

Improving Literacy Brief

Understanding Screening

SAMPLE REPRESENTATIVENESS

Imagine you are a baker that has made a jar of 100 cookies, where 60% of the cookies are chocolate chip and 40% are sugar cookies. Let's say you'd like to sell batches of 10 cookies that are representative of the larger jar of cookies. So, ideally you would like your sample of cookies to include 6 chocolate chip cookies and 4 sugar cookies. With this proportion of cookies in your sample you know that you are accurately representing the larger jar of cookies.

The same principles apply when you are evaluating the quality of a screening assessment. If you are trying to determine whether or not the screening tool accurately measures children's skills, you want to ensure that the sample that is used to validate the tool is representative of your population of interest.

The first goal of evaluating sample representativeness is through a clear understanding of the population that is defined by the screening assessment. A population could be as large as a country, like the United States, or it could be as small as a district or school. The answer to the question of, "Is the sample representative?" lies in a complementary question of, "To whom should children's scores be compared?". If a sample's scores should be compared to a national benchmark, then the demographics of the sample should look like the demographics of the nation. If, instead, a sample's scores are to be compared to the population of a state, then the samples' demographics should look like the state and not the nation, a region or district.

Achieving sample representativeness can occur in a number of ways. In this brief, we quickly highlight two mechanisms that the National Center on Intensive Intervention (NCII) uses to assess sample representativeness. First, a sample can be representative by data collection occurring across multiple sites or be one nationally representative sample. Second, a group of samples can be considered representative if the statistical analyses between the samples result in approximately the same results.

SUGGESTED CITATION

Pentimonti, J., Petscher, Y., & Stanley, C. (2019). *Sample representativeness*. Washington, DC: U.S. Department of Education, Office of Elementary and Secondary Education, Office of Special Education Programs, National Center on Improving Literacy. Retrieved from improvingliteracy.org

SAMPLE REPRESENTATIVENESS

WHERE DO I GO FROM HERE?

- For more information about identifying high quality screening tools: <https://intensiveintervention.org/>
- For more information about screening processes: <https://improvingliteracy.org/whitepaper/screening-dyslexia>

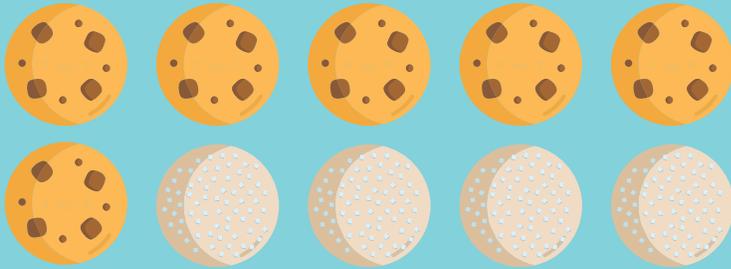
SAMPLE REPRESENTATIVENESS

WHAT IS SAMPLE REPRESENTATIVENESS?

Sample representativeness is an important aspect of high-quality instruments used to measure academic progress. It is ensuring that the sample used to validate the tool is representative of your population of interest.

For example, if a sample's scores are compared to a national benchmark, then the sample's demographics should look like that of the nation. If a sample's scores are compared to a state's population, then the sample's demographics should look like that of the state.

The same principles apply when you are evaluating the quality of a screening assessment.



A population could be as large as a country or as small as a district or school.

A sample is a smaller group drawn from the larger population.

Sample representativeness is like a jar of cookies.

A baker has a jar of 100 cookies, where 60% of them are chocolate chip and 40% are sugar. He wants to sell batches of 10 cookies that are representative of all the cookies in the jar. So, he creates batches with 6 chocolate chip and 4 sugar cookies. This proportion of cookies in his sample accurately represents all the cookies in the jar.

