Electronic Supplementary Material (ESI) for Food & Function.

Supplementary Materials

Table S1. AGEs Score of Total and Different Food Groups

Food group sources	Mean (SD)	Median (P_{25}, P_{75})	Minimum	Maximum
Total AGEs score	28.00 (0.38)	24.33 (12.67, 39.21)	0.08	114.61
Fruits and vegetables	0.56 (0.01)	0.36 (0.17, 0.75)	0.09	8.12
Beverages	0.33 (0.01)	0.30 (0.10, 0.60)	0.09	5.16
Milk and dairy products	0.97 (0.01)	0.81 (0.37, 1.31)	0.07	16.46
Candy	0.85 (0.02)	0.32 (0.10, 1.13)	0.07	16.29
Baked foods	7.35 (0.18)	4.13 (0.69, 10.96)	0.07	81.31
Soup	0.24 (0.004)	0.14 (0.10, 0.27)	0.09	6.10
Meat and meat products	4.11 (0.10)	2.43 (0.65, 5.39)	0.06	94.70
Seafood	0.50 (0.01)	0.10 (0.09, 0.61)	0.10	16.59
Cereal and cereal products	6.32 (0.11)	4.63 (0.89, 79.16)	0.09	79.16
Potatoes and their products	0.40 (0.01)	0.27 (0.11, 0.49)	0.07	5.18
Bean and nut products	6.59 (0.23)	1.81 (0.10, 8.69)	0.08	101.36
Eggs and egg products	0.51 (0.01)	0.37 (0.10, 0.71)	0.08	14.03
Oil and condiments	0.12 (0.001)	0.11 (0.10, 0.14)	0.09	0.75

Data were expressed as weighted mean (SD), weighted median (P_{25}, P_{75}), weighted minimum and weighted maximum.

Abbreviations: AGEs, advanced glycation end products; SD, standard deviation.

Table S2. Association of Total and Different Food-derived AGEs Score with All-cause, CVD and Cancer Mortality

Food group sources	All-cause Mortality			CVD Mortality			Cancer Mortality		
	Death/N	HR (95%CI)	P_{trend}	Death/N	HR (95%CI)	P_{trend}	Death/N	HR (95%CI)	P_{trend}
Total AGEs score									
Q1 (0.08-12.67)	610/2783	1.00 (ref.)		145/2783	1.00 (ref.)		109/2783	1.00 (ref.)	
Q2 (12.67-24.34)	1403/4749	0.91 (0.73-1.15)		427/4749	1.10 (0.85-1.42)		288/4749	1.01 (0.62-1.64)	
			0.0806			**<0.0001**			0.4982
Q3 (24.34-39.21)	2313/6560	0.99 (0.80-1.22)		786/6560	**1.72 (1.27-2.32)**		480/6560	0.96 (0.67-1.37)	
Q4 (39.21-114.61)	3655/8032	1.09 (0.91-1.32)		1310/8032	**1.86 (1.39-2.50)**		767/8032	1.08 (0.78-1.48)	
Per SD increment		**1.01 (1.00-1.02)**			**1.01 (1.00-1.02)**			1.00 (0.99-1.01)	
Fruits and vegetables									
Q1 (0.09-0.17)	433/2253	1.00 (ref.)		89/2253	1.00 (ref.)		78/2253	1.00 (ref.)	
Q2 (0.17-0.35)	925/3236	0.98 (0.75-1.26)		243/3236	0.84 (0.53-1.33)		167/3236	1.23 (0.84-1.81)	
			0.2397			**<0.0001**			**0.0153**
Q3 (0.35-0.75)	1979/5889	0.90 (0.75-1.08)		650/5889	1.43 (0.96-2.14)		421/5889	1.13 (0.76-1.69)	
Q4 (0.75-8.12)	4644/10746	1.07 (0.90-1.28)		2668/10746	**2.10 (1.49-2.94)**		978/10746	**1.61 (1.09-2.38)**	
Per SD increment		**1.10 (1.04-1.17)**			**1.53 (1.42-1.64)**			**1.25 (1.11-1.41)**	
Beverages									
Q1 (0.09-0.10)	1086/5044	1.00 (ref.)		356/5044	1.00 (ref.)		209/5044	1.00 (ref.)	
Q2 (0.10-0.30)	2136/6446	1.21 (1.03-1.41)		787/6446	1.30 (1.02-1.66)		403/6446	1.39 (0.99-1.96)	
			0.8135			0.1289			0.1345
Q3 (0.30-0.60)	2899/6459	1.05 (0.90-1.22)		978/6459	0.95 (0.76-1.19)		595/6459	1.20 (0.92-1.56)	
Q4 (0.60-5.16)	1860/4175	1.08 (0.92-1.27)		547/4175	0.94 (0.75-1.18)		437/4175	1.36 (1.02-1.82)	
Per SD increment		0.99 (0.88-1.11)			0.94 (0.77-1.16)			**1.29 (1.13-1.46)**	
Milk and dairy products									
Q1 (0.07-0.37)	1696/4808	1.00 (ref.)		493/4808	1.00 (ref.)		345/4808	1.00 (ref.)	
Q2 (0.37-0.81)	1779/5528	1.04 (0.88-1.22)		578/5528	1.29 (0.99-1.67)		373/5528	0.97 (0.73-1.30)	
			0.0317			**<0.0001**			0.1345
Q3 (0.81-1.31)	2412/6209	1.14 (0.95-1.37)		892/6209	**1.63 (1.25-2.12)**		528/6209	1.34 (0.99-1.81)	
Q4 (1.31-16.46)	2094/5579	1.17 (0.99-1.38)		705/5579	**1.44 (1.21-1.71)**		398/5579	1.08 (0.81-1.44)	
Per SD increment		**1.06 (1.00-1.12)**			**1.11 (1.05-1.12)**			1.01 (0.92-1.11)	

Candy									
Q1 (0.07-0.10)	724/3082	1.00 (ref.)		190/3082	1.00 (ref.)		149/3082	1.00 (ref.)	
Q2 (0.10-0.32)	2225/5390	1.11 (0.95-1.29)		712/5390	1.36 (0.95-1.94)		418/5390	1.08 (0.80-1.45)	
			0.0615			**0.0365**			0.7452
Q3 (0.32-1.13)	2222/6718	0.91 (0.76-1.10)		771/6718	1.39 (0.98-1.97)		455/6718	0.90 (0.65-1.24)	
Q4 (1.13-16.29)	2810/6934	0.94 (0.80-1.12)		995/6934	**1.45 (1.02-2.05)**		622/6934	1.11 (0.79-1.55)	
Per SD increment		0.97 (0.94-1.00)			1.04 (0.99-1.10)			0.99 (093-1.06)	
Baked foods									
Q1 (0.07-0.69)	470/2358	1.00 (ref.)		93/2358	1.00 (ref.)		77/2358	1.00 (ref.)	
Q2 (0.69-4.13)	869/3372	0.92 (0.71-1.18)		248/3372	1.01 (0.71-1.43)		172/3372	0.96 (0.58-1.58)	
			0.0145			**<0.0001**			**0.0098**
Q3 (4.13-10.96)	2122/6126	1.10 (0.82-1.21)		715/6126	**1.54 (1.17-2.02)**		410/6126	1.12 (0.76-1.65)	
Q4 (10.96-81.31)	4520/10268	1.21 (0.99-1.48)		1612/10268	**2.13 (1.59-2.86)**		985/10268	1.43 (0.95-2.16)	
Per SD increment		**1.01 (1.00-1.02)**			**1.02 (1.01-1.03)**			**1.01 (1.00-1.02)**	
Soup									
Q1 (0.09-0.10)	1389/3922	1.00 (ref.)		410/3922	1.00 (ref.)		267/3922	1.00 (ref.)	
Q2 (0.10-0.14)	1248/4560	1.05 (0.89-1.24)		393/4560	**1.43 (1.07-1.91)**		308/4560	1.03 (0.75-1.40)	
			0.5666			**<0.0001**			0.6428
Q3 (0.14-0.27)	2997/7649	1.02 (0.89-1.17)		1048/7649	**1.56 (1.29-1.89)**		617/7649	1.10 (0.84-1.45)	
Q4 (0.27-6.10)	2347/5993	1.06 (0.91-1.24)		817/5993	**1.62 (1.31-2.02)**		452/5993	1.06 (0.76-1.49)	
Per SD increment		1.14 (0.96-1.36)			**1.66 (1.38-2.00)**			1.08 (0.77-1.52)	
Meat and meat products									
Q1 (0.06-0.65)	589/2347	1.00 (ref.)		125/2347	1.00 (ref.)		93/2347	1.00 (ref.)	
Q2 (0.65-2.43)	1358/3870	1.06 (0.85-1.33)		446/3870	**1.43 (1.05-1.95)**		262/3870	1.07 (0.81-1.40)	
			0.0082			**<0.0001**			**0.0023**
Q3 (2.43-5.39)	2706/7173	1.15 (0.95-1.38)		994/7173	**1.92 (1.35-2.73)**		551/7173	1.23 (0.88-1.72)	
Q4 (5.39-94.70)	3328/8734	**1.21 (1.01-1.45)**		1103/8734	**1.91 (1.35-2.70)**		738/8734	**1.31 (1.02-1.69)**	
Per SD increment		**1.01 (1.00-1.02)**			**1.02 (1.01-1.03)**			1.01 (0.99-1.03)	
Seafood									
Q1 (0.09-0.10)	510/2621	1.00 (ref.)		127/2621	1.00 (ref.)		116/2621	1.00 (ref.)	
Q2 (0.10-0.11)	974/2909	1.18 (0.97-1.42)	0.7433	248/2909	1.07 (0.62-1.84)	**0.0050**	162/2909	0.94 (0.63-1.39)	0.0953
Q3 (0.11-0.61)	4220/10096	1.24 (1.02-1.51)		1501/10096	**1.62 (1.02-2.56)**		867/10096	1.71 (1.12-2.59)	

Q4 (0.61-16.59)	2277/6498	1.04 (0.85-1.27)		792/6498	1.45 (0.95-2.22)		499/6498	1.17 (0.80-1.73)	
Per SD increment		0.96 (0.90-1.02)			1.10 (0.99-1.22)			0.97 (0.86-1.10)	
Cereal and cereal products									
Q1 (0.09-0.89)	1142/3453	1.00 (ref.)		293/3453	1.00 (ref.)		255/3453	1.00 (ref.)	
Q2 (0.89-4.63)	2094/6626	1.09 (0.94-1.27)		691/6626	**1.36 (1.07-1.74)**		461/6626	1.05 (0.72-1.53)	
			0.3092			**0.0307**			0.2488
Q3 (4.63-9.59)	1951/5644	1.01 (0.89-1.15)		630/5644	1.07 (0.79-1.45)		416/5644	0.93 (0.70-1.24)	
Q4 (9.59-79.16)	2794/6401	1.10 (0.95-1.26)		1054/6401	**1.40 (1.13-1.74)**		512/6401	0.88 (0.64-1.19)	
Per SD increment		1.01 (0.99-1.02)			**1.01 (1.00-1.02)**			0.99 (0.98-1.01)	
Potatoes and their products									
Q1 (0.07-0.11)	607/2591	1.00 (ref.)		139/2591	1.00 (ref.)		110/2591	1.00 (ref.)	
Q2 (0.11-0.27)	2492/6896	1.06 (0.89-1.26)		831/6896	1.33 (0.92-1.95)		511/6896	1.38 (0.90-2.13)	
			0.2438			**0.0186**			0.3424
Q3 (0.27-0.49)	3014/7787	1.12 (0.97-1.30)		1062/7787	**1.52 (1.10-2.09)**		650/7787	1.50 (1.01-2.21)	
Q4 (0.49-5.18)	1868/4850	1.08 (0.91-1.28)		636/4850	**1.41 (1.00-1.99)**		373/4850	1.22 (0.80-1.87)	
Per SD increment		1.14 (0.97-1.33)	`		**1.35 (1.01-1.68)**			1.01 (0.74-1.35)	
Bean and nut products									
Q1 (0.08-0.10)	1019/4357	1.00 (ref.)		287/4357	1.00 (ref.)		220/4357	1.00 (ref.)	
Q2 (0.10-1.81)	2701/6709	1.18 (0.99-1.40)		923/6709	1.34 (0.99-1.79)		532/6709	1.18 (0.81-1.70)	
			0.5644			0.1309			0.5823
Q3 (1.81-8.69)	2463/6800	1.12 (0.95-1.33)		844/6800	1.44 (1.10-1.90)		509/6800	1.12 (0.84-1.49)	
Q4 (8.69-101.36)	1798/4258	1.02 (0.84-1.25)		614/4258	1.35 (1.03-1.76)		383/4258	1.12 (0.88-1.43)	
Per SD increment		0.99(0.98-1.00)			1.00 (0.99-1.01)			0.99 (0.98-1.00)	
Eggs and egg products									
Q1 (0.08-0.10)	794/3221	1.00 (ref.)		225/3221	1.00 (ref.)		146/3221	1.00(ref.)	
Q2 (0.10-0.37)	2598/6846	1.11 (0.97-1.27)		940/6846	1.87 (1.43-2.44)		548/6846	**1.66 (1.24-2.23)**	
			0.0431			0.0645			**0.0445**
Q3 (0.37-0.71)	1637/4853	1.01 (0.89-1.14)		557/4853	1.61 (1.27-2.05)		316/4853	1.14 (0.79-1.63)	
Q4 (0.71-14.03)	2952/7204	**1.18 (1.03-1.35)**		946/7204	1.63 (1.21-2.19)		634/7204	**1.72 (1.22-2.41)**	
Per SD increment		1.11 (1.05-1.17)			1.07 (0.97-1.18)			1.17 (1.07-1.28)	
Oil and condiments									
Q1 (0.09-0.10)	656/3052	1.00 (ref.)	0.0668	181/3052	1.00 (ref.)	**0.0064**	148/3052	1.00 (ref.)	0.4831

Q2 (0.10-0.11)	1602/4114	1.14 (0.96-1.36)	512/4114	1.05 (0.70-1.56)	278/4114	1.26 (0.89-1.78)
Q3 (0.11-0.14)	3580/9489	1.21 (1.02-1.43)	1259/9489	**1.73 (1.18-2.55)**	762/9489	1.41 (0.94-2.13)
Q4 (0.14-0.75)	2143/5469	1.18 (0.99-1.40)	716/5469	1.39 (0.92-2.10)	456/5469	1.19 (0.85-1.67)
Per SD increment		1.74 (0.46-6.67)		**4.57 (1.20-19.00)**		0.25 (0.02-3.42)

Total and different food-derived AGEs scores were non-normally distributed, and thus natural log transformed. The weighted Cox proportional hazard regression model adjusted for age (continuous), gender (female, male), race (Non-Hispanic White, Non-Hispanic Black, Mexican American and others), education (below high school, high school, college or above), marital status (married or living with partner, divorced or separated or widowed, never), poverty income ratio (0-1.30, 1.31-3.50, >3.50), body mass index (<25, 25-30, >30 kg/m^2), physical activity (vigorous, moderate, inactive), smoking status (never, former, current), drinking status (never, moderate, heavy), energy (continuous), cancer (yes, no).

P_{trend} was calculated by assigning the categorical AGEs score as a continuous variable.

Abbreviations: AGEs, advanced glycation end products; HR, hazard ratio; SD, standard deviation; CVD, cardiovascular disease; CI, confidence interval.

