

Thought Experiment Consider the following two variables:

- The **height** of all adults in the United States
- The annual **income** of all working adults in the United States

Think about the distribution of each variable, and discuss the following questions with a neighbor.

1. Sketch a histogram for each distribution.
2. What features does each have? Is it symmetric? Is it normal? It is unimodal?
3. Label the axes on your plots. What is the range of each variable?
4. How would you summarize each distribution numerically? Which measures are most appropriate?
5. Suppose that the government issued a tax rebate in the amount of \$2000 to each American taxpayer. How would the distribution of **income** change? What would happen to your measures of center and spread?

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Using a similar approach to that on the previous page, sketch out the expected distribution for the following three variables (2 on back). **Make sure to also include the population of interest (of your choosing) for each of the three variables.**

- number of piercings

- scores on an exam

- IQ scores