# A-level
# PSYCHOLOGY
# 7182/2

Paper 2 Psychology in context

**Mark scheme**

June 2023

Version: 1.0 Final

2 3 6 A 7 1 8 2 / 2 / M S

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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# Level of response marking instructions

Level of response mark schemes are broken down into levels, each of which has a descriptor. The descriptor for the level shows the average performance for the level. There are marks in each level.

Before you apply the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme.

## Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptor for that level. The descriptor for the level indicates the different qualities that might be seen in the student's answer for that level. If it meets the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptor and the answer. With practice and familiarity you will find that for better answers you will be able to quickly skip through the lower levels of the mark scheme.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best fit approach for defining the level and then use the variability of the response to help decide the mark within the level, ie if the response is predominantly level 3 with a small amount of level 4 material it would be placed in level 3 but be awarded a mark near the top of the level because of the level 4 content.

## Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. Answers in the standardising materials will correspond with the different levels of the mark scheme. These answers will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the standardised examples to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Indicative content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the indicative content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

## Section A

## Approaches in psychology

**0 1** Which of the following statements is correct according to the psychodynamic approach?

**[1 mark]**

**Marks for this question: AO1 = 1**

**C** The id is part of the unconscious mind.

**0 2** State **one** assumption of the cognitive approach.

**[1 mark]**

**Marks for this question: AO1 = 1**

**1 mark** for stating an appropriate assumption of the cognitive approach.

**Possible content:**
- internal mental processes can be studied
- mental processes can involve schema
- theoretical and computer models can be used
- it is possible to make inferences about mental processes (eg from models)
- neural mechanisms can be combined with cognitive processes in cognitive neuroscience.

Accept other valid assumptions.

**0 3** How might vicarious reinforcement explain the different attitudes of Steph's and Georgie's daughters to their schoolwork?

**[4 marks]**

**Marks for this question: AO2 = 4**

| Level | Mark | Description |
|---|---|---|
| 2 | 3–4 | Explanation of how vicarious reinforcement can explain attitudes to schoolwork is clear and mostly accurate. The material is applied appropriately. The answer is generally coherent with effective use of terminology. |
| 1 | 1–2 | Some explanation of vicarious reinforcement is evident. Application is limited. The answer lacks accuracy and detail. Use of terminology is either absent or inappropriate.<br>Responses which only refer to either Steph or Georgie's daughters can be awarded a maximum of 2 marks. |
| | 0 | No relevant content. |

**Possible content**:

- Steph's daughter has observed her mother receiving praise/admiration/positive consequence and awards for her work (positive reinforcement)
- Steph's daughter is feeling enthusiastic about doing more work at school as she has indirectly experienced the positive reinforcement her mother experienced when doing work
- Georgie's daughter has heard her mother being shouted at by her boss for missing deadlines and sees her looking tired and staying up late as a result of being pushed too hard at work (punishment)
- Georgie's daughter is feeling anxious about doing difficult work at school as she has indirectly experienced the punishment of being pushed too hard at work
- Steph and Georgie both act as role models for their daughters making vicarious reinforcement more likely.

Credit other relevant material e.g., use of negative reinforcement to explain Georgie staying up late to avoid being shouted at for missing deadlines.

**0 4** Explain **one** strength **and one** limitation of using social learning theory to explain the different attitudes of Steph's and Georgie's daughters.

**[6 marks]**

**Marks for this question AO2 = 2 and AO3 = 4**

**For the strength award:**

**3 marks** for a clear and coherent strength of social learning theory with appropriate application.

**2 marks** for a clear and coherent strength of social learning theory **OR** a limited/muddled strength with appropriate application.

**1 mark** for a limited or muddled strength of social learning theory with no relevant application.

**Possible strengths:**

- SLT offers a positive approach to explaining behaviour as SLT suggests behaviour can be shaped by our environment, providing the opportunity for Georgie's daughter's attitude to schoolwork to be influenced through positive role modelling.
- SLT is an evidence-based approach – research evidence e.g., Bandura demonstrates that children are able to learn behaviour through observing the behaviour of an adult, therefore there is research evidence to suggest that Georgie and Steph's daughters could have also learned their behaviour by observing the different attitudes of their mothers.
- SLT is a scientific approach with explanatory power – reduces self-blame and provides reasons why Georgie's daughter has a negative attitude to her schoolwork/she is not just being lazy.
- SLT focuses on nurture, looking at how our environment and role models shape our behaviours, and therefore does not assign blame solely to their parents' genes, reducing issues of guilt, suggesting Georgie's daughter's attitude to her schoolwork could be due to her peers, teachers, or other role models rather than blamed on her mother.
- SLT considers mediational processes so is less deterministic (soft determinism) than other approaches e.g., behaviourist approach, so Steph and Georgie's daughters have an element of choice in whether they imitate the behaviour of their mothers.

Credit other relevant strengths.

**For the limitation award:**

**3 marks** for a clear and coherent limitation of social learning theory with appropriate application.

**2 marks** for a clear and coherent limitation of social learning theory **OR** a limited/muddled limitation with appropriate application.

**1 mark** for a limited or muddled limitation of social learning theory with no relevant application.

**Possible limitations:**

- SLT is deterministic with behaviours being shaped by our environment and role models rather than empowering the individual with free will, suggesting that Steph's and Georgie's daughter's behaviours are determined and thus they are not able to change their attitudes
- SLT focuses on nurture which may assign blame to role models, suggesting Georgie's attitude may have shaped her daughter's behaviour which could cause Georgie to feel guilty/assign guilt
- SLT is too simplistic, ignoring the influence of hormones or genetics on behaviour therefore time could be wasted trying to shape Georgie's daughter's attitude with positive role models (teachers/peers).
- The validity of the research supporting SLT can be questioned e.g., the artificial environment in Bandura's research does not provide a relevant basis to explain Steph and Georgie's daughter's behaviour.

Credit other relevant limitations.

**0 5** In what ways might the biological approach explain the different attitudes of Steph's and Georgie's daughters to their schoolwork?

**[4 marks]**

**Marks for this question: AO2 = 4**

| Level | Mark | Description |
|---|---|---|
| 2 | 3–4 | Explanation of the biological approach to the differing attitudes of the daughters is clear and mostly accurate. The material is applied appropriately. The answer is generally coherent with effective use of terminology. |
| 1 | 1–2 | Some explanation of the biological approach to the differing attitudes of the daughters is evident. Application is limited. The answer lacks accuracy and detail. Use of terminology is either absent or inappropriate.<br><br>Responses which only refer to either Steph or Georgie's daughters can be awarded a maximum of 2 marks. |
| | 0 | No relevant content. |

**Possible content:**

- Steph's and Georgie's daughters' different responses to their schoolwork may arise from their differing genotypes
- Steph's daughter may have inherited genes from her mother which make her more resilient/resistant to stress, etc. The different set of genes Georgie's daughter received from her mother may account for the different attitudes the girls have to their schoolwork
- differences in neurochemistry may cause Steph's daughter to receive higher rewards for succeeding in her schoolwork than Georgie's daughter or may make Georgie's daughter receive higher levels of anxiety
- differences in biological structures may account for the differing attitudes.

Credit other relevant material.

**0 6** Outline and briefly discuss cognitive neuroscience.

**[8 marks]**

**Marks for this question: AO1 = 3 and AO3 = 5**

| Level | Marks | Description |
|---|---|---|
| 4 | 7–8 | Knowledge of cognitive neuroscience is accurate with some detail. Discussion is thorough and effective. Minor detail and/or expansion of argument is sometimes lacking. The answer is clear, coherent and focused. Specialist terminology is used effectively. |
| 3 | 5–6 | Knowledge of cognitive neuroscience is evident but there are occasional inaccuracies/omissions. Discussion is mostly effective. The answer is mostly clear and organised but occasionally lacks focus. Specialist terminology is used appropriately. |
| 2 | 3–4 | Limited knowledge of cognitive neuroscience is present. Focus is mainly on description. Any discussion is of limited effectiveness. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions. |
| 1 | 1–2 | Knowledge of cognitive neuroscience is very limited. Discussion is limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology is either absent or inappropriately used. |
| | 0 | No relevant content. |

**Possible content:**

- cognitive neuroscience aims to explore the neurobiological basis of thought processes and disorders
- cognitive neuroscience has emerged with improvements in technology such as fMRI and PET scans
- cognitive science was formally formed in MIT in 1956 and cognitive neuroscience was coined by George Miller and Michael Gazzaniga in the 1970s.

