

Concept Check #1

HST 190: Introduction to Biostatistics

- The project is out-of-sync -- use ``renv::status()`` for details.

This worksheet is open-note. Take 15 minutes to consider the following questions. We will discuss as a group.

1. A study that surveyed a random sample of otherwise healthy high school students found that they are more likely to suffer from muscle cramps when they are stressed. The study also noted that students drink more coffee and sleep less when they are stressed.
 - a. What type of study is this? Can you think of any criticisms of this study design?
 - b. Can this study be used to conclude a causal relationship between increased stress and muscle cramps? Why or why not?
2. According to many textbooks, association is not causation. To what extent do you agree? Discuss briefly.
3. The *midrange* of a distribution is defined as the average of the maximum and the minimum of that distribution. Is this statistic robust to outliers and extreme skew? Explain by example using the distribution displayed below.

Yet another skewed distribution

