



SAMPLING BASICS

Frances Chumney, PhD



SAMPLING BASICS

- What is a sample?
 - ❖ A sample is a subset of the population from which data are collected.
- Why use a sample?
 - ❖ It sometimes is not feasible to collect data from an entire population.
 - ❖ It sometimes is not possible to collect data from an entire population.



EXAMPLE SAMPLE (GA CCC)

- The GA DoE adopts the Common Core Curriculum for use in its schools. Two years later, they wish to know if teachers have adopted the new curriculum, and whether they are satisfied with it.
- Budget & time limitations make it impossible to collect data from all elementary teachers in the state.
- A subset of elementary teachers is selected to participate in the study ← a sample is needed

KEY SAMPLING TERMS

- *Target Population*
 - ❖ Complete group of interest
- *Sampling Frame*
 - ❖ List of the sampling units present within the target population
- *Sample*
 - ❖ Subset of the (target) population
- *Participant Group*
 - ❖ Individuals who are selected as part of the sample and who choose to participate

KEY SAMPLING TERMS

Target Population

ALL THE PEOPLE YOU WANT
TO KNOW SOMETHING ABOUT

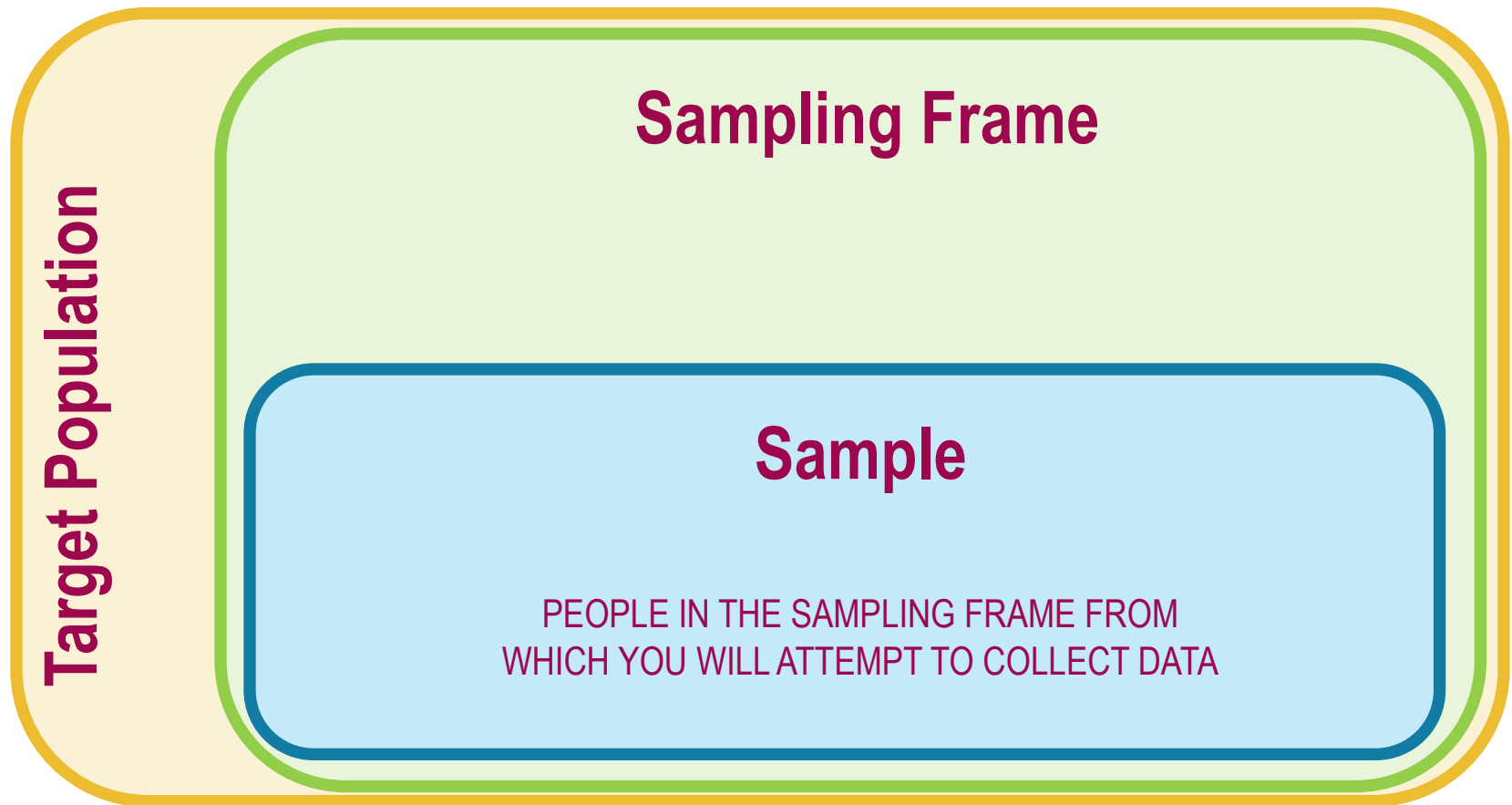
KEY SAMPLING TERMS

Target Population

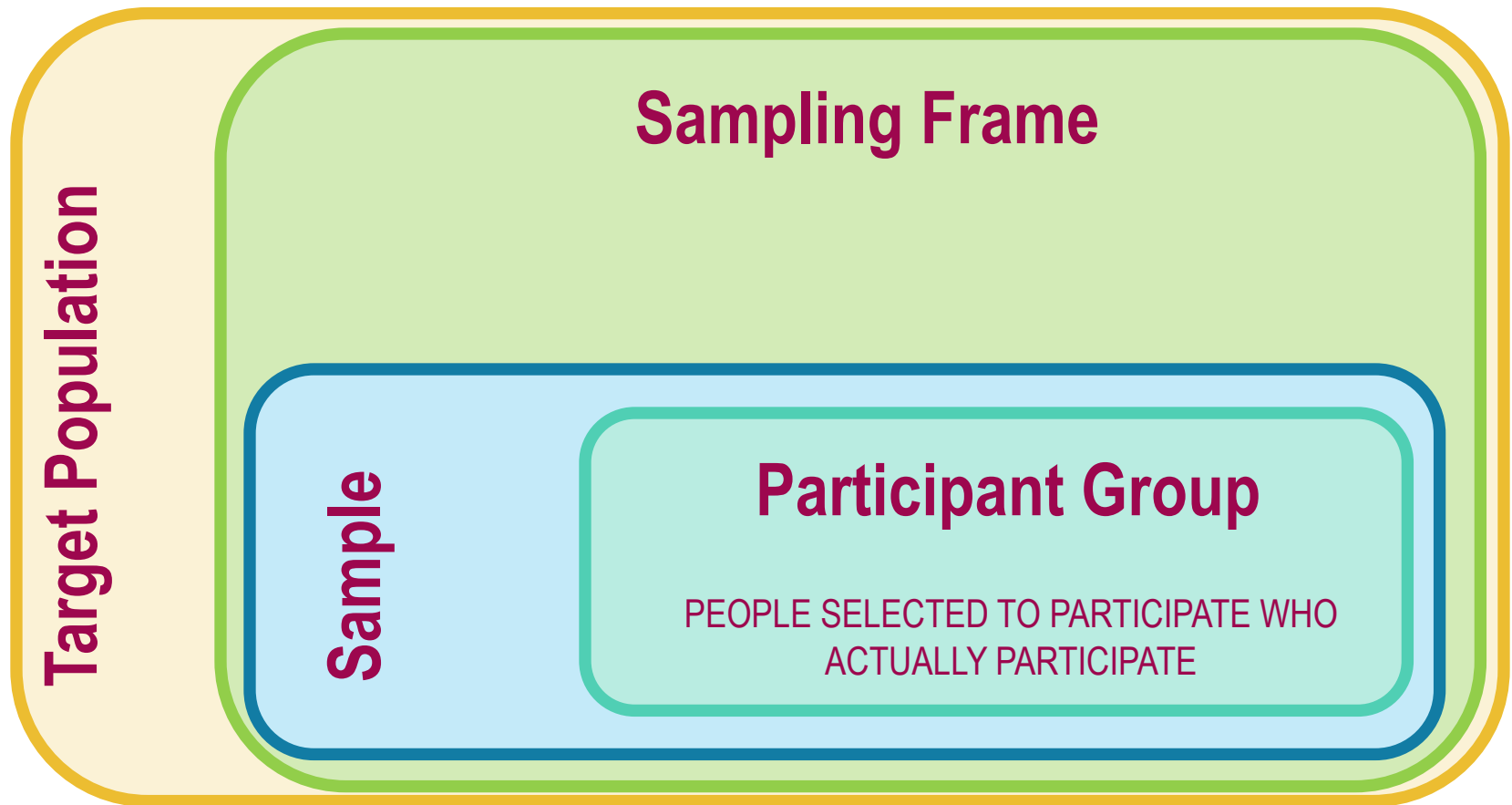
Sampling Frame

LIST OF ALL THE PEOPLE IN THE TARGET POPULATION

KEY SAMPLING TERMS



KEY SAMPLING TERMS



THE PERFECT SAMPLE

➤ *Magic Town (1947)*

- ❖ The people who make up a single town (Grandview) is an exact microcosm of the country
 - Demographics & Employment
 - Political Opinions & General Attitudes
