

Supplementary material

for

Title: Household low pile carpet usage was associated with increased serum PFAS concentrations in 2005-2006

Yachen Zhu¹, Annie Ro¹, Scott M. Bartell^{1,2,3}

Author affiliations:

1. Program in Public Health, University of California, Irvine, CA 92697-3957, USA
2. Department of Environmental and Occupational Health, University of California, Irvine, CA 92697-1250, USA
3. Department of Statistics, University of California, Irvine, CA 92697-1250, USA

Corresponding Author:

Scott M. Bartell

Department of Environmental and Occupational Health

Program in Public Health

University of California, Irvine

Irvine, CA 92697-1250

USA

Email: sbartell@uci.edu

Table S1. Adjusted Associations* from Multiple Regression Models with Complete Case Analysis (N=1,044)

% difference in PFAS concentrations**, 95% CI	PFOA	PFOS	PFHxS	MeFOSAA	PFDA	PFNA
Type of floor covering						
Smooth surface	ref	ref	ref	ref	ref	ref
Low pile carpet	9, (-10, 31)	17, (-6, 47)	20, (-14, 67)	27, (3, 56)	8, (-17, 40)	7, (-17, 37)
Medium to high pile carpet	2, (-20, 30)	-2, (-23, 26)	17, (-18, 66)	16, (-11, 52)	-8, (-26, 15)	-7, (-26, 17)
Mixed surface	1, (-22, 31)	8, (-23, 51)	11, (-25, 63)	33, (-6, 88)	5, (-21, 39)	3, (-20, 33)
<i>p-value of Wald Chi-squared test</i>	<i>0.6</i>	<i>0.03</i>	<i>0.7</i>	<i>0.07</i>	<i>0.6</i>	<i>0.3</i>

* We adjusted for age, gender (female/male), race/ethnicity (Hispanic/non-Hispanic black/non-Hispanic white/others), education (less than college/some college/college graduate or above), country of birth (foreign/US), veteran/military status (yes/no), family PIR, tap water source (don't drink tap water/community supply/others), eating out per week (yes/no), eating shellfish during past 30 days (yes/no), eating fish during past 30 days (yes/no), serum creatine, had at least one period in the past 12 months (yes/no), number of pregnancies, and number of children breastfed at least 1 month in the regression models.

** We exponentiated the regression coefficients, subtracted by one, and multiplied by 100% to estimate the percent difference in PFAS concentrations associated with each predictor.

Table S2. Adjusted Associations* from Multiple Regression Models with Multiple Imputation (k=100) for Adults (n=1,593)

% difference in PFAS concentrations**, 95% CI	PFOA	PFOS	PFHxS	MeFOSAA	PFDA	PFNA
Type of floor covering						
Smooth surface	ref	ref	ref	ref	ref	ref
Low pile carpet	7, (-9, 27)	15, (-4, 37)	33, (2, 73)	27, (6, 52)	13, (-8, 38)	8, (-11, 32)
Medium to high pile carpet	-3, (-23, 21)	-2, (-20, 20)	22, (-15, 73)	23, (-6, 61)	-8, (-25, 14)	-8, (-26, 14)
Mixed surface	1, (-23, 30)	5, (-21, 39)	15, (-17, 60)	22, (-9, 65)	5, (-20, 39)	6, (-18, 38)
<i>p-value of Wald Chi-squared test</i>	<i>0.5</i>	<i>0.03</i>	<i>0.2</i>	<i>0.06</i>	<i>0.1</i>	<i>0.3</i>

* We adjusted for age, gender (female/male), race/ethnicity (Hispanic/non-Hispanic black/non-Hispanic white/others), education (less than college/some college/college graduate or above), country of birth (foreign/US), veteran/military status (yes/no), family PIR, tap water source (don't drink tap water/community supply/others), eating out per week (yes/no), eating shellfish during past 30 days (yes/no), eating fish during past 30 days (yes/no), serum creatine, had at least one period in the past 12 months (yes/no), number of pregnancies, and number of children breastfed at least 1 month in the regression models.

** We exponentiated the regression coefficients, subtracted by one, and multiplied by 100% to estimate the percent difference in PFAS concentrations associated with each predictor.

Table S3. Adjusted Associations* from Multiple Regression Models with Multiple Imputation (k=100) for Adolescents (n=730)

% difference in PFAS concentrations**, 95% CI	PFOA	PFOS	PFHxS	MeFOSAA	PFDA	PFNA
Type of floor covering						
Smooth surface	ref	ref	ref	ref	ref	ref
Low pile carpet	5, (-11, 24)	11, (-7, 33)	29, (-14, 92)	13, (-9, 41)	11, (-12, 42)	15, (-9, 45)
Medium to high pile carpet	6, (-16, 35)	5, (-26, 49)	32, (-33, 158)	33, (-7, 91)	3, (-25, 42)	13, (-19, 59)
Mixed surface	-27, (-59, 30)	-10, (-43, 44)	8, (-56, 167)	19, (-28, 97)	-16, (-54, 51)	-32, (-75, 83)
<i>p-value of Wald Chi-squared test</i>	0.5	0.6	0.6	0.4	0.6	0.4

* We adjusted for age, gender (female/male), race/ethnicity (Hispanic/non-Hispanic black/non-Hispanic white/others), education (less than college/some college/college graduate or above), country of birth (foreign/US), veteran/military status (yes/no), family PIR, tap water source (don't drink tap water/community supply/others), eating out per week (yes/no), eating shellfish during past 30 days (yes/no), eating fish during past 30 days (yes/no), serum creatinine, had at least one period in the past 12 months (yes/no), number of pregnancies, and number of children breastfed at least 1 month in the regression models.

** We exponentiated the regression coefficients, subtracted by one, and multiplied by 100% to estimate the percent difference in PFAS concentrations associated with each predictor.

Table S4. Adjusted Associations* from Multiple Regression Models with Multiple Imputation and Additional Adjustment for BMI (k=100) (N=2,323)

% difference in PFAS concentrations**, 95% CI	PFOA	PFOS	PFHxS	MeFOSAA	PFDA	PFNA
Type of floor covering						
Smooth surface	ref	ref	ref	ref	ref	ref
Low pile carpet	6, (-8, 23)	14, (-2, 32)	31, (2, 68)	23, (7, 43)	12, (-7, 34)	9, (-8, 29)
Medium to high pile carpet	-2, (-18, 17)	-2, (-19, 19)	22, (-15, 74)	22, (-5, 58)	-7, (-22, 12)	-6, (-21, 12)
Mixed surface	-3, (-22, 21)	2, (-20, 30)	12, (-19, 53)	18, (-9, 54)	2, (-19, 30)	4, (-17, 30)
<i>p-value of Wald Chi-squared test</i>	0.6	0.02	0.1	0.04	0.2	0.3

* We adjusted for age, gender (female/male), race/ethnicity (Hispanic/non-Hispanic black/non-Hispanic white/others), education (less than college/some college/college graduate or above), country of birth (foreign/US), veteran/military status (yes/no), family PIR, tap water source (don't drink tap water/community supply/others), eating out per week (yes/no), eating shellfish during past 30 days (yes/no), eating fish during past 30 days (yes/no), serum creatinine, had at least one period in the past 12 months (yes/no), number of pregnancies, and number of children breastfed at least 1 month in the regression models.

** We exponentiated the regression coefficients, subtracted by one, and multiplied by 100% to estimate the percent difference in PFAS concentrations associated with each predictor.