	0.05
Model 2	-0.18*	-0.12*
Model 3	0.04	0.05
NHB vs. NHW		
Model 1	0.05	-0.13*
Model 2	-0.02	-0.20*
Model 3	0.00	-0.19*
PIR ³ : continuous		
Model 1	-0.04*	-0.02*
Model 2	-0.03*	-0.01
Model 3	0.00	0.01
Education: \leq high school vs. $>$ high school		
Model 1	0.15*	0.12*
Model 2	0.16*	0.16*
Model 3	0.06	0.07
Supplement use ⁴ : yes vs. no		
Model 1	-0.18*	-0.15*
Model 3	-0.04*	-0.03
Smoking ⁵ : yes vs. no		
Model 1	-0.86*	-0.68*
Model 3	-0.82*	-0.70*
Alcohol consumption ⁶ : continuous, ln + 1		
Model 1	0.27*	0.01
Model 3	0.03	-0.18*

BMI ¹ : continuous, ln ⁶		
Model 1	-0.33 [*]	0.0
Model 3	-0.22 [*]	0.12 [*]
Physical activity ⁸ : continuous, ln + 1		
Model 1	-0.01	-0.01
Model 3	0.00	0.0
Sample size, <i>n</i>		
Model 2	3863	3921
Model 3	3348	3406
<i>R</i> ² value, %		
Model 2	9 ^{&}	7 ^{&}
Model 3	46 ^{&}	25 ^{&}

¹ Model 1, simple linear regression; model 2, multiple linear regression by adjusting for sociodemographic variables; model 3, multiple linear regression by adjusting for sociodemographic and lifestyle variables; change in covariate was carried out while holding any other variables in the model constant

² MA, Mexican American; NHB, non-Hispanic black; NHW, non-Hispanic white

³ PIR, family poverty income ratio

⁴ “Supplement user” defined as participant who reported taking a dietary supplement within the past 30 d

⁵ “Smoker” defined by serum cotinine concentration >10 µg/L

⁶ Alcohol consumption: calculated as average daily number of “standard” drinks [(quantity x frequency) / 365.25]; 1 drink ≈ 15 g ethanol

⁷ A 25% increase in BMI is comparable to a change from being normal weight to overweight

⁸ Physical activity: calculated as total metabolic equivalent task (MET)-min/wk from self-reported leisure time physical activities

^{*} Wald F *P*-value <0.05; *beta* coefficient is significantly different from 0

[&] Satterthwaite adjusted F *P*-value for chunk test <0.05; testing whether at least 1 *beta* coefficient for the set of variables in the chunk is significantly different from 0

Supplemental Table 2. Estimated change in acrylamide biomarker concentration with change after adjusting for sociodemographic and lifestyle variables through chunk-wise modeling¹

Variable	Acrylamide hemoglobin adduct <i>pmol/g Hb</i>	Glycidamide hemoglobin adduct <i>pmol/g Hb</i>
Age: every 10 y increase		
Model 1	-6.9*	-7.8*
Model 2	-7.7*	-8.8*
Model 3	-2.9*	-5.7*
Sex: males vs. females		
Model 1	-10.6*	-1.4
Model 2	-9.5*	0.8
Model 3	3.6	8.7*
Race-ethnicity ² : NHB vs. NHW		
Model 1	5.3	-11.8*
Model 2	-2.1	-18.4*
Model 3	0.1	-16.9*
PIR ³ : every 2 unit decrease		
Model 1	7.2*	4.8*
Model 2	5.4*	2.7
Model 3	-0.1	-2.0
Education: ≤high school vs. >high school		
Model 1	15.9*	-12.6*
Model 2	17.9*	17.2*
Model 3	5.9	7.0
Supplement use ⁴ : yes vs. no		
Model 1	-16.1*	-13.7*
Model 3	-3.5*	-2.5
Smoking ⁵ : yes vs. no		
Model 1	136*	96.6*
Model 3	126*	100.8*
Alcohol consumption ⁶ : 1 vs. 0 drinks/d		
Model 1	20.4*	0.8
Model 3	2.4	-11.8*
BMI ⁷ : 25% increase		
Model 1	-7.0*	0.1
Model 3	-4.8*	2.6*

Physical activity ⁸ : 750 vs. 150 MET min/wk		
Model 1	-1.1	-1.2
Model 3	0.6	0.2

¹ Model 1, simple linear regression; model 2, multiple linear regression by adjusting for sociodemographic variables; model 3, multiple linear regression by adjusting for sociodemographic and lifestyle variables; change in covariate was carried out while holding any other variables in the model constant

² NHB, non-Hispanic black; NHW, non-Hispanic white

³ PIR, family poverty-to-income ratio

⁴ “Supplement user” defined as participant who reported taking a dietary supplement within the past 30 d; otherwise “non-user”

⁵ “Smoker” defined by serum cotinine concentration >10 µg/L; otherwise “nonsmoker”

⁶ Alcohol consumption: calculated as average daily number of “standard” drinks [(quantity x frequency) / 365.25]; 1 drink ≈ 15 g ethanol

⁷ A 25% increase in BMI is comparable to a change from being normal weight to overweight

⁸ Physical activity: calculated as total metabolic equivalent task (MET)-min/wk from self-reported leisure time physical activities

* Change is significantly different from 0; $P < 0.05$