

## Activity: Graphical settings for inference

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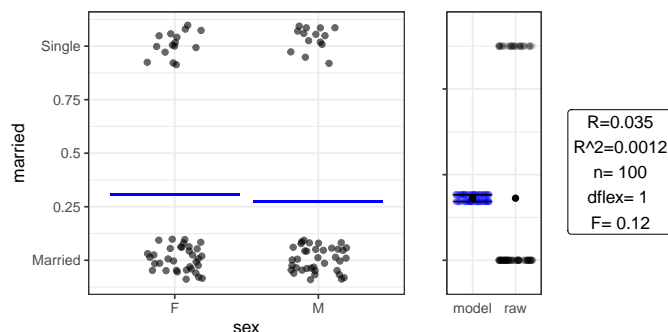
2020-01-07

Each of the following settings shows  $n = 100$  data points. The variables are shown on the axes and, sometimes, as the name of a color legend. For each of the settings, your task is to:

1. Describe the relationship depicted. Be as quantitative as one could expect for an estimate *by eye*.
2. Give the name of the appropriate inferential technique.
  - Do you teach that technique in your introductory course.
  - If not, where might students encounter that technique.
3. Attempt to estimate, *by eye* and without whatever supplemental arithmetic is requires, the approximate values of the quantities produced by the technique in (2). For instance, is the relationship between the response and explanatory variables statistically discernable.<sup>1</sup>
4. Save this sheet. When we get to the section on model functions, I'm going to ask you to draw an appropriate model function for each setting.

<sup>1</sup> Again, I'm using a proposed replacement for the traditional "significant."

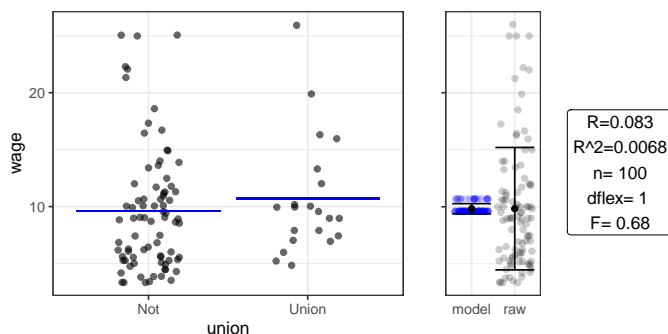
### SETTING A



inferential technique:

inferential quantities:

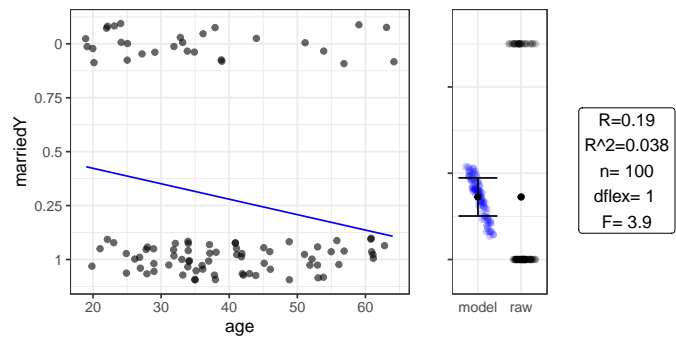
### SETTING B



inferential technique:

inferential quantities:

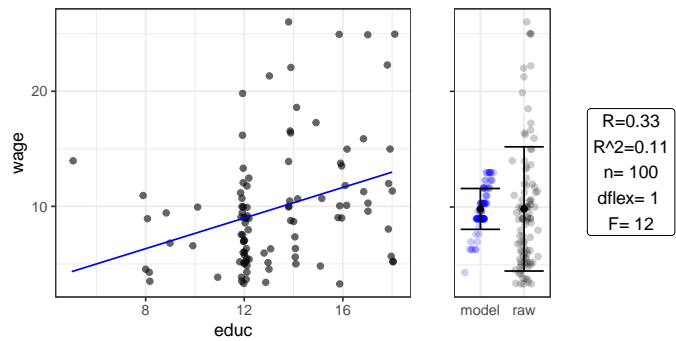
SETTING C



inferential technique:

inferential quantities:

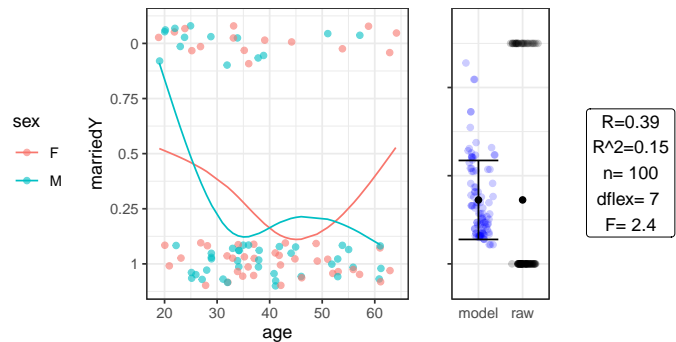
SETTING D



inferential technique:

inferential quantities:

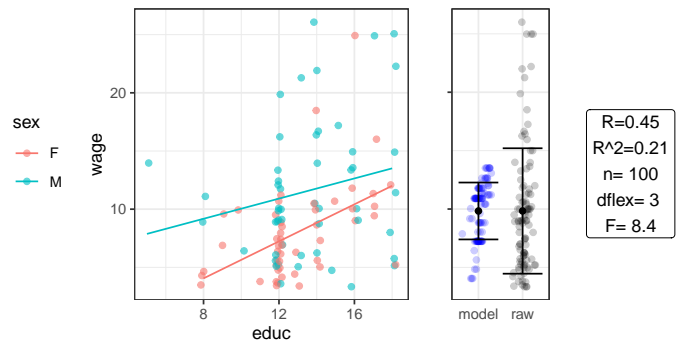
SETTING E



inferential technique:

inferential quantities:

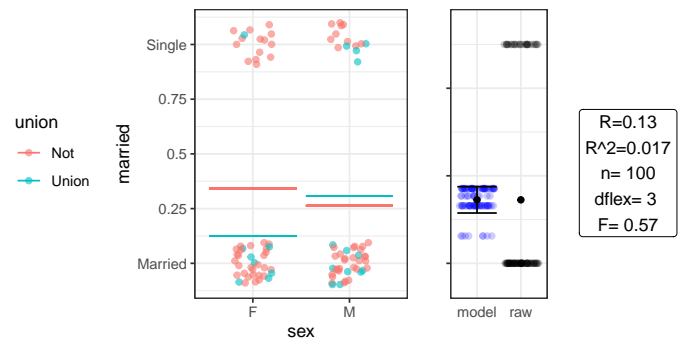
SETTING F



inferential technique:

inferential quantities:

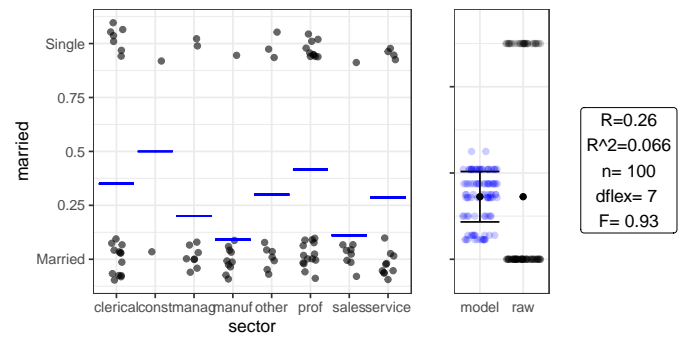
SETTING G



inferential technique:

inferential quantities:

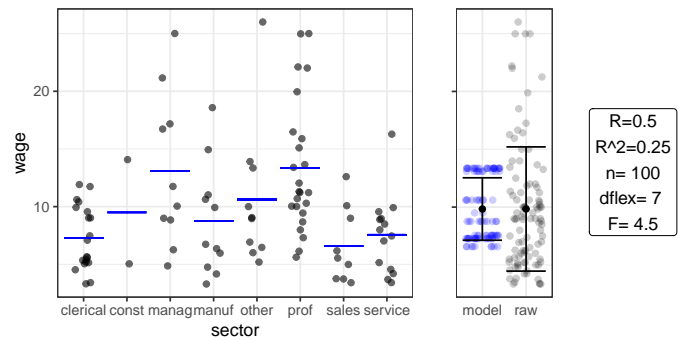
SETTING H



inferential technique:

inferential quantities:

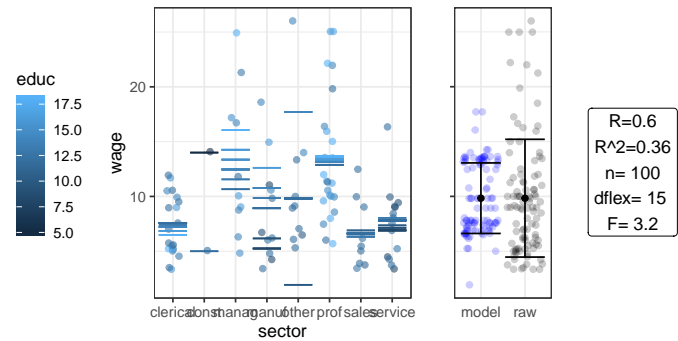
SETTING I



inferential technique:

inferential quantities:

SETTING J



inferential technique:

inferential quantities: