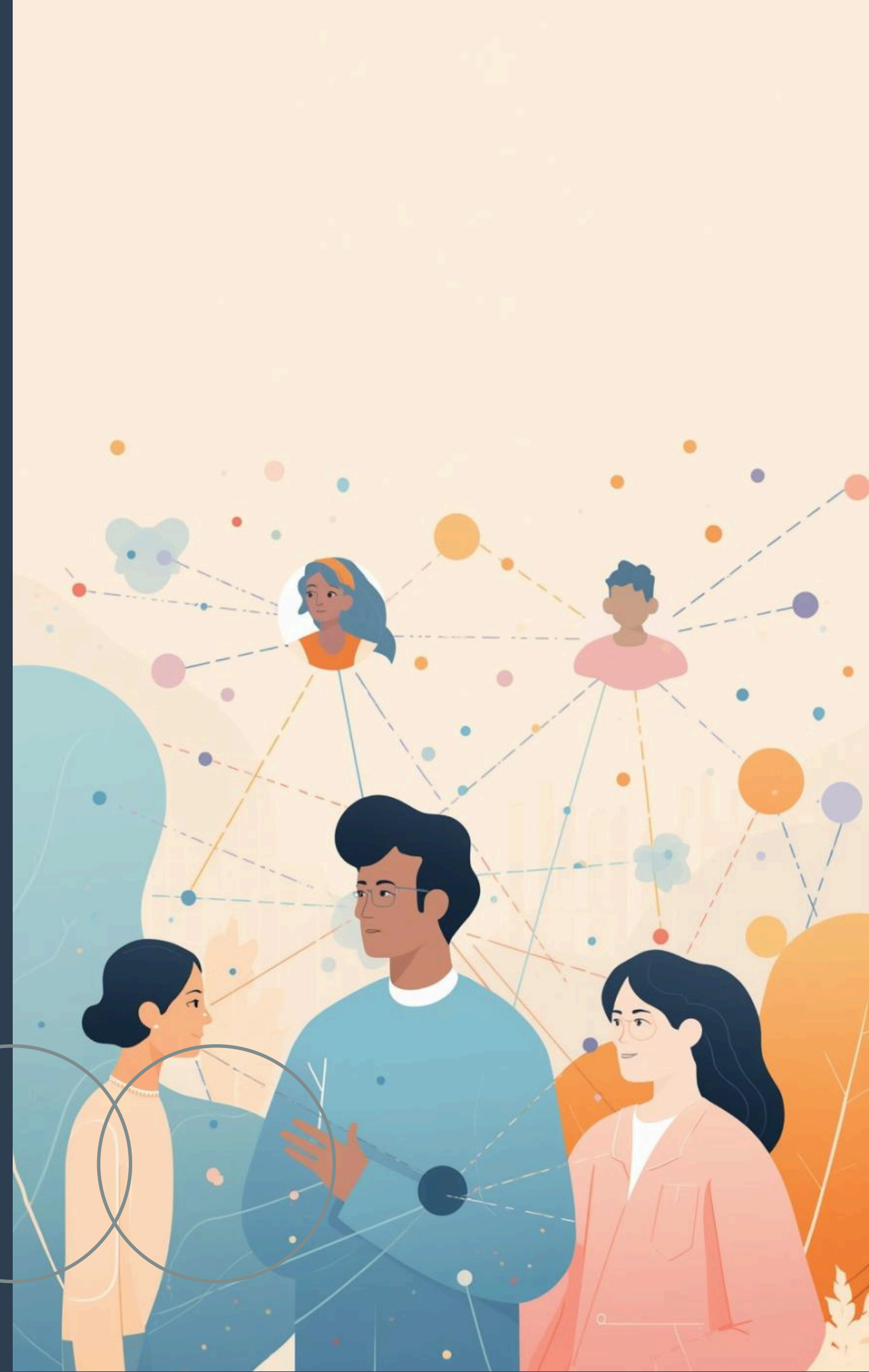


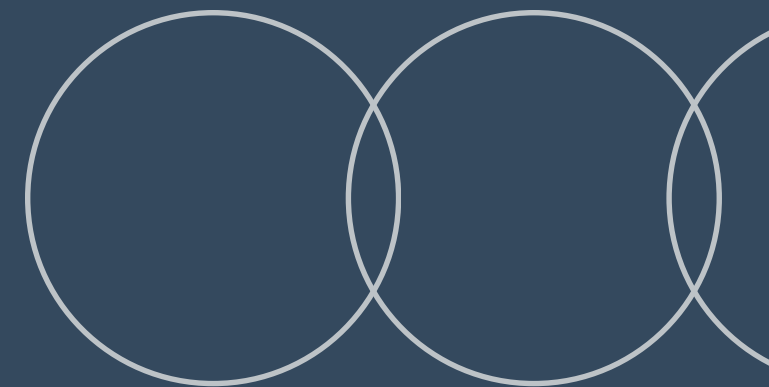
Population and Sampling Technique

Dr.Khwanchat Wongjantip

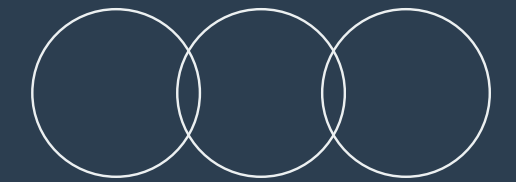


What is a Population?

Understanding Research Context



Types of Populations



Understanding Key Concepts

Target Population

The **target population** refers to the entire group of individuals or elements that a researcher wishes to study. This is the comprehensive set from which a sample may be drawn, representing the **broad spectrum** of the study's interest. Researchers define this population based on specific characteristics relevant to their research question, ensuring that the gathered data will **accurately reflect** the findings applicable to the overall group.

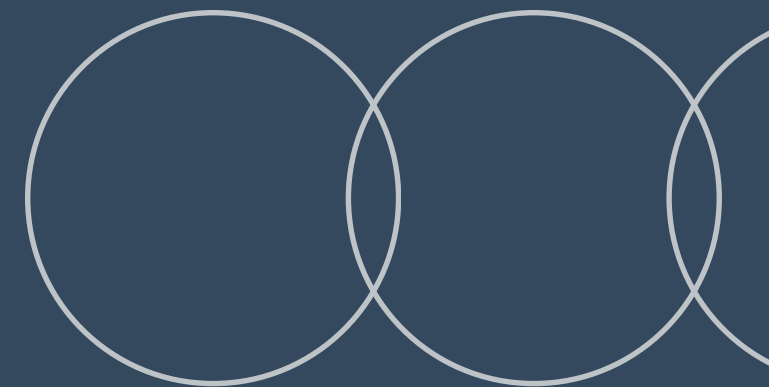
Accessible Population

The **accessible population** is the portion of the target population that is realistically available for research. This subset is crucial, as it includes those individuals whom researchers can actually contact and study. Understanding this distinction helps researchers acknowledge the **practical limitations** of their study, ensuring that the sample reflects the realities of what can be achieved within logistical constraints, such as time and resources.

Why Sampling Matters

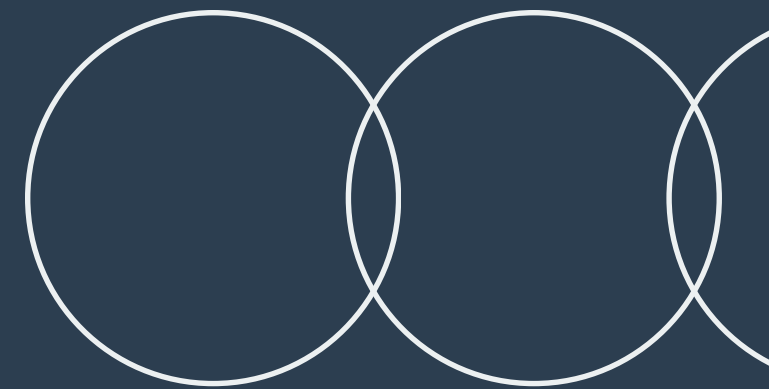
The Case for Sampling

Sampling is essential in research due to **time, cost,** and **accessibility constraints**. By using samples, researchers can efficiently gather data without needing to study an entire population, ensuring practical results.



Sampling Technique Overview

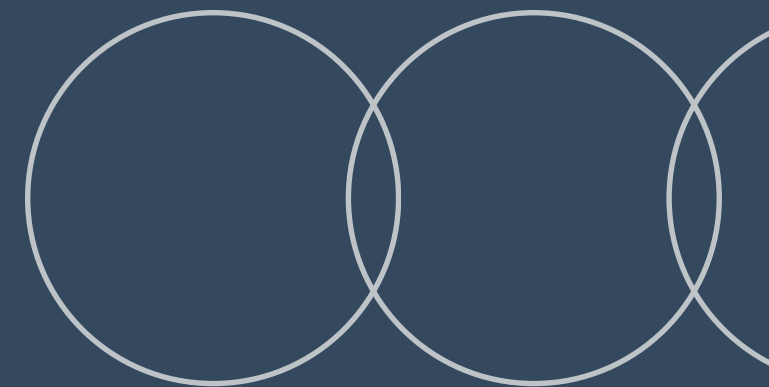
Key methods for researchers



Simple Random Sampling

Equal Chance for Selection

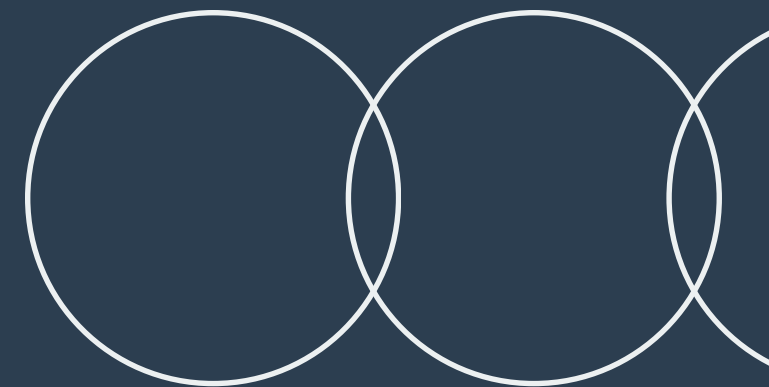
Simple random sampling ensures that every member of the population has an equal opportunity to be selected. This method promotes fairness and reduces bias in research findings.



Systematic Sampling Explained

Understanding the Selection Process

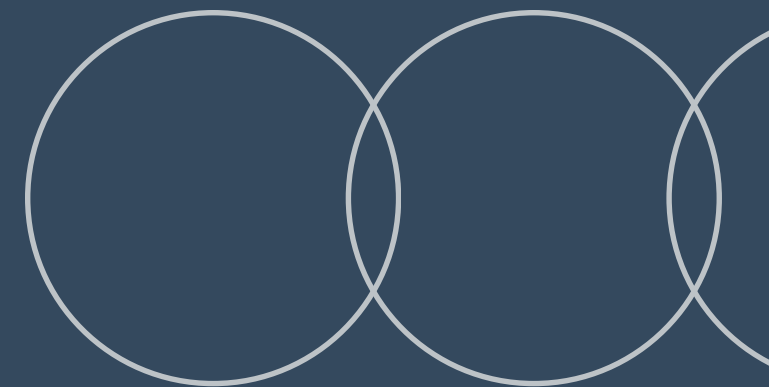
Systematic sampling involves selecting every k th individual from a population after a random start, ensuring consistent representation and reducing potential biases in research studies and data collection.



Stratified Sampling Explained

Understanding Subgroup Selection

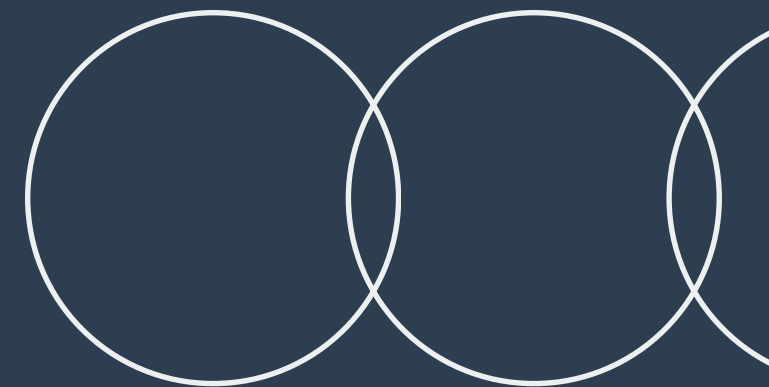
Stratified sampling involves dividing the population into distinct subgroups, or strata, and then drawing samples from each to ensure representation across key characteristics, such as age or gender.



Probability Sampling: Cluster Sampling

Selecting Entire Groups

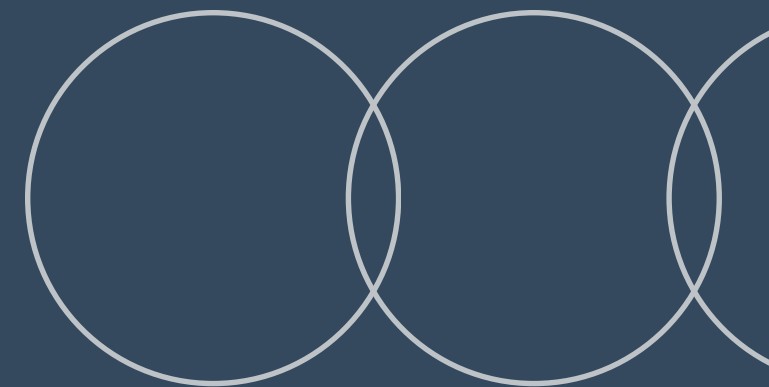
Cluster sampling involves dividing the population into clusters and randomly selecting whole clusters for study, which can be particularly useful when populations are spread over a wide area.



