

Table 1. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Gender and Age, in the United States, 2017-2018

Gender and age (years)	Sample size	Total flavonoids		Anthocyanidins (continued on next page)									
				Total		Cyanidin		Delphinidin		Malvidin		Pelargonidin	
n		----- mg (standard error) -----											
Males:													
2 - 5.....	260	78.66	(16.11)	9.41	(1.39)	1.81	(0.40)	0.84	(0.19)	3.22	(0.64)	1.88	(0.34)
6 - 11.....	383	74.98	(8.88)	12.24	(3.57)	2.25	(0.31)	1.33*	(0.52)	3.38*	(1.04)	1.20	(0.29)
12 - 19.....	531	87.76	(9.11)	6.92	(1.21)	1.13	(0.26)	0.72	(0.14)	2.93	(0.66)	0.69	(0.14)
20 - 29.....	335	178.11	(43.73)	8.61*	(2.69)	1.93*	(0.69)	1.23*	(0.50)	2.31*	(1.03)	1.30*	(0.55)
30 - 39.....	329	197.13	(35.05)	10.93*	(3.59)	1.99*	(0.79)	0.91*	(0.39)	3.62*	(1.66)	1.08*	(0.37)
40 - 49.....	340	231.74	(37.32)	17.50*	(5.56)	3.55*	(1.87)	2.06*	(0.90)	5.66*	(2.05)	1.59*	(0.69)
50 - 59.....	375	255.89	(37.43)	15.59	(2.97)	2.32	(0.58)	2.95*	(0.94)	5.29	(1.36)	1.65*	(0.50)
60 - 69.....	500	209.14	(28.17)	11.03	(2.44)	1.80*	(0.56)	1.10	(0.30)	4.69	(1.34)	0.63	(0.14)
70 and over.....	428	207.22	(27.05)	21.22	(3.51)	2.44	(0.37)	2.63	(0.64)	8.49	(1.22)	1.44*	(0.45)
2 - 19.....	1,174	81.61	(8.92)	9.21	(1.51)	1.64	(0.23)	0.95	(0.19)	3.14	(0.50)	1.11	(0.13)
20 and over...	2,307	213.39	(11.66)	13.81	(1.73)	2.33	(0.44)	1.80	(0.34)	4.81	(0.55)	1.30	(0.26)
2 and over...	3,481	180.50	(9.51)	12.66	(1.42)	2.16	(0.36)	1.59	(0.26)	4.39	(0.45)	1.25	(0.21)
Females:													
2 - 5.....	280	63.72	(5.47)	16.30	(2.75)	3.18*	(1.01)	1.48	(0.39)	5.44	(1.05)	3.33	(0.48)
6 - 11.....	412	71.45	(8.13)	15.14	(3.38)	1.74	(0.27)	1.69*	(0.52)	4.16	(1.02)	4.36*	(1.83)
12 - 19.....	514	90.21	(9.75)	7.72	(1.32)	1.27	(0.14)	0.98	(0.21)	2.72	(0.66)	1.53	(0.40)
20 - 29.....	359	165.88	(28.14)	15.77	(3.59)	3.17*	(1.74)	1.44	(0.40)	5.48*	(1.78)	1.71	(0.49)
30 - 39.....	407	151.39	(16.20)	13.53	(1.92)	2.13	(0.44)	1.77	(0.32)	4.78	(0.86)	1.33	(0.24)
40 - 49.....	367	273.69	(69.68)	13.39	(2.00)	1.81	(0.53)	1.27	(0.32)	3.79	(0.67)	1.88*	(0.70)
50 - 59.....	419	199.29	(22.43)	16.54	(3.21)	2.89*	(1.00)	2.03	(0.46)	6.29	(1.32)	1.74	(0.41)
60 - 69.....	479	351.11	(74.41)	15.58	(2.98)	2.95*	(0.96)	1.71	(0.38)	5.04	(1.02)	2.59	(0.71)
70 and over.....	404	208.62	(30.29)	24.07	(4.14)	3.47	(0.71)	3.06	(0.73)	7.58	(1.88)	2.71	(0.64)
2 - 19.....	1,206	78.18	(5.51)	12.07	(1.97)	1.84	(0.26)	1.33	(0.30)	3.79	(0.71)	2.87	(0.70)
20 and over...	2,435	221.22	(17.89)	16.36	(1.35)	2.74	(0.44)	1.87	(0.17)	5.50	(0.50)	1.96	(0.27)
2 and over...	3,641	188.83	(13.80)	15.39	(1.26)	2.54	(0.36)	1.75	(0.16)	5.11	(0.46)	2.17	(0.25)
Males and females:													
2 - 19.....	2,380	79.94	(5.69)	10.60	(1.47)	1.74	(0.22)	1.13	(0.20)	3.46	(0.45)	1.97	(0.39)
20 and over...	4,742	217.46	(12.52)	15.14	(1.28)	2.54	(0.34)	1.84	(0.21)	5.17	(0.45)	1.64	(0.20)
2 and over...	7,122	184.77	(10.15)	14.06	(1.18)	2.35	(0.28)	1.67	(0.18)	4.76	(0.39)	1.72	(0.18)

Table 1. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Gender and Age, in the United States, 2017-2018 (continued)

Gender and age (years)	Anthocyanidins – continued			
	Peonidin		Petunidin	
	----- mg (standard error) -----			
Males:				
2 - 5.....	1.03*	(0.49)	0.64	(0.16)
6 - 11.....	3.02*	(1.87)	1.07*	(0.46)
12 - 19.....	0.89*	(0.31)	0.56	(0.12)
20 - 29.....	1.11*	(0.68)	0.74*	(0.36)
30 - 39.....	2.60*	(1.38)	0.73*	(0.33)
40 - 49.....	3.04*	(1.43)	1.60*	(0.72)
50 - 59.....	1.90*	(0.62)	1.47	(0.41)
60 - 69.....	1.92*	(0.71)	0.89*	(0.27)
70 and over.....	4.14*	(1.42)	2.08	(0.57)
2 - 19.....	1.63*	(0.68)	0.75	(0.17)
20 and over...	2.35	(0.39)	1.22	(0.19)
2 and over...	2.17	(0.34)	1.10	(0.15)
Females:				
2 - 5.....	1.70	(0.42)	1.17	(0.34)
6 - 11.....	1.89*	(0.58)	1.31*	(0.46)
12 - 19.....	0.58*	(0.20)	0.64	(0.15)
20 - 29.....	2.83*	(0.90)	1.14	(0.32)
30 - 39.....	2.20*	(0.74)	1.32	(0.25)
40 - 49.....	3.70*	(1.68)	0.94*	(0.28)
50 - 59.....	2.18	(0.64)	1.41	(0.40)
60 - 69.....	1.88	(0.46)	1.41	(0.32)
70 and over.....	4.78*	(1.62)	2.46	(0.68)
2 - 19.....	1.26	(0.31)	0.98	(0.26)
20 and over...	2.87	(0.48)	1.43	(0.15)
2 and over...	2.50	(0.43)	1.33	(0.14)
Males and females:				
2 - 19.....	1.45	(0.40)	0.86	(0.17)
20 and over...	2.62	(0.27)	1.33	(0.14)
2 and over...	2.34	(0.25)	1.22	(0.12)

Table 1. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Gender and Age, in the United States, 2017-2018 (continued)

Gender and age (years)	Flavan-3-ols (continued on next page)															
	Total		Catechins													
			Total		(-)-Epicatechin		(-)-Epicatechin 3-gallate		(-)-Epigallocatechin		(-)-Epigallocatechin 3-gallate		(+) -Catechin		(+) -Gallocatechin	
----- mg (standard error) -----																
Males:																
2 - 5.....	48.37	(13.43)	23.73	(3.71)	10.60	(1.01)	1.64*	(0.63)	2.51*	(0.87)	3.02*	(1.09)	5.64	(0.45)	0.32*	(0.13)
6 - 11.....	40.35	(7.42)	20.59	(2.09)	9.88	(0.82)	1.20*	(0.37)	2.22	(0.62)	2.29	(0.66)	4.76	(0.29)	0.23*	(0.07)
12 - 19.....	57.56	(7.41)	23.51	(3.15)	7.12	(0.45)	2.35	(0.45)	4.02	(0.73)	5.60	(1.44)	4.04	(0.31)	0.38	(0.08)
20 - 29.....	137.34	(40.31)	69.45*	(29.62)	8.59	(1.70)	9.59*	(4.27)	15.26*	(6.73)	27.95*	(15.87)	6.56	(0.94)	1.50*	(0.46)
30 - 39.....	150.58	(33.56)	64.89	(15.63)	9.40	(1.15)	9.02	(2.46)	14.21	(3.70)	23.52*	(7.60)	7.16	(0.84)	1.58	(0.37)
40 - 49.....	177.48	(35.73)	95.17	(25.35)	12.20	(2.09)	12.78	(3.62)	20.56	(5.73)	38.47*	(13.13)	9.28	(1.19)	1.88	(0.40)
50 - 59.....	203.20	(36.95)	77.12	(10.96)	11.53	(1.30)	11.30	(2.02)	18.37	(2.86)	25.52	(4.43)	8.43	(0.72)	1.96	(0.45)
60 - 69.....	163.42	(26.18)	67.67	(15.47)	9.26	(1.19)	9.52	(2.22)	14.99	(3.58)	24.81*	(8.03)	7.52	(0.85)	1.56	(0.28)
70 and over.....	150.17	(24.39)	52.82	(7.59)	9.82	(0.68)	7.09	(1.25)	10.88	(1.90)	15.85	(3.43)	7.93	(0.68)	1.25	(0.22)
2 - 19.....	49.92	(6.26)	22.59	(2.33)	8.77	(0.51)	1.82	(0.34)	3.10	(0.55)	3.96	(0.91)	4.62	(0.27)	0.32	(0.06)
20 and over...	164.28	(11.06)	71.94	(9.23)	10.14	(0.61)	10.01	(1.26)	15.94	(2.06)	26.42	(5.04)	7.79	(0.35)	1.64	(0.12)
2 and over...	135.73	(8.60)	59.62	(6.84)	9.80	(0.49)	7.97	(0.94)	12.73	(1.52)	20.82	(3.72)	7.00	(0.30)	1.31	(0.10)
Females:																
2 - 5.....	28.43	(5.33)	19.61	(1.98)	10.33	(0.84)	0.66*	(0.25)	1.24	(0.34)	1.34*	(0.47)	5.93	(0.55)	0.12*	(0.05)
6 - 11.....	34.36	(6.34)	18.28	(1.75)	7.58	(0.61)	1.23	(0.31)	2.21	(0.44)	2.44	(0.55)	4.59	(0.33)	0.23	(0.07)
12 - 19.....	59.53	(9.59)	29.48	(7.35)	7.15	(0.51)	3.22*	(1.08)	5.19*	(1.70)	9.35*	(3.99)	4.11	(0.33)	0.45	(0.12)
20 - 29.....	121.55	(27.24)	60.07	(12.45)	9.49	(0.90)	7.92	(2.04)	12.89	(3.11)	22.34	(6.33)	6.25	(0.51)	1.19	(0.31)
30 - 39.....	109.86	(15.27)	56.39	(10.26)	8.07	(0.70)	7.32	(1.47)	11.86	(2.38)	21.56	(5.41)	6.52	(0.40)	1.05	(0.16)
40 - 49.....	227.98	(68.25)	114.79*	(51.11)	12.99	(3.41)	16.55*	(7.16)	26.23*	(11.62)	48.22*	(26.78)	8.50	(1.80)	2.30*	(0.73)
50 - 59.....	154.52	(19.58)	70.18	(11.61)	9.40	(0.95)	9.72	(1.70)	16.09	(2.77)	26.00	(5.64)	7.55	(0.79)	1.42	(0.22)
60 - 69.....	300.97	(72.37)	161.86*	(71.13)	15.81	(4.38)	23.49*	(9.60)	37.97*	(15.80)	71.00*	(38.56)	10.61	(2.30)	2.97	(0.84)
70 and over.....	154.18	(26.16)	63.36	(16.14)	9.69	(1.42)	8.77	(2.35)	14.16	(3.80)	22.13*	(7.73)	7.33	(0.92)	1.29	(0.27)
2 - 19.....	44.36	(5.31)	23.58	(3.47)	7.98	(0.44)	2.00	(0.51)	3.34	(0.79)	5.30*	(1.87)	4.66	(0.20)	0.30	(0.06)
20 and over...	174.69	(17.06)	86.01	(13.72)	10.77	(0.93)	12.02	(1.87)	19.44	(3.07)	34.39	(7.34)	7.72	(0.56)	1.67	(0.18)
2 and over...	145.17	(12.99)	71.87	(10.55)	10.14	(0.68)	9.75	(1.44)	15.79	(2.36)	27.80	(5.68)	7.03	(0.44)	1.36	(0.14)
Males and females:																
2 - 19.....	47.21	(4.17)	23.07	(1.86)	8.38	(0.35)	1.91	(0.27)	3.22	(0.42)	4.62	(0.92)	4.64	(0.20)	0.31	(0.04)
20 and over...	169.69	(11.95)	79.26	(7.01)	10.47	(0.43)	11.05	(1.06)	17.76	(1.65)	30.56	(3.63)	7.76	(0.31)	1.65	(0.13)
2 and over...	140.57	(9.44)	65.90	(5.41)	9.97	(0.32)	8.88	(0.82)	14.30	(1.28)	24.39	(2.81)	7.01	(0.27)	1.34	(0.10)

Table 1. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Gender and Age, in the United States, 2017-2018 (continued)

