

STATISTICAL RETHINKING 2026

HOMEWORK B07

The data in `data` (AMTL) are number of ante-mortem (pre-death) teeth lost (AMTL) for a variety of fossil and archaeological specimens. The pattern with estimated age-at-death is of interest, as many anthropologists used to believe that signs of advanced age in human burials indicates care for the elderly.

Focus on only the human (species *Homo sapiens*) specimens. The provided data table `amt1_homo_aggregated.csv` contains the specimens you need. I want you to model the number of AMTL (`num_amt1`) as a fraction of the sockets stratified by age. Age is measured with error, and the standard deviation of the estimate is given by the column `stdev_age`. Use the standard deviation to include measurement error in your model. Compare the models with and without measurement error. What difference does accounting for the error make?