**Possible discussion points:**

- more scientific/objective in research study
- nature/nurture debate – cognitive neuroscience has demonstrated the brain's plasticity throughout life supporting the role of experience
- free will/determinism debate – cognitive neuroscience demonstrates the role of experience in shaping the brain showing biology is not destiny
- research studies identifying neurological basis of mental processes, eg Tulving (1994) PET scan study on memory, Burnett et al. (2009) neurological network associated with guilt
- provided neurobiological basis of certain psychological disorders (eg role of the parahippocampal gyrus in OCD) resulting in the development of new therapeutics and removing blame and stigma
- ethics, eg controversial use of mind mapping for lie detection in courts
- early identification for cognitive problems prior to observable behaviour has provided potential for early intervention
- provides evidence to support previously controversial behavioural findings by illuminating mechanisms of cognitive development that underlie behavioural observations.

Credit other relevant material.

## Section B

## Biopsychology

**0 7** Outline the difference between endogenous pacemakers and exogenous zeitgebers. Use examples in your answer.

**[2 marks]**

**Marks for this question: AO1 = 2**

**2 marks** for a clear outline with appropriate use of examples.

**1 mark** for a limited/muddled outline with inappropriate/no use of examples.

**Possible content:**
- endogenous pacemakers are internal whereas exogenous zeitgebers are external
- endogenous pacemakers are body clocks which regulate biological rhythm whereas exogenous zeitgebers are cues that entrain our biological rhythms
- examples used to illustrate the difference between the two influencers, eg the effects of the SCN (endogenous pacemaker) as opposed to light (exogenous zeitgeber).

Credit other relevant material.

**0 8** Outline the fight or flight response and use this to explain what Xavier was experiencing.

**[6 marks]**

**Marks for this question: AO1 = 3 and AO2 = 3**

| Level | Mark | Description |
|---|---|---|
| 3 | 5–6 | Knowledge of the flight or fight response is clear and accurate with some detail. The material is applied effectively with some detail. The answer is generally coherent with effective use of terminology. |
| 2 | 3–4 | Knowledge of the flight or fight response is evident and mostly accurate. Application is partly effective. The answer lacks clarity and organisation in places. Use of terminology is inappropriate on occasions.<br>**OR** knowledge only at level 3 (maximum 3 marks). |
| 1 | 1–2 | Knowledge of the flight or fight response is limited. Application is not always effective. The answer lacks accuracy and detail. Use of terminology is either absent or inappropriate.<br>**OR** knowledge only at level 1/2. |
| | 0 | No relevant content. |

**Possible content:**

- the fight/flight response is generated by the sympathetic branch of the ANS
- the hypothalamus stimulates the SNS
- SNS stimulates the adrenal medulla to release adrenaline into the blood stream/endocrine system and noradrenaline is released
- generalised effects of adrenaline such as increased breathing rate, sweating, pupil dilation, etc
- adrenaline inhibits saliva production, which may explain Xavier's dry mouth
- Xavier's shaky hands may be caused by adrenaline as adrenaline increases muscle tension, causes an increase in heart rate (Xavier's heart was pounding)/increases blood flow to muscles (which can cause limbs to shake) and adrenaline stimulates glucose to be released/increases blood sugar levels, providing more muscle fuel
- digestion is inhibited during SNS arousal, which may explain why Xavier felt sick
- once the stressor is gone the PNS acts to dampen the stress response and return the heart/breathing rate to resting levels/initiate digestion, etc, this may explain why after 20 mins Xavier calmed down.

Credit other relevant material.

**0 9** Discuss research into plasticity and functional recovery of the brain after trauma. Refer to the views of the teacher and Xavier in your answer.