Gender and age (years)	Flavan-3-ols – continued									
	Theaflavin		Theaflavin-3,3'- digallate		Theaflavin-3'- gallate		Theaflavin-3- gallate		Thearubigins	
	----- mg (standard error) -----									
Males:										
2 - 5.....	0.39*	(0.16)	0.43*	(0.18)	0.37*	(0.15)	0.30*	(0.13)	23.14*	(9.41)
6 - 11.....	0.30*	(0.09)	0.32*	(0.10)	0.28*	(0.09)	0.23*	(0.07)	18.64	(5.28)
12 - 19.....	0.44	(0.09)	0.47	(0.10)	0.40	(0.08)	0.33	(0.07)	32.40	(5.87)
20 - 29.....	1.16*	(0.39)	1.27*	(0.43)	1.09*	(0.37)	0.90*	(0.31)	63.47*	(20.08)
30 - 39.....	1.39	(0.39)	1.53	(0.43)	1.31	(0.37)	1.08	(0.31)	80.38	(20.90)
40 - 49.....	1.40	(0.27)	1.52	(0.30)	1.31	(0.26)	1.09	(0.21)	77.00	(14.89)
50 - 59.....	2.12	(0.54)	2.33	(0.60)	1.99	(0.52)	1.64	(0.43)	118.01	(26.94)
60 - 69.....	1.48	(0.29)	1.63	(0.32)	1.38	(0.28)	1.16	(0.22)	90.09	(16.31)
70 and over.....	1.45	(0.28)	1.61	(0.31)	1.32	(0.25)	1.18	(0.23)	91.79	(19.25)
2 - 19.....	0.38	(0.06)	0.42	(0.07)	0.35	(0.06)	0.29	(0.05)	25.89	(4.39)
20 and over...	1.51	(0.14)	1.65	(0.16)	1.41	(0.14)	1.18	(0.11)	86.59	(6.64)
2 and over...	1.23	(0.11)	1.34	(0.12)	1.14	(0.11)	0.96	(0.09)	71.44	(5.09)
Females:										
2 - 5.....	0.13*	(0.06)	0.15*	(0.07)	0.12*	(0.06)	0.10*	(0.05)	8.32*	(3.43)
6 - 11.....	0.27*	(0.09)	0.30*	(0.09)	0.25*	(0.08)	0.21*	(0.07)	15.05*	(4.56)
12 - 19.....	0.39	(0.09)	0.42	(0.10)	0.36	(0.08)	0.29	(0.07)	28.60	(4.41)
20 - 29.....	1.02*	(0.34)	1.11*	(0.37)	0.95*	(0.32)	0.78*	(0.27)	57.62	(16.96)
30 - 39.....	0.85	(0.12)	0.92	(0.13)	0.79	(0.11)	0.65	(0.09)	50.27	(7.75)
40 - 49.....	1.94*	(0.60)	2.12*	(0.66)	1.82*	(0.57)	1.49*	(0.47)	105.82	(30.73)
50 - 59.....	1.40	(0.23)	1.54	(0.26)	1.31	(0.22)	1.09	(0.18)	79.00	(11.59)
60 - 69.....	2.43	(0.61)	2.65	(0.68)	2.26	(0.59)	1.88	(0.49)	129.88	(31.93)
70 and over.....	1.41	(0.24)	1.56	(0.26)	1.30	(0.22)	1.11	(0.19)	85.43	(12.11)
2 - 19.....	0.29	(0.06)	0.32	(0.06)	0.27	(0.05)	0.22	(0.04)	19.67	(3.16)
20 and over...	1.48	(0.21)	1.62	(0.23)	1.38	(0.20)	1.14	(0.16)	83.06	(10.26)
2 and over...	1.21	(0.16)	1.32	(0.18)	1.13	(0.16)	0.94	(0.13)	68.70	(8.00)
Males and females:										
2 - 19.....	0.34	(0.05)	0.37	(0.05)	0.31	(0.04)	0.26	(0.04)	22.86	(3.05)
20 and over...	1.49	(0.13)	1.63	(0.15)	1.39	(0.13)	1.16	(0.11)	84.75	(6.48)
2 and over...	1.22	(0.11)	1.33	(0.12)	1.14	(0.10)	0.95	(0.08)	70.04	(5.23)

Table 1. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Gender and Age, in the United States, 2017-2018 (continued)

Gender and age (years)	Flavanones							
	Total		Eriodictyol		Hesperetin		Naringenin	
	----- mg (standard error) -----							
Males:								
2 - 5.....	12.54*	(6.38)	0.03*	(0.02)	10.01 *	(5.43)	2.49*	(0.96)
6 - 11.....	12.24	(2.86)	0.04*	(0.02)	8.70	(1.95)	3.49	(1.02)
12 - 19.....	11.77	(3.43)	0.19*	(0.14)	8.75*	(2.92)	2.83	(0.60)
20 - 29.....	11.12	(2.86)	0.12 *	(0.07)	7.97	(1.93)	3.03*	(0.93)
30 - 39.....	11.00	(2.27)	0.06	(0.02)	7.67	(1.58)	3.27	(0.77)
40 - 49.....	14.66	(4.23)	0.11	(0.02)	10.67	(3.11)	3.88*	(1.25)
50 - 59.....	12.37	(2.05)	0.45*	(0.21)	8.78	(1.35)	3.14	(0.78)
60 - 69.....	11.94	(2.15)	0.07	(0.02)	8.23	(1.56)	3.63	(0.78)
70 and over.....	13.67	(2.24)	0.39*	(0.19)	9.76	(1.57)	3.53	(0.82)
2 - 19.....	12.09	(2.25)	0.11 *	(0.06)	9.00	(1.85)	2.98	(0.46)
20 and over...	12.38	(1.03)	0.20	(0.05)	8.79	(0.70)	3.38	(0.36)
2 and over...	12.31	(1.07)	0.18	(0.05)	8.85	(0.76)	3.28	(0.34)
Females:								
2 - 5.....	10.34	(1.42)	0.03*	(0.01)	6.95	(0.97)	3.36	(0.48)
6 - 11.....	13.08	(3.15)	0.10*	(0.07)	9.44	(2.14)	3.53	(1.03)
12 - 19.....	9.72	(2.07)	0.16*	(0.05)	7.16	(1.46)	2.40	(0.65)
20 - 29.....	7.11	(1.17)	0.06*	(0.02)	4.83	(0.82)	2.22	(0.37)
30 - 39.....	6.96	(1.06)	0.08	(0.02)	4.34	(0.66)	2.53	(0.57)
40 - 49.....	8.33	(1.38)	0.26*	(0.13)	5.27	(1.17)	2.80	(0.68)
50 - 59.....	8.40	(1.05)	0.16	(0.05)	5.43	(0.70)	2.80	(0.60)
60 - 69.....	9.34	(1.62)	0.05	(0.02)	5.36	(1.00)	3.93	(0.76)
70 and over.....	9.75	(1.34)	0.18*	(0.07)	6.69	(0.89)	2.89	(0.51)
2 - 19.....	10.98	(1.80)	0.11 *	(0.04)	7.88	(1.22)	2.98	(0.60)
20 and over...	8.25	(0.58)	0.13	(0.03)	5.28	(0.34)	2.84	(0.29)
2 and over...	8.87	(0.63)	0.13	(0.02)	5.87	(0.41)	2.87	(0.25)
Males and females:								
2 - 19.....	11.55	(1.58)	0.11 *	(0.04)	8.46	(1.23)	2.98	(0.39)
20 and over...	10.23	(0.69)	0.16	(0.03)	6.97	(0.43)	3.10	(0.29)
2 and over...	10.55	(0.72)	0.15	(0.03)	7.32	(0.48)	3.07	(0.26)

Table 1. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Gender and Age, in the United States, 2017-2018 (continued)

Gender and age (years)	Flavones					
	Total		Apigenin		Luteolin	
	----- mg (standard error) -----					
Males:						
2 - 5.....	0.42	(0.06)	0.02	(0.01)	0.40	(0.06)
6 - 11.....	0.42	(0.06)	0.03	(0.01)	0.39	(0.05)
12 - 19.....	0.47	(0.07)	0.04	(#)	0.43	(0.06)
20 - 29.....	0.76	(0.10)	0.16	(0.04)	0.61	(0.08)
30 - 39.....	1.00	(0.12)	0.13	(0.04)	0.87	(0.11)
40 - 49.....	0.97	(0.09)	0.18	(0.04)	0.79	(0.08)
50 - 59.....	1.05	(0.11)	0.18	(0.04)	0.88	(0.11)
60 - 69.....	1.16	(0.27)	0.30*	(0.16)	0.86	(0.21)
70 and over....	1.09	(0.13)	0.22	(0.04)	0.87	(0.11)
2 - 19.....	0.45	(0.04)	0.03	(#)	0.41	(0.04)
20 and over...	0.99	(0.05)	0.19	(0.03)	0.80	(0.04)
2 and over...	0.86	(0.04)	0.15	(0.02)	0.71	(0.04)
Females:						
2 - 5.....	0.50	(0.08)	0.03	(0.01)	0.47	(0.08)
6 - 11.....	0.43	(0.06)	0.05	(0.01)	0.39	(0.06)
12 - 19.....	0.58	(0.05)	0.07	(0.01)	0.51	(0.05)
20 - 29.....	0.89	(0.06)	0.14	(0.02)	0.75	(0.06)
30 - 39.....	0.84	(0.09)	0.11	(0.02)	0.73	(0.09)
40 - 49.....	0.85	(0.15)	0.17*	(0.07)	0.69	(0.10)
50 - 59.....	0.97	(0.14)	0.19	(0.04)	0.78	(0.12)
60 - 69.....	1.05	(0.17)	0.26*	(0.09)	0.79	(0.09)
70 and over....	0.76	(0.08)	0.11	(0.01)	0.65	(0.08)
2 - 19.....	0.51	(0.03)	0.05	(0.01)	0.46	(0.03)
20 and over...	0.90	(0.06)	0.16	(0.02)	0.73	(0.04)
2 and over...	0.81	(0.04)	0.14	(0.02)	0.67	(0.03)
Males and females:						
2 - 19.....	0.48	(0.03)	0.04	(#)	0.44	(0.03)
20 and over...	0.94	(0.04)	0.18	(0.01)	0.77	(0.04)
2 and over...	0.83	(0.04)	0.14	(0.01)	0.69	(0.03)

Table 1. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Gender and Age, in the United States, 2017-2018 *(continued)*

Gender and age (years)	Flavonols									
	Total		Isorhamnetin		Kaempferol		Myricetin		Quercetin	
----- mg (standard error) -----										
Males:										
2 - 5.....	7.52	(0.98)	0.19	(0.03)	1.53	(0.29)	0.46	(0.10)	5.33	(0.64)
6 - 11.....	8.33	(0.83)	0.24	(0.04)	1.51	(0.25)	0.55	(0.11)	6.03	(0.56)
12 - 19.....	9.84	(0.81)	0.40	(0.05)	2.10	(0.27)	0.92	(0.13)	6.42	(0.49)
20 - 29.....	16.46	(1.78)	0.78	(0.07)	4.90	(0.51)	1.31	(0.23)	9.46	(1.17)
30 - 39.....	20.16	(1.15)	1.10	(0.16)	5.89	(0.48)	1.61	(0.18)	11.57	(0.66)
40 - 49.....	20.23	(1.75)	1.06	(0.19)	5.80	(0.68)	1.85	(0.25)	11.52	(0.94)
50 - 59.....	21.96	(1.04)	0.91	(0.15)	6.44	(0.58)	2.07	(0.17)	12.54	(0.61)
60 - 69.....	18.88	(1.05)	0.97	(0.12)	5.05	(0.50)	1.75	(0.19)	11.11	(0.62)
70 and over.....	17.49	(1.59)	0.63	(0.05)	3.91	(0.34)	1.81	(0.31)	11.14	(1.03)
2 - 19.....	8.85	(0.63)	0.30	(0.03)	1.79	(0.19)	0.70	(0.09)	6.06	(0.38)
20 and over...	19.25	(0.51)	0.91	(0.04)	5.40	(0.16)	1.72	(0.09)	11.21	(0.34)
2 and over...	16.65	(0.46)	0.76	(0.03)	4.50	(0.15)	1.47	(0.07)	9.92	(0.30)
Females:										
2 - 5.....	7.24	(0.32)	0.22	(0.03)	1.35	(0.23)	0.36	(0.04)	5.31	(0.16)
6 - 11.....	7.64	(0.57)	0.25	(0.04)	1.47	(0.15)	0.47	(0.06)	5.46	(0.39)
12 - 19.....	10.13	(0.57)	0.49	(0.07)	2.12	(0.20)	0.80	(0.10)	6.73	(0.40)
20 - 29.....	16.94	(1.58)	1.01	(0.20)	4.62	(0.51)	1.28	(0.13)	10.03	(0.94)
30 - 39.....	16.43	(1.34)	0.97	(0.18)	4.61	(0.68)	1.31	(0.19)	9.54	(0.62)
40 - 49.....	20.84	(2.90)	1.10	(0.21)	5.83	(0.93)	1.94	(0.53)	11.97	(1.47)
50 - 59.....	17.47	(1.22)	0.98	(0.15)	3.92	(0.38)	1.74	(0.15)	10.83	(0.78)
60 - 69.....	21.29	(2.80)	0.75	(0.06)	5.09	(0.82)	2.48	(0.56)	12.98	(1.47)
70 and over.....	16.39	(1.54)	0.80	(0.13)	3.83	(0.50)	1.60	(0.21)	10.16	(0.79)
2 - 19.....	8.67	(0.40)	0.35	(0.05)	1.74	(0.11)	0.59	(0.06)	5.99	(0.27)
20 and over...	18.14	(0.73)	0.94	(0.07)	4.63	(0.25)	1.71	(0.11)	10.87	(0.40)
2 and over...	15.99	(0.61)	0.81	(0.06)	3.97	(0.20)	1.45	(0.09)	9.76	(0.34)
Males and females:										
2 - 19.....	8.76	(0.38)	0.33	(0.03)	1.76	(0.11)	0.65	(0.06)	6.03	(0.24)
20 and over...	18.67	(0.46)	0.93	(0.04)	5.00	(0.15)	1.72	(0.07)	11.03	(0.30)
2 and over...	16.32	(0.42)	0.78	(0.04)	4.23	(0.13)	1.46	(0.05)	9.84	(0.27)

Table 1. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Gender and Age, in the United States, 2017-2018 (continued)

Gender and age (years)	Isoflavones							
	Total		Daidzein		Genistein		Glycitein	
	----- mg (standard error) -----							
Males:								
2 - 5.....	0.40	(0.11)	0.18*	(0.05)	0.20	(0.05)	0.03	(0.01)
6 - 11.....	1.39*	(0.52)	0.51 *	(0.18)	0.77*	(0.29)	0.12 *	(0.05)
12 - 19.....	1.20	(0.27)	0.43	(0.10)	0.67	(0.16)	0.09	(0.02)
20 - 29.....	3.82 *	(1.74)	1.31 *	(0.57)	2.17 *	(1.02)	0.33 *	(0.15)
30 - 39.....	3.45 *	(1.26)	1.22 *	(0.45)	1.94 *	(0.71)	0.29 *	(0.10)
40 - 49.....	0.90	(0.26)	0.34	(0.09)	0.49 *	(0.15)	0.07	(0.02)
50 - 59.....	1.73	(0.46)	0.65	(0.16)	0.94	(0.26)	0.14	(0.04)
60 - 69.....	2.71 *	(0.84)	1.08 *	(0.33)	1.42	(0.42)	0.20 *	(0.09)
70 and over.....	3.58 *	(1.15)	1.39 *	(0.44)	1.89 *	(0.60)	0.31 *	(0.10)
2 - 19.....	1.09	(0.22)	0.40	(0.07)	0.60	(0.12)	0.09	(0.02)
20 and over...	2.68	(0.45)	0.99	(0.15)	1.47	(0.26)	0.22	(0.04)
2 and over...	2.29	(0.32)	0.84	(0.11)	1.26	(0.19)	0.19	(0.03)
Females:								
2 - 5.....	0.92 *	(0.45)	0.36 *	(0.17)	0.49 *	(0.23)	0.07 *	(0.04)
6 - 11.....	0.80	(0.17)	0.31	(0.07)	0.43	(0.09)	0.06	(0.01)
12 - 19.....	2.53 *	(1.78)	0.97 *	(0.69)	1.34 *	(0.93)	0.22 *	(0.16)
20 - 29.....	3.62 *	(1.72)	1.35 *	(0.66)	1.96 *	(0.91)	0.32 *	(0.15)
30 - 39.....	3.77	(0.86)	1.39	(0.31)	2.04	(0.47)	0.33	(0.08)
40 - 49.....	2.30 *	(1.07)	0.85 *	(0.40)	1.24 *	(0.58)	0.21 *	(0.09)
50 - 59.....	1.39	(0.38)	0.56	(0.15)	0.74	(0.21)	0.09	(0.02)
60 - 69.....	2.88 *	(1.08)	0.99 *	(0.36)	1.64 *	(0.62)	0.25 *	(0.09)
70 and over.....	3.47 *	(1.06)	1.32 *	(0.41)	1.84 *	(0.55)	0.31 *	(0.10)
2 - 19.....	1.60 *	(0.82)	0.62 *	(0.32)	0.85 *	(0.43)	0.13 *	(0.07)
20 and over...	2.89	(0.62)	1.07	(0.23)	1.57	(0.33)	0.25	(0.05)
2 and over...	2.60	(0.52)	0.97	(0.20)	1.40	(0.28)	0.22	(0.05)
Males and females:								
2 - 19.....	1.34 *	(0.45)	0.51 *	(0.17)	0.72 *	(0.24)	0.11 *	(0.04)
20 and over...	2.79	(0.42)	1.03	(0.15)	1.52	(0.23)	0.24	(0.04)
2 and over...	2.44	(0.33)	0.91	(0.12)	1.33	(0.19)	0.21	(0.03)

Symbol Legend

* Indicates an estimate that may be less statistically reliable than estimates that are not flagged. The rules for flagging estimated means are as follows:

Mean: An estimated mean is flagged when based on a sample size of less than 30 times the variance inflation factor (VIF), where the VIF represents a broadly calculated average design effect, or when the relative standard error is greater than 30 percent. The VIF used in this table is 2.57.

Indicates a non-zero value too small to report.

Footnotes

¹ Flavonoid Intake Data Files reflect the application of the flavonoid composition values included in the Database of Flavonoid Values for USDA Food Codes 2017-2018 to the WWEIA, NHANES 2017-2018 dietary data.

Notes Applicable to All Tables in Series: Flavonoid Intakes, What We Eat in America, NHANES 2017-2018

Sample weights designed for dietary analysis were used to allow estimates representative of the U. S. population for the years of collection.

The statistics in this table are estimated from Day 1 dietary recall interviews conducted in the *What We Eat in America*, National Health and Nutrition Examination Survey (NHANES) 2017-2018. The 24-hour dietary recalls were conducted in-person, by trained interviewers, using the USDA 5-step Automated Multiple-Pass Method. Food intakes were coded using USDA food codes. A database that provided flavonoid values for all food codes in the 2017-2018 WWEIA, NHANES survey cycle was developed (See: https://www.ars.usda.gov/ARSDocuments/2017-2018%20WWEIA%20NHANES%20Survey%20Cycle%20Data%20Files/80400530/pdf/fndds/FlavonoidDB_documentation_1718.pdf). The USDA Expanded Flavonoid Database for the Assessment of Dietary Intakes, Release 1.1 https://www.ars.usda.gov/ARSDocuments/2017-2018%20WWEIA%20NHANES%20Survey%20Cycle%20Data%20Files/80400525/Data/Flav/FDB-EXP_R01-1_Doc.pdf provided the basis for the flavonoid values included in the 2017-2018 flavonoid database. The flavonoid database was applied to the dietary intake files to generate the flavonoid intake data files, which were analyzed to provide the estimates presented in this table.

Intake of flavonoids are based on the consumption of food and beverages, including water, and do not include intake from supplements or medications.

The table includes data from individuals 2 years and over. Breast-fed children were excluded because breast milk was not quantified in dietary recall interviews.

For purposes of comparison with other studies that have reported median intakes, the following information on median intakes is provided:

--Flavonoids, total: males and females (M&F) age 2-19 years, 34.75 mg; M&F 20+ years, 53.10 mg; M&F 2+ years, 46.99 mg.
 --Anthocyanidins, total: M&F 2-19 years, 0.41 mg; M&F 20+ years, 0.40 mg; M&F 2+ years, 0.40 mg.
 --Flavan-3-ols, total: M&F 2-19 years, 10.56 mg; M&F 20+ years, 12.91 mg; M&F 2+ years, 12.33 mg.
 --Flavanones, total: M&F 2-19 years, 0.00 mg; M&F 20+ years, 0.13 mg; M&F 2+ years, 0.10 mg.
 --Flavones, total: M&F 2-19 years, 0.15 mg; M&F 20+ years, 0.35 mg; M&F 2+ years, 0.29 mg.
 --Flavonols, total: M&F 2-19 years, 5.83 mg; M&F 20+ years, 12.37 mg; M&F 2+ years, 10.47 mg.
 --Isoflavones, total: M&F 2-19 years, 0.00 mg; M&F 20+ years, 0.00 mg; M&F 2+ years, 0.00 mg. Note that fewer than 50% of individuals from any sex/age group report any foods/beverages containing isoflavones on any given day.

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Table 2. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual,
by Race/Ethnicity and Age, in the United States, 2017-2018

Race/ethnicity and age (years)	Sample size	Total flavonoids		Anthocyanidins (continued on next page)									
				Total		Cyanidin		Delphinidin		Malvidin		Pelargonidin	
<i>n</i>		----- <i>mg (standard error)</i> -----											
Non-Hispanic White:													
2 - 5.....	212	81.94	(13.41)	15.46	(2.80)	3.29*	(1.06)	1.41	(0.41)	4.93	(1.08)	2.55	(0.38)
6 - 11.....	254	83.75	(10.51)	18.08	(4.23)	2.21	(0.34)	2.03	(0.60)	4.70	(1.17)	3.65*	(1.76)
12 - 19.....	331	87.58	(13.46)	6.71	(1.10)	1.08	(0.17)	0.71	(0.12)	2.48	(0.67)	1.04*	(0.39)
20 and over...	1,694	247.59	(20.01)	15.24	(1.93)	2.59	(0.49)	1.82	(0.34)	5.27	(0.75)	1.58	(0.27)
2 and over...	2,491	214.50	(16.68)	14.66	(1.79)	2.46	(0.40)	1.72	(0.28)	4.96	(0.69)	1.72	(0.23)
Non-Hispanic Black:													
2 - 5.....	113	52.80	(6.34)	6.14*	(1.88)	0.96	(0.17)	0.39	(0.10)	2.30*	(0.85)	1.86*	(0.70)
6 - 11.....	186	60.62	(8.79)	7.01	(1.07)	1.58*	(0.58)	0.38	(0.09)	2.01	(0.55)	1.87*	(0.62)
12 - 19.....	232	80.10	(9.31)	9.89	(2.35)	1.94*	(0.92)	0.65	(0.15)	5.37*	(2.13)	0.83	(0.23)
20 and over...	1,128	135.96	(10.78)	11.38	(1.55)	1.42	(0.37)	0.99	(0.19)	4.24	(0.87)	1.42	(0.32)
2 and over...	1,659	119.46	(8.06)	10.61	(1.24)	1.47	(0.32)	0.88	(0.16)	4.10	(0.67)	1.41	(0.27)
Non-Hispanic Asian¹:													
2 - 5.....	49	52.08*	(11.21)	10.79*	(2.32)	1.60*	(0.29)	1.13*	(0.44)	5.18*	(1.19)	1.43*	(0.70)
6 - 11.....	70	79.19*	(11.36)	11.84*	(3.67)	2.19*	(0.64)	1.80*	(0.88)	2.81*	(1.18)	2.99*	(1.41)
12 - 19.....	117	113.59	(18.41)	8.67	(1.45)	1.53	(0.30)	1.45*	(0.61)	3.01	(0.80)	1.46*	(0.59)
20 and over...	626	282.56	(27.58)	18.62	(3.65)	3.41	(0.96)	2.75	(0.50)	6.84	(1.69)	1.64	(0.33)
2 and over...	862	245.08	(23.39)	16.97	(2.94)	3.09	(0.79)	2.50	(0.37)	6.18	(1.34)	1.70	(0.30)
Hispanic:													
2 - 5.....	107	64.80	(13.16)	10.35	(2.09)	1.94*	(0.60)	0.98	(0.29)	3.75	(0.82)	2.34	(0.59)
6 - 11.....	199	54.39	(4.73)	6.90	(0.96)	1.92	(0.23)	0.51	(0.14)	2.11	(0.50)	1.26	(0.33)
12 - 19.....	270	70.94	(4.96)	7.32	(1.76)	0.97	(0.10)	1.18*	(0.37)	2.53	(0.62)	1.43*	(0.46)
20 and over...	1,058	123.73	(11.60)	14.70	(1.76)	2.90	(0.59)	1.79	(0.29)	4.15	(0.68)	2.15	(0.31)
2 and over...	1,634	104.36	(8.76)	12.48	(1.28)	2.44	(0.42)	1.51	(0.21)	3.67	(0.46)	1.96	(0.21)

Table 2. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual,
by Race/Ethnicity and Age, in the United States, 2017-2018 (continued)

Race/ethnicity and age (years)	Anthocyanidins – continued			
	Peonidin		Petunidin	
	----- mg (standard error) -----			
Non-Hispanic White:				
2 - 5.....	2.14	(0.57)	1.14*	(0.35)
6 - 11.....	3.84*	(1.84)	1.65*	(0.53)
12 - 19.....	0.90*	(0.29)	0.51	(0.08)
20 and over...	2.61	(0.38)	1.36	(0.25)
2 and over...	2.52	(0.34)	1.29	(0.21)
Non-Hispanic Black:				
2 - 5.....	0.35*	(0.15)	0.28	(0.08)
6 - 11.....	0.90*	(0.66)	0.26	(0.07)
12 - 19.....	0.59*	(0.25)	0.51	(0.11)
20 and over...	2.64	(0.73)	0.66	(0.13)
2 and over...	2.16	(0.56)	0.60	(0.10)
Non-Hispanic Asian¹:				
2 - 5.....	0.62*	(0.22)	0.83*	(0.38)
6 - 11.....	1.38*	(0.93)	0.66*	(0.40)
12 - 19.....	0.51*	(0.19)	0.70	(0.18)
20 and over...	2.43*	(0.75)	1.56	(0.37)
2 and over...	2.11	(0.62)	1.40	(0.30)
Hispanic:				
2 - 5.....	0.63	(0.16)	0.71*	(0.26)
6 - 11.....	0.74*	(0.26)	0.35*	(0.11)
12 - 19.....	0.37	(0.11)	0.85	(0.25)
20 and over...	2.38	(0.57)	1.34	(0.24)
2 and over...	1.78	(0.40)	1.12	(0.17)

Table 2. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Race/Ethnicity and Age, in the United States, 2017-2018 (continued)

Race/ethnicity and age (years)	Flavan-3-ols (continued on next page)															
	Total		Catechins													
			Total		(-)-Epicatechin		(-)-Epicatechin 3-gallate		(-)-Epigallocatechin		(-)-Epigallocatechin 3-gallate		(+) -Catechin		(+) -Gallocatechin	
----- mg (standard error) -----																
Non-Hispanic White:																
2 - 5.....	46.83	(12.16)	23.67	(3.39)	10.71	(0.93)	1.57*	(0.58)	2.46*	(0.78)	2.61*	(0.92)	6.00	(0.62)	0.32*	(0.12)
6 - 11.....	42.87	(8.16)	20.87	(1.92)	8.73	(0.81)	1.53	(0.41)	2.64	(0.57)	2.93	(0.72)	4.73	(0.45)	0.30	(0.08)
12 - 19.....	60.97	(12.18)	24.36	(5.96)	6.95	(0.73)	2.62*	(0.92)	4.32*	(1.43)	6.33*	(2.85)	3.72	(0.39)	0.43*	(0.13)
20 and over...	200.73	(18.80)	91.15	(11.54)	11.31	(0.77)	13.09	(1.70)	20.89	(2.70)	35.68	(5.88)	8.19	(0.55)	1.98	(0.20)
2 and over...	170.42	(15.41)	77.28	(9.22)	10.71	(0.58)	10.84	(1.37)	17.32	(2.18)	29.31	(4.71)	7.45	(0.45)	1.65	(0.16)
Non-Hispanic Black:																
2 - 5.....	26.89	(3.97)	21.60	(3.16)	11.61	(1.70)	0.86*	(0.33)	1.66*	(0.58)	2.64*	(1.17)	4.73	(0.49)	0.11*	(0.04)
6 - 11.....	35.81	(7.99)	19.64	(3.45)	8.44	(0.97)	1.23*	(0.44)	2.88*	(1.20)	2.71*	(1.05)	4.16	(0.38)	0.20*	(0.08)
12 - 19.....	50.39	(7.12)	24.73	(2.97)	6.44	(0.62)	2.52	(0.40)	3.93	(0.60)	7.38	(1.34)	4.14	(0.50)	0.32	(0.06)
20 and over...	99.15	(10.73)	42.45	(4.45)	7.23	(0.52)	5.55	(0.67)	8.98	(1.07)	14.45	(2.08)	5.36	(0.36)	0.88	(0.11)
2 and over...	84.96	(7.88)	37.55	(3.47)	7.43	(0.45)	4.63	(0.49)	7.55	(0.84)	12.12	(1.61)	5.09	(0.34)	0.73	(0.07)
Non-Hispanic Asian¹:																
2 - 5.....	20.44*	(6.69)	19.50*	(6.63)	8.55*	(2.04)	0.87*	(0.59)	1.62*	(1.00)	3.27*	(2.34)	5.11*	(0.97)	0.08*	(0.05)
6 - 11.....	40.31*	(9.87)	23.08*	(3.59)	10.73*	(1.54)	1.48*	(0.52)	2.53*	(0.73)	3.11*	(1.17)	4.96*	(0.66)	0.28*	(0.10)
12 - 19.....	78.46	(15.43)	35.58	(8.51)	9.94	(2.18)	3.86	(1.15)	5.85*	(1.79)	10.00*	(3.88)	5.33	(0.77)	0.60	(0.15)
20 and over...	218.88	(27.07)	129.72	(26.28)	13.50	(1.62)	18.08	(3.64)	28.50	(5.87)	57.63	(14.28)	9.75	(0.72)	2.26	(0.31)
2 and over...	186.86	(22.46)	110.00	(21.39)	12.80	(1.33)	15.05	(2.97)	23.72	(4.79)	47.67	(11.62)	8.86	(0.57)	1.90	(0.26)
Hispanic:																
2 - 5.....	31.84*	(10.22)	19.79	(3.06)	10.18	(1.08)	0.75*	(0.53)	1.23*	(0.76)	1.46*	(1.01)	6.04	(0.77)	0.14*	(0.11)
6 - 11.....	23.09	(3.72)	15.87	(1.42)	8.67	(0.84)	0.42*	(0.17)	0.97*	(0.31)	0.89*	(0.31)	4.84	(0.43)	0.07*	(0.04)
12 - 19.....	38.17	(3.14)	21.36	(4.77)	6.62	(0.74)	1.68*	(0.58)	3.09*	(1.00)	5.34*	(2.48)	4.41	(0.41)	0.21	(0.05)
20 and over...	72.66	(10.03)	43.41	(6.72)	8.04	(0.69)	4.72	(0.92)	8.30	(1.59)	14.92	(3.21)	6.77	(0.53)	0.65	(0.11)
2 and over...	59.39	(7.05)	35.54	(4.91)	8.05	(0.49)	3.53	(0.68)	6.25	(1.17)	11.05	(2.37)	6.17	(0.38)	0.49	(0.08)

