

This analysis of 77 cereals simulated the process of repeating random selection of cereals from all of the cereals available using bootstrapping technique. A 1000 random samples were drawn from the original 77 while basic statistics were recorded for each.

Statistics such as median and Gini standard deviation were recorded because they are robust measures of mean and standard deviation (less sensitive to outliers). The distribution of estimate of amount of sugar/serving across all 1000 replicates follows approximately Normal Distribution, as expected per Central Limit Theorem.

It is important to note, that analytically calculated estimates compared to bootstrap counterparts in Table 1 are similar but the measures of precision are more readily available.

Table1. Comparison of measures of precision of statistics computed analytically vs. bootstrap of sugar/serving

Parameter	Estimate	SE	Lower 95% CL	Upper 95%CL	Bootstrap SE	Bootstrap Lower 95% CL	Bootstrap Upper 95%CL
Mean	7.03	0.50	6.99	7.06	0.48	6.07	7.99
St. Dev	4.38	NA	NA	NA	0.23	3.91	4.80
Gini	4.49	NA	NA	NA	0.24	3.97	4.91
Median	7.00	NA	NA	NA	0.91	5.50	9.00

Figure 1. a. Left: Marginal Model 1.b. Right: Linear Model