

5.9: Summary

Calculating some basic descriptive statistics is one of the very first things you do when analysing real data, and descriptive statistics are much simpler to understand than inferential statistics, so like every other statistics textbook I've started with descriptives. In this chapter, we talked about the following topics:

- *Measures of central tendency.* Broadly speaking, central tendency measures tell you where the data are. There's three measures that are typically reported in the literature: the mean, median and mode. (Section 5.1)
- *Measures of variability.* In contrast, measures of variability tell you about how "spread out" the data are. The key measures are: range, standard deviation, interquartile reange (Section 5.2)
- *Getting summaries of variables in R.* Since this book focuses on doing data analysis in R, we spent a bit of time talking about how descriptive statistics are computed in R. (Section 2.8 and 5.5)
- *Standard scores.* The z-score is a slightly unusual beast. It's not quite a descriptive statistic, and not quite an inference. We talked about it in Section 5.6. Make sure you understand that section: it'll come up again later.
- *Correlations.* Want to know how strong the relationship is between two variables? Calculate a correlation. (Section 5.7)
- *Missing data.* Dealing with missing data is one of those frustrating things that data analysts really wish the didn't have to think about. In real life it can be hard to do well. For the purpose of this book, we only touched on the basics in Section 5.8

In the next section we'll move on to a discussion of how to draw pictures! Everyone loves a pretty picture, right? But before we do, I want to end on an important point. A traditional first course in statistics spends only a small proportion of the class on descriptive statistics, maybe one or two lectures at most. The vast majority of the lecturer's time is spent on inferential statistics, because that's where all the hard stuff is. That makes sense, but it hides the practical everyday importance of choosing good descriptives. With that in mind...

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