Table 2. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Race/Ethnicity and Age, in the United States, 2017-2018 (continued)

Race/ethnicity and age (years)	Flavan-3-ols – continued									
	Theaflavin		Theaflavin-3,3'- digallate		Theaflavin-3'- gallate		Theaflavin-3- gallate		Thearubigins	
	----- mg (standard error) -----									
Non-Hispanic White:										
2 - 5.....	0.40*	(0.16)	0.44*	(0.17)	0.38*	(0.15)	0.32*	(0.12)	21.62*	(8.34)
6 - 11.....	0.36	(0.11)	0.40	(0.12)	0.34	(0.10)	0.28	(0.08)	20.62	(6.15)
12 - 19.....	0.47	(0.13)	0.51	(0.14)	0.43	(0.12)	0.35	(0.10)	34.84	(7.11)
20 and over...	1.82	(0.19)	2.00	(0.21)	1.70	(0.18)	1.42	(0.15)	102.64	(9.55)
2 and over...	1.54	(0.16)	1.69	(0.18)	1.44	(0.15)	1.20	(0.13)	87.29	(8.05)
Non-Hispanic Black:										
2 - 5.....	0.08*	(0.05)	0.09*	(0.06)	0.07*	(0.05)	0.06*	(0.04)	4.99*	(2.67)
6 - 11.....	0.26*	(0.11)	0.28*	(0.12)	0.24*	(0.10)	0.20*	(0.08)	15.19*	(5.39)
12 - 19.....	0.30*	(0.09)	0.33*	(0.10)	0.26*	(0.08)	0.24*	(0.08)	24.53	(6.04)
20 and over...	0.85	(0.13)	0.92	(0.14)	0.79	(0.12)	0.64	(0.10)	53.50	(7.83)
2 and over...	0.70	(0.09)	0.76	(0.10)	0.65	(0.09)	0.53	(0.07)	44.77	(5.78)
Non-Hispanic Asian¹:										
2 - 5.....	0.01*	(0.01)	0.01*	(0.01)	0.01*	(0.01)	0.01*	(0.01)	0.91*	(0.53)
6 - 11.....	0.31*	(0.13)	0.34*	(0.14)	0.30*	(0.12)	0.25*	(0.10)	16.03*	(6.69)
12 - 19.....	0.61	(0.16)	0.67	(0.18)	0.56	(0.15)	0.47	(0.13)	40.57	(9.66)
20 and over...	1.58	(0.11)	1.72	(0.13)	1.47	(0.11)	1.22	(0.09)	83.17	(5.81)
2 and over...	1.35	(0.10)	1.47	(0.11)	1.26	(0.09)	1.04	(0.08)	71.74	(5.10)
Hispanic:										
2 - 5.....	0.17*	(0.13)	0.18*	(0.14)	0.15*	(0.12)	0.13*	(0.10)	11.42*	(7.06)
6 - 11.....	0.09*	(0.05)	0.10*	(0.05)	0.09*	(0.04)	0.07*	(0.04)	6.87*	(2.36)
12 - 19.....	0.16	(0.04)	0.17	(0.05)	0.14*	(0.04)	0.11*	(0.04)	16.24	(3.49)
20 and over...	0.44	(0.08)	0.47	(0.09)	0.40	(0.08)	0.33	(0.06)	27.61	(4.53)
2 and over...	0.34	(0.05)	0.37	(0.06)	0.31	(0.05)	0.26	(0.04)	22.57	(2.94)

Table 2. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Race/Ethnicity and Age, in the United States, 2017-2018 (continued)

Race/ethnicity and age (years)	Flavanones							
	Total		Eriodictyol		Hesperetin		Naringenin	
	----- mg (standard error) -----							
Non-Hispanic White:								
2 - 5.....	11.10*	(5.86)	0.04*	(0.02)	8.91*	(5.05)	2.15*	(0.82)
6 - 11.....	13.38	(3.90)	0.10*	(0.07)	9.21	(2.63)	4.07*	(1.35)
12 - 19.....	7.16	(1.57)	0.19*	(0.15)	4.97	(1.09)	1.99	(0.56)
20 and over...	8.48	(0.81)	0.12	(0.03)	5.68	(0.51)	2.68	(0.34)
2 and over...	8.81	(0.79)	0.12	(0.03)	6.00	(0.52)	2.69	(0.30)
Non-Hispanic Black:								
2 - 5.....	12.60	(3.11)	0.02	(#)	9.22	(2.18)	3.36	(0.99)
6 - 11.....	8.03	(2.30)	0.01	(#)	6.29	(1.66)	1.73*	(0.66)
12 - 19.....	10.08	(2.71)	0.13*	(0.11)	7.33	(1.86)	2.61*	(0.95)
20 and over...	9.15	(0.86)	0.26*	(0.12)	6.49	(0.59)	2.40	(0.29)
2 and over...	9.32	(0.76)	0.21*	(0.09)	6.70	(0.55)	2.41	(0.25)
Non-Hispanic Asian¹:								
2 - 5.....	12.04*	(3.83)	0.02*	(0.01)	8.75*	(2.71)	3.27*	(1.19)
6 - 11.....	14.40*	(6.26)	0.01*	(0.01)	10.20*	(4.24)	4.19*	(2.08)
12 - 19.....	10.67*	(3.69)	0.08	(0.02)	8.84*	(3.11)	1.76*	(0.61)
20 and over...	16.77	(3.49)	0.19*	(0.10)	11.45	(2.24)	5.14	(1.24)
2 and over...	15.87	(3.26)	0.16*	(0.08)	11.02	(2.10)	4.69	(1.16)
Hispanic:								
2 - 5.....	13.72	(2.03)	0.03*	(0.01)	9.25	(1.35)	4.44	(0.75)
6 - 11.....	16.35	(2.06)	0.08*	(0.03)	12.14	(1.45)	4.12	(0.72)
12 - 19.....	14.04	(2.41)	0.21*	(0.10)	10.20	(1.86)	3.64	(0.59)
20 and over...	15.83	(1.73)	0.25	(0.05)	11.05	(1.23)	4.52	(0.61)
2 and over...	15.46	(1.56)	0.21	(0.04)	10.90	(1.13)	4.34	(0.50)

Table 2. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Race/Ethnicity and Age, in the United States, 2017-2018 (continued)

Race/ethnicity and age (years)	Flavones					
	Total		Apigenin		Luteolin	
----- mg (standard error) -----						
Non-Hispanic White:						
2 - 5.....	0.51	(0.09)	0.02	(#)	0.50	(0.09)
6 - 11.....	0.44	(0.06)	0.04*	(0.01)	0.40	(0.06)
12 - 19.....	0.49	(0.08)	0.05	(0.01)	0.44	(0.07)
20 and over...	0.90	(0.07)	0.17	(0.01)	0.73	(0.06)
2 and over...	0.81	(0.06)	0.14	(0.01)	0.67	(0.05)
Non-Hispanic Black:						
2 - 5.....	0.25	(0.04)	0.03	(0.01)	0.22	(0.03)
6 - 11.....	0.27	(0.05)	0.04	(0.01)	0.23	(0.05)
12 - 19.....	0.46	(0.08)	0.06	(0.01)	0.40	(0.08)
20 and over...	0.71	(0.04)	0.12	(0.01)	0.59	(0.03)
2 and over...	0.62	(0.03)	0.10	(0.01)	0.52	(0.03)
Non-Hispanic Asian¹:						
2 - 5.....	0.55*	(0.04)	0.05*	(0.02)	0.50*	(0.04)
6 - 11.....	0.67*	(0.18)	0.07*	(0.03)	0.60*	(0.16)
12 - 19.....	0.89	(0.11)	0.10	(0.02)	0.79	(0.10)
20 and over...	1.48	(0.09)	0.28	(0.04)	1.20	(0.06)
2 and over...	1.34	(0.07)	0.24	(0.04)	1.10	(0.05)
Hispanic:						
2 - 5.....	0.47	(0.10)	0.04*	(0.01)	0.43	(0.11)
6 - 11.....	0.44	(0.05)	0.03	(0.01)	0.41	(0.05)
12 - 19.....	0.52	(0.06)	0.05	(0.01)	0.47	(0.06)
20 and over...	1.11	(0.08)	0.22	(0.06)	0.89	(0.07)
2 and over...	0.90	(0.06)	0.16	(0.04)	0.75	(0.05)

Table 2. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Race/Ethnicity and Age, in the United States, 2017-2018 (continued)

Race/ethnicity and age (years)	Flavonols									
	Total		Isorhamnetin		Kaempferol		Myricetin		Quercetin	
----- mg (standard error) -----										
Non-Hispanic White:										
2 - 5.....	7.56	(0.71)	0.16	(0.03)	1.63	(0.25)	0.39	(0.06)	5.38	(0.49)
6 - 11.....	7.72	(0.64)	0.19	(0.04)	1.45	(0.22)	0.52	(0.08)	5.56	(0.47)
12 - 19.....	9.73	(1.01)	0.35	(0.05)	2.17	(0.30)	0.90	(0.12)	6.31	(0.64)
20 and over...	19.39	(0.88)	0.87	(0.07)	5.30	(0.27)	1.88	(0.12)	11.33	(0.52)
2 and over...	17.19	(0.78)	0.75	(0.07)	4.59	(0.24)	1.64	(0.10)	10.21	(0.46)
Non-Hispanic Black:										
2 - 5.....	6.60	(0.50)	0.20	(0.05)	1.13	(0.17)	0.32	(0.09)	4.95	(0.33)
6 - 11.....	7.67	(0.66)	0.16	(0.02)	1.76	(0.26)	0.65*	(0.23)	5.10	(0.34)
12 - 19.....	8.83	(0.87)	0.39	(0.10)	1.77	(0.26)	0.69	(0.10)	5.99	(0.63)
20 and over...	14.58	(0.94)	0.78	(0.14)	4.12	(0.36)	1.26	(0.12)	8.41	(0.42)
2 and over...	12.97	(0.79)	0.66	(0.11)	3.52	(0.31)	1.10	(0.11)	7.69	(0.35)
Non-Hispanic Asian¹:										
2 - 5.....	6.81*	(0.55)	0.26*	(0.07)	1.00*	(0.21)	0.27*	(0.04)	5.28*	(0.54)
6 - 11.....	10.91*	(1.18)	0.64*	(0.12)	1.13*	(0.13)	0.28*	(0.06)	8.85*	(1.06)
12 - 19.....	13.29	(0.95)	0.72	(0.16)	3.18	(0.58)	0.88	(0.16)	8.51	(0.48)
20 and over...	23.27	(1.41)	1.39	(0.15)	5.93	(0.55)	1.76	(0.20)	14.19	(0.74)
2 and over...	20.92	(1.21)	1.24	(0.12)	5.18	(0.49)	1.53	(0.17)	12.97	(0.61)
Hispanic:										
2 - 5.....	7.39	(0.91)	0.29	(0.05)	1.34	(0.36)	0.44	(0.12)	5.32	(0.51)
6 - 11.....	7.26	(0.48)	0.28	(0.05)	1.23	(0.16)	0.42	(0.07)	5.33	(0.39)
12 - 19.....	9.31	(0.49)	0.53	(0.08)	1.82	(0.15)	0.79	(0.09)	6.18	(0.41)
20 and over...	16.10	(0.61)	0.98	(0.05)	3.70	(0.25)	1.29	(0.10)	10.12	(0.34)
2 and over...	13.53	(0.49)	0.79	(0.04)	2.99	(0.17)	1.06	(0.08)	8.69	(0.31)

Table 2. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Race/Ethnicity and Age, in the United States, 2017-2018 (continued)

Race/ethnicity and age (years)	Isoflavones							
	Total		Daidzein		Genistein		Glycitein	
	----- mg (standard error) -----							
Non-Hispanic White:								
2 - 5.....	0.46*	(0.14)	0.20*	(0.06)	0.24*	(0.07)	0.03	(0.01)
6 - 11.....	1.25*	(0.55)	0.45*	(0.19)	0.70*	(0.32)	0.10*	(0.05)
12 - 19.....	2.52*	(1.79)	0.95*	(0.69)	1.35*	(0.94)	0.22*	(0.16)
20 and over...	2.86	(0.61)	1.06	(0.21)	1.56	(0.34)	0.24	(0.06)
2 and over...	2.61	(0.54)	0.97	(0.19)	1.42	(0.30)	0.22	(0.05)
Non-Hispanic Black:								
2 - 5.....	0.33*	(0.14)	0.12*	(0.05)	0.18*	(0.08)	0.03*	(0.01)
6 - 11.....	1.83*	(1.23)	0.71*	(0.47)	0.96*	(0.64)	0.16*	(0.11)
12 - 19.....	0.45	(0.12)	0.17	(0.04)	0.25	(0.07)	0.04	(0.01)
20 and over...	1.00	(0.23)	0.37	(0.09)	0.54	(0.12)	0.08	(0.02)
2 and over...	0.97	(0.19)	0.37	(0.07)	0.52	(0.10)	0.08	(0.02)
Non-Hispanic Asian¹:								
2 - 5.....	1.45*	(0.95)	0.68*	(0.44)	0.69*	(0.46)	0.08*	(0.05)
6 - 11.....	1.06*	(0.57)	0.46*	(0.25)	0.53*	(0.28)	0.07*	(0.03)
12 - 19.....	1.61*	(0.60)	0.66*	(0.24)	0.85*	(0.33)	0.10*	(0.03)
20 and over...	3.53	(0.77)	1.44	(0.32)	1.82	(0.40)	0.26	(0.05)
2 and over...	3.12	(0.63)	1.28	(0.26)	1.61	(0.33)	0.23	(0.04)
Hispanic:								
2 - 5.....	1.04*	(0.85)	0.39*	(0.33)	0.55*	(0.45)	0.09*	(0.08)
6 - 11.....	0.34	(0.10)	0.14*	(0.04)	0.18	(0.05)	0.02*	(0.01)
12 - 19.....	1.58*	(0.62)	0.58*	(0.23)	0.89*	(0.35)	0.12*	(0.05)
20 and over...	3.34*	(1.15)	1.21*	(0.42)	1.85*	(0.63)	0.28*	(0.10)
2 and over...	2.60	(0.77)	0.94*	(0.29)	1.44	(0.42)	0.22*	(0.07)

Symbol Legend

* Indicates an estimate that may be less statistically reliable than estimates that are not flagged. The rules for flagging estimated means are as follows:

Mean: An estimated mean is flagged when based on a sample size of less than 30 times the variance inflation factor (VIF), where the VIF represents a broadly calculated average design effect, or when the relative standard error is greater than 30 percent. The VIF used in this table is 2.57.

Indicates a non-zero value too small to report.

Footnotes

¹ A new sampling methodology was implemented for NHANES 2011-2012 to oversample non-Hispanic non-black Asians in addition to the ongoing oversample of Hispanics, non-Hispanic blacks, low-income whites/others, and whites/others 80+ years.

² Flavonoid Intake Data Files reflect the application of the flavonoid composition values included in the Database of Flavonoid Values for USDA Food Codes 2017-2018 to the WWEIA, NHANES 2017-2018 dietary data.

Notes Applicable to All Tables in Series: Flavonoid Intakes, What We Eat in America, NHANES 2017-2018

Sample weights designed for dietary analysis were used to allow estimates representative of the U. S. population for the years of collection.

The statistics in this table are estimated from Day 1 dietary recall interviews conducted in the *What We Eat in America*, National Health and Nutrition Examination Survey (NHANES) 2017-2018. The 24-hour dietary recalls were conducted in-person, by trained interviewers, using the USDA 5-step Automated Multiple-Pass Method. Food intakes were coded using USDA food codes. A database that provided flavonoid values for all food codes in the 2017-2018 WWEIA, NHANES survey cycle was developed (See: https://www.ars.usda.gov/ARUserFiles/80400530/pdf/fndds/FlavonoidDB_documentation_1718.pdf). The USDA Expanded Flavonoid Database for the Assessment of Dietary Intakes, Release 1.1 https://www.ars.usda.gov/ARUserFiles/80400525/Data/Flav/FDB-EXP_R01-1_Doc.pdf provided the basis for the flavonoid values included in the 2017-2018 flavonoid database. The flavonoid database was applied to the dietary intake files to generate the flavonoid intake data files, which were analyzed to provide the estimates presented in this table.

Intake of flavonoids are based on the consumption of food and beverages, including water, and do not include intake from supplements or medications.

The table includes data from individuals 2 years and over. Breast-fed children were excluded because breast milk was not quantified in dietary recall interviews.

Suggested Citation

U.S. Department of Agriculture, Agricultural Research Service. 2022. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Race/Ethnicity and Age, *What We Eat in America*, NHANES 2017-2018.

Table 3. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual,
by Family Income (in Dollars) and Age, in the United States, 2017-2018

Family income in dollars and age (years)	Sample size	Total flavonoids		Anthocyanidins (continued on next page)									
				Total		Cyanidin		Delphinidin		Malvidin		Pelargonidin	
<i>n</i>		----- <i>mg (standard error)</i> -----											
\$0 - \$24,999:													
2 - 5.....	140	82.45	(16.06)	8.01*	(2.92)	1.69*	(0.59)	0.88*	(0.58)	2.75*	(1.27)	1.38	(0.29)
6 - 11.....	180	67.97	(10.21)	11.91*	(3.96)	2.33*	(0.81)	1.60*	(0.81)	4.75*	(1.89)	0.95	(0.28)
12 - 19.....	253	100.77	(13.24)	7.77*	(2.36)	1.42*	(0.59)	1.00	(0.28)	2.24*	(0.76)	1.15	(0.25)
20 and over...	1,218	188.27	(19.77)	10.17	(1.55)	1.79	(0.50)	1.28	(0.28)	3.37	(0.69)	1.33	(0.21)
2 and over...	1,791	162.00	(15.17)	9.88	(1.17)	1.78	(0.45)	1.25	(0.21)	3.30	(0.51)	1.28	(0.17)
\$25,000 - \$74,999:													
2 - 5.....	207	63.19	(10.21)	13.21	(2.39)	1.89	(0.51)	1.48*	(0.46)	4.70	(1.01)	2.38	(0.50)
6 - 11.....	316	72.66	(8.87)	8.99	(2.29)	1.47	(0.29)	0.92*	(0.36)	3.02	(0.90)	1.77*	(0.54)
12 - 19.....	404	90.89	(13.63)	6.49	(1.24)	1.13	(0.22)	0.75	(0.19)	2.85	(0.79)	0.81	(0.20)
20 and over...	1,799	208.13	(14.96)	15.09	(1.45)	2.06	(0.30)	1.92	(0.35)	5.05	(0.46)	1.63	(0.29)
2 and over...	2,726	178.56	(12.77)	13.69	(1.25)	1.91	(0.26)	1.71	(0.27)	4.66	(0.44)	1.60	(0.24)
\$75,000 and higher:													
2 - 5.....	147	74.89	(16.22)	14.72	(3.23)	3.95*	(1.51)	0.92	(0.20)	4.01	(1.06)	3.39	(0.71)
6 - 11.....	232	79.18	(10.09)	19.73*	(5.95)	2.47	(0.33)	2.10*	(0.85)	4.28*	(1.74)	4.53*	(2.03)
12 - 19.....	299	76.31	(11.71)	7.32	(1.18)	1.15	(0.16)	0.81	(0.16)	2.89	(0.53)	1.18*	(0.49)
20 and over...	1,229	248.06	(22.19)	18.50	(2.35)	3.41	(0.65)	2.14	(0.33)	6.48	(0.96)	1.82	(0.37)
2 and over...	1,907	206.98	(17.18)	17.22	(2.02)	3.10	(0.50)	1.93	(0.27)	5.78	(0.77)	2.06	(0.34)
All Individuals¹:													
2 - 5.....	540	71.31	(8.95)	12.80	(1.66)	2.48	(0.57)	1.15	(0.25)	4.31	(0.62)	2.59	(0.27)
6 - 11.....	795	73.24	(6.59)	13.67	(2.77)	2.00	(0.24)	1.51	(0.39)	3.76	(0.72)	2.76*	(1.00)
12 - 19.....	1,045	88.94	(6.08)	7.31	(0.79)	1.20	(0.16)	0.84	(0.10)	2.83	(0.43)	1.10	(0.22)
20 and over...	4,742	217.46	(12.52)	15.14	(1.28)	2.54	(0.34)	1.84	(0.21)	5.17	(0.45)	1.64	(0.20)
2 and over...	7,122	184.77	(10.15)	14.06	(1.18)	2.35	(0.28)	1.67	(0.18)	4.76	(0.39)	1.72	(0.18)

Table 3. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual,
by Family Income (in Dollars) and Age, in the United States, 2017-2018 (continued)

Family income in dollars and age (years)	Anthocyanidins – continued			
	Peonidin		Petunidin	
	----- mg (standard error) -----			
\$0 - \$24,999:				
2 - 5.....	0.64*	(0.35)	0.68*	(0.52)
6 - 11.....	1.00*	(0.47)	1.29*	(0.72)
12 - 19.....	1.36*	(0.69)	0.60*	(0.20)
20 and over...	1.45	(0.37)	0.95	(0.22)
2 and over...	1.36	(0.30)	0.92	(0.16)
\$25,000 - \$74,999:				
2 - 5.....	1.58	(0.46)	1.19*	(0.40)
6 - 11.....	1.11*	(0.41)	0.71*	(0.30)
12 - 19.....	0.42	(0.11)	0.52	(0.15)
20 and over...	3.14	(0.36)	1.30	(0.20)
2 and over...	2.64	(0.29)	1.17	(0.17)
\$75,000 and higher:				
2 - 5.....	1.73*	(0.84)	0.71	(0.16)
6 - 11.....	4.70*	(2.50)	1.66*	(0.75)
12 - 19.....	0.66*	(0.21)	0.64	(0.14)
20 and over...	3.01	(0.52)	1.65	(0.27)
2 and over...	2.84	(0.47)	1.49	(0.22)
All Individuals¹:				
2 - 5.....	1.36	(0.32)	0.90	(0.21)
6 - 11.....	2.46*	(1.04)	1.19	(0.34)
12 - 19.....	0.74	(0.19)	0.60	(0.08)
20 and over...	2.62	(0.27)	1.33	(0.14)
2 and over...	2.34	(0.25)	1.22	(0.12)

Table 3. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual,
by Family Income (in Dollars) and Age, in the United States, 2017-2018 (continued)

Family income in dollars and age (years)	Flavan-3-ols (continued on next page)														
	Total	Catechins													
		Total	(-)-Epicatechin		(-)-Epicatechin 3-gallate		(-)-Epigallocatechin(-)-Epigallocatechin 3-gallate		(+) -Catechin		(+) -Gallocatechin				
----- mg (standard error) -----															
\$0 - \$24,999:															
2 - 5.....	55.60	(16.02)	27.58	(4.20)	12.80	(1.28)	1.89*	(0.82)	2.96*	(1.11)	3.47*	(1.33)	6.10	(0.66)	0.37* (0.18)
6 - 11.....	39.19	(9.87)	17.74	(2.73)	7.27	(0.66)	1.38*	(0.51)	2.19*	(0.74)	2.78*	(1.00)	3.86	(0.28)	0.26* (0.11)
12 - 19.....	66.50	(11.96)	31.24	(4.64)	7.46	(1.05)	3.60	(0.56)	5.97	(1.02)	9.51	(2.56)	4.12	(0.47)	0.58 (0.11)
20 and over...	148.30	(18.62)	58.26	(6.57)	9.04	(0.68)	8.24	(1.17)	12.93	(1.66)	19.91	(3.09)	6.69	(0.43)	1.44 (0.20)
2 and over...	124.35	(14.40)	50.00	(5.11)	8.92	(0.57)	6.77	(0.90)	10.66	(1.26)	16.35	(2.31)	6.12	(0.36)	1.18 (0.16)
\$25,000 - \$74,999:															
2 - 5.....	34.66	(9.07)	19.53	(1.81)	9.17	(0.76)	1.03*	(0.40)	1.69*	(0.55)	2.17*	(0.79)	5.29	(0.38)	0.18* (0.08)
6 - 11.....	44.23	(8.96)	20.82	(2.74)	8.53	(0.88)	1.61	(0.44)	2.74	(0.71)	2.95	(0.78)	4.66	(0.18)	0.32 (0.09)
12 - 19.....	65.52	(13.07)	27.63	(5.42)	6.92	(0.53)	3.06	(0.87)	4.90	(1.28)	7.77*	(2.55)	4.51	(0.40)	0.47 (0.14)
20 and over...	162.56	(14.73)	73.46	(11.65)	9.94	(0.71)	10.32	(1.57)	16.51	(2.54)	27.77	(6.39)	7.32	(0.52)	1.62 (0.19)
2 and over...	137.19	(12.12)	62.07	(8.82)	9.49	(0.58)	8.45	(1.19)	13.53	(1.91)	22.55	(4.82)	6.73	(0.44)	1.33 (0.15)
\$75,000 and higher:															
2 - 5.....	35.92*	(12.87)	21.67	(4.40)	10.75	(1.62)	1.00*	(0.58)	1.68*	(0.82)	1.78*	(0.96)	6.27	(0.88)	0.20* (0.12)
6 - 11.....	33.14	(6.19)	19.80	(1.52)	9.74	(0.79)	0.92	(0.27)	2.02	(0.47)	1.94	(0.49)	5.01	(0.48)	0.17* (0.06)
12 - 19.....	43.19	(9.45)	21.27*	(6.48)	6.77	(0.75)	1.88*	(0.92)	3.25*	(1.48)	5.49*	(3.37)	3.63	(0.45)	0.25* (0.10)
20 and over...	193.08	(21.07)	98.31	(19.47)	11.78	(1.25)	13.63	(2.61)	22.03	(4.27)	40.14	(10.67)	8.86	(0.74)	1.86 (0.24)
2 and over...	155.87	(16.17)	79.69	(14.64)	11.01	(0.92)	10.69	(1.97)	17.34	(3.23)	31.34	(8.07)	7.84	(0.58)	1.46 (0.18)
All Individuals¹:															
2 - 5.....	38.56	(7.64)	21.70	(2.33)	10.47	(0.67)	1.15*	(0.35)	1.89	(0.49)	2.20	(0.61)	5.78	(0.41)	0.22* (0.07)
6 - 11.....	37.40	(4.71)	19.45	(1.28)	8.74	(0.44)	1.21	(0.23)	2.22	(0.37)	2.36	(0.41)	4.68	(0.23)	0.23 (0.05)
12 - 19.....	58.51	(5.37)	26.39	(3.52)	7.13	(0.35)	2.77	(0.49)	4.58	(0.79)	7.41	(1.90)	4.07	(0.24)	0.42 (0.06)
20 and over...	169.69	(11.95)	79.26	(7.01)	10.47	(0.43)	11.05	(1.06)	17.76	(1.65)	30.56	(3.63)	7.76	(0.31)	1.65 (0.13)
2 and over...	140.57	(9.44)	65.90	(5.41)	9.97	(0.32)	8.88	(0.82)	14.30	(1.28)	24.39	(2.81)	7.01	(0.27)	1.34 (0.10)

Table 3. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual,
by Family Income (in Dollars) and Age, in the United States, 2017-2018 (continued)

Family income in dollars and age (years)	Flavan-3-ols – continued									
	Theaflavin		Theaflavin-3,3'- digallate		Theaflavin-3'- gallate		Theaflavin-3- gallate		Thearubigins	
	----- mg (standard error) -----									
\$0 - \$24,999:										
2 - 5.....	0.45*	(0.22)	0.50*	(0.25)	0.43*	(0.21)	0.36*	(0.18)	26.28*	(11.34)
6 - 11.....	0.31*	(0.13)	0.34*	(0.15)	0.29*	(0.13)	0.24*	(0.11)	20.27*	(7.06)
12 - 19.....	0.55*	(0.21)	0.60*	(0.23)	0.51*	(0.20)	0.42*	(0.17)	33.18*	(11.11)
20 and over...	1.46	(0.24)	1.61	(0.27)	1.37	(0.23)	1.15	(0.19)	84.44	(12.45)
2 and over...	1.20	(0.19)	1.32	(0.21)	1.13	(0.18)	0.94	(0.15)	69.76	(9.57)
\$25,000 - \$74,999:										
2 - 5.....	0.21*	(0.10)	0.23*	(0.11)	0.20*	(0.09)	0.16*	(0.08)	14.34*	(7.37)
6 - 11.....	0.39*	(0.12)	0.43*	(0.13)	0.37*	(0.11)	0.31*	(0.09)	21.91	(6.16)
12 - 19.....	0.51	(0.15)	0.55	(0.16)	0.46*	(0.14)	0.39*	(0.12)	35.96	(8.37)
20 and over...	1.48	(0.23)	1.62	(0.25)	1.39	(0.22)	1.15	(0.18)	83.47	(11.46)
2 and over...	1.23	(0.19)	1.35	(0.21)	1.15	(0.18)	0.96	(0.15)	70.42	(10.05)
\$75,000 and higher:										
2 - 5.....	0.24*	(0.16)	0.26*	(0.17)	0.23*	(0.15)	0.19*	(0.12)	13.33*	(8.15)
6 - 11.....	0.20*	(0.07)	0.22*	(0.08)	0.19*	(0.07)	0.15*	(0.06)	12.58*	(4.75)
12 - 19.....	0.22*	(0.07)	0.24*	(0.08)	0.20*	(0.07)	0.16*	(0.06)	21.09	(5.08)
20 and over...	1.56	(0.24)	1.70	(0.27)	1.44	(0.23)	1.21	(0.19)	88.86	(12.38)
2 and over...	1.23	(0.19)	1.35	(0.21)	1.14	(0.18)	0.96	(0.15)	71.50	(10.02)
All Individuals¹:										
2 - 5.....	0.26*	(0.09)	0.29*	(0.10)	0.25*	(0.09)	0.21*	(0.07)	15.85*	(5.17)
6 - 11.....	0.28	(0.06)	0.31	(0.07)	0.27	(0.06)	0.22	(0.05)	16.87	(3.38)
12 - 19.....	0.41	(0.06)	0.45	(0.07)	0.38	(0.06)	0.31	(0.05)	30.57	(3.83)
20 and over...	1.49	(0.13)	1.63	(0.15)	1.39	(0.13)	1.16	(0.11)	84.75	(6.48)
2 and over...	1.22	(0.11)	1.33	(0.12)	1.14	(0.10)	0.95	(0.08)	70.04	(5.23)

Table 3. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Family Income (in Dollars) and Age, in the United States, 2017-2018 (continued)

Family income in dollars and age (years)	Flavanones							
	Total		Eriodictyol		Hesperetin		Naringenin	
	----- mg (standard error) -----							
\$0 - \$24,999:								
2 - 5.....	9.44	(2.83)	0.02*	(0.01)	6.45	(1.83)	2.97*	(1.04)
6 - 11.....	7.58	(1.57)	0.03*	(0.01)	5.80	(1.31)	1.75	(0.30)
12 - 19.....	9.92	(2.21)	0.12*	(0.09)	7.66	(1.75)	2.15	(0.47)
20 and over...	9.84	(1.14)	0.15*	(0.05)	6.84	(0.72)	2.85	(0.46)
2 and over...	9.65	(0.93)	0.13*	(0.04)	6.84	(0.59)	2.68	(0.36)
\$25,000 - \$74,999:								
2 - 5.....	8.05	(2.08)	0.02*	(0.01)	5.74	(1.54)	2.29	(0.58)
6 - 11.....	10.52	(1.60)	0.05*	(0.02)	7.46	(1.06)	3.02	(0.59)
12 - 19.....	7.71	(1.44)	0.37*	(0.21)	5.45	(1.03)	1.89	(0.43)
20 and over...	10.14	(0.88)	0.25*	(0.08)	6.80	(0.50)	3.09	(0.40)
2 and over...	9.82	(0.70)	0.23	(0.07)	6.66	(0.43)	2.93	(0.31)
\$75,000 and higher:								
2 - 5.....	14.95*	(9.15)	0.06*	(0.03)	12.11*	(7.87)	2.78*	(1.28)
6 - 11.....	15.69	(4.38)	0.12*	(0.09)	11.08	(3.06)	4.49*	(1.43)
12 - 19.....	14.84*	(5.08)	0.08*	(0.04)	11.02*	(4.25)	3.74	(1.00)
20 and over...	10.29	(1.14)	0.11	(0.02)	7.04	(0.78)	3.14	(0.40)
2 and over...	11.46	(1.20)	0.10	(0.02)	8.05	(0.86)	3.31	(0.36)
All Individuals¹:								
2 - 5.....	11.46	(2.90)	0.03*	(0.01)	8.51	(2.51)	2.91	(0.43)
6 - 11.....	12.65	(2.05)	0.07*	(0.04)	9.07	(1.39)	3.51	(0.72)
12 - 19.....	10.78	(2.19)	0.18*	(0.08)	7.99	(1.80)	2.62	(0.43)
20 and over...	10.23	(0.69)	0.16	(0.03)	6.97	(0.43)	3.10	(0.29)
2 and over...	10.55	(0.72)	0.15	(0.03)	7.32	(0.48)	3.07	(0.26)

Table 3. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual,
by Family Income (in Dollars) and Age, in the United States, 2017-2018 (continued)

Family income in dollars and age (years)	Flavones					
	Total		Apigenin		Luteolin	
	----- mg (standard error) -----					
\$0 - \$24,999:						
2 - 5.....	0.27	(0.05)	0.02*	(0.01)	0.25	(0.05)
6 - 11.....	0.35	(0.05)	0.07*	(0.02)	0.28	(0.03)
12 - 19.....	0.50	(0.09)	0.05	(0.01)	0.45	(0.09)
20 and over...	0.73	(0.06)	0.12	(0.01)	0.61	(0.06)
2 and over...	0.65	(0.05)	0.10	(0.01)	0.55	(0.04)
\$25,000 - \$74,999:						
2 - 5.....	0.49	(0.08)	0.03	(0.01)	0.47	(0.08)
6 - 11.....	0.38	(0.03)	0.03	(0.01)	0.35	(0.03)
12 - 19.....	0.52	(0.08)	0.05	(0.01)	0.47	(0.07)
20 and over...	0.91	(0.05)	0.18	(0.04)	0.73	(0.04)
2 and over...	0.81	(0.05)	0.15	(0.03)	0.66	(0.03)
\$75,000 and higher:						
2 - 5.....	0.55	(0.11)	0.02	(0.01)	0.53	(0.11)
6 - 11.....	0.50	(0.07)	0.03*	(0.01)	0.47	(0.07)
12 - 19.....	0.56	(0.08)	0.06*	(0.02)	0.50	(0.07)
20 and over...	1.06	(0.09)	0.20	(0.03)	0.86	(0.09)
2 and over...	0.94	(0.08)	0.16	(0.02)	0.77	(0.08)
All Individuals¹:						
2 - 5.....	0.46	(0.06)	0.02	(#)	0.44	(0.06)
6 - 11.....	0.43	(0.04)	0.04	(0.01)	0.39	(0.04)
12 - 19.....	0.52	(0.05)	0.05	(0.01)	0.47	(0.04)
20 and over...	0.94	(0.04)	0.18	(0.01)	0.77	(0.04)
2 and over...	0.83	(0.04)	0.14	(0.01)	0.69	(0.03)

Table 3. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual,
by Family Income (in Dollars) and Age, in the United States, 2017-2018 (continued)

Family income in dollars and age (years)	Flavonols									
	Total		Isorhamnetin		Kaempferol		Myricetin		Quercetin	
	----- mg (standard error) -----									
\$0 - \$24,999:										
2 - 5.....	7.89	(0.72)	0.19	(0.03)	1.68	(0.37)	0.47	(0.09)	5.56	(0.37)
6 - 11.....	8.34	(0.76)	0.28*	(0.08)	1.58	(0.22)	0.56	(0.09)	5.92	(0.66)
12 - 19.....	10.46	(1.15)	0.50	(0.08)	2.29	(0.28)	0.80	(0.10)	6.86	(0.84)
20 and over...	16.65	(0.86)	0.75	(0.06)	4.58	(0.33)	1.51	(0.10)	9.81	(0.55)
2 and over...	14.74	(0.65)	0.65	(0.05)	3.90	(0.25)	1.29	(0.06)	8.90	(0.44)
\$25,000 - \$74,999:										
2 - 5.....	6.45	(0.65)	0.16	(0.03)	1.25	(0.14)	0.42	(0.12)	4.62	(0.44)
6 - 11.....	7.48	(0.72)	0.23	(0.04)	1.42	(0.20)	0.50	(0.09)	5.33	(0.47)
12 - 19.....	9.85	(0.76)	0.47	(0.09)	2.00	(0.24)	0.87	(0.17)	6.51	(0.46)
20 and over...	17.44	(0.50)	0.79	(0.06)	4.76	(0.23)	1.61	(0.08)	10.29	(0.29)
2 and over...	15.35	(0.49)	0.68	(0.06)	4.04	(0.20)	1.39	(0.06)	9.24	(0.29)
\$75,000 and higher:										
2 - 5.....	7.98	(0.93)	0.21	(0.04)	1.62	(0.34)	0.35	(0.05)	5.79	(0.69)
6 - 11.....	8.62	(0.48)	0.25	(0.03)	1.54	(0.21)	0.53	(0.09)	6.31	(0.35)
12 - 19.....	9.59	(0.75)	0.42	(0.08)	2.03	(0.23)	0.80	(0.10)	6.35	(0.48)
20 and over...	21.15	(1.02)	1.14	(0.10)	5.61	(0.40)	1.96	(0.16)	12.43	(0.56)
2 and over...	18.21	(0.87)	0.94	(0.08)	4.69	(0.34)	1.64	(0.13)	10.94	(0.48)
All Individuals¹:										
2 - 5.....	7.38	(0.52)	0.21	(0.02)	1.44	(0.18)	0.41	(0.06)	5.32	(0.34)
6 - 11.....	7.99	(0.46)	0.25	(0.03)	1.49	(0.13)	0.51	(0.07)	5.75	(0.31)
12 - 19.....	9.98	(0.55)	0.44	(0.05)	2.11	(0.16)	0.86	(0.07)	6.57	(0.35)
20 and over...	18.67	(0.46)	0.93	(0.04)	5.00	(0.15)	1.72	(0.07)	11.03	(0.30)
2 and over...	16.32	(0.42)	0.78	(0.04)	4.23	(0.13)	1.46	(0.05)	9.84	(0.27)

Table 3. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual,
by Family Income (in Dollars) and Age, in the United States, 2017-2018 (continued)

Family income in dollars and age (years)	Isoflavones							
	Total		Daidzein		Genistein		Glycitein	
	----- mg (standard error) -----							
\$0 - \$24,999:								
2 - 5.....	1.24*	(0.99)	0.48*	(0.38)	0.65*	(0.51)	0.11*	(0.09)
6 - 11.....	0.60*	(0.27)	0.26*	(0.12)	0.30*	(0.13)	0.04*	(0.02)
12 - 19.....	5.61*	(3.54)	2.10*	(1.37)	3.02*	(1.85)	0.49*	(0.32)
20 and over...	2.58	(0.56)	1.00	(0.22)	1.37	(0.30)	0.21	(0.05)
2 and over...	2.73	(0.58)	1.05	(0.23)	1.46	(0.31)	0.23	(0.05)
\$25,000 - \$74,999:								
2 - 5.....	0.32*	(0.14)	0.13*	(0.06)	0.17*	(0.07)	0.02	(0.01)
6 - 11.....	1.05*	(0.46)	0.39*	(0.17)	0.57*	(0.25)	0.09*	(0.04)
12 - 19.....	0.81	(0.22)	0.30	(0.08)	0.45	(0.13)	0.06	(0.02)
20 and over...	1.98	(0.30)	0.75	(0.11)	1.06	(0.16)	0.17	(0.03)
2 and over...	1.71	(0.26)	0.65	(0.10)	0.92	(0.14)	0.15	(0.02)
\$75,000 and higher:								
2 - 5.....	0.77	(0.12)	0.33	(0.06)	0.39	(0.06)	0.05	(0.01)
6 - 11.....	1.51*	(0.54)	0.55*	(0.18)	0.84*	(0.31)	0.12*	(0.05)
12 - 19.....	0.81*	(0.27)	0.31*	(0.10)	0.44*	(0.14)	0.06*	(0.02)
20 and over...	3.98	(0.89)	1.43	(0.30)	2.21	(0.51)	0.34	(0.08)
2 and over...	3.28	(0.64)	1.18	(0.22)	1.82	(0.37)	0.28	(0.06)
All Individuals¹:								
2 - 5.....	0.65*	(0.21)	0.27*	(0.08)	0.34*	(0.11)	0.05*	(0.02)
6 - 11.....	1.10	(0.30)	0.41	(0.10)	0.60	(0.17)	0.09	(0.03)
12 - 19.....	1.84*	(0.87)	0.69*	(0.34)	1.00*	(0.46)	0.15*	(0.08)
20 and over...	2.79	(0.42)	1.03	(0.15)	1.52	(0.23)	0.24	(0.04)
2 and over...	2.44	(0.33)	0.91	(0.12)	1.33	(0.19)	0.21	(0.03)

Symbol Legend

* Indicates an estimate that may be less statistically reliable than estimates that are not flagged. The rules for flagging estimated means are as follows:

Mean: An estimated mean is flagged when based on a sample size of less than 30 times the variance inflation factor (VIF), where the VIF represents a broadly calculated average design effect, or when the relative standard error is greater than 30 percent. The VIF used in this table is 2.57.

