

PSYCHOLOGY AQA

Psychology

Self-Report and Correlation Practical Workbook

Name



Psychology at Budmouth Academy

Exemplar: (Questionnaire)

Correlation between time spent with pet and stress?

Psychological research has suggested that owning a pet helps to reduce stress levels. You're asked to design a practical project to investigate whether this is true. Your project must use self-report methods and will use a questionnaire to collect data. Your questionnaire should include closed and open questions as well as a rating scale to measure stress levels. You'll need to design a questionnaire and to think about how you'll define 'pet ownership' (see example below).



Please help us with our research into pet ownership

Are you Male/Female?

1. Do you have a pet? YES/NO
2. How much time each day do you spend interacting with your pet?Hours.....Minutes
3. Is your pet a dog or a cat? DOG/CAT
4. Why do you have a pet?

Please estimate

1. How stressed you feel on a 'normal' day

0 1 2 3 4 5 6 7 8 9 10
Not stressed Stressed

2. Are there any benefits of looking after your pet, please describe.

Your Practical

Is there a relationship between how many hours we sleep at night and how frequently we dream?

You are asked to design a practical project to investigate whether people who sleep longer at night have more dreams each night (is there a relationship between hours of sleep and number of dreams). Your project must be a correlation and you must plan to use self-report methods to collect two scores from each participant.

You will need to create a simple questionnaire asking people to self-report how many hours they sleep each night and how many dreams they have each night. You also need to collect other information about sleep and dreaming and your questionnaire should include closed and open questions.

Task 1: Writing research aims and questions

Write a research aim and question for your practical project. State whether the research question is descriptive, relational or causal.

Watch: <https://www.youtube.com/watch?v=t89RWv-1mks>

Textbook: page 166

Practical Exemplar: pet ownership and stress	Aim: To investigate if there is a correlation between time spent interacting with pets and stress levels.
	Question: Does owning a pet affect how people experience stress? (causal)

Your Practical	Aim:
	Question:

Task 2: Writing hypotheses (pages 166-167 GHG textbook)**Watch:** https://www.youtube.com/watch?v=W_LJkZWMCgU & <https://www.youtube.com/watch?v=zbUogwa1Z5I>

Write variable 1 and variable 2 for your practical, then operationalise them. Then go on to write both a null and alternative hypothesis.

Practical Exemplar	Variable 1: Amount of time spent with pet (Minutes per day)	Variable 2: Self-reported stress level on 10 point scale where 1 = not stressed and 10 = extremely stressed
	Null Hypothesis: There will be no significant negative correlation between the amount of time spent with pet (Minutes per day) and Self-reported stress level on 10 point scale where 1 = not stressed and 10 = extremely stressed.	
	Alternative Hypothesis: There will be a significant negative correlation between the amount of time spent with pet (Minutes per day) and Self-reported stress level on 10 point scale where 1 = not stressed and 10 = extremely stressed.	
Your Practical	Variable 1:	Variable 2:
	Null Hypothesis:	
	Alternative Hypothesis:	

Task 3: Self-report type**Watch:** <https://www.youtube.com/watch?v=y0SBv8rvhiE&t=62s> (Questionnaires) and <https://www.youtube.com/watch?v=3eHx5-Sx-cs> (Interviews)**Textbook:** pages 184-185

You've a decision to make for your practical project. You need to decide if it will be a questionnaire or a structured, semi-structured or unstructured interview. Justify your decision by thinking about the strengths and weaknesses of each in relation to the practical projects.

Practical Exemplar: pet ownership and stress	
Decision: Questionnaire	Justification: <i>Easy to send or email to participants so time and cost-efficient compared to interviewing and also with the current lockdown restrictions it would be difficult to conduct a face-to-face interview. Respondent may be more truthful on paper/online than face-to-face in an interview, especially if the questions are personal. Can get a mixture of relatively easy to analyse quantitative data from closed questions as well as qualitative data from open questions</i>

Your Practical	
Decision:	Justification:

Task 4: Selecting a sample (participants)

Watch: <https://www.youtube.com/watch?v=rybC0hpJq1I>

Textbook pages: 174-175

Decide who your population is going to be for your practical. Choose a sampling technique and say exactly how you are going to put that technique into practice. You will need to state who, how, when and where you're going to obtain your sample. Remember, it **MUST** be replicable (that is, someone else could come along and do it). Then write a strength and weakness of your sampling method and relate to the practical. (Think: PEC.)

Practical Exemplar: pet ownership and stress	
Population: <i>Adults in the UK</i>	Sampling method: <i>Opportunity Sample</i>
In practice: <i>The sample will be gathered by emailing family and friends and asking them to complete the questionnaire. If they agree they will be emailed the questionnaire and asked to return it within a specified period.</i>	
Strength: <i>The participants are readily available. This can be seen as participants are individuals whose email address is easy to access by the researcher. This means that it is quicker and easier than other methods.</i>	Weakness: <i>Non-representative as the kinds of people available are likely to be limited, and therefore similar. This can be seen as all the participants are people who are already known to the researcher and who are likely to have a number of characteristics in common. This means that the sample is biased.</i>

Your Practical:	
Population:	Sampling method:
In practice:	
Strength:	Weakness:

Task 5: Write your questionnaire/interview questions

Watch: <https://www.youtube.com/watch?v=CVVknndyc6vs>

Textbook: Pages 186-187 and 190-191 **Yr2 Textbook** page 71

You have already considered the **type** of self-report you are going to conduct. Now is the time to write the questions. Include different types of questions (open and closed) and think about how you are going to analyse the answers. You can include fixed choice, semantic differential rating scales, Likert scales and open questions (you must include one open question as I would like you to conduct a content analysis). Justify your decisions by thinking about the strengths and weaknesses of each type of question. Think about the number of questions you want to ask, the type of data you'll gain (qualitative or quantitative) and justify each question.

Task 6: Ethics**Watch:** <https://www.youtube.com/watch?v=ogJqt54UbFw>**Textbook:** Pages 176-177

For each of the following issues state how you'll ensure that your practical is ethical. Then create a participant information sheet and an informed consent form for your practical. Each participant will need to complete these.

Practical Exemplar: pet ownership and stress	
Issue	Possible solutions
Consent	Give a full brief to participants so they can give informed consent. Offer the right to withdraw. There will also be a full debrief at the end where participants are reminded of their right to withdraw their results and are offered support should they require it.
Deception	There's no deception, participants are aware of what the study is investigating.
Withdrawal	Tell participants at the start of the study that they've the right to leave and to withdraw their results. Remind them later in the study and also in the debrief.
Confidentiality	Participants' names won't be recorded, letters or numbers will be used instead.
Protection	The procedure is safe for participants. Participants will have the right to withdraw at any time if they feel they are being or may be harmed. Debrief will be given after the research to check the wellbeing of participants and are offered support should they require it.

Your Practical:	
Issue	Possible solutions
Consent	
Deception	
Withdrawal	
Confidentiality	
Protection	

Task 7: Consider your practical and suggest how reliable and valid it is. What will you do to improve the reliability and validity of your practical or to measure how reliable or valid it is? Justify your answer.

Watch: <https://www.youtube.com/watch?v=wVLI1fxuoO4> & <https://www.youtube.com/watch?v=0SW14C5I-WA>**Yr2 Textbook:** Pages 66-69

Reliability	How reliable is each practical?
Internal reliability	<p>Practical Exemplar: pet ownership and stress</p> <p><i>This describes the internal consistency of a measure (i.e. consistency within itself), such as whether the different questions (known as 'items') in a questionnaire are all measuring the same thing.</i></p> <p><i>One way to assess this is by using the split-half method, where data collected is split randomly in half and compared, to see if results taken from each part of the measure are similar. It therefore follows that reliability can be improved if items that produce similar results are used. Thus the questionnaire will be designed with two questions asking for essentially the same information and results compared.</i></p>

	Your Practical:
External reliability	<p>Practical Exemplar: pet ownership and stress</p> <p><i>This assesses consistency when different measures of the same thing are compared, i.e. does one measure match up against other measures? Discrepancies will consequently lower inter-observer reliability, e.g. results could change if one researcher conducts an interview differently to another. Such reliability issues can be improved by standardising procedures (i.e. making sure that procedures are carried out the same way each time), for instance by implementing interviewer training, and/or practice through pilot studies.</i></p>
	Your Practical:
Validity	How valid is each practical?
Internal validity (face, content, criterion)	<p>Practical Exemplar: pet ownership and stress</p> <p><i>Face validity is a measure of whether it looks subjectively promising that a tool measures what it's supposed to. The questionnaire has questions clearly relating to pet ownership and to stress so has good face validity.</i></p> <p><i>Construct validity – asks whether a measure successfully measures the concept it is supposed to (e.g. does a questionnaire measure stress and pet ownership or something related but crucially different?). It has fair construct validity as it has a self-assessment of stress, but people may interpret the levels differently.</i></p>
	Your Practical:

External validity (population, temporal, ecological)	<p>Practical Exemplar: pet ownership and stress</p> <p><i>The population validity is poor as the sample is opportunity and restricted to people known to the researcher who have access to email.</i></p> <p><i>Temporal validity – this is high when research findings successfully apply across time (certain variables in the past may no longer be relevant now or in the future). The temporal validity is good as people have been having domestic pets for a very long time.</i></p> <p><i>Ecological validity (task / setting / sample) – whether data is generalisable to the real world, based on the conditions research is conducted under and procedures involved. As it is a questionnaire asking about people’s real life experiences of pet ownership[p and stress the ecological validity can be considered to be good.</i></p> <hr/> <p>Your Practical:</p>
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STOP AND CHECK

Before you go ‘live’ and conduct your practical we must see all of your resources and plans before you start to collect data.

1. Participant information and consent forms
2. Standardised instructions for participants (including debrief)
3. Resources being used e.g. questionnaire
4. This planning booklet completed up to and including Task 7.
5. Anything else you are planning to use.

Task 8: Conducting your practical

Watch: <https://www.youtube.com/watch?v=4vOPS5cG9wo>

Textbook: Pages 178-179

You’re now at the stage where you can conduct your own practical. Gather your materials (keep a list and examples of the apparatus you use). Write your standardized procedure (think about timings) including standardized instructions. Find a room where you can conduct your self-report, gather your sample and collect your data using the raw data table you generated. Conduct a pilot study, for **self-reports** it’s important to check:

- that the participants understand the questions and are prepared to answer them,
- that closed questions offer suitable options,
- whether open questions are also needed to elicit unpredictable responses,
- that response biases are limited, e.g., through the use of filler questions and reversal of positive and negative ‘ends’ of Likert scales and semantic differentials,
- whether the reporting method is appropriate, e.g., if a face-to-face interview is too intimidating should it be changed to a questionnaire?

Remember the controls you need to put in place and don’t break any ethical guidelines. Good luck – you’re continuing your journey as a psychological researcher!

Task 9A: Descriptive statistics

Watch: <https://www.youtube.com/watch?v=bG1i2Z9C61U>

Textbook: Pages 192-193

Create a table to present your findings. You'll probably need to analyse each question independently. The type of descriptive statistics you use will depend on the type of question. You will need to focus as well on your critical questions for the correlation.

Practical:

Task 9B: Descriptive statistics – graphs

Watch: <https://www.youtube.com/watch?v=5FikS-bFKis&t=61s>

Textbook: Pages 194-195

Create graph(s) to present your data. For the correlation it should be a scattergraph. Check the labelling, there should be a title and each axis should be clearly labelled.

Practical:

Task 9C: Content Analysis

Watch: <https://www.youtube.com/watch?v=JJJFkJrsh4>

Yr2 Textbook: Pages 64-65

Conduct a content analysis of at least one of your open questions.

Practical:

Task 9d: Inferential statistics

Watch: <https://www.youtube.com/watch?v=0NPu11cw298>


Textbook: Year One Pages 198-199 and Year Two Pages 70-79

The next task is to choose an appropriate inferential statistical test. There are two tests of association to choose between – Spearman's Rho and Pearson's r . (if the level of data is ordinal we use Chi square)

Spearman's Rho is an inferential test that is mainly used on ordinal data. It can only be used when looking for a correlation so cannot be used as a test of difference. For data to be statistically significant at the $p \leq 0.05$ level when using Spearman's rho, the calculated value must be equal to or higher than the critical value. When comparing the two values, the calculated value may be a negative number. If it is, simply ignore the - as it is there to signify that the correlation was negative, and has no bearing on the value.

Pearson's r is another inferential statistical test that is used when conducting a test of correlation. However, this test focuses on data that is interval in nature. As persons are is a parametric test, it is important to make sure that the data is being used on is appropriate and meets the requirements for using a parametric test. The calculated value must be equal to or higher than the critical value to show significance.



