

Supplementary materials

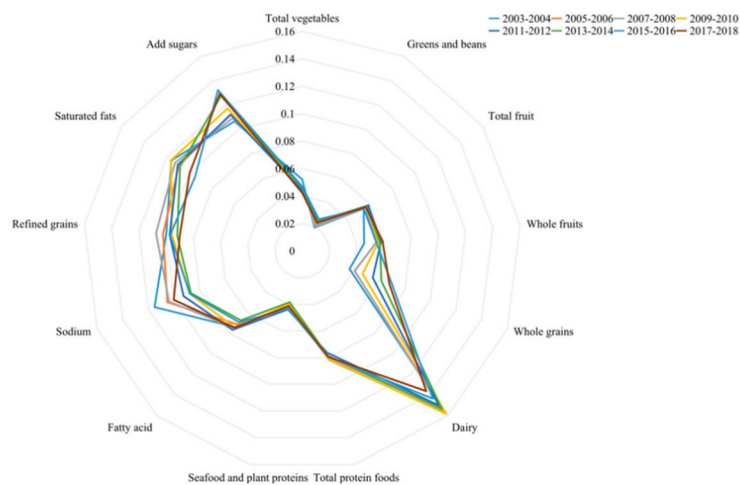


Figure. S1 The ratio of the average score of each component to the total score of the HEI-2015.

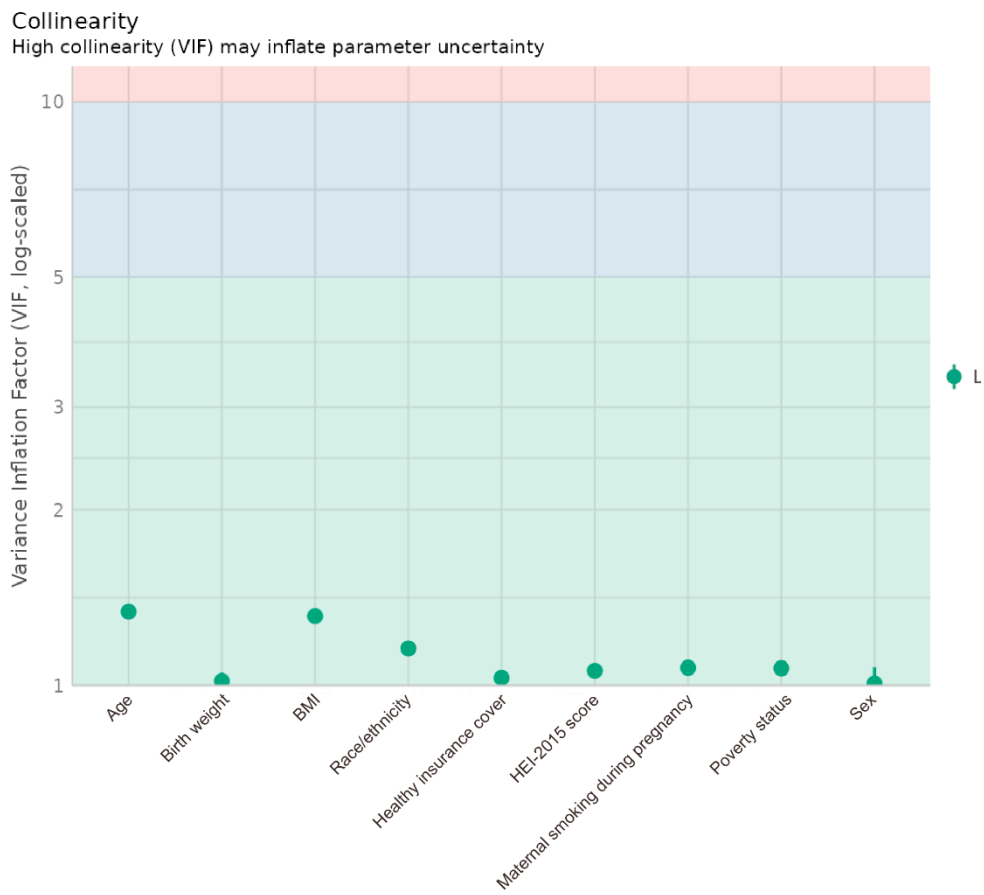


Figure. S2 The variance inflation factor of variables.