Indicates a non-zero value too small to report.

Footnotes

¹ Includes persons of all income levels or with unknown family income.

² Flavonoid Intake Data Files reflect the application of the flavonoid composition values included in the Database of Flavonoid Values for USDA Food Codes 2017-2018 to the WWEIA, NHANES 2017-2018 dietary data.

Notes Applicable to All Tables in Series: Flavonoid Intakes, What We Eat in America, NHANES 2017-2018

Sample weights designed for dietary analysis were used to allow estimates representative of the U. S. population for the years of collection.

The statistics in this table are estimated from Day 1 dietary recall interviews conducted in the *What We Eat in America*, National Health and Nutrition Examination Survey (NHANES) 2017-2018. The 24-hour dietary recalls were conducted in-person, by trained interviewers, using the USDA 5-step Automated Multiple-Pass Method. Food intakes were coded using USDA food codes. A database that provided flavonoid values for all food codes in the 2017-2018 WWEIA, NHANES survey cycle was developed (See: <https://www.ars.usda.gov/ARSDocuments/2017-2018%20WWEIA%20NHANES%20survey%20cycle%20developed>). The USDA Expanded Flavonoid Database for the Assessment of Dietary Intakes, Release 1.1 <https://www.ars.usda.gov/ARSDocuments/2017-2018%20WWEIA%20NHANES%20survey%20cycle%20developed> provided the basis for the flavonoid values included in the 2017-2018 flavonoid database. The flavonoid database was applied to the dietary intake files to generate the flavonoid intake data files, which were analyzed to provide the estimates presented in this table.

Intake of flavonoids are based on the consumption of food and beverages, including water, and do not include intake from supplements or medications.

The table includes data from individuals 2 years and over. Breast-fed children were excluded because breast milk was not quantified in dietary recall interviews.

Suggested Citation

U.S. Department of Agriculture, Agricultural Research Service. 2022. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Family Income (in Dollars) and Age, *What We Eat in America*, NHANES 2017-2018.

Table 4. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Family Income (as % of Poverty Level¹) and Age, in the United States, 2017-2018

Family income as % of poverty level and age (years)	Sample size	Total flavonoids	Anthocyanidins (continued on next page)										
			Total		Cyanidin		Delphinidin		Malvidin		Pelargonidin		
n		mg (standard error)											
Under 131% poverty:													
2 - 5.....	208	74.47	(12.23)	7.99	(2.13)	1.48	(0.39)	0.82*	(0.40)	3.00*	(0.96)	1.42	(0.30)
6 - 11.....	282	66.97	(7.60)	11.51	(2.76)	2.17	(0.31)	1.46*	(0.56)	4.76	(1.30)	0.99	(0.25)
12 - 19.....	375	92.64	(9.34)	7.33	(1.68)	1.06	(0.17)	1.07	(0.24)	2.21	(0.66)	1.25	(0.22)
20 and over...	1,180	194.17	(21.44)	10.12	(1.17)	1.76	(0.47)	1.23	(0.21)	3.42	(0.49)	1.30	(0.28)
2 and over...	2,045	156.12	(15.97)	9.67	(0.79)	1.68	(0.35)	1.20	(0.15)	3.34	(0.34)	1.27	(0.20)
131-350% poverty:													
2 - 5.....	178	68.53	(11.11)	14.02	(2.90)	1.98	(0.53)	1.54*	(0.51)	5.00	(1.28)	2.65	(0.51)
6 - 11.....	279	72.03	(10.37)	8.30	(2.27)	1.60	(0.34)	0.75*	(0.34)	2.11*	(0.80)	1.85*	(0.65)
12 - 19.....	372	84.88	(9.80)	4.70	(1.00)	1.17	(0.32)	0.38*	(0.13)	1.84*	(0.62)	0.71*	(0.28)
20 and over...	1,722	187.02	(9.86)	12.55	(1.09)	1.83	(0.25)	1.63	(0.34)	4.02	(0.38)	1.47	(0.27)
2 and over...	2,551	159.63	(7.20)	11.42	(0.92)	1.74	(0.22)	1.42	(0.27)	3.68	(0.38)	1.48	(0.20)
Over 350% poverty:													
2 - 5.....	107	73.43	(17.91)	16.60	(3.24)	5.10*	(2.04)	0.97	(0.20)	3.88	(0.88)	3.68	(0.97)
6 - 11.....	159	85.42	(13.82)	23.68*	(8.11)	2.50	(0.46)	2.62*	(1.13)	5.23*	(2.27)	5.62*	(2.74)
12 - 19.....	191	84.25	(13.03)	10.21	(1.88)	1.40	(0.19)	1.19	(0.21)	4.49	(1.19)	1.27*	(0.58)
20 and over...	1,282	260.68	(21.74)	20.47	(2.68)	3.54	(0.69)	2.40	(0.38)	7.20	(1.03)	1.96	(0.36)
2 and over...	1,739	229.72	(17.38)	19.77	(2.49)	3.36	(0.58)	2.28	(0.34)	6.76	(0.91)	2.20	(0.36)
All Individuals ² :													
2 - 5.....	540	71.31	(8.95)	12.80	(1.66)	2.48	(0.57)	1.15	(0.25)	4.31	(0.62)	2.59	(0.27)
6 - 11.....	795	73.24	(6.59)	13.67	(2.77)	2.00	(0.24)	1.51	(0.39)	3.76	(0.72)	2.76*	(1.00)
12 - 19.....	1,045	88.94	(6.08)	7.31	(0.79)	1.20	(0.16)	0.84	(0.10)	2.83	(0.43)	1.10	(0.22)
20 and over...	4,742	217.46	(12.52)	15.14	(1.28)	2.54	(0.34)	1.84	(0.21)	5.17	(0.45)	1.64	(0.20)
2 and over...	7,122	184.77	(10.15)	14.06	(1.18)	2.35	(0.28)	1.67	(0.18)	4.76	(0.39)	1.72	(0.18)

Table 4. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Family Income (as % of Poverty Level¹) and Age, in the United States, 2017-2018 (continued)

Family income as % of poverty level and age (years)	Anthocyanidins – continued			
	Peonidin		Petunidin	
	----- mg (standard error) -----			
Under 131% poverty:				
2 - 5.....	0.67*	(0.25)	0.60*	(0.35)
6 - 11.....	0.97*	(0.37)	1.15*	(0.49)
12 - 19.....	1.09*	(0.53)	0.65	(0.19)
20 and over...	1.51	(0.32)	0.90	(0.18)
2 and over...	1.32	(0.22)	0.86	(0.12)
131-350% poverty:				
2 - 5.....	1.59*	(0.51)	1.27*	(0.46)
6 - 11.....	1.44*	(0.74)	0.55*	(0.29)
12 - 19.....	0.30	(0.08)	0.30*	(0.11)
20 and over...	2.59	(0.51)	1.01	(0.16)
2 and over...	2.19	(0.38)	0.91	(0.12)
Over 350% poverty:				
2 - 5.....	2.22*	(1.15)	0.75	(0.17)
6 - 11.....	5.62*	(3.37)	2.10*	(0.98)
12 - 19.....	0.95*	(0.30)	0.91	(0.18)
20 and over...	3.48	(0.65)	1.89	(0.31)
2 and over...	3.39	(0.62)	1.79	(0.27)
All Individuals²:				
2 - 5.....	1.36	(0.32)	0.90	(0.21)
6 - 11.....	2.46*	(1.04)	1.19	(0.34)
12 - 19.....	0.74	(0.19)	0.60	(0.08)
20 and over...	2.62	(0.27)	1.33	(0.14)
2 and over...	2.34	(0.25)	1.22	(0.12)

Table 4. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Family Income (as % of Poverty Level¹) and Age, in the United States, 2017-2018 (continued)

Family income as % of poverty level and age (years)	Flavan-3-ols (continued on next page)															
	Total	Catechins														
		Total	(-)-Epicatechin	(-)-Epicatechin 3-gallate	(-)-Epigallocatechin	(-)-Epigallocatechin 3-gallate	(+) -Catechin	(+) -Gallocatechin								
----- mg (standard error) -----																
Under 131% poverty:																
2 - 5.....	48.83	(12.03)	23.91	(3.36)	11.23	(1.24)	1.57*	(0.60)	2.43*	(0.82)	2.97*	(1.08)	5.41	(0.50)	0.30*	(0.12)
6 - 11.....	38.21	(7.30)	17.61	(2.05)	7.36	(0.62)	1.33	(0.37)	2.14	(0.54)	2.56	(0.72)	3.96	(0.27)	0.26*	(0.08)
12 - 19.....	62.87	(8.94)	30.19	(4.24)	6.76	(0.82)	3.47	(0.51)	5.76	(0.89)	9.67	(2.31)	4.02	(0.40)	0.52	(0.08)
20 and over...	155.00	(20.70)	58.06	(7.43)	8.85	(0.43)	8.46	(1.33)	13.12	(1.87)	19.46	(3.62)	6.64	(0.45)	1.53	(0.23)
2 and over...	120.52	(15.50)	46.94	(5.53)	8.56	(0.39)	6.42	(0.98)	10.02	(1.38)	14.93	(2.58)	5.86	(0.37)	1.15	(0.17)
131-350% poverty:																
2 - 5.....	31.51	(7.08)	19.15	(1.98)	9.19	(0.98)	0.91*	(0.35)	1.55*	(0.50)	1.86*	(0.68)	5.48	(0.49)	0.17*	(0.07)
6 - 11.....	44.91	(10.60)	21.30	(2.95)	8.87	(0.84)	1.63*	(0.52)	2.83	(0.83)	3.03*	(0.92)	4.63	(0.27)	0.32*	(0.11)
12 - 19.....	56.59	(11.32)	23.19	(4.76)	6.61	(0.78)	2.49	(0.73)	4.16	(1.15)	5.66*	(2.05)	3.84	(0.45)	0.42*	(0.13)
20 and over...	144.83	(10.06)	69.76	(13.61)	9.64	(0.83)	9.52	(1.76)	15.33	(2.90)	26.88	(7.68)	6.96	(0.45)	1.44	(0.12)
2 and over...	120.51	(6.81)	57.79	(10.12)	9.21	(0.66)	7.61	(1.28)	12.30	(2.12)	21.17	(5.70)	6.34	(0.38)	1.16	(0.08)
Over 350% poverty:																
2 - 5.....	40.89*	(17.76)	24.51	(5.72)	11.87	(1.88)	1.20*	(0.82)	2.03*	(1.14)	2.18*	(1.34)	6.98	(1.00)	0.24*	(0.17)
6 - 11.....	31.88	(7.49)	20.18	(2.08)	10.06	(0.97)	0.82*	(0.30)	1.97	(0.57)	1.83*	(0.59)	5.36	(0.72)	0.15*	(0.06)
12 - 19.....	49.31	(11.52)	24.53*	(8.71)	7.64	(0.99)	2.12*	(1.24)	3.45*	(1.99)	6.69*	(4.69)	4.37	(0.61)	0.25*	(0.12)
20 and over...	203.06	(20.55)	100.46	(18.44)	12.07	(1.17)	14.05	(2.49)	22.70	(4.04)	40.58	(10.10)	9.10	(0.73)	1.96	(0.23)
2 and over...	174.91	(16.02)	86.97	(14.84)	11.59	(0.90)	11.86	(2.00)	19.21	(3.26)	34.23	(8.23)	8.43	(0.60)	1.65	(0.18)
All Individuals²:																
2 - 5.....	38.56	(7.64)	21.70	(2.33)	10.47	(0.67)	1.15*	(0.35)	1.89	(0.49)	2.20	(0.61)	5.78	(0.41)	0.22*	(0.07)
6 - 11.....	37.40	(4.71)	19.45	(1.28)	8.74	(0.44)	1.21	(0.23)	2.22	(0.37)	2.36	(0.41)	4.68	(0.23)	0.23	(0.05)
12 - 19.....	58.51	(5.37)	26.39	(3.52)	7.13	(0.35)	2.77	(0.49)	4.58	(0.79)	7.41	(1.90)	4.07	(0.24)	0.42	(0.06)
20 and over...	169.69	(11.95)	79.26	(7.01)	10.47	(0.43)	11.05	(1.06)	17.76	(1.65)	30.56	(3.63)	7.76	(0.31)	1.65	(0.13)
2 and over...	140.57	(9.44)	65.90	(5.41)	9.97	(0.32)	8.88	(0.82)	14.30	(1.28)	24.39	(2.81)	7.01	(0.27)	1.34	(0.10)

Table 4. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Family Income (as % of Poverty Level¹) and Age, in the United States, 2017-2018 (continued)

Family income as % of poverty level and age (years)	Flavan-3-ols – continued									
	Theaflavin		Theaflavin-3,3'- digallate		Theaflavin-3'- gallate		Theaflavin-3- gallate		Thearubigins	
	----- mg (standard error) -----									
Under 131% poverty:										
2 - 5.....	0.37*	(0.15)	0.40*	(0.16)	0.35*	(0.14)	0.28*	(0.12)	23.51*	(8.49)
6 - 11.....	0.31*	(0.10)	0.34*	(0.11)	0.29*	(0.09)	0.24*	(0.08)	19.41	(5.13)
12 - 19.....	0.48*	(0.15)	0.52*	(0.16)	0.44*	(0.14)	0.37*	(0.12)	30.87	(8.16)
20 and over...	1.61	(0.28)	1.78	(0.31)	1.52	(0.27)	1.27	(0.22)	90.76	(14.08)
2 and over...	1.21	(0.20)	1.33	(0.22)	1.14	(0.19)	0.95	(0.16)	68.96	(10.30)
131-350% poverty:										
2 - 5.....	0.19*	(0.09)	0.21*	(0.10)	0.18*	(0.08)	0.15*	(0.07)	11.63*	(5.54)
6 - 11.....	0.40*	(0.14)	0.44*	(0.15)	0.37*	(0.13)	0.31*	(0.11)	22.09*	(7.39)
12 - 19.....	0.49*	(0.15)	0.53*	(0.16)	0.45*	(0.14)	0.38*	(0.12)	31.56	(7.40)
20 and over...	1.22	(0.15)	1.34	(0.17)	1.14	(0.14)	0.95	(0.12)	70.41	(8.37)
2 and over...	1.02	(0.12)	1.11	(0.14)	0.95	(0.12)	0.79	(0.10)	58.85	(6.91)
Over 350% poverty:										
2 - 5.....	0.29*	(0.22)	0.32*	(0.24)	0.28*	(0.21)	0.23*	(0.17)	15.26*	(11.38)
6 - 11.....	0.17*	(0.07)	0.18*	(0.08)	0.15*	(0.07)	0.13*	(0.06)	11.07*	(5.53)
12 - 19.....	0.19*	(0.07)	0.20*	(0.07)	0.16*	(0.06)	0.13*	(0.05)	24.11	(5.88)
20 and over...	1.69	(0.23)	1.85	(0.26)	1.56	(0.22)	1.31	(0.19)	96.20	(11.69)
2 and over...	1.43	(0.19)	1.56	(0.22)	1.32	(0.19)	1.11	(0.16)	82.52	(9.83)
All Individuals²:										
2 - 5.....	0.26*	(0.09)	0.29*	(0.10)	0.25*	(0.09)	0.21*	(0.07)	15.85*	(5.17)
6 - 11.....	0.28	(0.06)	0.31	(0.07)	0.27	(0.06)	0.22	(0.05)	16.87	(3.38)
12 - 19.....	0.41	(0.06)	0.45	(0.07)	0.38	(0.06)	0.31	(0.05)	30.57	(3.83)
20 and over...	1.49	(0.13)	1.63	(0.15)	1.39	(0.13)	1.16	(0.11)	84.75	(6.48)
2 and over...	1.22	(0.11)	1.33	(0.12)	1.14	(0.10)	0.95	(0.08)	70.04	(5.23)