	Test of Difference		Test of Association
	Related Design	Unrelated Design	
Nominal Data	Sign test SIMON	Chi-squared COWELL	
Ordinal Data	Wilcoxon WANTS	Mann-Whitney MORE	Spearman's rho SINGERS
Interval Data	Related t-test (Parametric) RECEIVING	Unrelated t-test (Parametric) UNANIMOUS	Pearson's r (Parametric) PRAISE

After conducting a statistical test a number will be generated which is called the **calculated value**. It is this number that will help determine whether the results are significant, which will in turn help decide whether to reject the null hypothesis and accept the experimental/alternative hypothesis. To do this, the calculated value needs to be compared with the **critical value** in the statistical tables.

The critical value varies with the statistical test used, as each has its own specific table of critical values. To know which critical value is needed, several factors need to be considered in making the decision.

- Firstly, it needs to be decided whether the investigation used a one-tailed (directional) hypothesis or a two-tailed (non-directional hypothesis).
- Secondly the number of participants in the sample is also taken into consideration (N).
- The final factor to ascertain is the level of significance, or the p-value (probability).

This refers to how much confidence there is in the findings. A researcher can never be 100% confident in their results and so the p-value reflects this. Typically, within psychology, a p-value of 0.05 is used which suggests that there is a 5% likelihood that the findings are caused by chance with a 95% confidence level that the results were caused by the variable interaction. If $p \leq 0.05$ we would reject the null hypothesis and accept the alternative hypothesis. If $p > 0.05$ then we would accept the null hypothesis and reject the alternative hypothesis.

Test of Correlation: calculating Spearman's Rho

Spearman's rho (also known as Spearman's Rank) is used to determine whether the correlation between two co-variables is significant or not. For example, Rahe *et al.* (1970) investigated the relationship between stressful life events and illness by studying a large group of men in the US Navy and seeing if there was an association between the number of stressful life events they experienced over a six-month period and the number of illnesses they experienced. Rahe found a correlation of +.118 between the number of times a participant was ill and their stress score as measured by the SRRS (social readjustment rating scale). A figure of zero would be no correlation, whereas a figure of +1.0 would be a perfect positive correlation. A correlation of +.118 may sound like a rather insignificant correlation but in fact it is significant. The observed value of +.118 was calculated using an inferential statistical test such as Spearman's *rho*. This observed value is then compared to the critical value found in a table of critical values to see whether the observed value is significant. In this study the number of participants was over 2700 and therefore .118 was significant. (As the number of participants increases, the value needed for significance decreases.) Incidentally if the observed value had been -.118 this would still be significant – a significant *negative* correlation.

Rationale

Spearman's rho can be used on related pairs of scores at ordinal level or above. It describes the relationship between two variables. The formula for the Spearman's rank order test is:

$$rho = 1 - \frac{6 \sum d^2}{N(N^2 - 1)}$$

Where d is the difference between pairs of ranks and N is the number of pairs of ranks.

Hypothetical Study

A group of students are given a standard IQ test and on a measure of cognitive style (cognitive style relates to the ways in which people learn new information. The higher the cognitive style score the more fixed in one way of learning an individual is). It is hypothesized that there will be a correlation between the two sets of scores. This will be a two-tailed (non-directional) hypothesis because there is no prediction as to whether the relationship will be positive or negative.

Data for Spearman's rank order test of correlation: scores from an IQ test and a measure of cognitive style (CS)

1	2	3	4	5	6	7
Student	IQ	CS	IQ rank	CS rank	Difference	d^2
1	100	96				
2	110	75				
3	95	93				
4	105	90				
5	120	85				
6	125	80				
7	118	84				
8	130	78				
9	115	86				
10	123	89				
					$\sum d^2 =$	

Procedure for the Spearman's rank order test of correlation	Calculations
1. Rank the scores on variable X (IQ scores) taking the lowest as 1.	
2. Rank the scores on variable Y (cognitive style) as before.	
3. Subtract rank Y from rank X for each student. There is no need to indicate whether the difference is positive or negative.	
4. Square each difference.	
5. Add up the squared differences ($\sum d^2$)	
6. Insert $\sum d^2$ into the following formula: $rho = 1 - \frac{6 \sum d^2}{N(N^2 - 1)}$ <p>Where N = number of pairs of scores (ranks) d is the difference between pairs of ranks.</p>	
7. Consult the table of critical values for Spearman's rank order test.	
8. Find the relevant line relative to the value of N	
9. Find the lowest critical value which rho equals or exceeds. Take no account of signs.	

10. Make a statement of significance and decide whether or not to reject the null hypothesis.

Practical:

Level of data:

Parametric or nonparametric:

Inferential statistical test:

Calculation:

1	2	3	4	5	6	7
Participant			X Rank	Y Rank	Difference	d ²
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
					$\Sigma d^2 =$	

Level of Significance:

One-tailed or Two tailed:

Critical value =

Accept or reject null hypothesis:

Task 10: Writing up your practical

Watch: https://www.youtube.com/watch?v=SAVoYAh_9MU & <https://www.youtube.com/watch?v=R8psfvhmY2Y>

Yr2 Textbook: Page 81 / practical workbook experiments

For even more information check out this web site from the University of Essex:

<https://www1.essex.ac.uk/psychology/documents/current/lab-reports.pdf>

Why are we conducting a practical? Firstly, because often the best way to properly learn something is by doing. So, by thinking about all these elements it helps us to gain a genuine understanding of the material and secondly because of the 'design a study' question that may be in the examination.

Watch: <https://www.youtube.com/watch?v=Jm3IDF89q8E>

Deadline:

Exam Focus: Design a Study

Watch: <https://www.youtube.com/watch?v=Jm3IDF89q8E>

AO2: Apply knowledge and understanding of scientific ideas, processes, techniques, and procedures

- in a practical context
- when handling qualitative data
- when handling quantitative data.

AO3: Analyse, interpret and evaluate scientific information, ideas and evidence, including in relation to issues, to develop and refine practical design and procedures.

The marks for these questions are **AO2=6** and **AO3=6**

Suggestions should be well detailed and practical, showing sound understanding of experimental techniques. Justifications must be appropriate. The answer must be clear and coherent. Specialist terminology should be used effectively. All elements of the question must be addressed. In real terms this means:

- The study should be ethical and practically feasible
- Each decision should be reported in enough detail for a competent researcher to carry it out
- Decisions should be justified in the light of the research aim and likely constraints

1. Design a study to investigate whether there is a correlation between cake consumption and levels of happiness in students.
You must refer to:
 - Your target population, sample and sampling technique
 - How you would operationalise the co-variables
 - The control of at least one extraneous variable
 - How you would present the data in a graph **[12 marks]**
2. Explain how you would carry out a self-report study using a questionnaire to investigate the effectiveness of memory improvement techniques used by students while revising. You must refer to/provide details of:
 - Your target population, sample and sampling technique
 - Open and closed questions
 - How you would assess the reliability of the questionnaire
 - The use of a pilot study **[12 marks]**
3. Design an observational study to investigate how people spend their time at the gym.
In your answer you will be awarded credit for providing appropriate details of:
 - type of observation with justification
 - operationalised behavioural categories
 - use of time and/or event sampling with justification
 - how reliability of data collection could be assessed. **[12 marks]**
4. Read the item and then answer the question that follows.
The psychologist focused on fluency in spoken communication in her study. Other research has investigated sex differences in non-verbal behaviours such as body language and gestures. Design an observation study to investigate sex differences in non-verbal behaviour of males and females when they are giving a presentation to an audience.
In your answer you should provide details of:
 - the task for the participants
 - the behavioural categories to be used and how the data will be recorded
 - how reliability of the data collection might be established
 - ethical issues to be considered. **[12 marks]**
5. You are a psychologist who is interested in how experiences of being bullied as a child affect a person's adult behaviour and relationships. You want to use a case study approach to gain an in-depth understanding. Explain how you would conduct a case study to investigate this. You must refer to/provide details of:
 - At least two different ways you could collect data
 - How you would obtain your sample
 - How you would deal with ethical issues
 - How you could reduce investigator effects **[12 marks]**

Teacher Notes

Data for Spearman's rank order test of correlation: scores from an IQ test and a measure of cognitive style (CS)

1 <i>Student</i>	2 <i>IQ</i>	3 <i>CS</i>	4 <i>IQ rank</i>	5 <i>CS rank</i>	6 <i>Difference</i>	7 <i>d²</i>
1	100	96	2	10	8	64
2	110	75	4	1	3	9
3	95	93	1	9	8	64
4	105	90	3	8	5	25
5	120	85	7	5	2	4
6	125	80	9	3	6	36
7	118	84	6	4	2	4
8	130	78	10	2	8	64
9	115	86	5	6	1	1
10	123	89	8	1	1	1
$\Sigma d^2 =$						272

