PSYCHOLOGY Internal Assessment (IA) Level of Data

**III Analysis (6marks) Level of Data**

**Descriptive** statistics: you will apply descriptive statistics to analyse data your study generates (mean, median OR mode & range OR standard deviation). You will calculate one measure of central tendency and one measure of dispersion.

**Inferential statistics:** You will run your findings through a test of significance to see if your results are significant or not. With this result, you will either retain your null hypothesis OR accept your experimental hypothesis. We will look at the concept of significance in class together, and run our tests together.

First, you will need to understand the **level of data** you generate (nominal, ordinal, interval, ratio). The type of statistics you apply also depend on the level of data you collect AND the research design you use (independent measures or repeated measures design). Not all data is created equal in terms of the power it holds. What level of data are you working with? Please read the following together and decide on your **level of data.**

**Levels of Data**

**Nominal:** categorically separate data such as name of your school, type of car you drive or name of a book, or the colour of your hair. This one is easy to remember because **nominal sounds like ‘name’, or a label.** It is likely you will not generate nominal data in your IA.

**Ordinal:** refers to quantities that have a natural ordering. For example, the order of people's place in a line (1st 2nd, 3rd and so on), the order of runners finishing a race (1st, 2nd, 3rd and so on) or the choice on a rating scale from 1 to 5. Remember that on a 5 point scale, the difference between a 2 and a 3 is not necessarily the same difference as the difference between a 4 and a 5. Consider if you have 5 muffins in a muffin competition. The muffin in first place is not necessarily the same weight as the muffin in 2nd place, and so on. This is also an easy one to remember, **ordinal sounds like order**. It is more likely that you will generate ordinal data in your IA.

**Interval data**: this level is like ordinal data except we can say the intervals between each value are equally split, unlike ordinal data. The most common example is temperature in degrees Centigrade. The difference between 10 and 11 degrees is the same as the difference between 25 and 26 degrees, and it is possible to have -25 degrees as well! When we count we are using interval data. There is a chance you will calculate internal data.

**Ratio** data is interval data but with a natural zero point. A good example is time, weight or height. It makes no sense to say that something took -8 minutes or that you weigh -5kgs.

It is very important that your experiment generates data to which you can apply one measure of central tendency and one measure of dispersion. It is strongly recommended that you replicate an experiment that produces ordinal or interval data. This will allow you to conduct the necessary statistical tests. Cognitive memory testing experiments comparing the number of items remembered by two groups under different conditions are ideal, as they generate two lists of ordinal data between which you must measure the difference between the two groups.

The level of data we are collecting is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.