**Don’t be a research methods fool!**

**Read the scenarios carefully don’t make these silly mistakes**

**Don’t be a correlational fool!**

-The word **relationship** in an exam question is shouting out to you that the research is a correlation.

-If you are asked to write a hypothesis for a correlational study then it is **DIFFERENT** to a normal hypothesis

Two tailed-There will be a correlation/relationship between…….

One tailed- There will be a positive/negative correlation between …….

**Example**- Two psychologists investigated the **relationship** between age and recall of medical advice. **Previous research** had shown that recall of medical advice tended to be poorer in older patients. The study was conducted at a doctor’s surgery and involved a sample of 30 patients aged between 18 and 78 years. They all saw the same doctor, who made

1. The psychologists decided to propose a directional hypothesis. Why was a directional

hypothesis appropriate in this case? *(1 mark)*

**2.** Write a suitable directional hypothesis for this investigation. *(3 marks)*

**Don’t be a hypothesis fool!**

-Remember correlational hypothesis are different to normal hypothesis

**-**Remember you can only have a directional hypothesis if **PREVIOUS** researchhas shown this. See example above.

Non-directional hypothesis always starts- There will be a difference….

Directional- You must include both bits of the IV, the DV and direction e.g. Participants who eat **two bananas** for breakfast will score **higher** on a **memory test out of 30** than participants who **eat nothing for breakfast**

IV DV Direction

**Don’t be an observation fool!**

* Ensuring **reliability**= inter-observer reliability, more than one observer, compare data, correlate and if above 0.8 then you have reliability. Also train observers, operationalise categories carefully

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | kicks | pushes | pokes | Verbal aggression |
| Child 1 |  |  |  |  |
| Child 2 |  |  |  |  |

* Designing an observation- remember you need an observation schedule, with behavioural categories carefully operationalised
* Operationalising is important for behavioural categories, if asked a question on this then it simply is EXACTLY how would you measures something
* Remember sampling is different for observations-Event and time sampling

**Don’t be a content analysis fool!**

* Content analysis is similar to how you run an observation but not exactly the same so watch the language you use.
* Can be quantitative or qualitative
* Remember these 3 things- SAMPLE (what will you be using?), Code the data, Analyse results i.e quantatively or qualitatively.

Example- One area of interest for the psychologist was the effect of the dietary restriction on the perception of food. He tested this by asking the volunteers to draw pictures of food at the end of each week. When all the drawings had been completed, the psychologist used content analysis to analyse them.

**Sample**-The drawings is already sorted for you here.

**Code the data**-so what categories would you look for-you MUST link to the scenario

Such categories/themes might include: the type of food depicted eg

carbohydrate, protein; the state of the food eg cooked, raw etc; the portion size; the

brightness of the colours used.

**Analyse-** Quantitative- put in a content analysis table and He would have counted examples from each category to provide quantitative data. He could then compare the drawings according to these categories to see if there were changes over the 4 week period.

Qualitative-Pull out passages from the diaries to demonstrate examples of the themes or codes you have decided on.

-So what is **thematic analysis** then?! This is just a way in which you decide on how you will code your data remember –imerse, breaks into units, code, create larger categories, check using new data.

**Don’t be a DATA fool!**

**REFER to the actual data in the data table if asked to- use the numbers!**

**Don’t be too general, comment on differences/similarities rather than saying for example “the mean is bigger”**

For instance using the data below you can say the mean for the simultaneous line up if **almost double** that of the sequential line up not just that it is higher.

Look carefully at the data and **THINK!** The foolish answer is to say the standard deviation for the example below is bigger for the simultaneous line up and so bigger spread of scores etc but **Think!** It is virtually the same as for the sequential line up and so you would only get marks for saying this not for saying one is bigger!

|  |  |  |
| --- | --- | --- |
|  | Simultaneous line-up | Sequential line-up |
| Mean time for identification | 12 mind 15 secs | 6 mins 32 secs |
| Standard deviation | 3.5 | 3.2 |

**Don’t be statistics fool!**

Statistics questions are quick and easy marks (if you prepare and practice).

If you don’t learn the statistics table off by heart you really are a research methods fool!

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Difference** | | **Correlation** |
|  | **Related data (Repeated measures, matched pairs)** | **Independent data (independent groups design)** | **Related data** |
| **Nominal** | ***Sign test*** | Chi squared | Chi-squared |
| **Ordinal** | ***Wilcoxon*** | ***Mann-Whitney*** | Spearman’s rho |
| **Interval** | related t-test | Unrelated t-test | Pearson’s r |

**Scoffing Cheesy Chips Will Make Someone Rather Understandably Porky**

**Don’t be a data/levels of measurement fool!**

Most people get unstuck on deciding on the type of data (nominal, ordinal, interval)

**Remember the rules and double check!**

**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**

This is a table showing the mean and standard deviation it **does not** mean the data is nominal, in fact if they are using the mean it is NOT nominal!

**Look and think though**

|  |  |  |
| --- | --- | --- |
|  | Simultaneous line-up | Sequential line-up |
| Mean time for identification | 12 mind 15 secs | 6 mins 32 secs |
| Standard deviation | 3.5 | 3.2 |

This is a 4x4 contingency table and **DOES** show that the data is nominal as shows that for e.g. 5 males stopped and 6 females stopped.

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** |