1. There are many possible operational definitions to measure presidential power. One way to measure presidential power would be the president's success at making appointments. The operational definition would be

$$\frac{\text{\# failed appointments}}{\text{\# appointment attempts}}.$$

Another way to measure presidential power would be through the president's control over the legislature. In particular, one could focus on vetoes, using the operational definition

$$\frac{\text{\# vetoes not overridden}}{\text{\# vetoes made}}.$$

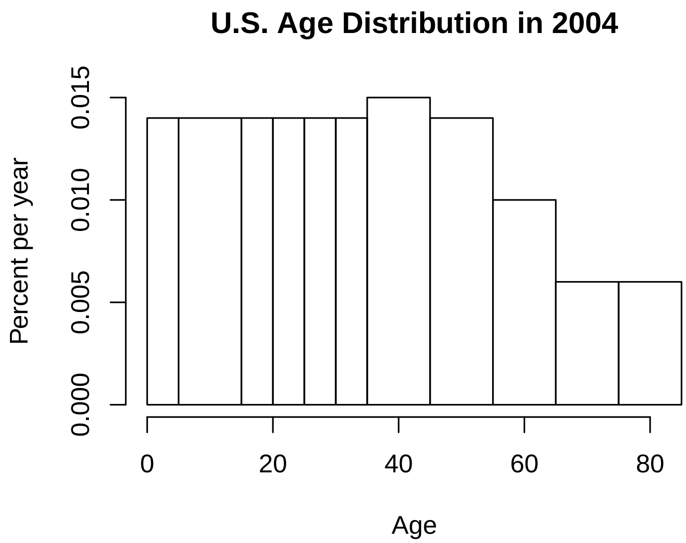
These operational definitions measure different aspects of presidential power. In some situations, we might find conflicting assessments of presidential power using each of these operational definitions. For instance, if the president's opposition party has a slim majority in the Senate, the president might have a large portion of appointments fail since a majority vote in the Senate is required to confirm an appointment. The same president might have a larger portion of vetoes that are not overridden because the opposition party does not have the supermajority needed in Congress to override a veto. We might draw different conclusions about the extent of presidential power by using each of these operational definitions.

2. Continuing with the two examples given above, one source of systematic error in both measures is that the legislature and the president may behave strategically. For example, if Congressional leaders anticipate that a bill will be vetoed but think there are not enough votes to override, they may decide not to bring it to the floor at all instead of wasting the legislature's time. In this case, the veto-based measure would fail to capture how the president's veto threat affected the legislation that was ultimately passed. Similarly, when making appointments, the president may choose nominees that he or she anticipates will be approved by Congress. In this case, high rates of approval could mask the fact that the president passed over his or her first picks in order to find nominees who would please Congress—meaning the president's power is lower than the measure would make it appear.

   A potential source of random error is simple misclassification. Official records may record a veto as having occurred when in fact it did not, or vice versa. In addition, even if the official records are correct, the researcher could make mistakes in transcribing them.

3. Chapter 3 Review Exercises

   (2) The histogram is shown below.



(a) It is not possible to determine. While 7% of the population is made up of children younger than 5 years old and 6% of the population is 65–74 years old, we do not have any information about the distribution of the population within those class intervals. For example, 7% of the population could be 2 years old, and 0% of the population could be 1 years old. Therefore, we do not know if there are more children age 1 or more elders age 71.

(b) It is not possible to determine. While 7% of the population is 20–24 years old and 10% of the popuation is 55–64 years old, we do not have any information about the distribution of the population within those class intervals. For example, 7% of the population could be 21 years old, 9% of the population could be 60 years old, and 1% of the population could be 61 years old. Therefore, we do not know if there are more 21-year-olds or more 61-year-olds.

(c) There are more people age 0–4 than there are of age 65–69. Because the class intervals do not include the right endpoint, people age 65–74 make up 6% of the population. Therefore, the subset of these people who are age 65–69 cannot possibly make up more than 6% of the population. The proportion of the population between 0 and 4 years old is 7%. This is greater than 6%, so there are more people age 0–4 than 65–69.

(d) The percentage of people age 35 and over is about

$$15\% + 14\% + 10\% + 6\% + 6\% = 51\%,$$

so it is closest to 50% among the options given.

(7) In general, people who die of natural causes tend to be older, and individuals dying of trauma tend to be younger. Since most natural deaths are among older individuals, the natural death distribution is the one with its peak among high ages, Figure (i). The distribution of deaths by trauma is the one with its peak among lower ages, Figure (ii).

(8) (a) True. If one adjusts the widths of the three relevant bars for the differences in the size of the income range for each group (i.e. makes a true histogram), one will see that the areas of these bars on a histogram would be almost equal.

(b) False. While the heights of the two relevant bars are almost equal in the given figure, if one adjusts the width of the bars for the dollar range covered by each category, the height of the bar for the 50-75 group will decrease. Thus, the illusion of equality will no longer be there. This problem does not occur in actual histograms.

(c) False. This is not a histogram. The width of the bars does not reflect the actual dollar ranges of incomes, so the x-axis does not have a fixed scale. In a histogram, the *area* of each bar (width × height) reflects the proportion in each category. In this figure, only the height is used to reflect the proportion—width isn't accounted for.

(12) False. While the histogram clearly shows that more riots were observed when the weather was warm (say, between 75 and 95 degrees), with a marked drop in observations of riots at temperatures above 100 degrees, this does not mean high temperatures *caused* riots not to occur.

There are at least two plausible alternative explanations for the pattern in the histogram. One is that many riots took place in the southern U.S., where temperatures are generally higher than in the North. Yet the riots were concentrated in the South not because the weather was warm, but because racial tensions were especially pronounced in those geographic areas.

Another explanation is that there simply are not many places in the U.S. that regularly experience extremely high temperatures. Even if the occurrence of riots were entirely unrelated to weather, we would expect to see few riots taking place in 95°+ heat, since not many places are so hot on any given day.

The pattern in the data may be the result of either of these factors. Therefore, we cannot conclude that hot weather prevents riots.