

Extending linear regression

Adding more variables, transformations, and interactions

Linear regression is flexible!

Adding flexibility to our models

- The linear model we are using consists of making the parameters of probability distributions change according to some function
- The simplest function is a linear function
- Sometimes the relation between parameters and predictors is not linear
- We can use whatever functional shape we like, but it is useful to use transformations to linearize the relation

$$y_i \sim N(\mu_i, \sigma)$$

$$\mu_i = \alpha + \beta x_i$$