

## STATISTICAL RETHINKING 2026

### HOMEWORK B03

The data in `data(bangladesh)` are 1934 women from the 1989 Bangladesh Fertility Survey. For each woman, we know which `district` she lived in, her number of `living.children`, her `age.centered`, whether she lived in an urban center, and finally whether or not she used contraception (`use.contraception`).

In the previous homework, you estimated the effect of surviving children on contraceptive use. Now I want you to repeat that model, but allowing the effect of children to vary by district and to be correlated with the other effects that vary by district. That is, use a model with correlated varying effects, like in lecture. Compare the posterior predictions to the previous model. How do the inferences change, if at all?