**Don’t be a research methods fool!**

Levels of measurement (i.e. what type of data have I got?)

**Why is this so important?** If you get the level of measurement wrong you’ll pick the wrong stats test and that could lose you 4 marks (half a grade!). It’s simple, just follow this guide and don’t panic.

You know the textbook definitions of nominal, ordinal and interval but that doesn’t mean you can pick them out in an exam. SIMPLY ASK YOUSELF THESE TWO QUESTIONS!!

**Question 1-Does each participant have their own individual score?**

**NO?- it’s nominal**

**YES?- It’s ordinal or interval**

***Want to double check you’ve got this right? What does the data look like?***

 Look, they don’t have their own scores as are simply put into two categories “stopped”, “didn’t stop” so nominal

Table to show who stopped or

didn’t stop to help someone who had

dropped books.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Males** | **Females** |  |
|  **stop** | **5** | **6** | **11** |
| **Didn’t stop** | **10** | **9** | **19** |
|  | **15** | **15** | **30** |

 **Scores on a memory test (out of 30)**

|  |  |
| --- | --- |
| **Males**Look, they have their own scores for example the first male got 3 and the first female got 4. Just because they are shown as males or females so look like categories doesn’t mean it’s nominal!!  | **Females** |
| **3****2****6****20****21****30****1** | **4****6****11****20****21****30****1** |

**Question 2- So we know they have their own score then.**

**Are the scores in units that have standardised measurements? i.e. things like time, length, weight, temperature that we all use?**

**No?- Then the data is ordinal**

**Yes?- Then the data is interval**

***Want to double check you’ve got this right?***

Is the score a unit made up by a researcher? Scores on a memory test, attitudes on a scale from 1-10 or is it in an order e.g. 1st, 2nd, 3rd? Then it’s definitely **ORDINAL**

Is the score an carefully and objective measurement we all tend to use? Seconds, kilograms, millimetres, heart rate, Celsius, Fahrenheit? Then it is definitely **INTERVAL**

**So every time what two questions to do you ask?**

**Question 1-**

**Question 2-**

**Now try a few examples**  Scores on a memory test (out of 30)

|  |  |
| --- | --- |
| **Males** | **Females** |
| **3****2****6****20****21****30****1** | **4****6****11****20****21****30****1** |

1. **Type of data?**

**How do you know?**

|  |  |
| --- | --- |
| **Males** | **Females** |
| **3****2****6****20****21****30****1** | **4****6****11****20****21****30****1** |

1. **Type of data?**

**How do you know?**

|  |  |
| --- | --- |
| **Males** | **Females** |
| **33****23****16****91****11****22** | **37****77****63****44****23****12** |

Time take to complete memory test (in seconds)

1. A researcher is investigating if the type of attachment of a child has an impact on cognitive skills. He has previously determined if children are securely or insecurely attached and will see if they can solve a jigsaw puzzle or not.

**Type of data*?*** *If the actual data table isn’t shown then imagine/sketch what the data table would look like to help you work out if it is nominal, ordinal etc.*

1. Look the forensics section of your mock exam. This was a question

“The psychologist obtained the following results:

• For two of the prisoners the number of aggressive acts increased

• For eight of the prisoners the number of aggressive acts decreased

• For two of the prisoners the number of aggressive acts stayed the same”

**Type of data? How do you know?**

1. Look at your gender section. This was a question-you got this wrong, can you see why?

In a study of parasocial relationships a researcher studied male and female attachments to their favourite film star. An overall attachment score was calculated on the basis of answers to a questionnaire. A high score indicated a strong attachment and a low score indicated little attachment.

The scores are shown in **Table 1** below.

|  |  |
| --- | --- |
| **Males**  |  **Females**  |
|  4  |  5  |
|  6  |  6  |
|  2  |  6  |
|  2  |  7  |
|  3  |  2  |
|  3  |  4  |
|  3  |  5  |
|  8  |  9  |
|  1  |  5  |
|  1  |  2  |
|  Median score 3  |  Median score 5  |

**Type of data? How do you know?**

**The sign test**

Now watch the sign test clip or look at the power point for how to do the sign test on psych205.

All the research methods clips are on youtube!! Search for “angie F” for the channel (it’s the one of me kissing baby) all the clips are there!

Make notes on exactly how you work out it out below using the questions to help you and o and then work out the value of S for question 4 that was in your mock!!!!

**What type of data must you have for the sign test?**

**Does it have to be independent or related data?**

**In order to work out your observed value of S what do you have to do?**

**Why doesn’t it matter which way around you subtract your two figures?**

**How do you work out your value of N?**

**How do you work out a critical value?**

**4.** What is the value of s? Why? What would be the value of N? Why?

“The psychologist obtained the following results:

• For two of the prisoners the number of aggressive acts increased

• For eight of the prisoners the number of aggressive acts decreased

• For two of the prisoners the number of aggressive acts stayed the same”