

## (Intended) Population/Universe

(Review of Material Covered Earlier)

**These terms typically are used interchangeably**

**The group or type of person a researcher intends to make a statement about or generalization to**

**E.g., if I wish to answer the question, “what is the most commonly chosen form of childbirth” what is the population?**

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## (Intended) Population

(Review of Material Covered Earlier)

**The Group You are Interested in Studying**

**Example:**

- All People Who Have Lived in Texas for at Least One Year
- Who have a Phone
- Who are Over 18
- Who Aren't Institutionalized

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## Sample

(Review of Material Covered Earlier)

**The group of individuals from which the researcher collects actual data. The sample should closely represent/resemble the population.**

**The size of the sample is typically much smaller than the population.**

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\_\_\_\_\_ of Analysis

The \_\_\_\_\_ included in a sample.  
(The \_\_\_\_\_ being studied)

- The most common
- But it could also be a

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- The same or similar questions can be answered using different

- But it is usually best to answer questions about the behavior of individuals with

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Example

- A researcher is interested in studying the relationship between the completion of high school and teenage pregnancy

- The researcher could obtain data from a sample of \_\_\_\_\_ and determine whether they were pregnant as teenagers and whether they completed high school

- The researcher could obtain data from a sample of \_\_\_\_\_ throughout the US that had information about the rate of teenage pregnancies in each \_\_\_\_\_ and the high school dropout rate in each \_\_\_\_\_

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\_\_\_\_\_ of \_\_\_\_\_

**Data example:**

Person	Teen Pregnancy	SES	High School Completion
1	No	Low	Yes
2	Yes	Low	No
3	No	High	Yes

Here the \_\_\_\_\_ of \_\_\_\_\_ is the \_\_\_\_\_.

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\_\_\_\_\_ of \_\_\_\_\_

**Data example:**

City	Teen Pregnancy Rate	Average SES of Residents	Average Rate of High School Completion
Houston	3/1000	30.5	70%
Dallas	2/1000	31.0	80%
San Antonio	2.5/1000	29.2	90%

Here the \_\_\_\_\_ of \_\_\_\_\_ is the \_\_\_\_\_.

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**What is the**

**Topic: Factors correlated with teenage pregnancy**

**Question: What factors are associated (correlated) with the probability that a teenager becomes pregnant.**

\_\_\_\_\_ =

**The sample might be 1000 teenagers from high schools throughout the United States**

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**What is the**

**Topic: factors correlated with teenage pregnancy**

**Question: What factors are associated (correlated) with higher community rates of teenage pregnancy?**

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**The sample might be**

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### Example

**Topic: The effects of education on childbirth**

**Question: "Does education decrease the number of children that a women in the US will choose to have?"**

**Hypothesis: I predict that higher levels of education are associated with lower levels of childbirth among women in the US**

**Population:**

**Sample [example]:**

**Unit of Analysis:**

**Independent Variable:**

**Dependent Variable:**

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### Example

**Topic: The effects of education on women in the US**

**Question: "Does education decrease childbirth among women in the US?"**

**Hypothesis: I predict that when the number of college educated individuals in a community is high the rate of childbirth in that community will tend to be low**

**Population:**

**Sample [example]:**

**Unit of Analysis:**

**Independent Variable:**

**Dependent Variable:**

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\_\_\_\_\_ Sampling and \_\_\_\_\_  
(The Two Extremes)

\_\_\_\_\_ Sampling (Availability Sampling) –  
Including individuals (or groups / organizations/etc.) in  
your research in

\_\_\_\_\_ –  
Including \_\_\_\_\_ in the sample. In other  
words – including the

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\_\_\_\_\_ Sampling

Why do we need sampling rules rather  
than

- Simply – our sample should
- We need to know how our sample

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\_\_\_\_\_

Count of

Why not count \_\_\_\_\_?

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## Sampling

Nonprobability: We don't know what the probability is for inclusion

- \_\_\_\_\_ Sampling
- \_\_\_\_\_ Sampling
- \_\_\_\_\_ Sampling

Probability: We do know what the probability is for inclusion

- Simple \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

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## Why \_\_\_\_\_ Sampling

We can use mathematics/statistics to determine how closely an estimate based on our sample will match the population "parameter."

The basis for these mathematical/statistical formulas is the

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## \_\_\_\_\_ Sampling

Next to a \_\_\_\_\_ (which really isn't a sample), this is the strategy that usually will most closely

E.g., Place names in a hat and choose 10 without looking

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\_\_\_\_\_ Sampling

\_\_\_\_\_ sampling with a “short-cut”

For Example: Pick every 2<sup>nd</sup> person on a list

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\_\_\_\_\_ Interval

An estimate based upon a sample likely will be slightly different from the real population “parameter.”

