FACTORS AFFECTING THE CHOICE OF STATISTICAL TEST, INCLUDING LEVELS OF MEASUREMENT

There are dozens of statistical test that psychologists use to analyse data. However, you can't just choose a test a random and apply it to your data. This is because each test can only be appropriately used in certain circumstances.

Some of these tests are used to see if there is a **difference** between two conditions, whereas others are used to see if there is a **correlation** between two variables.

Some of the tests for a **difference** can only be used with an **independent groups design**, whereas others can only be used with a **repeated measures** or a **matched groups design**.

The tests for a **difference** also depend on the kind of data that has been collected. The type of data is also called the **level of measurement**.

There are **four** levels of measurement:

Nominal level: You have devised some categories and then counted the number of people who fall into each category.

Ordinal level: People have obtained some kind of score or rating, but we can't be sure that the difference between a score or rating of 1 and 2 is the same as the difference between a score or rating of 9 and 10.

Interval level: People have obtained some kind of score or rating, and we **can** be sure that the difference between a score or rating of 1 and 2 is the same as the difference between a score or rating of 9 and 10. **However,** if a participant scores 0, it isn't legitimate to say s/he has **no** memory, intelligence, creativity, or whatever.

Ratio level: People have obtained some kind of score or rating, and we **can** be sure that the difference between a score or rating of 1 and 2 is the same as the difference between a score or rating of 9 and 10, **plus** it is legitimate to say that if a participants scores 0 s/he has none of whatever is being measured.

The subtleties of these different levels of measurement can be difficult to grasp. Therefore, for our purposes, we will simply distinguish between data in the form of **categories** and data in the form of **scores**.