Table S3. Population Attributable Risk (PAR) for All-cause, CVD, and Cancer Mortality by AGEs from Other Food Groups

Food group sources	PAR (%, 95% confidence interval)		
	All-cause Mortality	CVD Mortality	Cancer Mortality
Milk and dairy products			
≥ Q4	0 (-1.3, 1.4)	-0.002	-0.08
≥ Q3	2.1 (-0.4, 4.6)	9.0 (4.7, 13.3)	3.0 (2.4, 8.3)
≥ Q2	-0.02	12.3 (5.2, 19.2)	-0.01
Cereal and cereal products			
≥ Q4	5.0 (3.4, 6.6)	10.4 (7.5, 13.2)	1.3 (-2.1, 4.6)
≥ Q3	5.3 (3.7, 6.9)	10.7 (7.9, 13.6)	2.1 (-3.5, 7.6)
≥ Q2	-0.002	22.5 (14.1, 30.7)	-0.10
Bean and nut products			
≥ Q4	1.4 (0.1, 2.6)	1.2 (-1.0, 3.4)	3.4 (0.6, 6.2)
≥ Q3	0.3 (-2.2, 2.7)	3.1 (-1.1, 7.3)	2.0 (-3.3, 7.3)
≥ Q2	6.0 (-2.7, 14.6)	16.2 (6.2, 25.9)	12.5 (0.7, 23.8)
Fruits and vegetables			
≥ Q4	4.5 (2.1, 6.9)	15.0 (10.9, 19.1)	8.6 (3.3, 13.7)
≥ Q3	2.9 (-1.8, 7.6)	28.7 (21.5, 35.7)	16.0 (6.2, 25.4)
≥ Q2	5.5 (-3.2, 14.2)	42.0 (29.5, 53.1)	18.6 (0.5, 35.4)
Oil and condiments			
≥ Q4	-0.02	-0.01	0.8 (-2.2, 3.8)
≥ Q3	2.4 (-1.0, 5.7)	12.8 (7.3, 18.2)	7.6 (0.2, 14.9)
≥ Q2	8.0 (0.7, 15.1)	23.7 (12.2, 34.6)	6.1 (-9.2, 21.1)
Candy			
≥ Q4	0.8 (-0.8, 2.4)	3.6 (0.8, 6.4)	5.3 (1.7, 8.8)
≥ Q3	-0.07	5.0 (0.1, 10.0)	1.7 (-4.7, 8.1)
≥ Q2	-0.04	16.3 (4.2, 27.9)	7.2 (-7.6, 21.7)

Beverages			
≥ Q4	-0.01	-0.18	4.2 (1.3, 7.2)
≥ Q3	4.7 (2.0, 7.4)	-0.07	14.0 (8.0, 19.9)
≥ Q2	10.1 (4.7, 15.4)	5.6 (-4.2, 15.4)	26.1 (13.1, 33.6)
Eggs and egg products			
≥ Q4	4.9 (3.2, 6.6)	1.9 (-0.9, 4.8)	6.9 (3.1, 10.7)
≥ Q3	4.4 (1.9, 6.9)	1.5 (-2.9, 5.8)	4.0 (-0.1.6, 9.5)
≥ Q2	11.7 (5.7, 17.5)	23.9 (14.1, 33.2)	22.4 (10.1, 34.1)
Soup			
≥ Q4	0.2 (-1.3, 1.6)	1.3 (-1.2, 3.9)	-0.06
≥ Q3	0.8 (-2.3, 3.9)	9.2 (3.9, 14.3)	-0.08
≥ Q2	2.1 (-2.7, 7.0)	16.9 (9.1, 24.4)	2.6 (-8.6, 13.6)
Seafood			
≥ Q4	-0.04	1.2 (-1.1, 3.6)	0.7 (-2.3, 3.8)
≥ Q3	6.3 (2.0, 10.5)	30.2 (23.7, 36.5)	13.3 (4.1, 22.3)
≥ Q2	4.5 (-4.1, 13.1)	28.2 (15.0, 40.4)	4.2 (-13.6, 21.8)

The model adjusted for age (<65, ≥65), gender (female, male), race (White, others), education (below high school, others), poverty income ratio (0-1.3, >1.3), body mass index (<30, ≥30 kg/m^2), physical activity (vigorous or moderate, inactive), smoking status (yes, no), drinking status (yes, no), marital status (never, others), energy (low, high) and cancer (yes, no).

Abbreviations: AGEs, advanced glycation end products; PAR, population attributable risk; CVD, cardiovascular disease.

Table S4. Association of Quartiles of Total AGEs Score with All-cause, CVD, and Cancer Mortality Stratified by Traditional Risk Factors

Lifestyle Factors	Subgroups	N	HR (95% CI)				P_{trend}	$P_{interaction}$
			Q1 (0.08-12.67)	Q2 (12.67-24.34)	Q3 (24.34-39.21)	Q4 (39.21-114.61)		
All-cause mortality								
Age	<60	15065	1.00 (ref.)	0.72 (0.50-1.06)	0.86 (0.64-1.18)	1.13 (0.79-1.62)	0.1532	0.6213
	≥60	7059	1.00 (ref.)	1.12 (0.93-1.34)	1.13 (0.92-1.39)	**1.22 (1.00-1.49)**	**0.0448**	
Sex	Female	11688	1.00 (ref.)	1.03 (0.74-1.44)	1.03 (0.78-1.37)	1.18 (0.92-1.51)	0.0816	0.2785
	Male	10436	1.00 (ref.)	0.81 (0.62-1.06)	0.94 (0.74-1.20)	0.99 (0.76-1.30)	0.4582	
BMI	<30	15961	1.00 (ref.)	0.95 (0.71-1.27)	0.95 (0.72,1.24)	1.16 (0.90-1.50)	0.0701	0.9777
	≥30	6064	1.00 (ref.)	0.87 (0.64-1.17)	1.12 (0.80-1.56)	1.00 (0.76-1.32)	0.5403	
Smoke	Non-smoker	10897	1.00 (ref.)	1.05 (0.73-1.53)	1.08 (0.77-1.51)	1.11 (0.83-1.49)	0.3610	0.7275
	Smoker	10668	1.00 (ref.)	0.84 (0.64-1.09)	0.95 (0.75-1.19)	1.07 (0.86,1.32)	0.1094	
Alcohol	No drinking	17430	1.00 (ref.)	0.97 (0.77-1.23)	1.06 (0.87-1.30)	1.16 (0.96-1.41)	0.0114	0.4352
	Drinking	4694	1.00 (ref.)	0.73 (0.47-1.13)	0.81 (0.52-1.21)	0.91 (0.63-1.31)	0.9099	
Physical activity	Active	15008	1.00 (ref.)	0.87 (0.64-1.15)	0.96 (0.72-1.25)	1.02 (0.79-1.28)	0.3489	0.5624
	Inactive	6949	1.00 (ref.)	0.98 (0.75-1.28)	1.02 (0.81-1.28)	1.18 (0.94-1.49)	0.1094	
CVD mortality								
Age	<60	15065	1.00 (ref.)	0.94 (0.53-1.66)	1.31 (0.78-2.19)	1.44 (0.82-2.54)	0.0525	**0.0322**
	≥60	7059	1.00 (ref.)	**1.34 (0.93-1.92)**	**2.12 (1.45-3.09)**	**2.43 (1.67-3.52)**	**<0.0001**	
Sex	Female	11688	1.00 (ref.)	1.52 (0.89-2.59)	**2.76 (1.47-4.50)**	**2.76 (1.64-4.66)**	**<0.0001**	**0.0127**
	Male	10436	1.00 (ref.)	0.88 (0.59-1.31)	1.28 (0.84-1.95)	1.40 (0.93-2.11)	**0.0193**	
BMI	<30	15961	1.00 (ref.)	1.08 (0.76-1.54)	**1.69 (1.15-2.48)**	**2.04 (1.45-2.87)**	**<0.0001**	0.4248
	≥30	6064	1.00 (ref.)	1.12 (0.69-1.83)	**1.82 (1.16-2.86)**	1.55 (0.91-2.59)	**0.0253**	
Smoke	Non-smoker	10897	1.00 (ref.)	0.95 (0.56-1.63)	1.83 (0.99-3.40)	**2.05 (1.10-3.83)**	**0.0018**	0.2627
	Smoker	10668	1.00 (ref.)	1.18 (0.83-1.66)	**1.67 (1.09-2.54)**	**1.72 (1.18-2.51)**	**0.0006**	
Alcohol	No drinking	17430	1.00 (ref.)	1.17 (0.82-1.67)	**1.80 (1.27-2.54)**	**2.03 (1.45-2.86)**	**<0.0001**	0.2944

