

EXPLORATION 7.6 Making Sense of Pulse Data

This exploration focuses on collecting, analyzing, and comparing two sets of related data. We will collect data on one's resting pulse and one's pulse after two minutes of moderate exercise.

1.
 - a. What do you think the average pulse for this class will be?

 - b. Do you think there is a relationship between pulse and other variables? If so, what do you think this relationship is?

2. In your group, discuss how to take your pulse so that the data will be accurate. For each of the factors, record and justify your decision.
 - a. Do we place our fingers on our wrist, heart, or neck? Does it matter?

 - b. How long a time period do we use—10 seconds, 15 seconds, 30 seconds, or 1 minute? Does it matter?

 - c. How do we report the numbers? For example, if you take the number of beats in 10 seconds, would you use this number or multiply by 6 to get the number of beats per minute? Does it matter?

3. Collect and analyze the data.
 - a. Before you collect the data, predict whether you expect the mean, median, and mode to be pretty close or not pretty close (recall Exploration 7.3: Typical Person) and give the reasoning behind your prediction.

 - b. Take the pulses of the class members, and write them down.

 - c. Determine the mean, median, and mode.

 - d. In this case, which one would you select when saying, "The average pulse in our class was _____"? Justify your choice.

4. Now examine what happens to the pulse after moderate exercise.
 - a. Before doing the exercise, determine whether you will measure your pulse by counting beats for 10, 15, 20, 30, or 60 seconds. Does it matter?

- b. Also predict whether you expect the variation for this set of data to be less than, equal to, or greater than the variation for the previous set of data.
 - c. Take the pulses of the class members, and write them down.
 - d. Determine the mean, median, and mode.
- 5. Complete the following sentence: “When we compared the effect of moderate exercise on pulse, we found _____”? Justify your response.
- 6. Let us now examine how we can use graphs to help us compare the two sets of data.
 - a. Make a grouped frequency table, a histogram, and a boxplot for both sets of data.
 - b. Describe observations you can make from each kind of graph.
 - c. If you were to present what you have learned about how pulses change as a result of moderate exercise, which graph would you select? Why?

Looking Back on Exploration 7.6

- 1. What did you learn from this exploration?
- 2. What questions do you still have?
- 3. If you were to continue to investigate pulse rates, what data would you collect next? Why?