Intro: Analyzing Categorical Data

Learning Targets

1. Identify the individuals and variables in a set of data.
2. Classify variables as categorical or quantitative.

Vocabulary: individuals, variable, categorical variable, quantitative variable, distribution, inference

Read 2–4

Statistical problem solving is an investigative process that involves four components: Formulate Questions, Collect Data, Analyze Data, and Interpret.

Activity: (p. 1) Do Pets or Friends Help Reduce Stress? Based on the data, does it appear that the presence of a pet or friend reduces heart rate during a stressful task?

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What's the difference between categorical and quantitative variables?

Do we ever use numbers to describe the values of a categorical variable? Do we ever divide the distribution of a quantitative variable into categories?

What is a distribution?

Example: US Census Data
Here is information about 10 randomly selected US residents from the 2000 census.

State	Number of Family Members	Age	Gender	Marital Status	Total Income	Travel time to work
Kentucky	2	61	Female	Married	21000	20
Florida	6	27	Female	Married	21300	20
Wisconsin	2	27	Male	Married	30000	5
California	4	33	Female	Married	26000	10
Michigan	3	49	Female	Married	15100	25
Virginia	3	26	Female	Married	25000	15
Pennsylvania	4	44	Male	Married	43000	10
Virginia	4	22	Male	Never married/ single	3000	0
California	1	30	Male	Never married/ single	40000	15
New York	4	34	Female	Separated	30000	40

(a) Who are the individuals in this data set?

(b) What variables are measured? Identify each as categorical or quantitative. In what units were the quantitative variables measured?

(c) Describe the individual in the first row.

Define inference.

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