Table 4. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Family Income (as % of Poverty Level¹) and Age, in the United States, 2017-2018 (continued)

Family income as % of poverty level and age (years)	Flavanones							
	Total		Eriodictyol		Hesperetin		Naringenin	
	----- mg (standard error) -----							
Under 131% poverty:								
2 - 5.....	8.81	(2.04)	0.02*	(0.01)	6.30	(1.45)	2.48	(0.65)
6 - 11.....	8.44	(2.02)	0.05*	(0.02)	6.15	(1.52)	2.25	(0.55)
12 - 19.....	8.55	(1.54)	0.10*	(0.07)	6.63	(1.23)	1.82	(0.35)
20 and over...	9.82	(1.20)	0.10*	(0.04)	6.92	(0.80)	2.81	(0.46)
2 and over...	9.41	(0.98)	0.09*	(0.03)	6.74	(0.66)	2.58	(0.35)
131-350% poverty:								
2 - 5.....	15.77*	(8.26)	0.03*	(0.02)	12.21*	(7.09)	3.53*	(1.19)
6 - 11.....	10.10	(1.46)	0.03*	(0.01)	7.12	(0.97)	2.96	(0.61)
12 - 19.....	12.45*	(5.39)	0.36*	(0.22)	9.24*	(4.57)	2.85*	(0.88)
20 and over...	9.18	(0.73)	0.29	(0.08)	6.22	(0.41)	2.67	(0.32)
2 and over...	9.99	(0.87)	0.26	(0.07)	6.96	(0.68)	2.76	(0.26)
Over 350% poverty:								
2 - 5.....	5.99	(1.06)	0.05*	(0.03)	4.54	(0.83)	1.40	(0.31)
6 - 11.....	18.09	(5.30)	0.16*	(0.11)	12.91	(3.70)	5.03*	(1.70)
12 - 19.....	12.73	(3.20)	0.09*	(0.05)	9.05	(2.28)	3.59	(1.07)
20 and over...	11.10	(1.26)	0.11	(0.02)	7.47	(0.83)	3.52	(0.50)
2 and over...	11.52	(1.09)	0.11	(0.02)	7.85	(0.73)	3.56	(0.40)
All Individuals²:								
2 - 5.....	11.46	(2.90)	0.03*	(0.01)	8.51	(2.51)	2.91	(0.43)
6 - 11.....	12.65	(2.05)	0.07*	(0.04)	9.07	(1.39)	3.51	(0.72)
12 - 19.....	10.78	(2.19)	0.18*	(0.08)	7.99	(1.80)	2.62	(0.43)
20 and over...	10.23	(0.69)	0.16	(0.03)	6.97	(0.43)	3.10	(0.29)
2 and over...	10.55	(0.72)	0.15	(0.03)	7.32	(0.48)	3.07	(0.26)

Table 4. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Family Income (as % of Poverty Level¹) and Age, in the United States, 2017-2018 (continued)

Family income as % of poverty level and age (years)	Flavones					
	Total		Apigenin		Luteolin	
	----- mg (standard error) -----					
Under 131% poverty:						
2 - 5.....	0.38	(0.09)	0.02 *	(0.01)	0.36	(0.09)
6 - 11.....	0.33	(0.03)	0.06	(0.02)	0.28	(0.02)
12 - 19.....	0.45	(0.06)	0.06	(0.01)	0.39	(0.06)
20 and over...	0.70	(0.05)	0.12	(0.01)	0.58	(0.05)
2 and over...	0.60	(0.04)	0.10	(0.01)	0.50	(0.04)
131-350% poverty:						
2 - 5.....	0.43	(0.05)	0.03	(0.01)	0.40	(0.04)
6 - 11.....	0.44	(0.05)	0.03	(0.01)	0.41	(0.04)
12 - 19.....	0.46	(0.08)	0.04	(0.01)	0.42	(0.07)
20 and over...	0.91	(0.07)	0.18	(0.04)	0.73	(0.05)
2 and over...	0.79	(0.06)	0.14	(0.03)	0.65	(0.04)
Over 350% poverty:						
2 - 5.....	0.63	(0.13)	0.02 *	(0.01)	0.61	(0.13)
6 - 11.....	0.51	(0.09)	0.03 *	(0.02)	0.48	(0.09)
12 - 19.....	0.70	(0.12)	0.07 *	(0.02)	0.63	(0.11)
20 and over...	1.08	(0.08)	0.20	(0.02)	0.88	(0.07)
2 and over...	1.00	(0.07)	0.18	(0.02)	0.82	(0.06)
All Individuals²:						
2 - 5.....	0.46	(0.06)	0.02	(#)	0.44	(0.06)
6 - 11.....	0.43	(0.04)	0.04	(0.01)	0.39	(0.04)
12 - 19.....	0.52	(0.05)	0.05	(0.01)	0.47	(0.04)
20 and over...	0.94	(0.04)	0.18	(0.01)	0.77	(0.04)
2 and over...	0.83	(0.04)	0.14	(0.01)	0.69	(0.03)

Table 4. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Family Income (as % of Poverty Level¹) and Age, in the United States, 2017-2018 (continued)

Family income as % of poverty level and age (years)	Flavonols									
	Total		Isorhamnetin		Kaempferol		Myricetin		Quercetin	
----- mg (standard error) -----										
Under 131% poverty:										
2 - 5.....	7.42	(0.52)	0.20	(0.03)	1.54	(0.23)	0.48	(0.11)	5.21	(0.27)
6 - 11.....	7.93	(0.59)	0.25	(0.06)	1.46	(0.16)	0.52	(0.06)	5.69	(0.50)
12 - 19.....	9.42	(0.88)	0.41	(0.05)	2.08	(0.25)	0.80	(0.08)	6.13	(0.61)
20 and over...	16.60	(0.73)	0.76	(0.05)	4.51	(0.26)	1.50	(0.07)	9.82	(0.47)
2 and over...	13.89	(0.57)	0.61	(0.03)	3.59	(0.19)	1.22	(0.05)	8.47	(0.37)
131-350% poverty:										
2 - 5.....	6.47	(0.69)	0.13	(0.03)	1.20	(0.15)	0.40	(0.07)	4.74	(0.52)
6 - 11.....	7.33	(0.74)	0.19	(0.04)	1.34	(0.20)	0.49	(0.09)	5.31	(0.51)
12 - 19.....	9.59	(0.70)	0.47	(0.08)	1.99	(0.24)	0.72	(0.09)	6.41	(0.47)
20 and over...	16.88	(0.42)	0.84	(0.06)	4.56	(0.17)	1.50	(0.07)	9.97	(0.29)
2 and over...	14.70	(0.35)	0.70	(0.05)	3.83	(0.13)	1.27	(0.05)	8.90	(0.25)
Over 350% poverty:										
2 - 5.....	8.55	(1.18)	0.25	(0.05)	1.85	(0.46)	0.31	(0.06)	6.14	(0.83)
6 - 11.....	9.26	(0.77)	0.30	(0.04)	1.74	(0.30)	0.57	(0.13)	6.65	(0.47)
12 - 19.....	10.70	(0.80)	0.46	(0.09)	2.24	(0.23)	1.00	(0.17)	7.00	(0.52)
20 and over...	21.44	(0.96)	1.07	(0.09)	5.77	(0.38)	2.03	(0.15)	12.57	(0.53)
2 and over...	19.41	(0.77)	0.95	(0.07)	5.11	(0.32)	1.80	(0.12)	11.55	(0.43)
All Individuals²:										
2 - 5.....	7.38	(0.52)	0.21	(0.02)	1.44	(0.18)	0.41	(0.06)	5.32	(0.34)
6 - 11.....	7.99	(0.46)	0.25	(0.03)	1.49	(0.13)	0.51	(0.07)	5.75	(0.31)
12 - 19.....	9.98	(0.55)	0.44	(0.05)	2.11	(0.16)	0.86	(0.07)	6.57	(0.35)
20 and over...	18.67	(0.46)	0.93	(0.04)	5.00	(0.15)	1.72	(0.07)	11.03	(0.30)
2 and over...	16.32	(0.42)	0.78	(0.04)	4.23	(0.13)	1.46	(0.05)	9.84	(0.27)

Table 4. Flavonoid Intakes from Food and Beverages: Mean Amounts Consumed per Individual, by Family Income (as % of Poverty Level¹) and Age, in the United States, 2017-2018 (continued)

Family income as % of poverty level and age (years)	Isoflavones							
	Total		Daidzein		Genistein		Glycitein	
	----- mg (standard error) -----							
Under 131% poverty:								
2 - 5.....	1.04*	(0.69)	0.41*	(0.27)	0.55*	(0.36)	0.08*	(0.06)
6 - 11.....	0.55*	(0.20)	0.23*	(0.09)	0.28*	(0.10)	0.04*	(0.01)
12 - 19.....	4.03*	(2.67)	1.51*	(1.03)	2.16*	(1.40)	0.36*	(0.24)
20 and over...	1.93	(0.50)	0.75	(0.20)	1.03	(0.27)	0.15	(0.04)
2 and over...	2.03	(0.57)	0.79	(0.22)	1.08	(0.30)	0.16*	(0.05)
131-350% poverty:								
2 - 5.....	0.33	(0.07)	0.13*	(0.04)	0.17	(0.03)	0.02	(0.01)
6 - 11.....	0.94*	(0.48)	0.35*	(0.18)	0.51*	(0.26)	0.08*	(0.04)
12 - 19.....	1.09*	(0.35)	0.40*	(0.13)	0.60*	(0.19)	0.09*	(0.03)
20 and over...	2.68	(0.62)	1.02	(0.24)	1.42	(0.33)	0.23	(0.06)
2 and over...	2.23	(0.48)	0.85	(0.18)	1.19	(0.26)	0.19	(0.04)
Over 350% poverty:								
2 - 5.....	0.77	(0.16)	0.33	(0.07)	0.39	(0.08)	0.05	(0.01)
6 - 11.....	1.99*	(0.70)	0.72*	(0.23)	1.11*	(0.41)	0.16*	(0.06)
12 - 19.....	0.61*	(0.21)	0.24*	(0.09)	0.32*	(0.11)	0.04*	(0.01)
20 and over...	3.53	(0.76)	1.26	(0.25)	1.97	(0.44)	0.30	(0.07)
2 and over...	3.12	(0.62)	1.12	(0.21)	1.74	(0.36)	0.26	(0.06)
All Individuals²:								
2 - 5.....	0.65*	(0.21)	0.27*	(0.08)	0.34*	(0.11)	0.05*	(0.02)
6 - 11.....	1.10	(0.30)	0.41	(0.10)	0.60	(0.17)	0.09	(0.03)
12 - 19.....	1.84*	(0.87)	0.69*	(0.34)	1.00*	(0.46)	0.15*	(0.08)
20 and over...	2.79	(0.42)	1.03	(0.15)	1.52	(0.23)	0.24	(0.04)
2 and over...	2.44	(0.33)	0.91	(0.12)	1.33	(0.19)	0.21	(0.03)

Symbol Legend

* Indicates an estimate that may be less statistically reliable than estimates that are not flagged. The rules for flagging estimated means are as follows:

Mean: An estimated mean is flagged when based on a sample size of less than 30 times the variance inflation factor (VIF), where the VIF represents a broadly calculated average design effect, or when the relative standard error is greater than 30 percent. The VIF used in this table is 2.57.

Indicates a non-zero value too small to report.

Footnotes

¹ The ratio of family income to poverty expressed as a percentage. The Department of Health and Human Services' poverty guidelines were used as the poverty measure to calculate the ratio, <https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines>.

² Includes persons of all income levels or with unknown family income.

³ Flavonoid Intake Data Files reflect the application of the flavonoid composition values included in the Database of Flavonoid Values for USDA Food Codes 2017-2018 to the WWEIA, NHANES 2017-2018 dietary data.

Notes Applicable to All Tables in Series: Flavonoid Intakes, What We Eat in America, NHANES 2017-2018

Sample weights designed for dietary analysis were used to allow estimates representative of the U. S. population for the years of collection.

The statistics in this table are estimated from Day 1 dietary recall interviews conducted in the *What We Eat in America*, National Health and Nutrition Examination Survey (NHANES) 2017-2018. The 24-hour dietary recalls were conducted in-person, by trained interviewers, using the USDA 5-step Automated Multiple-Pass Method. Food intakes were coded using USDA food codes. A database that provided flavonoid values for all food codes in the 2017-2018 WWEIA, NHANES survey cycle was developed (See: https://www.ars.usda.gov/ARUserFiles/80400530/pdf/fndds/FlavonoidDB_documentation_1718.pdf). The USDA Expanded Flavonoid Database for the Assessment of Dietary Intakes, Release 1.1 https://www.ars.usda.gov/ARUserFiles/80400525/Data/Flav/FDB-EXP_R01-1_Doc.pdf provided the basis for the flavonoid values included in the 2017-2018 flavonoid database. The flavonoid database was applied to the dietary intake files to generate the flavonoid intake data files, which were analyzed to provide the estimates presented in this table.

Intake of flavonoids are based on the consumption of food and beverages, including water, and do not include intake from supplements or medications.

The table includes data from individuals 2 years and over. Breast-fed children were excluded because breast milk was not quantified in dietary recall interviews.

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