

57. Suppose that the random variables Y_{ij} are observed according to the over-parameterized model

$$Y_{ij} = \mu + \tau_i + \epsilon_{ij}, \quad i = 1, \dots, k, \quad j = 1, \dots, n_i$$

Show that without the constraint $\sum_{i=1}^k \tau_i = 0$ this model is not identifiable by finding two distinct collections of parameters (μ and τ_i s) that lead to exactly the same distribution of the Y_{ij} .