

Table S2. Weighted odds ratios (95% confidence intervals) of depressive symptoms across quartiles of urinary phytoestrogens concentrations stratified by race, NHANES 2007–2010 (N = 3,430)

Phytoestrogen Concentrations (µg/g Creatinine)	Cases/Participants	Model 3 ^a
Mexican American		
Lignans		
Q1 (< 141.15)	19/164	1.00 (reference)
Q2 (141.15 to < 416.94)	24/185	0.73 (0.29–1.89)
Q3 (416.94 to < 950.27)	17/157	0.78 (0.29–2.11)
Q4 (≥ 950.27)	12/159	0.42 (0.15–1.20)
Enterolactone		
Q1 (< 87.33)	16/155	1.00 (reference)
Q2 (87.33 to < 330.71)	24/178	1.00 (0.39–2.59)
Q3 (330.71 to < 825.81)	20/173	0.83 (0.31–2.21)
Q4 (≥ 825.81)	12/159	0.47 (0.16–1.38)
Enterodiol		
Q1 (< 14.86)	27/195	1.00 (reference)
Q2 (14.86 to < 40.98)	21/185	1.35 (0.70–2.58)
Q3 (40.98 to < 101.82)	11/152	0.50 (0.24–1.05)
Q4 (≥ 101.82)	13/133	0.58 (0.19–1.77)
Isoflavones		
Q1 (< 41.23)	24/216	1.00 (reference)
Q2 (41.23 to < 98.64)	20/159	0.83 (0.37–1.89)
Q3 (98.64 to < 337.92)	12/136	0.65 (0.21–2.01)
Q4 (≥ 337.92)	16/154	0.64 (0.22–1.83)
Daidzein		
Q1 (< 17.41)	20/192	1.00 (reference)
Q2 (17.41 to < 49.05)	21/171	0.96 (0.41–2.26)
Q3 (49.05 to < 188.66)	15/144	1.07 (0.43–2.65)
Q4 (≥ 188.66)	16/158	0.80 (0.28–2.26)
O-DMA		
Q1 (< 0.67)	25/205	1.00 (reference)
Q2 (0.67 to < 2.78)	17/183	0.65 (0.26–1.60)
Q3 (2.78 to < 18.63)	14/143	0.81 (0.29–2.26)
Q4 (≥ 18.63)	16/134	0.81 (0.30–2.17)
Equol		
Q1 (< 2.96)	25/219	1.00 (reference)
Q2 (2.96 to < 6.14)	27/207	0.95 (0.39–2.36)
Q3 (6.14 to < 12.84)	16/153	0.54 (0.19–1.56)
Q4 (≥ 12.84)	4/86	0.03 (0.01–0.29)**
Genistein		
Q1 (< 8.91)	21/181	1.00 (reference)

Q2 (8.91 to < 23.35)	18/175	1.28 (0.61–2.71)
Q3 (23.35 to < 86.00)	20/165	0.81 (0.29–2.25)
Q4 (≥ 86.00)	13/144	0.82 (0.28–2.41)
Non-Hispanic White		
Lignans		
Q1 (< 141.15)	45/363	1.00 (reference)
Q2 (141.15 to < 416.94)	31/370	1.17 (0.61–2.25)
Q3 (416.94 to < 950.27)	25/396	0.65 (0.31–1.35)
Q4 (≥ 950.27)	21/476	0.38 (0.22–0.67)**
Enterolactone		
Q1 (< 87.33)	48/378	1.00 (reference)
Q2 (87.33 to < 330.71)	28/366	0.94 (0.42–2.11)
Q3 (330.71 to < 825.81)	25/382	0.62 (0.30–1.31)
Q4 (≥ 825.81)	21/479	0.35 (0.19–0.63)**
Enterodiol		
Q1 (< 14.86)	31/310	1.00 (reference)
Q2 (14.86 to < 40.98)	29/387	1.40 (0.61–3.22)
Q3 (40.98 to < 101.82)	35/436	1.15 (0.46–2.89)
Q4 (≥ 101.82)	27/472	1.20 (0.58–2.48)
Isoflavones		
Q1 (< 41.23)	24/320	1.00 (reference)
Q2 (41.23 to < 98.64)	28/453	0.61 (0.29–1.31)
Q3 (98.64 to < 337.92)	38/429	1.37 (0.58–3.26)
Q4 (≥ 337.92)	32/403	1.03 (0.53–2.00)
Daidzein		
Q1 (< 17.41)	22/361	1.00 (reference)
Q2 (17.41 to < 49.05)	36/424	1.09 (0.50–2.38)
Q3 (49.05 to < 188.66)	32/420	1.25 (0.52–3.00)
Q4 (≥ 188.66)	32/400	1.25 (0.67–2.35)
O-DMA		
Q1 (< 0.67)	27/339	1.00 (reference)
Q2 (0.67 to < 2.78)	31/406	1.07 (0.50–2.30)
Q3 (2.78 to < 18.63)	32/443	1.33 (0.76–2.32)
Q4 (≥ 18.63)	32/417	1.30 (0.67–2.51)
Equol		
Q1 (< 2.96)	25/262	1.00 (reference)
Q2 (2.96 to < 6.14)	18/346	0.55 (0.27–1.12)
Q3 (6.14 to < 12.84)	40/438	1.01 (0.50–2.06)
Q4 (≥ 12.84)	39/559	0.83 (0.43–1.61)
Genistein		
Q1 (< 8.91)	25/368	1.00 (reference)
Q2 (8.91 to < 23.35)	28/410	0.85 (0.30–2.43)
Q3 (23.35 to < 86.00)	36/419	1.02 (0.40–2.63)
Q4 (≥ 86.00)	33/408	1.03 (0.52–2.04)

