

SUPPLEMENTARY MATERIALS

The Supplementary Materials for this study are available online at: <https://www.frontiersin.org/articles/supplementary-material>.

Supplementary Table S1. Characteristics of the participants in training set and validation set

Characteristic	Training set (n = 4,609)	Validation set (n = 2,004)	P-value
Sex, n (%)			0.455
Males	2,124 (46.08)	943 (47.06)	
Females	2,485 (53.92)	1,061 (52.94)	
Age (years), n (%)			0.721
20–	1,809 (39.25)	790 (39.42)	
45–	1,149 (24.93)	494 (24.65)	
60–	1,134 (24.60)	470 (23.45)	
≥ 75	517 (11.22)	250 (12.48)	
Race/Ethnicity, n (%)			0.009
Mexican American	751 (16.29)	289 (14.42)	
Other hispanic	535 (11.61)	203 (10.13)	
Non-hispanic white	2,069 (44.89)	931 (46.46)	
Non-hispanic black	817 (17.73)	383 (19.11)	
Other/multiracial	437 (9.48)	198 (9.88)	
BMI (kg/m ²), n (%)			0.166
< 25	1,251 (27.18)	573 (28.64)	
25–30	1,531 (33.27)	674 (33.68)	
≥ 30	1,820 (39.55)	754 (37.68)	
Educational level, n (%)			0.182
< High school	1,203 (26.15)	501 (25.00)	
High school	1,056 (22.95)	441 (22.01)	
> High school	2,342 (50.90)	1,062 (52.99)	
Annual household income (CNY), n (%)			0.081
< 20,000	933 (22.21)	408 (21.19)	
20,000–	1,614 (36.11)	669 (34.76)	
45,000–	850 (19.02)	340 (17.66)	
≥ 75,000	1,013 (22.66)	508 (26.39)	
Smoking status, n (%)			0.446
Yes	1,906 (41.37)	801 (39.97)	
No	2,701 (58.63)	1,203 (60.03)	
Vigorous recreational activity, n (%)			0.350
Yes	895 (19.42)	406 (20.26)	
No	3,714 (80.58)	1,598 (79.74)	
Hypertension, n (%)			0.455
Yes	2,198 (47.69)	989 (49.35)	
No	2,411 (52.31)	1,015 (50.65)	
Diabetes, n (%)			0.362
Yes	981 (21.28)	434 (21.66)	
No	3,628 (78.72)	1,570 (78.34)	
Cholesterol, mg/dL	192.63 ± 41.61	193.59 ± 40.98	0.386
Uric Acid, mg/dL	5.45 ± 1.40	5.51 ± 1.44	0.112
High-density lipoprotein, mg/dL	52.26 ± 14.45	52.82 ± 15.35	0.155
Low-density lipoprotein, mg/dL	114.87 ± 35.60	115.39 ± 35.02	0.583
Average energy intake, kcal/day	1,898.36 ± 703.84	1,925.17 ± 696.28	0.153
Total dietary retinol intake, RAEs, µg/1,000 kcal/day	335.31 ± 288.18	330.68 ± 269.25	0.540
Animal-derived dietary retinol intake, RAEs, µg/1,000 kcal/day	127.36 ± 168.10	126.82 ± 183.63	0.907
Plant-derived dietary retinol intake, RAEs, µg/1,000 kcal/day	189.62 ± 231.38	186.58 ± 190.60	0.605

Note. BMI: Body Mass Index, RAEs: retinol activity equivalents.