

**How to Fit an MCMC Model & Calculate HEI Scores Using NHANES Data and BRR Weights**  
**STEP 10: CALCULATE STANDARD ERRORS USING BRR**

**HEI Scores**

Mean HEI Score		Percentiles									95% CI		P-Value	
HEI Component	Score (se)	p1	p5	p10	p25	p50	p75	p90	p95	p99	Lower	Upper	Wald Chi-square	P-value
Total Fruits	2.87 (0.07)	0.11 (0.03)	0.37 (0.06)	0.64 (0.08)	1.41 (0.10)	2.80 (0.11)	4.70 (0.18)	5.00 (0.00)	5.00 (0.00)	5.00 (0.00)	2.74	3.01	1766.80	<.0001
Whole Fruits	3.16 (0.10)	0.03 (0.02)	0.22 (0.07)	0.50 (0.11)	1.48 (0.17)	3.47 (0.20)	5.00 (0.00)	5.00 (0.00)	5.00 (0.00)	5.00 (0.00)	2.96	3.36	1015.91	<.0001
Total Vegetables	3.12 (0.04)	0.99 (0.11)	1.37 (0.09)	1.62 (0.07)	2.15 (0.05)	2.98 (0.05)	4.09 (0.08)	5.00 (0.00)	5.00 (0.00)	5.00 (0.00)	3.04	3.20	6318.24	<.0001
Greens and Beans	2.45 (0.10)	0.21 (0.06)	0.45 (0.08)	0.64 (0.08)	1.15 (0.09)	2.10 (0.13)	3.67 (0.20)	5.00 (0.00)	5.00 (0.00)	5.00 (0.00)	2.26	2.64	646.42	<.0001
Whole Grains	2.95 (0.10)	0.13 (0.04)	0.44 (0.07)	0.73 (0.08)	1.46 (0.09)	2.56 (0.10)	3.96 (0.14)	5.66 (0.26)	6.95 (0.40)	10.00 (0.53)	2.74	3.15	831.88	<.0001
Dairy	6.52 (0.08)	1.40 (0.10)	2.38 (0.10)	3.05 (0.11)	4.45 (0.11)	6.45 (0.11)	8.95 (0.12)	10.00 (0.00)	10.00 (0.00)	10.00 (0.00)	6.35	6.69	6069.83	<.0001
Total Protein Foods	4.57 (0.04)	2.34 (0.23)	3.03 (0.17)	3.46 (0.13)	4.30 (0.09)	5.00 (0.00)	5.00 (0.00)	5.00 (0.00)	5.00 (0.00)	5.00 (0.00)	4.49	4.66	11116.77	<.0001
Seafood and Plant Proteins	3.62 (0.10)	0.57 (0.13)	1.07 (0.17)	1.47 (0.17)	2.40 (0.16)	3.98 (0.17)	5.00 (0.00)	5.00 (0.00)	5.00 (0.00)	5.00 (0.00)	3.43	3.81	1446.82	<.0001
Fatty Acids	4.62 (0.10)	0.00 (0.14)	1.07 (0.15)	1.70 (0.14)	2.89 (0.11)	4.40 (0.11)	6.15 (0.13)	7.94 (0.19)	9.13 (0.23)	10.00 (0.00)	4.41	4.83	1939.83	<.0001
Refined Grains	5.91 (0.10)	0.00 (0.00)	1.33 (0.26)	2.53 (0.18)	4.24 (0.13)	6.00 (0.10)	7.78 (0.12)	9.33 (0.18)	10.00 (0.01)	10.00 (0.00)	5.71	6.10	3708.96	<.0001
Sodium	4.36 (0.06)	0.00 (0.00)	0.00 (0.00)	0.71 (0.11)	2.64 (0.07)	4.49 (0.07)	6.14 (0.10)	7.48 (0.15)	8.23 (0.18)	9.55 (0.24)	4.24	4.49	4915.19	<.0001
Added Sugars	6.28 (0.08)	0.00 (0.00)	1.22 (0.31)	2.61 (0.25)	4.62 (0.15)	6.56 (0.07)	8.30 (0.09)	9.71 (0.11)	10.00 (0.00)	10.00 (0.00)	6.12	6.44	6147.98	<.0001
Saturated Fats	6.12 (0.15)	0.76 (0.33)	2.46 (0.27)	3.32 (0.24)	4.70 (0.18)	6.19 (0.15)	7.64 (0.13)	8.94 (0.14)	9.70 (0.15)	10.00 (0.00)	5.82	6.42	1673.48	<.0001
Total Score	56.55 (0.58)	32.46 (0.63)	39.18 (0.53)	42.81 (0.58)	49.17 (0.57)	56.40 (0.61)	63.84 (0.66)	70.64 (0.71)	74.51 (0.75)	80.95 (0.79)	55.38	57.72	9368.28	<.0001
Total Energy	2103 (12.6)	1041 (35.4)	1269 (27.6)	1406 (23.7)	1665 (17.4)	2011 (16.3)	2450 (20.8)	2942 (35.2)	3253 (52.4)	3851 (97.2)	2078	2129	27809.00	<.0001