How SPSS is being used in parametric or non-parametric tests?

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The type of SPSS test being used can be classified as either parametric or non-parametric. A parametric test assumes that the data follows a specific distribution and makes certain assumptions about the population, such as the data being normally distributed. Non-parametric tests, on the other hand, do not make these assumptions and are often used when the data is not normally distributed or when the sample size is small. Therefore, to determine the type of SPSS test being used, it is important to consider the assumptions being made and the nature of the data being analyzed.

SPSS Parametric or Non-Parametric Test

In this section, we are going to learn about parametric and non-parametric tests. If we use SPSS most of the time, we will face this problem whether to use a parametric test or non-parametric test.

The first person to talk about the parametric or non-parametric test was Jacob Wolfowitz in 1942. He tried to draw a distinction between those tests, which make assumptions about the nature of a variable in their population. If we already know about the population and we develop a test basis on those assumptions and apply a test, in that case, our result is more generalizable.

Suppose we are studying an age variable. Suppose we want to find out some conclusions about the age. We are already aware of how the age is distributed in the population or entire population or the Indian population or American population. In that case, whatever test we

are going to use will give us a more generalizable result.

While other cases, when we are not aware of the features of variables that we are studying, especially in the population, then we will not create a situation where the result would be generalizable. So that was the beauty of the parametric test. That's why our researcher, supervisor, or general editor often nudges us to use parametric tests more often as compared to non-parametric tests.

The results of parametric tests are more generalizable as compare to non-parametric tests. In the Parametric test, we are sure about the distribution or nature of variables in the population. So if we understand this, we can draw a certain distinction between parametric and non-parametric tests.

Difference between Parametric and Non-Parametric Test

The following differences are not an exhaustive list of distinction between parametric and non- parametric tests, but these are the most common distinction that one should keep in mind while choosing a suitable test.

S.NO.	Parametric Test	Non-Parametric Test
1	Normality of Distribution	Non-normal Distribution

2	Homogeneity of Variance	Non-homogeneity of variance
3	Independence of Observations	Dependence of observations
4	Randomness	Non-random
5	Interval scale measurement	Non-Internal Scale Measurement

1. Normality of distribution shows that they are normally distributed in the population.

Non-normal distribution specifies that we are not aware of the distribution of the population.

2. Homogeneity of variance specifies that different groups which we are using must have the same variance.

A12 = A22 = ...= An2

Non-homogeneity of variance specifies that the parametric condition might be violated in a non-parametric test.

A12 ? A22 ? .....= An2

3. Independence of Observations specifies that observation of one candidate or subject in no way affect the observation of other candidate or subject.

Dependence of observations specifies that observation of one candidate or subject affects the observation of other candidates or subjects.

4. Randomness specifies that the sample must be randomly drawn from the population.

Non-random specifies that we are not randomly drawn to our sample, and all the subjects which are part of our study will not be randomly selected.

5. Interval scale measurement specifies that our data will be measured in an interval scale, and the quantity of measurement between two intervals of a scale remains constant throughout the scale.

Non-Interval scale measurement specifies that the parametric condition might be violated in a non-parametric test.