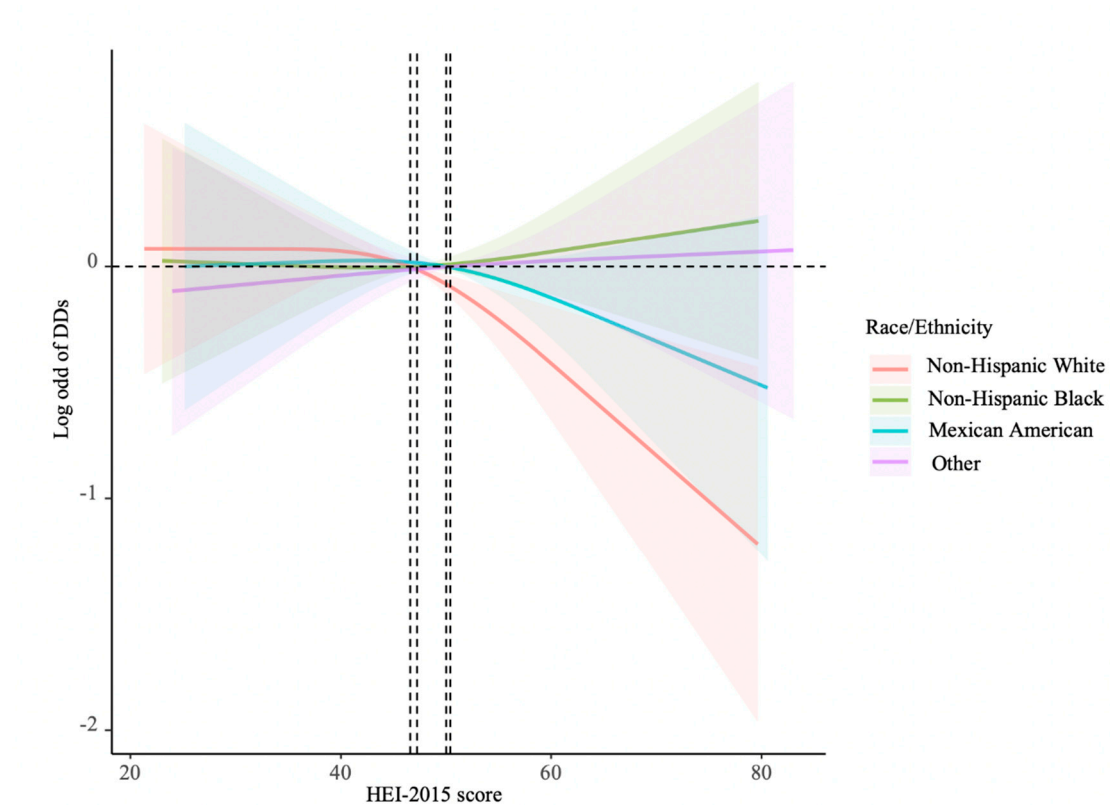


Figure. S3 Smooth curve fitting of HEI-2015 score with DDs by race/ethnicity.