A \_\_\_\_\_ interval give us information about

Sample Estimate

For example: Based upon our sample, we would estimate that the proportion of red jelly beans in a jar is 30%.

But: We are fairly certain that

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\_\_\_\_\_ Interval

The size of the \_\_\_\_\_ Interval depends to a large extent on

The larger the sample, the more

For example:

- If a news organization wished to estimate who would win an election and sampled 100 people, they might say that the republican candidate was getting 45% of the votes and the democratic candidate 55%, although the margin of error is plus or minus 10%
- If they sampled 1000 people, they might say

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\_\_\_\_\_ Unit

\_\_\_\_\_ Unit

The Element Considered for

Examples:

- Household (Usually 2 or more people per sampling unit)
- Census Tract (Several Households Per Census Tract)

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\_\_\_\_\_ Frame

Actual list of \_\_\_\_\_ from which the sample or some stage of the sample is drawn

Examples:

- List of
- Roster of all

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\_\_\_\_\_ Sampling

- What would happen if we wished to take a sample of 1000 adolescents who represent all adolescents in the United States?
- How would we interview them?

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**Primary, Secondary, Final**

\_\_\_\_\_

\_\_\_\_\_ Unit—First Stage of Sampling  
(e.g., the census tract)

\_\_\_\_\_ Unit  
(e.g., the household)

\_\_\_\_\_ Unit  
(e.g., the \_\_\_\_\_)

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\_\_\_\_\_ **Sampling**

1 – Create a \_\_\_\_\_ for each of several categories

2 – Draw a

3 –

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\_\_\_\_\_ **Sampling**

For Example: I am interested in the relationship between grades and divorce among college students.

- Few college students are married, and even fewer are divorced.
- If 1% of students are divorced, we would expect to find
- We might get \_\_\_\_\_ by chance using random sampling
- But if we obtained a list of all divorced college students (Sampling frame 1) and drew

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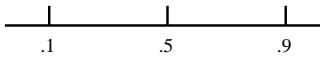
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\_\_\_\_\_ Sampling

But with only 10 divorced students our

- For example, the difference in grade point average for divorced students and non-divorced students might be .5




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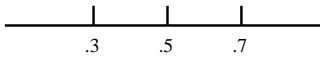
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\_\_\_\_\_ Sampling

But with only 10 divorced students our confidence interval will be large:

- So, sometimes we want to “\_\_\_\_\_” and have more individuals from
- Instead of choosing 990 non-divorced students from a sampling frame of 9900 (1 in 10), and 10 divorced students from a sampling frame of 100 (also 1 in 10), we can




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\_\_\_\_\_ Sampling

\_\_\_\_\_ Sampling is a Type of Probability Sampling

- 990 out of 9900 non-divorced students (1 in 10 probability)
- 30 out of 100 divorced students (3 in 30 probability)

We could then count the non-divorced students

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**(Review) Probability Sampling**  
 We know what the probability is for inclusion

- \_\_\_\_\_ Pick a certain number from "a hat" (Equal Probability)
- \_\_\_\_\_ Random sampling with a "short-cut" - E.g, Pick every 2<sup>nd</sup> person on a list (Maybe Equal Probability)
- \_\_\_\_\_ Choose a random sample from the first cluster (primary unit) and then a random sample from within this cluster (secondary unit) (Known and maybe Equal Probability)
- \_\_\_\_\_ Divide the population into separate sampling frames and choose a random sample from each (Known but probably unequal Probability)

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\_\_\_\_\_ **Sampling**  
 Like stratified sampling, but \_\_\_\_\_

An example:  
 I want 10 men and 10 women so I choose the first 10 men I see and the first 10 women I see  
 ...but does my population have an equal number of men and women? – if not,

\_\_\_\_\_ sampling uses \_\_\_\_\_ selection within \_\_\_\_\_ frames while \_\_\_\_\_ sampling uses \_\_\_\_\_ selection within \_\_\_\_\_

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\_\_\_\_\_ **Sampling**  
 Also called  
*Network, Chain-referral, or Reputational sampling*  
 Used when we are interested in a  
 Find one or more \_\_\_\_\_ people and ask them who

