

What is Parallel Forms Reliability?

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Parallel Forms Reliability is a statistical measure used to assess the consistency and reliability of a test or measurement tool. It involves administering two or more versions of the same test to a group of individuals and comparing the results to determine the degree of correlation between the versions. This method is commonly used in educational and psychological assessments to ensure that different versions of a test yield similar results and provide consistent and reliable information. It is considered a more robust measure of reliability than test-retest reliability, as it takes into account the potential influence of test-taking experience and practice. Parallel Forms Reliability is an important aspect of test development and is crucial in ensuring the validity and accuracy of test results.

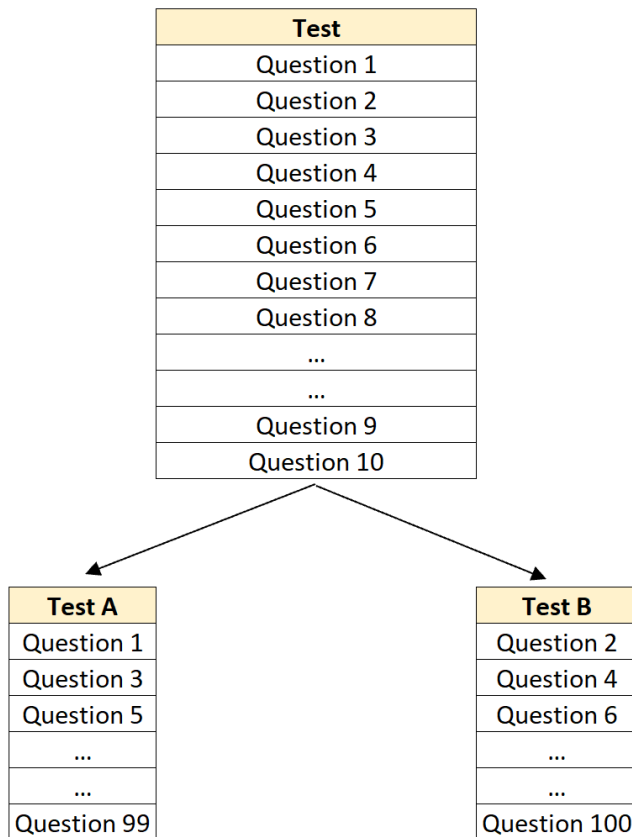
What is Parallel Forms Reliability? (Definition & Example)

In statistics, parallel forms reliability measures the correlation between two equivalent forms of a test.

The process for calculating parallel forms reliability is as follows:

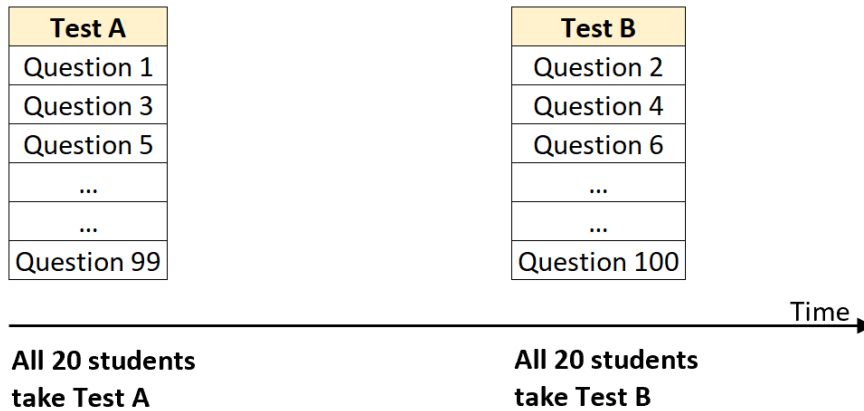
Step 1: Split a test in half.

For example, randomly split a 100-question test into Test A that contains 50 questions and Test B that also has 50 questions.



Step 2: Administer the first half to all students, then administer the second half to all students.

For example, administer Test A to all 20 students in a certain class and record their scores. Then, perhaps a month later, administer Test B to the same 20 students and record their scores on that test as well.



Step 3: Calculate the correlation between test scores for the two tests.

Calculate the correlation between the scores of the two tests. A test is said to have parallel forms reliability if the correlation between scores is high.

When to Use Parallel Forms Reliability

Parallel forms reliability is often used in academic settings when a professor doesn't want students to be able to have access to test questions in advance.

For example, if the professor gives out test A to all students at the beginning of the semester and then gives out the same test A at the end of the semester, the students may simply memorize the questions and answers from the first test.

However, by giving out a different test B at the end of the semester (that is hopefully equal in difficulty), the professor is able to assess the knowledge of the students while guaranteeing that the students have not seen the questions before.

Potential Drawbacks of Parallel Forms Reliability

There are two potential drawbacks of parallel forms reliability:

1. It requires a lot of questions.
2. There is no guarantee that the two halves are actually parallel.

When we randomly split a test into two halves, there is no guarantee that the two halves will actually be parallel or "equal" in difficulty. This means that the scores could differ between the two tests simply because one half turns out to be more difficult than the other.

Parallel Forms Reliability vs. Split-Half Reliability

Parallel forms reliability is similar to , but there's a slight difference:

Split-half reliability:

This involves splitting a test into two halves and administering each half to the same group of students. The order that the students take the test in isn't important.

The point of this method is to measure . Ideally we would like the correlation between the halves to be high because this indicates that all parts of the test are contributing equally to what is being measured.

Parallel forms reliability:

This involves splitting a test into two halves - call them "A" and "B" - and administering each half to the same group of students.

However, it's important that all students take test "A" first and then take test "B" so that knowing the answers to test "A" doesn't provide any benefit to students who later take test "B."