Table. S1 HEI-2015 Components and Scoring Standards^a

HEI-2015 Components	Range of Points	Minimum Standard	Scoring Maximum Standard	Scoring
Adequacy Components (higher score indicates higher consumption)				
Total Fruits	0-5	0	0.8 cup equiv. /1000 kcal	
Whole Fruits	0-5	0	0.4 cup equiv./1000 kcal	
Total Vegetables	0-5	0	1.1 cup equiv. /1000 kcal	
Greens and Beans	0-5	0	0.2 cup equiv. /1000 kcal	
Total Protein Foods	0-5	0	2.5 oz equiv./1000 kcal	
Seafood and Plant Proteins	0-5	0	0.8 oz equiv./1000 kcal	
Dairy	0-10	0	1.3 cup equiv./1000 kcal	
Whole Grains	0-10	0	1.5 oz equiv. /1000 kcal	
Fatty Acids ^b	0-10	(PUFAs + MUFAs)/SFAs ≤1.2	(PUFAs + MUFAs)/SFAs ≥2.5	

Moderation Components (higher score indicates lower consumption)			
Refined Grains	0-10	4.3 oz equiv./1000 kcal	1.8 oz equiv. /1000 kcal
Sodium	0-10	2.0 grams /1000 kcal	1.1 grams/1000 kcal
Added Sugars	0-10	26% of energy	6.5% of energy
Saturated Fats	0-10	16% of energy	8% of energy

^aIntakes between the minimum and maximum standards are scored proportionately.

^bRatios of polyunsaturated and monounsaturated fatty acids (PUFAs and MUFAs) to saturated fatty acids (SFAs).

Table. S2 Characteristics of participants included in NHANES 2003-2018 analyses by HEI-2015 quartile(n=11919) ^a.

Variable	All	HEI-Q1	HEI-Q2	HEI-Q3	HEI-Q4	P-value^b
Age	10.04(0.04)	10.67(0.08)	10.24(0.09)	9.69(0.09)	9.50(0.10)	< 0.001
BMI	19.88(0.10)	20.53(0.17)	20.04(0.15)	19.42(0.14)	19.50(0.16)	< 0.001
Sex						0.05
Male	5964(50.04)	1573(53.11)	1503(51.33)	1466(51.84)	1422(47.64)	
Female	5955(49.96)	1407(46.89)	1477(48.67)	1514(48.16)	1557(52.36)	
Race/ethnicity						< 0.001
Mexican American	3011(25.26)	587(10.77)	751(14.16)	774(15.09)	899(18.15)	
Non-Hispanic white	3540(29.7)	1086(64.02)	868(57.61)	824(55.06)	762(53.26)	
Non-Hispanic black	3164(26.55)	844(13.14)	864(15.01)	797(14.64)	659(11.90)	
Other races	2204(18.49)	463(12.07)	497(13.23)	585(15.21)	659(16.69)	
Poverty status						0.59
No	8203(68.82)	2095(78.25)	2015(75.80)	2056(77.61)	2037(76.84)	
Yes	3716(31.18)	885(21.75)	965(24.20)	924(22.39)	942(23.16)	
Birth weight						0.90
≥5.5 lbs	10083(84.6)	2511(85.19)	2522(86.28)	2516(85.68)	2534(85.81)	
<5.5 lbs	1836(15.4)	469(14.81)	458(13.72)	464(14.32)	445(14.19)	

Maternal smoking during pregnancy						< 0.01
No	5697(87.51)	1355(83.33)	1403(83.42)	1434(87.16)	1505(91.82)	
Yes	813(12.49)	273(16.67)	224(16.58)	193(12.84)	123(8.18)	
With health insurance coverage						0.38
No	1203(10.09)	263(7.16)	288(7.17)	314(8.49)	338(8.62)	
Yes	10716(89.91)	2717(92.84)	2692(92.83)	2666(91.51)	2641(91.38)	
DDs						<0.01
No	10727(90)	2635(89.03)	2660(88.44)	2690(89.93)	2742(92.77)	
Yes	1192(10)	345(10.97)	320(11.56)	290(10.07)	237(7.23)	

^aContinuous data were displayed as weighted means (standard errors), while categorical variables were exhibited as unweighted numbers (weighted percentages). BMI, body mass index; NHANES, the national health and nutrition examination survey; HEI, Healthy Eating Index.

