

Is this question ...

Descriptive?

or

Inferential?

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Descriptive Statistics

Descriptive statistics are used when you want to know something about everyone in an **entire group** or **population**.



Everyone in the
population

A population can be

- **everyone** in a **country** (e.g., United States, Zimbabwe, Peru, China, etc.)
- **everyone** in a **company**.
- **every student** in a **state**, in a **school district**, in a **school** or in a **class**.

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The key words you look for in your research question are **all**, **everyone**, **census**, **entire group**...

Example

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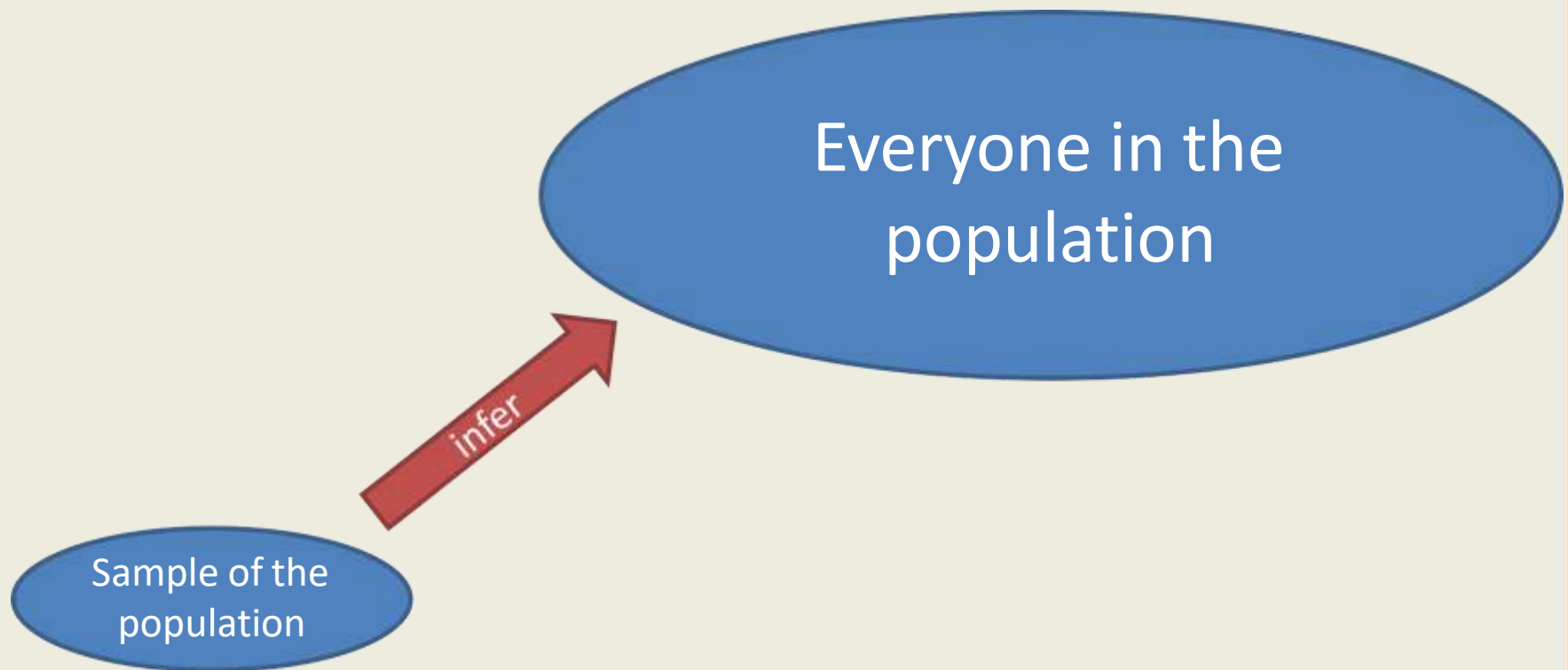
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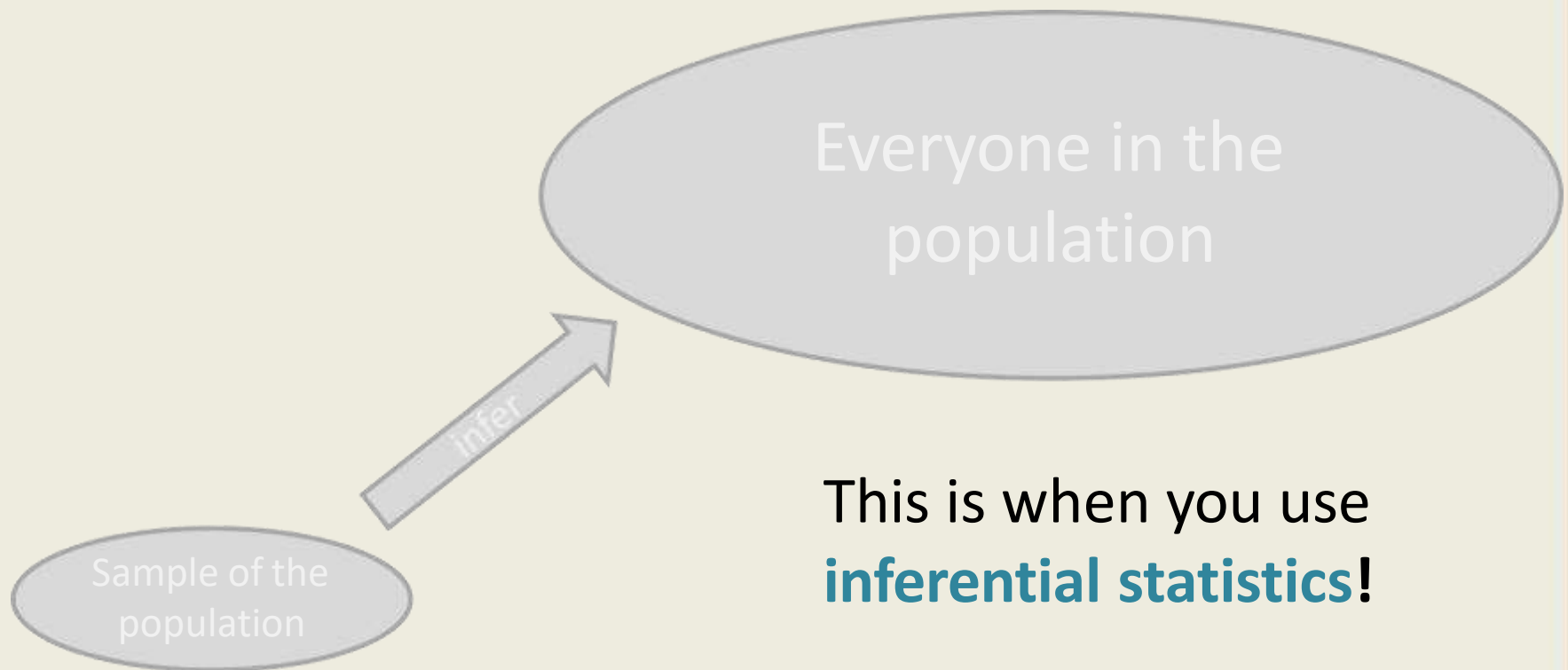
In this case, we would use **descriptive statistics** to summarize our findings!

