

Assignment 1

1. Write a model for a function η , which assumes that in an experiment participating smokers and non-smokers, there are differences between them.
2. We suppose an experiment where we measure smoking (as the number of cigars smoked per day, covariate) and LDL cholesterol (a factor with three levels, low-medium-high). A. Write a model for a function η , which states that there is an LDL effect ignoring smoking. B. Write a model for a function η , which states that there is an LDL effect and this effect is the same for each number of cigars smoked per day.
3. Consider the setting of (2.) Add the interaction between smoking and LDL cholesterol in function η . Provide interpretation for model parameters.
4. Suppose an experiment where we measure a function η , and three factors A,B,C (with two levels each). Build a model for a function η , which assumes all main effects of factors, all two-way interactions and the three way interaction. Provide interpretations for model parameters.