

Analysis of the Cereal Dataset

Information on the distribution of various groups of nutrients among 77 commonly available breakfast cereals was obtained from the statistical graphics exposition in 1993. The amount of fiber and calories variables were recorded.

We analyzed if there is evidence that the mean calories/serving varies by fiber class. We created a factor, fiberclassF, which classify the fiber by its median (2). The estimate of the difference in mean is 0.381 in all three test (t.test, lm, lsmean). The standard error equals 5.719 in t.test and 5.119 in lsmean & lm. The P-value equals 0.947 in t.test and 0.941 in lm & lsmean. In conclusion, that there is **NO** evidence that the mean calories/serving varies by fiber class.

Figure 1 is the bar plot of the estimated mean amount calories by fiber class with 95% CI by using lm mode. And Figure 2 made by using lsmean mode. The estimated means are same. But the confidence interval of high fiber is wider and of low fiber is narrower in figure 1 than in figure 2. It is because the figure 1 use equal variance and assumed that the standard deviation is same between two fiber classes. However, the figure 2 use unequal variance and assumed that the standard deviation is not same between the two fiber classes.

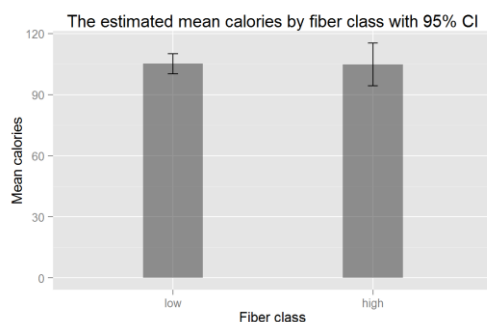


Figure 1. Bar plot of the estimated mean amount calories by fiber class (lm mode)



Figure 2. Bar plot of the estimated marginal mean calories by fiber class with 95% CI (lsmean mode)