Non-Hispanic Black		
Lignans		
Q1 (< 141.15)	21/193	1.00 (reference)
Q2 (141.15 to < 416.94)	12/168	0.56 (0.20–1.54)
Q3 (416.94 to < 950.27)	17/196	1.04 (0.57–1.88)
Q4 (≥ 950.27)	6/106	0.53 (0.18–1.50)
Enterolactone		
Q1 (< 87.33)	19/174	1.00 (reference)
Q2 (87.33 to < 330.71)	17/178	0.96 (0.41–2.24)
Q3 (330.71 to < 825.81)	13/202	0.66 (0.30–1.44)
Q4 (≥ 825.81)	7/109	0.68 (0.26–1.74)
Enterodiol		
Q1 (< 14.86)	20/211	1.00 (reference)
Q2 (14.86 to < 40.98)	11/178	0.52 (0.22–1.20)
Q3 (40.98 to < 101.82)	19/163	1.63 (0.79–3.34)
Q4 (≥ 101.82)	6/111	0.74 (0.27–2.02)
Isoflavones		
Q1 (< 41.23)	21/199	1.00 (reference)
Q2 (41.23 to < 98.64)	12/138	0.54 (0.15–2.04)
Q3 (98.64 to < 337.92)	14/167	0.80 (0.35–1.85)
Q4 (≥ 337.92)	9/159	0.68 (0.29–1.61)
Daidzein		
Q1 (< 17.41)	20/186	1.00 (reference)
Q2 (17.41 to < 49.05)	13/145	0.91 (0.34–2.39)
Q3 (49.05 to < 188.66)	17/168	1.13 (0.44–2.89)
Q4 (≥ 188.66)	6/164	0.42 (0.14–1.28)
O-DMA		
Q1 (< 0.67)	21/166	1.00 (reference)
Q2 (0.67 to < 2.78)	12/150	0.61 (0.24–1.57)
Q3 (2.78 to < 18.63)	12/176	0.78 (0.27–2.26)
Q4 (≥ 18.63)	11/171	0.66 (0.28–1.56)
Equol		
Q1 (< 2.96)	21/248	1.00 (reference)
Q2 (2.96 to < 6.14)	13/180	0.63 (0.20–1.93)
Q3 (6.14 to < 12.84)	13/143	0.79 (0.28–2.22)
Q4 (≥ 12.84)	9/92	0.89 (0.30–2.63)
Genistein		
Q1 (< 8.91)	22/203	1.00 (reference)
Q2 (8.91 to < 23.35)	12/155	0.46 (0.16–1.35)
Q3 (23.35 to < 86.00)	12/144	0.76 (0.33–1.76)
Q4 (≥ 86.00)	10/161	0.70 (0.28–1.74)
Other Race		
Lignans		
Q1 (< 141.15)	17/138	1.00 (reference)

Q2 (141.15 to < 416.94)	9/134	0.58 (0.17–1.96)
Q3 (416.94 to < 950.27)	12/109	2.30 (0.89–5.93)
Q4 (\geq 950.27)	13/116	1.00 (0.34–2.93)
Enterolactone		
Q1 (< 87.33)	19/151	1.00 (reference)
Q2 (87.33 to < 330.71)	9/135	0.34 (0.06–2.08)
Q3 (330.71 to < 825.81)	11/101	1.58 (0.48–5.23)
Q4 (\geq 825.81)	12/110	0.77 (0.21–2.80)
Enterodiol		
Q1 (< 14.86)	14/142	1.00 (reference)
Q2 (14.86 to < 40.98)	11/107	0.91 (0.28–2.94)
Q3 (40.98 to < 101.82)	7/107	0.35 (0.09–1.40)
Q4 (\geq 101.82)	19/141	1.01 (0.29–3.46)
Isoflavones		
Q1 (< 41.23)	9/123	1.00 (reference)
Q2 (41.23 to < 98.64)	14/107	1.81 (0.65–5.07)
Q3 (98.64 to < 337.92)	12/126	0.32 (0.11–0.97)*
Q4 (\geq 337.92)	16/141	1.83 (0.50–6.72)
Daidzein		
Q1 (< 17.41)	11/119	1.00 (reference)
Q2 (17.41 to < 49.05)	9/117	1.02 (0.26–3.98)
Q3 (49.05 to < 188.66)	15/126	2.09 (0.80–5.45)
Q4 (\geq 188.66)	16/135	1.39 (0.44–4.39)
O-DMA		
Q1 (< 0.67)	13/148	1.00 (reference)
Q2 (0.67 to < 2.78)	11/119	1.40 (0.27–7.36)
Q3 (2.78 to < 18.63)	8/95	1.24 (0.20–7.82)
Q4 (\geq 18.63)	19/135	1.44 (0.28–7.58)
Equol		
Q1 (< 2.96)	12/129	1.00 (reference)
Q2 (2.96 to < 6.14)	14/124	1.09 (0.41–2.90)
Q3 (6.14 to < 12.84)	15/124	1.37 (0.38–4.96)
Q4 (\geq 12.84)	10/120	0.36 (0.13–1.02)
Genistein		
Q1 (< 8.91)	9/106	1.00 (reference)
Q2 (8.91 to < 23.35)	12/117	1.80 (0.70–4.60)
Q3 (23.35 to < 86.00)	18/130	1.20 (0.33–4.37)
Q4 (\geq 86.00)	12/144	2.56 (0.51–12.89)

Calculated using logistic regression. ^a Model 3 further adjusted for age, gender, educational level, PIR, marital status, smoking status, drinking status, diabetes, hypertension, BMI, work physical activity, recreational physical activity, dietary intake including caffeine, total saturated fatty acids, total energy, EPA, DHA, and calcium. * $P < 0.05$; ** $P < 0.01$.