**[16 marks]**

**Marks for this question: AO1 = 6, AO2 = 4 and AO3 = 6**

| Level | Marks | Description |
|---|---|---|
| 4 | 13–16 | Knowledge of plasticity and functional recovery of the brain after trauma is accurate and generally well detailed. Application is effective. Discussion is thorough and effective. Minor detail and/or expansion of argument is sometimes lacking. The answer is clear, coherent and focused. Specialist terminology is used effectively. |
| 3 | 9–12 | Knowledge of plasticity and functional recovery of the brain after trauma is evident but there are occasional inaccuracies/omissions. Application/discussion is mostly effective. The answer is mostly clear and organised but occasionally lacks focus. Specialist terminology is used appropriately. |
| 2 | 5–8 | Limited knowledge of plasticity and functional recovery of the brain after trauma is present. Focus is mainly on description. Any discussion/application is of limited effectiveness. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions. |
| 1 | 1–4 | Knowledge of plasticity and functional recovery of the brain after trauma is very limited. Discussion/application is limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology is either absent or inappropriately used. |
| | 0 | No relevant content. |

**Possible content:**

- brain plasticity is the ability of the brain to modify the structure and function based on experience
- functional recovery is where the brain recovers abilities previously lost due to brain injury
- neuronal unmasking – activation of 'dormant' synapses to compensate for damaged areas of the brain
- structural changes supporting neuronal unmasking such as axonal sprouting, reformation of blood vessels, denervation super-sensitivity and recruitment of homologous areas
- knowledge of relevant studies.

**Possible application:**

- research supports Xavier's belief that young brains are more plastic – neural reorganisation is greater in children than adults
- full recovery is not passive unlike what Xavier suggested, it depends on the extent of the damage and on various internal and external factors over time
- as the teacher suggested recovery is not always complete (eg the man who cycled without a helmet) and depends on the extent and location of damage and the level of subsequent care (eg physiotherapy)
- loss of the man's speech could have been due to damage to Broca's area.

**Possible discussion:**

- evidence from case studies; eg E.B. Danelli et al. (2013)
- evidence from animal studies; eg Hubel & Wiesel (1963) and discussion of the limitations of these
- the influence of variables factors affecting recovery after trauma such as educational level/cognitive reserve; eg Schneider et al. (2014), age; eg Elbert et al. (2001), Corkin et al. (1989), Huttenlocher, (2002), Plata et al. (2008), Bezzola, et al. (2012), gender; eg Ratcliffe et al. (2007), or physical exhaustion/stress/alcohol; eg Fleet & Heilman (1986)
- experiential factors which may be used to enhance plasticity and functional recovery such as meditation, learning new skills, playing video games, physiotherapy, etc
- methodological issues and their implications.

Credit other relevant material.

## Section C

## Research methods

**1 0** Which of the following types of hypothesis is **not** appropriate for the psychologist to use in their study?

**[1 mark]**

**Marks for this question: AO2 = 1**

**B** Non-directional hypothesis

**1 1** Explain why a repeated measures design was more appropriate than an independent groups design in this study.

**[2 marks]**

**Marks for this question: AO2 = 2**

**2 marks** for a clear, coherent explanation with appropriate application.

**1 mark** for a limited or muddled explanation.

**Possible content:**
- a repeated measures design would control for individual differences, eg level of stress, relaxation methods, fitness levels, personality, attitude to sport, etc
- so, the psychologist can be more certain that any difference in stress level between the two conditions is due to running the 2 km run at breaktime rather than due to other participant variables.

**1 2** Describe how the psychologist could have counterbalanced the students across the experimental conditions.

**[3 marks]**

**Marks for this question: AO2 = 3**

Award **1 mark** for each of the following points:
- divide the 20 students into two groups of 10
- group 1 completes condition A (daily 2 km run) followed by condition B (normal activities)
- group 2 completes condition B (normal activities) followed by condition A (daily 2 km run).

Note – for full marks students need to have some explicit application (e.g. number of students or description of the conditions)

**1 3** Explain how this might have affected the validity of the data collected.

**[4 marks]**

**Marks for this question: AO2 = 4**

| Level | Mark | Description |
|---|---|---|
| 2 | 3–4 | Explanation of the possible effects of self-report on the validity of the data collected is clear and mostly accurate. The material is applied appropriately. The answer is generally coherent with effective use of terminology. |
| 1 | 1–2 | Limited or muddled explanation of the possible effects of self-report on the validity of the data collected. Application is limited. The answer lacks accuracy and detail. Use of terminology is either absent or inappropriate. |
| | 0 | No relevant content. |

**Possible content:**

- students may not give a truthful rating of their stress levels due to social desirability bias/demand characteristics
- if students are not truthful it decreases the validity of the stress levels collected
- stress level is a subjective measure so a slightly stressed student may rate themselves as 8 whereas another student with a similar level of stress may rate themselves as 6 decreasing the validity of the data
- students may produce more valid data through self-report as only they know how stressed they feel, it would be difficult to assess the level of stress through an observation, or an interview situation may make them feel more stressed or make them more affected by demand characteristics.