Procedure for the Spearman's rank order test of correlation	Calculations
1. Rank the scores on variable X (IQ scores) taking the lowest as 1.	See column 4
2. Rank the scores on variable Y (cognitive style) as before.	See column 5
3. Subtract rank Y from rank X for each student. There is no need to indicate whether the difference is positive or negative.	See column 6; differences between ranks.
4. Square each difference.	See column 7; squared differences between ranks (d^2)
5. Add up the squared differences (Σd^2)	$\Sigma d^2 = 272$; total of squared differences
6. Insert Σd^2 into the following formula: $\rho = 1 - \frac{6 \Sigma d^2}{N(N^2 - 1)}$ <p>Where N = number of pairs of scores (ranks) d is the difference between pairs of ranks.</p>	$1 - \frac{6 \times 272}{10(10^2 - 1)}$ $= 1 - \frac{1632}{990}$ $\rho = 1 - 1.648$ $= -0.648$
7. Consult the table of critical values for Spearman's rank order test.	Take account of levels of significance for a two-tailed test.
8. Find the relevant line relative to the value of N	$N = 10$
9. Find the lowest critical value which ρ equals or exceeds. Take no account of signs.	$\rho = -0.648$ which is the same as the table value at the 5 per cent level ($p \leq 0.05$). Therefore it is significant at this level.
10. Make a statement of significance and decide whether or not to reject the null hypothesis.	Since there is a significant negative correlation between IQ and cognitive style as measured by these particular tests a high IQ tends to be matched to a low CS score. We therefore reject the null hypothesis.

Design a study

Question 1:

Example answer

Type of Observation

For this observation, I would conduct a **covert, naturalistic, non-participant** and **structured observation**. The observation would be **covert**, and I would pose as a gym member or member of staff so that my observations do not affect the behaviour of the gym users. This would ensure that the behaviour I am observing is natural and that **observer bias** is minimised. Furthermore, there are no ethical issues with conducting a covert observation in the main gym because the behaviour in question is taking place in a public setting. The observation would therefore take place in a **naturalistic** (gym) setting and naturalistic observations tend to have higher external validity as the behaviour is being examined in the environment where it naturally occurs. I would not interact or engage with the people I am observing (**non-participant**) as this will improve my **objectivity** because I am remaining distant from the participants. Most importantly, I would conduct a **structured observation** as I would create a list of **behavioural categories** that I would use to observe gym behaviour.

Operationalised Behavioural Categories

I would include a range of behavioural categories based on the different pieces of equipment in the gym, including Treadmill – Walking/Jogging/Running; Bike – Cycling; Lifting Weights – Arms (biceps/triceps); Lifting Weights – Chest; Lifting Weights – Shoulders; Lifting Weights – Legs, etc. I would also include a category for resting (either standing or seated). I will collect this data using a tally sheet, as shown below, and the number of people engaging in each activity will be recorded every five minutes.

Behaviour	Tally	Total
Treadmill – Walking/Jogging/Running		
Bike – Cycling		
Lifting Weights – Arms (Biceps/Triceps)		
Lifting Weights – Chest		
Lifting Weights – Shoulders		
Lifting Weights – Legs		
Resting (either standing or seated)		

Use of Time/Event Sampling

For this observation, I would use **time sampling** where I would record the behaviour of everyone in the gym every five minutes. This would allow me to record (using a tally sheet) what different gym users are doing every five minutes and allow me to see whether people move onto different types of exercise at pre-determined intervals. Time sampling would be appropriate as it would allow us to gain a snapshot of activity at pre-determined time intervals. Event sampling would be difficult as you would be required to record every time a person moves from one piece of equipment to another, and this might be difficult to track.

Assessing Reliability

I will establish the reliability of the data by using two observers, to check for **inter-observer reliability**. I will operationalise the behavioural categories clearly and train the observers in how to use the tally sheet to record behaviour. Then I will get them both to observe the same gym for one hour and use a correlation test to determine how similar their scores were for each behaviour. If I found a correlation coefficient of .80 or more then I will know that there was a high level of reliability.