- ❖ The people of Grandview are a perfect representation (representative sample) of the U.S. population

TYPES OF SAMPLES

➤ Probability (Representative)

- ❖ A sample that is selected in such a way as to be representative of the population

➤ Nonprobability (Non-Representative)

- ❖ A sample that is not selected in such a way as to be representative of the population

REPRESENTATIVE SAMPLES

➤ *Random*

- ❖ Sample in which each person in the population has an equal chance of being selected
- ❖ Example: A researcher would like to collect data from a random sample of K-12 teachers employed in traditional, public schools in GA
 - List of all K-12 teachers employed in traditional, public schools in the state of GA is obtained from the state DoE (sampling frame)
 - 100 teachers are randomly selected from the list

REPRESENTATIVE SAMPLES

➤ *Stratified*

- ❖ Sample that reflects the population based on specific researcher-selected criteria
- ❖ Example: A school counselor would like to know if it is sufficient to send English-only notices home with students
 - Researcher divides frame into two groups: English as home language, a non-English language as home language. 70% of students' parents report English is primary home language; 70% of sample selected from list of home English speakers.

REPRESENTATIVE SAMPLES

➤ *Census*

- ❖ Sample consisting of the entire population
- ❖ Example: A high school math teacher decides to use a new method of communication with parents to increase parent involvement. At the end of the year, the teacher would like to know if parents thought the new approach was effective.