Credit other relevant material.

**1 4** Explain **one** strength **and one** limitation of collecting quantitative data in this study.

**[4 marks]**

**Marks for this question: AO2 = 4**

**For the strength award:**

**2 marks** for a clear, coherent strength with appropriate application.

**1 mark** for a limited or muddled strength.

**For the limitation award:**

**2 marks** for a clear, coherent limitation with appropriate application.

**1 mark** for a limited or muddled limitation.

**Possible content:**

- quantitative data is straightforward to analyse so the effects of the 2 km breaktime run on stress levels can be easily assessed
- quantitative data is too restrictive to assess stress levels as the feeling/type/duration/context of stress is not given, decreasing the validity of the data

Credit other relevant material.

**1 5** What do the median and range values presented in **Table 1** suggest about the students' stress ratings after each condition? Justify your answer.

**[4 marks]**

**Marks for this question: AO2 = 2 and AO3 = 2**

**Median:**

**1 mark** for interpreting what the median suggests about the effect of the 2 km breaktime run on the students' stress ratings – students are less stressed after the 2 km breaktime run/condition A (than when they do not run at breaktime/condition B).

Accept alternative wording.

**PLUS**

**1 mark** for an accurate justification about the difference in the median stress ratings in each condition – median stress ratings is lower in condition A (than condition B) or median stress ratings is higher in condition B (than condition A).

Accept alternative wording.

**Range:**

**1 mark** for an accurate comment about what the ranges suggest about the spread of stress ratings in each condition – stress ratings are more consistent in condition B (than condition A) or stress ratings are less consistent in condition A (than condition B).

Accept alternative wording.

**PLUS**

**1 mark** for a justification about the difference between the ranges in each condition – range is greater in condition A (than condition B) or range is smaller in condition B (than in condition A).

Accept alternative wording.

**Note** – **0 marks** for just stating the data from the table.

**Note** – Justifications are not creditworthy in isolation.

**Note** – Credit can be given to responses which suggest stress levels are similar between conditions due to a minimal difference (of 1.5) in median stress levels.

**1 6** Explain **one** limitation of using the range to represent the spread of stress ratings.

**[4 marks]**

**Marks for this question: AO2 = 4**

| Level | Marks | Description |
|---|---|---|
| 2 | 3–4 | Explanation is clear and coherent, showing sound understanding of one limitation of using the range to represent the spread of stress ratings in each condition. The material is applied appropriately. There is effective use of terminology. |
| 1 | 1–2 | The explanation shows some understanding of one limitation of using the range to represent the spread of stress ratings in each condition. Application is limited/not always appropriate/not made explicit. The answer lacks clarity and coherence. Use of terminology is either absent or inappropriate. |
| | 0 | No relevant content. |

**Possible content:**

- these range values only take the two extreme stress ratings into account
- these range values are not calculated using each individual stress rating
- these range values can be distorted by outliers, e.g. it could be the case that most students in condition A had a stress ratings of 4 but one individual hated running and so reported a stress rating of 10 in this condition, this could result in the range of 6 as shown but would not represent the spread of the data collected.

Credit other relevant material.

**1 7** Explain what it would mean if the results in the above study were significant at the 0.01 level.

**[2 marks]**

**Marks for this question: AO1 = 1 and AO2 = 1**

**2 marks** for a clear, coherent explanation with appropriate application.

**1 mark** for a limited or muddled explanation.

**Content:**

- there is only a 1% possibility that the difference in stress ratings between the two conditions is due to chance (not due to the breaktime 2km run)
- there is ≤ 0.01 chance that the observed difference in the stress ratings reported is not a real difference (resulting from doing or not doing the 2km run at breaktime).

Accept alternative wording.

**Note** – A maximum of **1 mark** can be awarded for appropriate explanations of the consequences of the results being significant without reference to the 0.01/1% level e.g., rejection of the null hypothesis.