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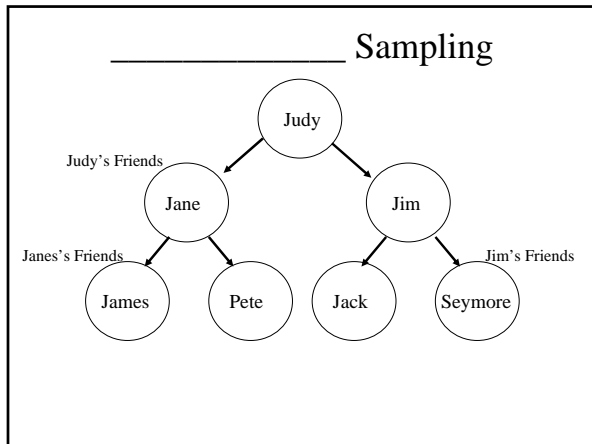
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\_\_\_\_\_ Sampling

Also called  
*Expert Sampling or Purposive Sampling*

Used to find

For example: I want to study

- I use someone's (an expert's)

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\_\_\_\_\_ Sample

Almost like

This usually means that instead of the researcher choosing the sample, the

For example – I want to study the relationship between social class and attitudes toward premarital sex

- So I survey all
- ...or I allow people to

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This is most appropriate when we don't expect

For example:

- We wish to discover the effects of
- We wish to discover the effects of a

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**Which Sample is More Likely to \_\_\_\_\_**

\_\_\_\_\_ (not really a sample)

More Likely Similar } Sometimes \_\_\_\_\_ is more similar

Probability

Non-Probability

It depends

\_\_\_\_\_ ?

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**Matching**

What if we wish to compare the differences between two groups, but we can't

For example – we want to find out the differences between institutionalized juvenile delinquents and other juveniles

Perhaps we want to know whether the lack of parental supervision is related to institutionalization for serious delinquency

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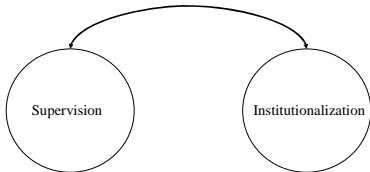
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## Matching

We have a \_\_\_\_\_ of 500 institutionalized juveniles

Can we simply compare them to \_\_\_\_\_  
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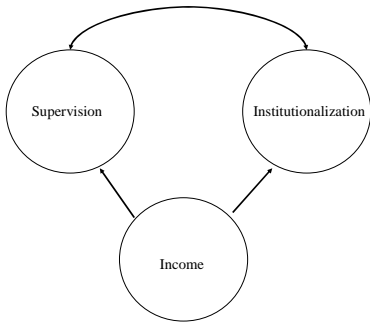
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## Matching



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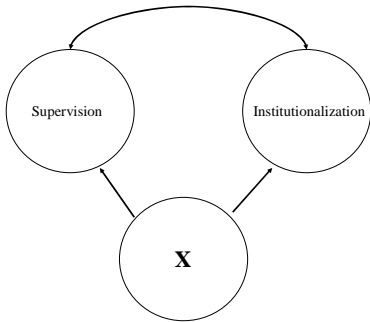
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## Matching

Will only work correctly if you



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Used in “\_\_\_\_\_” Research Methods

- When we want to determine the effects of one variable while “controlling” for all others
- If we randomly divide research participants into two groups, then we would expect these groups to be
- We then treat the two groups differently and compare the results

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\_\_\_\_\_ and *Random Sample* are Sometimes Confused

	<b>Random Sample</b>
	Survey Methods
	Used to choose sample
	Used to ensure that
Used to)	Used to

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\_\_\_\_\_ Significance

Tells Us Whether it is Wise to

Is the Relationship/Correlation Genuine or

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\_\_\_\_\_ Significance

**The Basic Idea is Closely Related to**

Example: Is area of residence (urban vs. rural) related to family income?

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**Statistical Significance**

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\_\_\_\_\_ Significance

What does *Significance* Mean?

Common Usage	Scientific Usage
	We can
	Our results are

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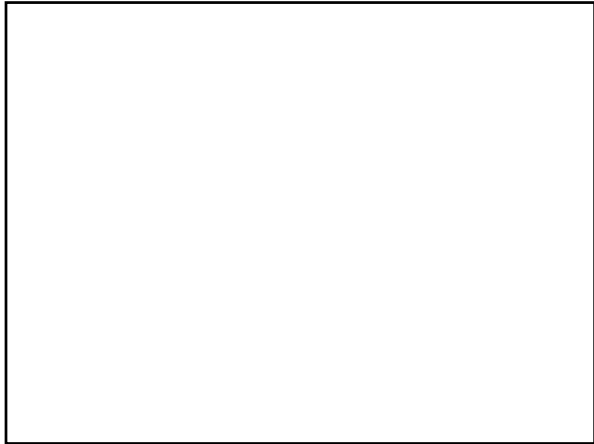
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