AO2=6 AO3=6

Level	Marks	Description
4	10 – 12	Suggestions are generally well detailed and practical, showing sound understanding of observational techniques. All four elements are presented appropriately. Justifications are appropriate. The answer is clear and coherent. Specialist terminology is used effectively. Minor detail and/or explanation sometimes lacking.
3	7 – 9	Suggestions are mostly sensible and practical, showing some understanding of observational techniques. At least three elements are presented appropriately. There is some appropriate justification. The answer is mostly clear and well organised. Specialist terminology is mostly used effectively.
2	4 – 6	Some suggestions are appropriate but others are impractical or inadequately explained. At least two elements are presented appropriately. Justifications are partial or muddled. The answer lacks clarity, accuracy and organisation on occasions.
1	1 – 3	At least one element is addressed but knowledge of observational techniques is limited. Justifications are absent. The whole answer lacks clarity, has many inaccuracies and is poorly organised.
	0	No relevant content.

Four elements of design to be credited:

- Type of observation with justification – eg covert or overt, naturalistic, participant or non-participant and why

- Operationalised behavioural categories – detail of at least two specific and observable behaviours to be recorded. This must go beyond the idea of global constructs such as exercising, socialising, use of other facilities
- Use of time and/or event sampling with justification – recordings can take place at specified time intervals (time sampling) eg every minute or as the behaviour occurs (event sampling) eg number of times interaction occurs with another gym member. The type(s) of sampling must be appropriate for the behaviours chosen
- How reliability of the data collection could be assessed, inter-observer reliability eg using two observers/raters and comparing separate recordings; statistical comparison (correlation) of data from both observers/raters, intra-observer reliability eg checking video recordings.

Note: test-retest is not creditworthy but repeated observation of a video recording is creditworthy.

Question 2

Level	Marks	Description
4	10–12	Suggestions are generally well detailed and practical, showing sound understanding of observational techniques. All four elements are present. There is sufficient information for most aspects of the study to be implemented with success. The answer is clear and coherent. Specialist terminology is used effectively. Minor detail and/or explanation sometimes lacking.
3	7–9	Suggestions are mostly sensible and practical, showing some understanding of observational techniques. At least three elements are present. Implementation of some aspects is possible. The answer is mostly clear and well organised. Specialist terminology is mostly used effectively.
2	4–6	Some suggestions are appropriate but others are impractical or inadequately explained. At least two elements are addressed. Implementation would be difficult based on the information given. The answer lacks clarity, accuracy and organisation on occasions.
1	1–3	At least one element is addressed but knowledge of observational techniques is limited. Implementation would be very difficult. The whole answer lacks clarity, has many inaccuracies and is poorly organised.
	0	No relevant content.

Four elements of design to be credited:

- The task for the participants – detail of what the men and women in the study will have to do. This must go beyond 'give a presentation to an audience'.
- The behavioural categories to be used and how the data will be recorded – detail of specific and observable behaviours to be recorded. This must go beyond the idea of global constructs such as 'body language' or 'gesture'. Also detail of recording method to be used, eg record sheet.
- How reliability of the data collection might be established, eg using two observers/raters and comparing separate recordings; statistical comparison of data from both observers/raters.

• **Ethical issues to be considered**, eg specific or more general ethical considerations as applied to this study – protection of welfare, confidentiality and deception, respect or integrity.

Examples of possible tasks:

- presentation of findings from a school project
- presentation on 'My Hobby'
- presentation on 'My Holiday'.

Examples of suitable non-verbal behaviours include:

- arm movements
- smiling
- speech hesitations
- pointing etc.

Exemplar Response

The task that the male and female p's would be asked to do is to give a presentation to an audience about 'self' as this is something all p's would be able to do. All the p's would be given the same instructions in which the task would be outlined including the time they have to give the presentation and that there would be an audience of people watching. They would also be informed of their right to withdraw from the study at anytime. P's would also be informed that 2 observers would be in the audience and would be rating their non verbal behaviour – this would avoid the ethical issue of deception. The observers would be trained before the observation so they would know what the non verbal behaviour was.

This is a Level 2 response. It is a brief answer but there are two elements addressed – the task and ethical considerations, and the latter is quite detailed. However, implementation of this task would be difficult because there is no detail on behavioural categories,

recording method etc. There is also no real explanation of reliability, other than the mention of two observers. There is some reference to standard instructions and training of observers but this is not explored in any detail.

Mark awarded = 5