^bP-values were calculated using Chi-square tests for categorical variables and Student's t-test for continuous variables.

Table. S3 Subgroup analysis and interaction analysis of the association between the HEI-2015 score and DDs (NHANES 2003-2018).

Variable	OR (95%CI) ^a	P-value	P-interaction ^b
Age			0.71
≤11 years	0.99(0.98,1.00)	0.06	
>11 years	0.99(0.98,1.00)	0.10	
Sex			0.84
Male	0.99(0.98,1.00)	0.06	
Female	0.99(0.98,1.00)	0.10	
Race/ethnicity			0.02
Mexican American	0.99(0.97,1.01)	0.41	
Non-Hispanic white	0.98(0.97,0.99)	<0.001	
Non-Hispanic black	1.01(1.00,1.02)	0.09	
Other races	1.00(0.98,1.02)	0.72	
Poverty status			0.41

No	0.99(0.98,1.00)	<0.01	
Yes	1.00(0.99,1.02)	0.91	
Birth weight			0.10
≥5.5 lbs	0.99(0.98,1.00)	<0.01	
<5.5 lbs	1.00(0.98,1.02)	0.78	
Maternal smoking during pregnancy			0.17
No	0.99(0.98,1.00)	0.07	
Yes	1.00(0.98,1.02)	0.79	
With health insurance coverage			0.44
No	0.98(0.96,1.01)	0.27	
Yes	0.99(0.98,1.00)	0.02	
BMI			0.24
<25	0.99(0.98,1.00)	<0.01	
≥25	1.00(0.98,1.02)	0.93	

^aAdjust for all covariables except for subgroup variables.

^bP-interaction was used to evaluate the interaction, with <0.05 indicating statistical significance.

Table. S4 Correction of p-values for primary results using the Benjamini and Hochberg FDR (BH) method.

Variable	Model 1 ^a		Model 2 ^b			
	OR (95%CI)	P-value	Adjust P-value	OR (95%CI)	P-value	Adjust P-value
Whole fruits	0.92(0.88,0.96)	<0.001	0.001	0.94(0.90,0.98)	<0.01	0.04
Total fruit	0.91(0.87,0.96)	0.001	<0.01	0.93(0.88,0.98)	0.01	0.04
HEI2015-score	0.99(0.98,0.99)	0.001	<0.01	0.99(0.98,1.00)	0.01	0.04
Saturated fats	0.96(0.93,0.99)	0.02	0.06	0.96(0.93,1.00)	0.03	0.09
Total vegetables	0.93(0.86,0.99)	0.03	0.07	0.94 (0.87,1.00)	0.05	0.15
Seafood and plant proteins	0.95(0.91,1.00)	0.03	0.07	0.96(0.92,1.01)	0.09	0.21
Fatty acid	0.98(0.95,1.01)	0.15	0.30	0.98(0.95,1.01)	0.26	0.52
Add sugars	1.00(0.97,1.03)	0.98	0.98	1.01(0.97,1.04)	0.68	0.95
Total protein foods	1.01(0.94,1.09)	0.78	0.88	0.99(0.92,1.06)	0.76	0.95
Greens and beans	0.97(0.92,1.03)	0.35	0.61	0.99(0.94,1.05)	0.77	0.95
Whole grains	0.99(0.95,1.03)	0.55	0.78	1.00(0.96,1.04)	0.82	0.95
Dairy	1.00(0.97,1.04)	0.82	0.88	1.00(0.97,1.04)	0.83	0.95
Sodium	0.99(0.96,1.02)	0.57	0.78	1.00(0.97,1.03)	0.88	0.95
Refined grains	1.01(0.98,1.03)	0.62	0.78	1.00(0.97,1.03)	0.99	0.99

^aModel 1 was a crude model with no adjusted covariates.

^bModel 2 adjusted for age, sex, race/ethnicity, poverty status, birth weight, BMI, maternal smoking during pregnancy, and health insurance coverage status.