	Drinking	4694	1.00 (ref.)	0.88 (0.49-1.59)	1.46 (0.72-2.94)	1.31 (0.72-2.40)	0.1543	
Physical activity	Active	15008	1.00 (ref.)	0.99 (0.63-1.55)	**1.89 (1.12-3.20)**	**1.80 (1.11-2.94)**	**0.0004**	0.9444
	Inactive	6949	1.00 (ref.)	1.27 (0.90-1.79)	1.42 (0.99-2.05)	**1.97 (1.40-2.76)**	**0.0002**	
Cancer mortality								
Age	<60	15065	1.00 (ref.)	0.98 (0.49-1.93)	1.29 (0.70-2.37)	1.58 (0.88-2.84)	0.0233	0.0649
	≥60	7059	1.00 (ref.)	1.06 (0.60-1.87)	0.78 (0.54-1.14)	0.90 (0.59-1.36)	0.2415	
Sex	Female	11688	1.00 (ref.)	1.26 (0.67-2.35)	0.92 (0.58-1.45)	1.10 (0.72-1.68)	0.8762	0.3702
	Male	10436	1.00 (ref.)	0.79 (0.45-1.40)	0.97 (0.61-1.53)	1.03 (0.64-1.65)	0.4164	
BMI	<30	15961	1.00 (ref.)	1.27 (0.72-2.25)	1.05 (0.65-1.70)	1.30 (0.84-2.02)	0.2360	0.8794
	≥30	6064	1.00 (ref.)	0.69 (0.35-1.35)	0.91 (0.49-1.68)	0.81 (0.45-1.46)	0.7488	
Smoke	Non-smoker	10897	1.00 (ref.)	1.10 (0.56-2.15)	0.97 (0.53-1.78)	1.01 (0.60-1.70)	0.8526	0.4077
	Smoker	10668	1.00 (ref.)	0.96 (0.52-1.76)	0.94 (0.61-1.46)	1.08 (0.71-1.63)	0.4075	
Alcohol	No drinking	17430	1.00 (ref.)	0.94 (0.57-1.53)	0.89 (0.62-1.29)	0.99 (0.70-1.41)	0.9323	0.2569
	Drinking	4694	1.00 (ref.)	1.18 (0.46-3.07)	1.09 (0.49-2.45)	1.32 (0.57-3.05)	0.5251	
Physical activity	Active	15008	1.00 (ref.)	1.23 (0.61-2.48)	1.10 (0.61-1.97)	1.27 (0.73-2.22)	0.4001	0.4091
	Inactive	6949	1.00 (ref.)	0.79 (0.50-1.24)	0.84 (0.51-1.38)	0.85 (0.51-1.42)	0.8218	

The weighted Cox proportional hazard regression model adjusted for age (continuous), gender (female, male), race (Non-Hispanic White, Non-Hispanic Black, Mexican American and others), education (below high school, high school, college or above), marital status (married or living with partner, divorced or separated or widowed, never), poverty income ratio (0-1.30, 1.31-3.50, >3.50), body mass index (<30, ≥30 kg/m^2), physical activity (active, inactive), smoking status (non-smoker, smoker), drinking status (no drinking, drinking), energy (continuous) and cancer (yes, no).

P_{trend} was calculated by assigning the categorical AGEs score as a continuous variable.

$P_{interaction}$ was calculated by adding the term of "AGEs score × Lifestyle factors" in the weighted Cox proportional hazard regression model.

Abbreviations: BMI, body mass index; HR, hazard ratio; CVD, cardiovascular disease; CI, confidence interval.

Table S5. Association of Quartiles of Meat-derived AGEs Score with All-cause, CVD, and Cancer Mortality Stratified by Traditional Risk Factors

Lifestyle Factors	Subgroups	N	HR (95% CI)				P_{trend}	$P_{interaction}$
			Q1 (0.06-0.65)	Q2 (0.65-2.43)	Q3 (2.43-5.39)	Q4 (5.39-94.70)		
All-cause mortality								
Age	<60	15065	1.00 (ref.)	0.99 (0.63-1.58)	0.99 (0.63-1.57)	1.00 (0.66-1.51)	0.9969	0.7055
	≥60	7059	1.00 (ref.)	0.99 (0.77-1.27)	1.09 (0.92-1.30)	1.11 (0.90-1.38)	0.1555	
Sex	Female	11688	1.00 (ref.)	1.05 (0.85-1.30)	1.00 (0.84-1.19)	1.19 (0.97-1.45)	0.1456	0.9212
	Male	10436	1.00 (ref.)	1.07 (0.78-1.49)	1.29 (0.94-1.77)	1.22 (0.90-1.65)	0.0979	
BMI	<30	15961	1.00 (ref.)	1.06 (0.83-1.34)	1.11 (0.90-1.36)	1.17 (0.96-1.43)	0.0594	0.1340
	≥30	6064	1.00 (ref.)	1.04 (0.72-1.50)	1.22 (0.88-1.69)	1.27 (0.94-1.70)	0.0489	
Smoke	Non-smoker	10897	1.00 (ref.)	1.16 (0.91-1.47)	1.09 (0.87-1.36)	1.13 (0.89-1.44)	0.4292	**0.0429**
	Smoker	10668	1.00 (ref.)	1.00 (0.75-1.33)	1.19 (0.95-1.49)	**1.29 (1.03-1.62)**	**0.0023**	
Alcohol	No drinking	17430	1.00 (ref.)	1.16 (0.94-1.43)	**1.27 (1.04-1.55)**	**1.29 (1.07-1.56)**	**0.0030**	0.4290
	Drinking	4694	1.00 (ref.)	0.81 (0.52-1.24)	0.78 (0.54-1.13)	0.98 (0.65-1.46)	0.96665	
Physical activity	Active	15008	1.00 (ref.)	1.05 (0.80-1.38)	1.21 (0.94-1.57)	1.26 (0.99-1.62)	0.0123	0.1615
	Inactive	6949	1.00 (ref.)	1.10 (0.84-1.43)	1.04 (0.83-1.29)	1.13 (0.90-1.41)	0.2140	
CVD mortality								
Age	<60	15065	1.00 (ref.)	0.97 (0.48-1.97)	1.46 (0.78-2.74)	1.31 (0.71-2.42)	0.1929	**0.0069**
	≥60	7059	1.00 (ref.)	1.40 (0.98-1.99)	**1.79 (1.24-2.58)**	**1.77 (1.23-2.54)**	**0.0006**	
Sex	Female	11688	1.00 (ref.)	**1.89 (1.17-3.03)**	**2.14 (1.27-3.60)**	**2.50 (1.48-4.22)**	**0.0002**	0.0802
	Male	10436	1.00 (ref.)	1.19 (0.75-1.90)	**1.81 (1.11-2.98)**	**1.54 (1.03-2.30)**	**0.0110**	
BMI	<30	15961	1.00 (ref.)	1.46 (1.02-2.07)	**1.97 (1.30-3.00)**	**1.83 (1.20-2.79)**	**0.0018**	0.1214
	≥30	6064	1.00 (ref.)	1.32 (0.78-2.21)	**1.73 (1.01-2.95)**	**1.99 (1.19-3.32)**	**0.0029**	
Smoke	Non-smoker	10897	1.00 (ref.)	1.55 (0.95-2.53)	**1.84 (1.13-2.99)**	**1.94 (1.22-3.08)**	**0.0019**	0.4765
	Smoker	10668	1.00 (ref.)	1.36 (0.92-2.00)	**1.99 (1.29-3.05)**	**1.91 (1.25-2.92)**	**0.0008**	
Alcohol	No drinking	17430	1.00 (ref.)	**1.40 (1.00-1.97)**	**1.88 (1.29-2.74)**	**1.82 (1.26-2.63)**	**0.0005**	0.1503

	Drinking	4694	1.00 (ref.)	1.57 (0.66-3.75)	**2.14 (1.09-4.19)**	**2.33 (1.17-4.65)**	**0.0025**	
Physical activity	Active	15008	1.00 (ref.)	**1.70 (1.05-2.74)**	**2.63 (1.59-4.35)**	**2.41 (1.48-3.93)**	**<0.0001**	
								0.1392
	Inactive	6949	1.00 (ref.)	1.26 (0.82-1.89)	1.28 (0.88-1.87)	1.51 (0.94-2.45)	0.0716	
Cancer mortality								
Age	<60	15065	1.00 (ref.)	0.91 (0.44-1.90)	1.18 (0.59-2.35)	1.27 (0.64-2.50)	0.2236	
								0.2903
	≥60	7059	1.00 (ref.)	1.10 (0.75-1.61)	1.19 (0.81-1.76)	1.09 (0.75-1.57)	0.5891	
Sex	Female	11688	1.00 (ref.)	1.10 (0.65-1.87)	1.23 (0.73-2.07)	1.42 (0.91-2.21)	0.0652	
								0.6488
	Male	10436	1.00 (ref.)	1.04 (0.59-1.83)	1.26 (0.71-2.23)	1.24 (0.76-2.02)	0.2582	
BMI	<30	15961	1.00 (ref.)	1.06 (0.79-1.42)	1.24 (0.89-1.73)	1.25 (0.91-1.72)	0.0964	
								0.8869
	≥30	6064	1.00 (ref.)	1.03 (0.57-1.85)	1.15 (0.55-2.38)	1.37 (0.82-2.27)	0.1771	
Smoke	Non-smoker	10897	1.00 (ref.)	1.01 (0.59-1.75)	1.38 (0.73-2.60)	1.18 (0.71-1.96)	0.3530	
								0.6179
	Smoker	10668	1.00 (ref.)	1.08 (0.70-1.65)	1.16 0.78-1.73)	1.39 (0.97-2.00)	0.0311	
Alcohol	No drinking	17430	1.00 (ref.)	1.29 (0.91-1.81)	**1.49 (1.02-2.18)**	**1.50 (1.10-2.05)**	**0.0061**	
								0.5136
	Drinking	4694	1.00 (ref.)	0.53 (0.24-1.16)	0.59 (0.31-1.10)	0.75 (0.44-1.30)	0.6828	
Physical activity	Active	15008	1.00 (ref.)	**1.62 (1.04-2.52)**	**1.87 (1.13-3.08)**	**1.89 (1.28-2.79)**	**0.0008**	
								0.0462
	Inactive	6949	1.00 (ref.)	0.62 (0.41-0.95)	0.70 (0.46-1.06)	0.84 (0.58-1.21)	0.4923	

The weighted Cox proportional hazard regression model adjusted for age (continuous), gender (female, male), race (Non-Hispanic White, Non-Hispanic Black, Mexican American and others), education (below high school, high school, college or above), marital status (married or living with partner, divorced or separated or widowed, never), poverty income ratio (0-1.30, 1.31-3.50, >3.50), body mass index (<30, ≥30 kg/m^2), physical activity (active, inactive), smoking status (non-smoker, smoker), drinking status (no drinking, drinking), energy (continuous) and cancer (yes, no).

P_{trend} was calculated by assigning the categorical AGEs score as a continuous variable.

$P_{interaction}$ was calculated by adding the term of "AGEs score × Lifestyle factors" in the weighted Cox proportional hazard regression model.

Abbreviations: BMI, body mass index; HR, hazard ratio; CVD, cardiovascular disease; CI, confidence interval.

Table S6. Association of Quartiles of Baked-derived AGEs Score with All-cause, CVD, and Cancer Mortality Stratified by Traditional Risk Factors

Lifestyle Factors	Subgroups	N	HR (95% CI)				P_{trend}	$P_{interaction}$
			Q1 (0.07-0.69)	Q2 (0.69-4.13)	Q3 (4.13-10.96)	Q4 (10.96-81.31)		
All-cause mortality								
Age	<60	15065	1.00 (ref.)	0.82 (0.55-1.21)	0.83 (0.60-1.14)	0.98 (0.68-1.42)	0.8002	**0.0340**
	≥60	7059	1.00 (ref.)	0.96 (0.72-1.29)	1.11 (0.92-1.32)	**1.38 (1.10-1.73)**	**0.0001**	
Sex	Female	11688	1.00 (ref.)	1.12 (0.82-1.52)	1.17 (0.85-1.60)	**1.46 (1.10-1.94)**	**0.0081**	**0.0438**
	Male	10436	1.00 (ref.)	0.77 (0.56-1.06)	0.86 (0.68-1.09)	1.01 (0.78-1.32)	0.3955	
BMI	<30	15961	1.00 (ref.)	0.88 (0.67-1.15)	0.94 (0.74-1.19)	1.18 (0.93-1.49)	0.0523	0.2960
	≥30	6064	1.00 (ref.)	1.01 (0.66-1.54)	1.13 (0.80-1.57)	1.31 (0.95-1.81)	0.0515	
Smoke	Non-smoker	10897	1.00 (ref.)	0.87 (0.64-1.17)	0.99 (0.73-1.33)	1.18 (0.88-1.59)	0.0783	0.7778
	Smoker	10668	1.00 (ref.)	0.93 (0.68-1.29)	0.99 (0.80-1.24)	1.20 (0.95-1.51)	0.0275	
Alcohol	No drinking	17430	1.00 (ref.)	0.97 (0.73-1.30)	1.05 (0.85-1.29)	**1.30 (1.05-1.60)**	**0.0051**	0.4489
	Drinking	4694	1.00 (ref.)	0.79 (0.47-1.35)	0.86 (0.55-1.34)	0.99 (0.63-1.54)	0.8424	
Physical activity	Active	15008	1.00 (ref.)	0.71 (0.50-1.02)	0.91(0.70-1.18)	1.05 (0.82-1.35)	0.1244	0.7540
	Inactive	6949	1.00 (ref.)	1.22 (0.96-1.56)	1.10 (0.86-1.41)	**1.39 (1.10-1.75)**	**0.0146**	
CVD mortality								
Age	<60	15065	1.00 (ref.)	0.72 (0.37-1.40)	1.02 (0.57-1.82)	1.29 (0.77-2.17)	0.1063	0.2362
	≥60	7059	1.00 (ref.)	1.16 (0.78-1.74)	**1.91 (1.37-2.64)**	**2.74 (1.89-3.96)**	**<0.0001**	
Sex	Female	11688	1.00 (ref.)	**1.98 (1.12-3.48)**	**2.93 (1.94-4.43)**	**3.99 (2.59-6.14)**	**<0.0001**	**0.0005**
	Male	10436	1.00 (ref.)	0.72 (0.44-1.18)	1.11 (0.76-1.63)	**1.57 (1.06-2.32)**	**0.0034**	
BMI	<30	15961	1.00 (ref.)	1.28 (0.82-1.98)	**1.64 (1.12-2.40)**	**2.38 (1.61-3.52)**	**<0.0001**	0.5614
	≥30	6064	1.00 (ref.)	0.62 (0.35-1.10)	1.38 (0.83-2.29)	**1.70 (1.09-2.65)**	**0.0005**	
Smoke	Non-smoker	10897	1.00 (ref.)	1.12 (0.65-1.93)	1.76 (0.99-3.11)	**2.45 (1.40-4.29)**	**<0.0001**	0.3521
	Smoker	10668	1.00 (ref.)	0.94 (0.57-1.54)	1.44 (0.99-2.12)	**1.94 (1.32-2.85)**	**<0.0001**	
Alcohol	No drinking	17430	1.00 (ref.)	1.16 (0.75-1.81)	**1.77 (1.29-2.42)**	**2.50 (1.83-3.43)**	**<0.0001**	0.1556

	Drinking	4694	1.00 (ref.)	0.69 (0.30-1.58)	0.99 (0.50-2.01)	1.23 (0.62-2.43)	0.2664	
Physical activity	Active	15008	1.00 (ref.)	1.02 (0.55-1.89)	1.43 (0.86-2.40)	**1.98 (1.24-3.14)**	**<0.0001**	
								0.6182
	Inactive	6949	1.00 (ref.)	1.07 (0.64-1.79)	1.46 (0.93-2.28)	**1.86 (1.20-2.86)**	**0.0006**	
Cancer mortality								
Age	<60	15065	1.00 (ref.)	0.65 (0.37-1.16)	1.20 (0.65-2.21)	1.50 (0.83-2.74)	0.0238	
								0.2767
	≥60	7059	1.00 (ref.)	1.15 (0.63-2.09)	1.09 (0.75-1.59)	1.41 (0.89-2.23)	0.0702	
Sex	Female	11688	1.00 (ref.)	0.93 (0.41-2.09)	1.04 (0.55-1.99)	1.45 (0.78-2.68)	0.1235	
								0.7762
	Male	10436	1.00 (ref.)	1.02 (0.53-1.96)	1.25 (0.75-2.07)	1.47 (0.87-2.48)	0.0342	
BMI	<30	15961	1.00 (ref.)	0.85 (0.47-1.56)	1.06 (0.71-1.58)	1.33 (0.86-2.04)	0.0320	
								0.7419
	≥30	6064	1.00 (ref.)	1.12 (0.54-2.35)	1.21 (0.59-2.44)	1.67 (0.76-3.65)	0.1313	
Smoke	Non-smoker	10897	1.00 (ref.)	0.71 (0.28-1.78)	0.79 (0.36-1.75)	1.03 (0.47-2.27)	0.7064	
								0.2902
	Smoker	10668	1.00 (ref.)	1.15 (0.69-1.89)	1.36 (0.90-2.04)	**1.70 (1.11-2.60)**	**0.0031**	
Alcohol	No drinking	17430	1.00 (ref.)	1.06 (0.63-1.79)	1.02 (0.66--1.58)	1.40 (0.88-2.21)	0.0610	
								0.2514
	Drinking	4694	1.00 (ref.)	0.55 (0.15-2.04)	1.43 (0.54-3.79)	1.51 (0.51-4.52)	0.1790	
Physical activity	Active	15008	1.00 (ref.)	0.83 (0.43-1.62)	1.16 (0.76-1.77)	1.39 (0.88-2.21)	0.0162	
								0.5983
	Inactive	6949	1.00 (ref.)	1.19 (0.68-2.09)	0.99 (0.54-1.82)	1.44 (0.83-2.51)	0.2503	

The weighted Cox proportional hazard regression model adjusted for age (continuous), gender (female, male), race (Non-Hispanic White, Non-Hispanic Black, Mexican American and others), education (below high school, high school, college or above), marital status (married or living with partner, divorced or separated or widowed, never), poverty income ratio (0-1.30, 1.31-3.50, >3.50), body mass index (<30, ≥30 kg/m^2), physical activity (active, inactive), smoking status (non-smoker, smoker), drinking status (no drinking, drinking), energy (continuous) and cancer (yes, no).

P_{trend} was calculated by assigning the categorical AGEs score as a continuous variable.

$P_{interaction}$ was calculated by adding the term of "AGEs score × Lifestyle factors" in the weighted Cox proportional hazard regression model.

Abbreviations: BMI, body mass index; HR, hazard ratio; CVD, cardiovascular disease; CI, confidence interval.

Table S7. Association of Quartiles of Potatoes-derived AGEs Score with All-cause, CVD, and Cancer Mortality Stratified by Traditional Risk Factors

Lifestyle Factors	Subgroups	N	HR (95% CI)				P_{trend}	$P_{interaction}$
			Q1 (0.07-0.11)	Q2 (0.11-0.27)	Q3 (0.27-0.49)	Q4 (0.49-5.18)		
All-cause mortality								
Age	<60	15065	1.00 (ref.)	0.92 (0.64-1.32)	0.91 (0.66-1.24)	0.81 (0.60-1.10)	0.1424	**0.0216**
	≥60	7059	1.00 (ref.)	1.10 (0.91-1.34)	**1.28 (1.05-1.56)**	1.19 (0.96-1.48)	**0.0417**	
Sex	Female	11688	1.00 (ref.)	1.18 (0.95-1.48)	**1.31 (1.8-1.58)**	**1.25 (1.01-1.53)**	**0.0144**	0.1522
	Male	10436	1.00 (ref.)	1.03 (0.83-1.25)	1.02 (0.83-1.25)	1.01 (0.75-1.34)	0.9803	
BMI	<30	15961	1.00 (ref.)	0.98 (0.80-1.21)	1.05 (0.91-1.22)	1.05 (0.86-1.29)	0.3511	0.5268
	≥30	6064	1.00 (ref.)	1.23 (0.81-1.86)	1.26 (0.81-1.86)	1.15 (0.77-1.71)	0.5092	
Smoke	Non-smoker	10897	1.00 (ref.)	1.01 (0.80-1.26)	1.00 (0.82-1.22)	1.10 (0.92-1.31)	0.2845	0.9540
	Smoker	10668	1.00 (ref.)	1.07 (0.85-1.34)	1.18 (0.94-1.47)	1.08 (0.85-1.37)	0.3678	
Alcohol	No drinking	17430	1.00 (ref.)	**1.27 (1.03-1.57)**	**1.27 (1.07-1.50)**	**1.25 (1.02-1.54)**	**0.0467**	0.1511
	Drinking	4694	1.00 (ref.)	0.66 (0.48-0.91)	0.81 (0.58-1.15)	0.75 (0.53-1.06)	0.3129	
Physical activity	Active	15008	1.00 (ref.)	1.01 (0.80-1.28)	1.03 (0.81-1.31)	1.05 (0.83-1.33)	0.5893	0.9748
	Inactive	6949	1.00 (ref.)	1.09 (0.84-1.42)	1.21 (0.95-1.53)	1.08(0.82-1.42)	0.4323	
CVD mortality								
Age	<60	15065	1.00 (ref.)	0.85 (0.44-1.66)	0.91 (0.50-1.65)	0.75 (0.37-1.51)	0.4347	**0.0173**
	≥60	7059	1.00 (ref.)	**1.53 (1.06-2.21)**	**1.89 (1.34-2.67)**	**1.76 (1.22-2.53)**	**0.0008**	
Sex	Female	11688	1.00 (ref.)	1.66 (0.87-3.18)	**1.91 (1.05-3.48)**	**1.73 (1.02-2.91)**	**0.0125**	0.2241
	Male	10436	1.00 (ref.)	1.27 (0.82-1.98)	1.36 (0.96-1.91)	1.34 (0.85-2.11)	0.1803	
BMI	<30	15961	1.00 (ref.)	1.24 (0.81-1.91)	1.37 (0.93-2.01)	1.37 (0.91-2.05)	0.0562	0.5717
	≥30	6064	1.00 (ref.)	1.43 (0.90-2.30)	1.78 (1.19-2.67)	1.42 (0.89-2.26)	0.0968	
Smoke	Non-smoker	10897	1.00 (ref.)	1.23 (0.64-2.39)	1.33 (0.72-2.46)	1.47 (0.81-2.64)	0.1253	0.7174
	Smoker	10668	1.00 (ref.)	1.40 (0.92-2.12)	1.61 (1.13-2.29)	1.38 (0.92-2.07)	0.0871	
Alcohol	No drinking	17430	1.00 (ref.)	1.39 (0.94-2.08)	**1.64 (1.13-2.36)**	**1.52 (1.00-2.32)**	**0.0252**	0.2697

