**Population and Samples**

**Population:**

**Sample:**

**Example 1:** In a survey, 834 employees in the United States were asked whether they thought their jobs were highly stressful. Of the 834 respondents, 517 said yes. Identify the population and sample.

**You Try:** In a survey of 1501 ninth to twelfth graders in the United States, 1215 said “leaders today are more concerned with their own agenda than with achieving the overall goals of the organization they serve.” Identify the population and the sample.

**Example 2**: Identify the population and the sample:

1. A survey of 1353 American households found that 18% of the households own a computer.

1. A recent survey of 2625 elementary school children found that 28% of the children could be classified obese.

1. The average weight of every sixth person entering the mall within 3-hour period was 146 lb

1. In the United States, a survey of 2000 households with at least one child found that 1280 of them eat dinner together every night.

**Population Parameter**

# Sample Statistic

**Example 3:** Determine whether each number describes a population parameter or a sample statistic.

1. The freshmen class at a university has an average SAT math score of 514.

1. In a random check of several hundred retail stores, the Food and Drug Administration found that 34% of the stores were not storing fish at the proper temperature.

**You Try:** Determine whether each number describes a population parameter or a sample statistic.

Explain your reasoning.

1. Last year, a small company spent a total of $5,150,694 on all employees’ salaries.

1. In the United States, a survey of a few thousand adults with hearing loss found that 43% have difficulty remembering conversations.

**Example 4:** Determine whether the data are collected from a population or a sample.

1. Total number of college students in the United States

1. Color of every third car that passes your house

1. A survey of 100 spectators at a sporting event with 1800 spectators

1. The age of each dentist in the United States

**Descriptive Statistics**

# Inferential Statistics

**Example 5:** A study of 300 Wall Street analysts found that the percentage who incorrectly forecasted high-tech earnings in a recent year was 44%.

1. Identify the population and the sample

1. Determine which part of the study represents the descriptive branch of statistics

1. What conclusions might be drawn from the study using inferential statistics

**You Try:** A study of 1000 U.S. adults found that when they have a question about their medication, three out of four adults will consult their physician or pharmacist and only 8% visit a medicationspecific website.

1. Identify the population and the sample

1. Determine which part of the study represents the descriptive branch of statistics

1. What conclusions might be drawn from the study using inferential statistics

**Practice**

Find 5 statistical studies/articles and identify the population, sample and sample size in the study.

Sample and Population

Exercises and Sleep

<https://pubmed.ncbi.nlm.nih.gov/28490911/>

<https://pubmed.ncbi.nlm.nih.gov/30007930/>

Study habit and performance

<https://pmc.ncbi.nlm.nih.gov/articles/PMC8108503/>

Sport and Happiness

<https://pmc.ncbi.nlm.nih.gov/articles/PMC7369812/>