

Assignment 3, due date: May 21

STATS 205: Bayesian Data Analysis

1. Download the data “kid-iq.csv” data from Canvas. As discussed in the class, we are interested in the association between the cognitive test score of 3 to 4 year old children and some characteristics of their mothers.

- (a) Fit the following two models to the data:

$$M_1 : kidScore \sim momHs + momIq$$

$$M_2 : kidScore \sim momHs + momIq + momAge$$

and provide the posterior distributions of the model parameters.

- (b) For each model, simulate 100 datasets and compare the distribution of the mean of kidScore from these simulated datasets with its observed mean.
- (c) Use the first 300 observations for training the two models and evaluate their predictive performance based on the remaining 134 observations.