	Drinking	4694	1.00 (ref.)	1.06 (0.48-2.35)	1.06 (0.56-2.01)	0.97 (0.47-2.02)	0.8649	
Physical activity	Active	15008	1.00 (ref.)	1.39(0.85-2.26)	**1.91 (1.29-2.82)**	**1.80 (1.19-2.73)**	**0.0001**	
								0.0004
	Inactive	6949	1.00 (ref.)	1.21(0.76-1.93)	1.13 (0.74-1.71)	0.92 (0.60-1.43)	0.5048	
Cancer mortality								
Age	<60	15065	1.00 (ref.)	1.39 (0.60-3.21)	1.77 (0.81-3.90)	1.33 (0.58-3.05)	0.3936	
								0.2430
	≥60	7059	1.00 (ref.)	1.39 (0.92-2.11)	1.37 (0.94-1.99)	1.12 (0.75-1.69)	0.7078	
Sex	Female	11688	1.00 (ref.)	1.42 (0.62-3.22)	1.39 (0.62-3.11)	1.00 (1.06-1.08)	0.6915	
								0.3002
	Male	10436	1.00 (ref.)	1.37 (0.79-2.39)	1.62 (0.98-2.70)	1.45 (0.87-2.42)	0.0669	
BMI	<30	15961	1.00 (ref.)	1.35 (0.83-2.18)	1.55 (1.06-2.28)	1.27 (0.83-1.96)	0.1998	
								0.7261
	≥30	6064	1.00 (ref.)	1.29 (0.67-2.45)	1.25 (0.64-2.43)	1.08 (0.59-1.99)	0.9679	
Smoke	Non-smoker	10897	1.00 (ref.)	1.16 (0.46-2.92)	0.89 (0.38-2.09)	0.90 (0.36-2.22)	0.4663	
								0.1839
	Smoker	10668	1.00 (ref.)	1.44 (0.95-2.21)	1.84 (1.23-2.75)	1.41 (0.88-2.24)	0.0756	
Alcohol	No drinking	17430	1.00 (ref.)	1.45 (0.86-2.44)	1.39 (0.85-2.25)	1.20 (0.71-2.04)	0.7006	
								0.2476
	Drinking	4694	1.00 (ref.)	0.98 (0.47-2.02)	1.71 (0.82-3.54)	1.25 (0.57-2.72)	0.2462	
Physical activity	Active	15008	1.00 (ref.)	1.46 (0.89-2.43)	1.44 (0.92-2.28)	1.27 (0.75-2.28)	0.5432	
								0.9525
	Inactive	6949	1.00 (ref.)	1.18 (0.66-2.10)	1.57 (0.87-2.84)	1.15 (0.65-2.04)	0.3982	

The weighted Cox proportional hazard regression model adjusted for age (continuous), gender (female, male), race (Non-Hispanic White, Non-Hispanic Black, Mexican American and others), education (below high school, high school, college or above), marital status (married or living with partner, divorced or separated or widowed, never), poverty income ratio (0-1.30, 1.31-3.50, >3.50), body mass index (<30, ≥30 kg/m^2), physical activity (active, inactive), smoking status (non-smoker, smoker), drinking status (no drinking, drinking), energy (continuous) and cancer (yes, no).

P_{trend} was calculated by assigning the categorical AGEs score as a continuous variable.

$P_{interaction}$ was calculated by adding the term of "AGEs score × Lifestyle factors" in the weighted Cox proportional hazard regression model.

Abbreviations: BMI, body mass index; HR, hazard ratio; CVD, cardiovascular disease; CI, confidence interval.

Table S8. Smoking and Meat-derived AGEs Score with All-cause Mortality, Physical Activity and Meat-derived AGEs Score with Cancer Mortality, and Physical Activity and Potatoes-derived AGEs Score with CVD Mortality

Outcomes	**AGEs Score**	**Characteristics**	
		HR (95% CI)	HR (95% CI)
All-cause Mortality	Meat and meat products	Non-smoker	Current-smoker
	Q1 level	1.00 (ref.)	1.30 (1.05-1.61)

	Q2 level	1.09 (0.87-1.37)	1.36 (1.08-1.71)
	Q3 level	1.06 (0.86-1.30)	1.60 (1.30-1.97)
	Q4 level	1.07 (0.88-1.31)	1.74 (1.46-2.07)
Cancer Mortality	Meat and meat products	Physically Active	Physically Inactive
	Q1 level	1.00 (ref.)	2.14 (1.28-3.59)
	Q2 level	1.59 (1.02- 2.47)	1.31 (0.74-2.32)
	Q3 level	1.83 (1.09-3.09)	1.56 (0.98-2.49)
	Q4 level	1.86 (1.23-2.83)	1.94 (1.13-3.35)
CVD Mortality	Potatoes and their products	Physically Active	Physically Inactive
	Q1 level	1.00 (ref.)	1.75 (1.04-2.94)
	Q2 level	1.37 (0.82-2.29)	2.13 (1.34-3.39)
	Q3 level	1.90 (1.27-2.83)	1.91 (1.17-3.10)
	Q4 level	1.82 (1.18-2.81)	1.60 (0.97-2.64)

The Weighted Cox proportional hazard regression model was used to perform interaction analysis by added a “lifestyle × AGEs score” term.

The model was adjusted for age (continuous), gender (female, male), race (Non-Hispanic White, Non-Hispanic Black, Mexican American and others), education (below high school, high school, college or above), marital status (married or living with partner, divorced or separated or widowed, never), poverty income ratio (0-1.30, 1.31-3.50, >3.50), body mass index (<30, ⩾30 kg/m2), physical activity (active, inactive), smoking status (no, yes), drinking status (no, yes), energy (continuous) and cancer (yes, no).

Abbreviations: AGEs, advanced glycation end products.

Table S9. Estimates for Additive Interaction between Total, Meat-, Baked Food- and Potatoes-derived AGEs Score and Lifestyle Factors in All-cause, CVD, and Cancer Mortality

Characteristics	Outcomes	AGEs Score		
		RERI	95% CI	*P*-value
Total AGEs score				
Physically Inactive	All-cause Mortality	-0.095	-0.225, 0.036	0.1548
	CVD Mortality	-0.211	-0.478, 0.056	0.1214
	Cancer Mortality	-0.087	-0.360, 0.186	0.5334
Smoker	All-cause Mortality	-0.007	-0.135, 0.122	0.9162
	CVD Mortality	-0.235	-0.507, 0.037	0.0897
	Cancer Mortality	0.197	-0.117, 0.510	0.2188
Meat and meat products				
Physically Inactive	All-cause Mortality	**-0.150**	**-0.287, -0.014**	**0.0312**
	CVD Mortality	-0.041	-0.287, 0.205	0.7444
	Cancer Mortality	-0.078	-0.364, 0.209	0.5946
Smoker	All-cause Mortality	**0.152**	**0.035, 0.268**	**0.0107**
	CVD Mortality	0.113	-0.106, 0.332	0.3107
	Cancer Mortality	**0.364**	**0.068, 0.660**	**0.0159**
Baked products				
Physically Inactive	All-cause Mortality	-0.082	-0.232, 0.068	0.2851
	CVD Mortality	-0.056	-0.361, 0.250	0.7212
	Cancer Mortality	-0.088	-0.416, 0.239	0.5976
Smoker	All-cause Mortality	0.087	-0.052, 0.226	0.2180
	CVD Mortality	-0.004	-0.298, 0.291	0.9804
	Cancer Mortality	**0.465**	**0.155, 0.774**	**0.0032**
Potatoes and their products				
Physically Inactive	All-cause Mortality	0.018	-0.090, 0.125	0.7471
	CVD Mortality	-0.121	-0.324, 0.082	0.2420

	Cancer Mortality	0.093	-0.127, 0.315	0.4052
Smoker	All-cause Mortality	0.068	-0.037, 0.175	0.2050
	CVD Mortality	0.144	-0.030, 0.318	0.1052
	Cancer Mortality	0.251	-0.013, 0.515	0.0628

The AGEs score was categorized into binary classification by weighted median. The model took the healthier lifestyle group (i.e., physical active and non-smoker) and lower levels of AGEs score group as the reference group.