Inferential Statistics

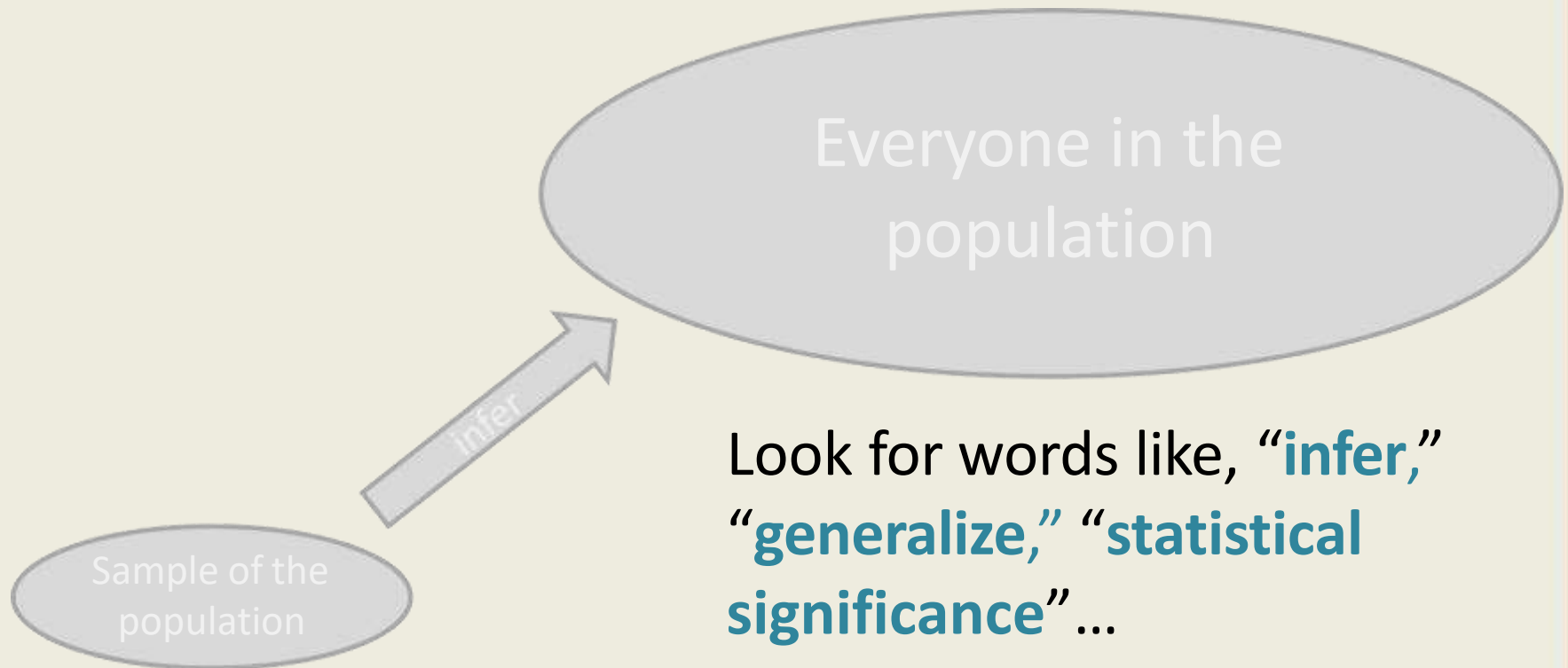
Inferential statistics are used when you want to know something about everyone. Since you can't access the entire group. You take a **small sample** from the entire group and **infer or generalize** the results to the entire group.



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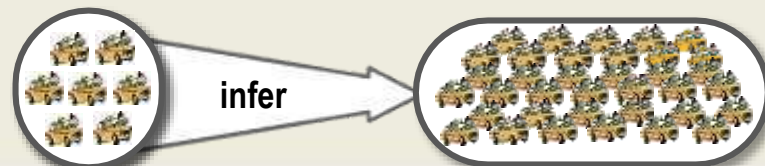
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But we do not have the ability to ask all 13,500 of them.

In this case, you use inferential Statistics

Let's say we choose a small group of 80 and ask them. Inferential statistics make it possible to infer what is happening with the 80 to all 13,500.



Let's Practice!

Find the average driving distance from home to work for all employees at your company.

Inferential

Descriptive

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Inferential

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Find the average driving distance from home to work for **all** employees at your company.

Inferential

Descriptive



Find the average driving distance from home to work for **all** employees at your company.

Inferential

Descriptive

Descriptive statistics are used when you want to know something about **everyone** in an entire group.

Everyone in the
population

Next Example

What factors influence employees to stay at your company? You take a sample of 40 employees and generalize the results to all employees who stay.

Inferential

Descriptive

What factors influence employees to stay at your company? You take a sample of 40 employees and generalize the results to all employees who stay.

