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Child Welfare League of America • National Center for Research and Data • Research to Practice (R2P) Initiative

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Keeping Child Safety, Permanency, and Well-Being at the Forefront

Using Sampling Strategies

This guide leads agencies through the sampling process and includes key terms, sample size, sample error, and sample types.

Example:

As part of an evaluation of the effectiveness of your agency's family resource center, you want to survey people who have participated at any time during the past three years in the center's voluntary support group for abusive parents. What might you need to know about sampling to do this evaluation?

Sampling Key Terms

Population: All possible cases (objects, people, groups, etc.) of the set that the researcher is studying. Members of a population share certain characteristics that are of interest to the researcher.

In the above example, the population is all parents who have participated in the family resource center's parent support group over the past three years.

Sample: A subset of a population. Samples are used when it is not possible or practical to study an entire population.

Sampling error: The degree to which a sample differs from the population. All samples have some degree of error; thus, whenever practical, it is best to study the entire population.

In your study of the parent support group, you might decide that to get a greater percentage of completed surveys, the questionnaires must be administered in person. Because this will be time consuming, it is not possible for you to survey the entire population. Thus you decide to select a sample of the population.

Sampling frame: The list of all possible cases to be included in the sample.

The list of all members of the parent support group over the past three years constitutes the sampling frame in this example.

Random sampling: Only randomly selected samples can be assumed to be representative of the larger population. The key to random sampling is that each case in the sampling frame has an equal probability of being included in the sample.

Two Basic Sample Types

1. Probability samples: These are randomly selected and allow the researcher to draw inferences about the population and generalize findings.

To select a probability sample of participants in the parent support group, you might do one of the following:

- *Number your participant list and then use a table of random numbers to select the names from the list.*
- *Write the names of all members of the population on individual pieces of paper, place them all in a container, and draw names. Using this method, it is necessary to replace the names after each drawing to give each participant the same probability of being selected.*
- *Use a computer program to select a random sample for you.*

The following website includes a table of random numbers on page 9 and instructions for its use on page 3:

http://www1.uwex.edu/ces/pubs/pdf/G3658_3.PDF

2. Nonprobability samples: These are used when probability sampling is impossible or unnecessary to accomplish the goals of the study. Researchers cannot use the results to make inferences about the population or generalize beyond the cases studied.

Perhaps you wish to conduct a study to better explain factors that contribute to the duration of parents' participation in the support group. You might decide to select a nonprobability sample of parents who remained in the group for much shorter or longer periods of time than the average participant. You could conduct interviews to determine whether there were any common themes in their experiences that might contribute to their duration of participation.

Both **probability** and **nonprobability** samples may be selected in different ways. The following websites provide more detailed information about sampling and points to consider in the sampling process:

<http://trochim.human.cornell.edu/tutorial/mugo/tutorial.htm>,

http://www1.uwex.edu/ces/pubs/pdf/G3658_3.PDF

Sample Size

Major considerations:

- Purpose and design of the research
- Resources (fiscal, personnel, time)
- Type of analysis to be conducted

Sample size is of importance when the purpose of the research is to generalize your findings beyond the study sample or to represent the larger population (i.e., in probability samples).

There are no set rules for sample size in nonprobability samples; they are often smaller because the goal of the research is to obtain more in-depth information rather than to make generalizations.

Visit this website on sample size:

<http://www.surveysystem.com/sscalc.htm>

Provides a sample size calculator.

Sample Error

Margin of error: The degree to which the findings in the sample might vary either positively or negatively from the actual values in the population. Error decreases as sample size increases.

In studying the parents' support group, you might decide to select a sample size that provides a 5% margin of error. This means that if 65% of the parents indicated they were very satisfied with their experience in the group, it is fairly certain this is true for 60% to 70% of the entire population

Confidence level: The probability that the actual value in the population lies within the margin of error.

Using the above example, a confidence level of 95% means that there is only a 5% chance that between 60% and 70% of the population were not very satisfied with their experience in the parent support group.

Most studies in the social sciences use a 5% margin of error and a confidence level of 95%.

References:

Marlow, C. (1993). *Research methods for generalist social work*. Pacific Grove, CA: Brooks/Cole.

Royse, D. (1995). *Research methods in social work* (2nd ed.). Chicago: Nelson Hall.



"To accelerate the rate at which communities and agencies prepare for and adopt the most effective known practices in support of a comprehensive system for ensuring healthy child, youth, and family development."



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