Abbreviations: AGEs, advanced glycation end products; RERI, relative excess risk due to interaction; CI, confidence interval; CVD, cardiovascular disease.

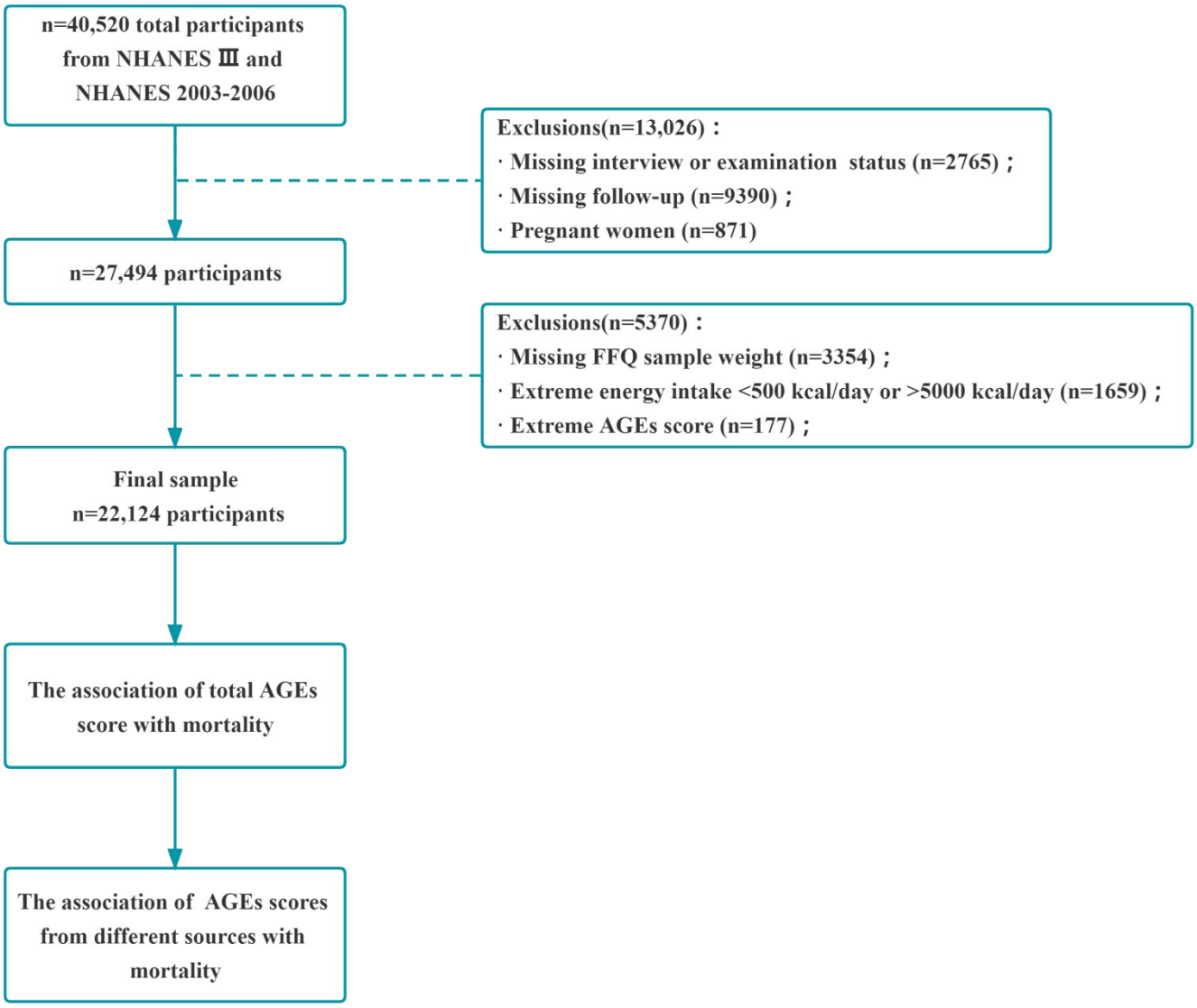

Figure S1. Flow Chart of Study Design

Abbreviations: AGEs, advanced glycation end products; FFQ, food frequency questionnaire.

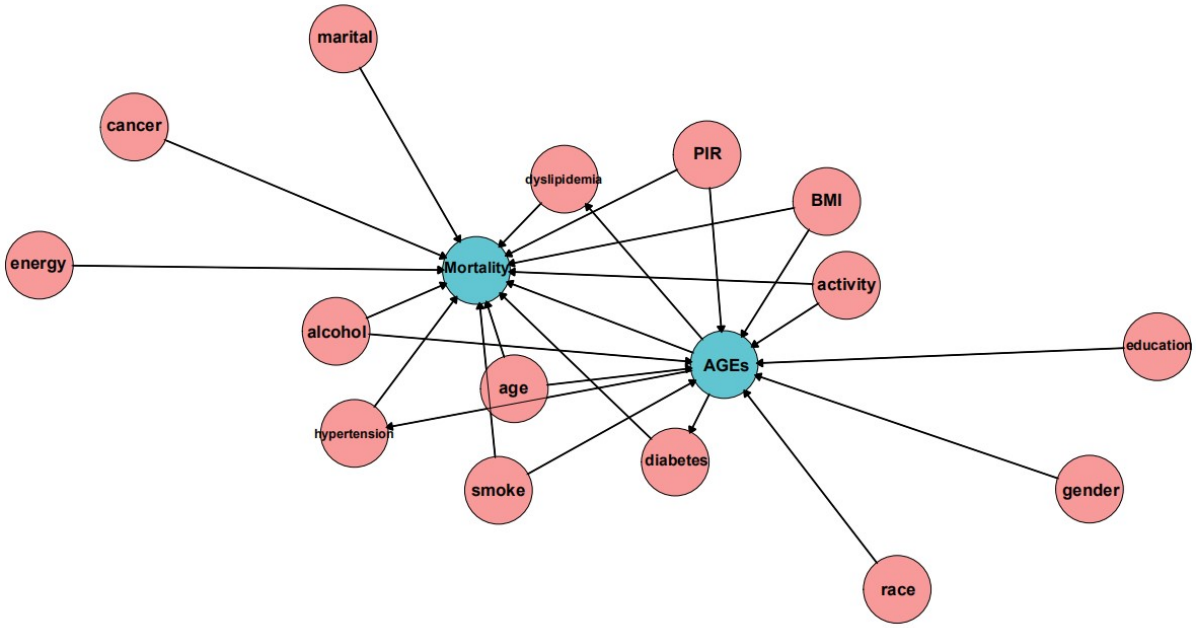

Figure S2. Directed Acyclic Graph (DAG)

The directed acyclic graph was a tool to visualize the association between variables and their interplay in relation to the investigated association and was presented by R package “dagitty” and “ggdag”.

Abbreviations: AGEs, advanced glycation end products; BMI, body mass index; PIR, poverty income ratio; DAG, directed acyclic graph.