Inferential

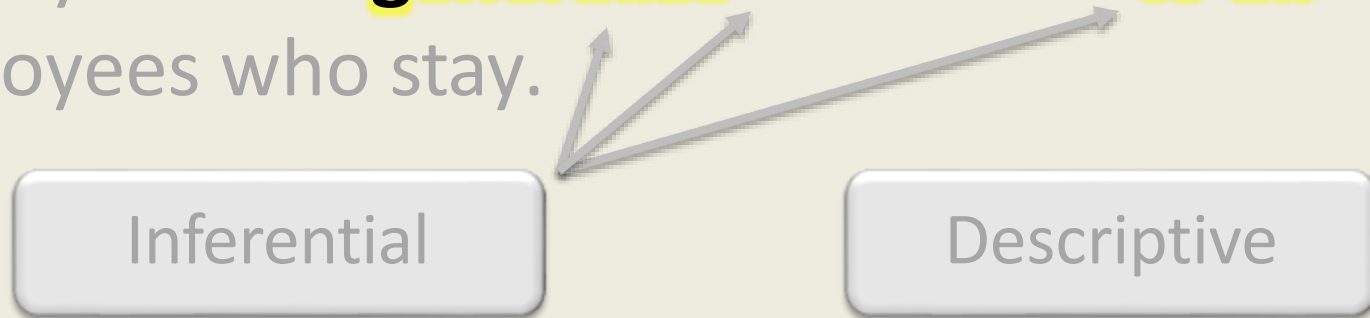
Descriptive

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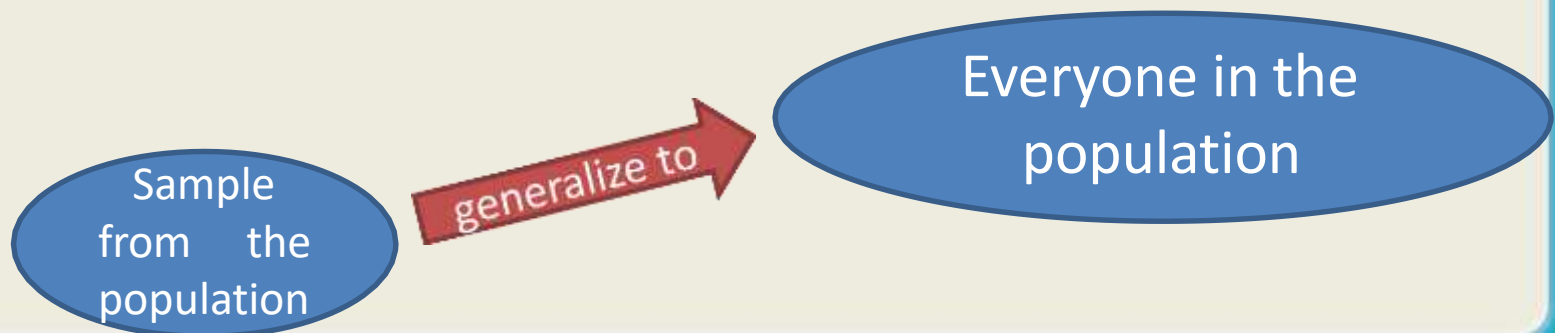
Inferential

Descriptive

What factors influence employees to stay at your company? You take a **sample** of 40 employees and **generalize** the results **to all** employees who stay.



Inferential statistics are used when you want to know something about everyone from a smaller group.



Final Example

How do the customer satisfaction levels compare between English and Spanish speaking customers? You compare samples from each group and infer the results to both populations.

Inferential

Descriptive

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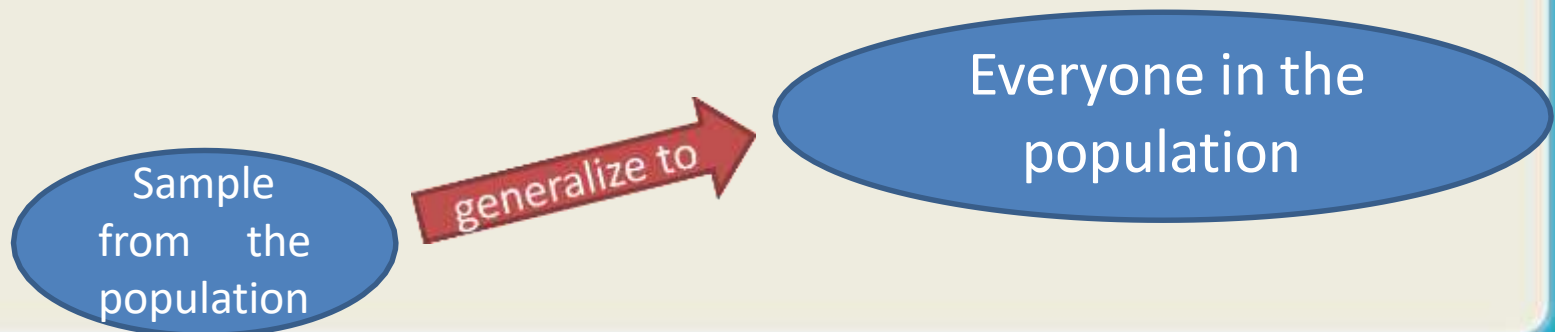
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Descriptive

Inferential statistics are used when you want to know something about everyone from a smaller group.



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Descriptive?



Mean

Median

Mode

Range

Stdev

IQR

In this course you will learn when to run 24 statistical methods. By choosing **inferential** that narrows the number down to **18** possible **methods**.

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Descriptive?

or

Inferential?



Single t	Ind t	Pair t	anova	ancova	F-anova
Spear	Kendall	Single R	Multi R	Chi Ind	Chi Fit

Mean Median Mode Range Stdev IQR

Return to your original question. What type of research question is it?

Descriptive?

or

Inferential?