If your model does not work on **simulated** data, it will **never** work on **real** data!

# Interactions

## Allowing coefficients to change according to other variables

- What if the relation between a predictor and an outcome changes depending on another predictor?
- We can account for this by adding product terms in the model
  - With two predictors, $x$ and $z$:

$$\mu = \alpha + \beta_1 x + \beta_2 z + \beta_3 xz$$