 - The teacher attempts (and succeeds) to obtain parent responses from the parents of all students in her classes.

NON-REPRESENTATIVE SAMPLES

➤ *Convenience*

- ❖ Sample consisting of units within the population that require minimal effort to reach
- ❖ Example: A researcher would like to investigate the prevalence of suicidal tendencies among college students.
 - The researcher recruits students enrolled in introductory social science (e.g., psychology, sociology) courses.

NON-REPRESENTATIVE SAMPLES

➤ *Purposive*

- ❖ Sample selected based on some knowledge of the individuals & the purpose of the research
- ❖ Example: A researcher is investigating attitudes toward online classes among persons who have completed at least one online course.
 - The researcher identifies a group of currently enrolled in online courses, and recruits all individuals in that group who have completed at least one online course.

NON-REPRESENTATIVE SAMPLES

➤ Quota

- ❖ Sample in which potential respondents are divided into subgroups; data is collected from a minimum number of individuals in each subgroup
- ❖ Example: A district's SPED coordinator would like to know if parents are satisfied with services.
 - The researcher decides to interview the parents of 5 autistic children regardless of the prevalence of autism within the population of SPED students in the district.

BOTTOM LINE OF SAMPLING

- *Each method has its place*
- *Representative/probability is more generalizable*
- *Generalizability is not always a priority*
- *Sampling method should fit the study*