Convenience Sampling

Easy and Accessible Methods

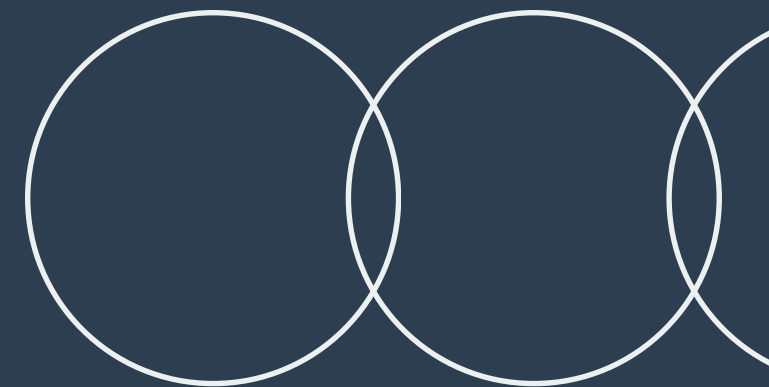
Convenience sampling involves selecting participants based on their easy availability, often leading to **potential bias**. This method is useful for preliminary studies but may not represent the broader population accurately.



Purposive Sampling Defined

Targeted Selection Method

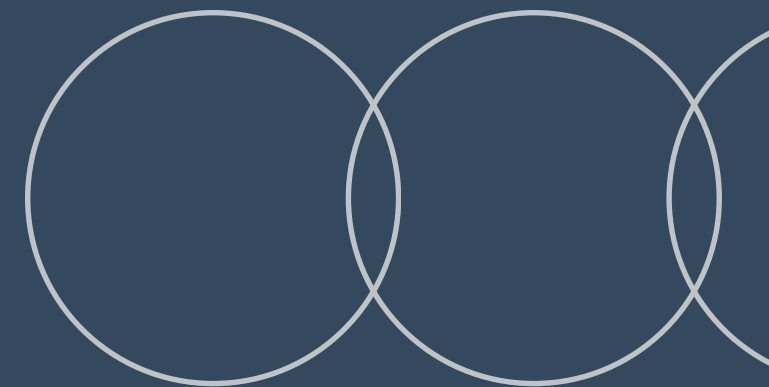
Purposive sampling involves selecting participants based on specific characteristics or criteria, enabling researchers to gather insights from individuals who are particularly relevant to the study's objectives.



Quota Sampling Explained

Ensuring Representation in Research

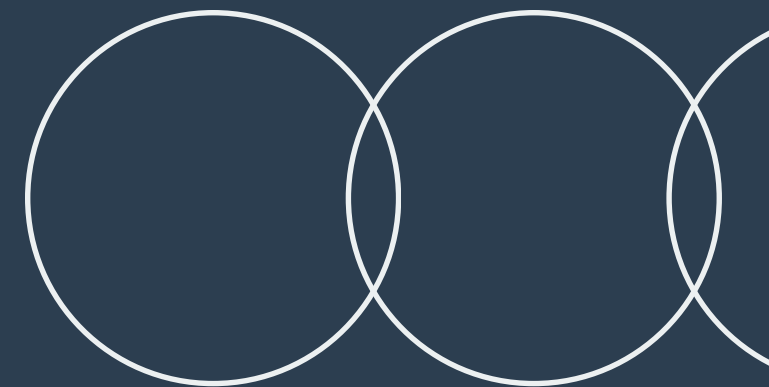
Quota sampling involves ensuring specific subgroups are represented in a fixed proportion. For example, deliberately selecting equal numbers of male and female participants for a study.



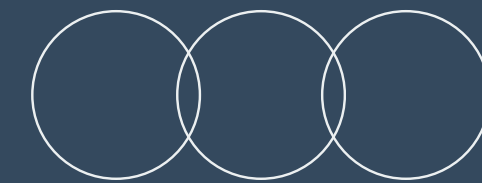
Non-Probability: Snowball Sampling

Understanding Participant Recruitment

Snowball sampling is a **non-probability technique** where existing study participants recruit future subjects, effectively reaching hard-to-access populations, ensuring the study gathers diverse perspectives through participant networks.



Probability vs Non-Probability Sampling



Understanding key differences

Probability Sampling

This approach involves **random selection**, ensuring every individual has a known chance of being included, leading to a representative sample that enhances the reliability of research findings.

Non-Probability Sampling

In contrast, this method relies on **non-random techniques**, often based on convenience or the researcher's judgment, which can lead to biases and affect the validity of the results.

Choosing the Right Method

It is essential to understand the **context of your study**. Consider research goals, resources available, and the population characteristics to determine the most appropriate sampling technique for your needs.

Summary

Understanding the **core concepts** of population and sampling techniques is vital for effective research.

Key points to remember:

- A population encompasses the entire group relevant to a study.
- Sampling is essential due to time, cost, and accessibility constraints.
- Different techniques, such as probability and non-probability sampling, have unique applications and implications.

To enhance your research quality, always **choose your sample wisely** and ensure it accurately represents the population.

By applying these principles, your findings will be more valid and reliable, making a meaningful contribution to the field.