**1 8** Explain what is meant by a type II error in the context of this study.

**[2 marks]**

**Marks for this question: AO1 = 1 and AO2 = 1**

**2 marks** for a clear, coherent explanation with appropriate application.

**1 mark** for a limited or muddled explanation.

**Possible content:**
- the directional/experimental hypothesis is wrongly rejected/the null hypothesis is wrongly accepted (when the difference is actually due to the experimental manipulation) – when a difference between stress levels across the conditions is rejected as being not significant when there is a real difference between stress levels after running 2 km as opposed to not running
- a false negative – concluded that there was no significant difference in stress levels between running 2 km as opposed to not running.

Accept alternative wording.

**1 9** Suggest **one** way the psychologist could reduce the chance of a type II error.

**[1 mark]**

**Marks for this question: AO3 = 1**

Award **one** mark for any of the following points:
- set a less stringent/less demanding significance level
- use the 5% level
- increase the sample size

Credit other relevant material.

**2 0** Explain how a sample of 20 participants could be selected for your study using either random or stratified sampling.

Outline **one** strength of the sampling method you have selected.

**[4 marks]**

**Marks for this question: AO2 = 2 and AO3 = 2**

**For the explanation for how the sample of participants could be selected award:**

**2 marks** for a clear, coherent explanation with appropriate application.

**1 mark** for a limited/muddled explanation.

**Possible explanations:**

- Random sampling:
  - put all the A-level psychology students' names into a hat and randomly pick out the first 20 names to participate in the study/computer lottery method

- Stratified sampling:
  - identify the strata that make up the A-level psychology students. Work out the proportions needed for the sample of 20 to be representative. Use random sampling to select the participants that make up each stratum

**For the strength award:**

**2 marks** for a clear, coherent strength of the sampling method.

**1 mark** for a limited/muddled strength of the sampling method.

**Possible strengths:**

- Random sampling:
  - should be used to avoid researcher bias
  - relevant strengths in comparison to other sampling methods
- Stratified sampling:
  - should be used to ensure the sample is representative
  - relevant strengths in comparison to other sampling methods

Credit other relevant strengths.

**Note** – strengths can still be credited even if credit has not been given for any explanation.

**2 1** Suggest how you could measure the co-variables, time spent swimming and anxiety levels, for your study.

**[4 marks]**

**Marks for this question: AO2 = 2 and AO3 = 2**

For each co-variable award:

**2 marks** for a clear, coherent suggestion with necessary detail to be practical.

**1 mark** for a limited or unclear suggestion.

**Possible content:**
- swimming – students could be given a questionnaire/interview in which they self-report the average time they spend doing swimming per week
- swimming – students could be observed during school swimming classes to see how long they participated during the swimming sessions
- anxiety levels – the students could be observed for behavioural signs of anxiety
- anxiety levels – students could have their blood pressure/pulse rate monitored.

Credit other relevant material.

**2 2** Suggest an appropriate statistical test that could be used to analyse the data in your study and explain **two** reasons for your choice in the context of your study.

**[5 marks]**

**Marks for this question: AO2 = 4 and AO3 = 1**

**1 mark** for Spearman's rho/Pearson's r (only award Pearson's r if this does not contradict the level of data credited to justify their choice of statistical test)

**For each of the following bullet points award:**

**2 marks** for a clear and coherent reason explicitly linked to the study.

**1 mark** for a limited reason implicitly linked to the study.

- The psychologist is testing a correlation/relationship/association (not a difference).
- If Spearman's rho is suggested – some of the data collected is ordinal **OR** If Pearson's r is suggested – both measures of the data collected must be interval

**Note** – appropriate reasons can be credited even if an incorrect test is named or no test is given.

**Note** – where more than two reasons are given, only the first two should be marked.

**2 3** Briefly explain **one** reason why research should be peer reviewed.

**[2 marks]**

**Marks for this question: AO1 = 2**

**2 marks** for a clear, coherent reason with appropriate elaboration.

**1 mark** for a limited or muddled reason.

**Possible content:**
- to reduce chances of flawed/unscientific research being published and therefore treated as 'fact' and misinforming the public
- to improve quality of published reports by suggesting amendments or further control/extension work.

**Note** – accept to allocate research funding if presented in the context of independent peer evaluation of research project proposals.

Credit other relevant material.

**2 4** Identify **two** ethical issues in the design and conduct of psychological research.
In **each** case, explain how the issue you have identified could be dealt with.

**[6 marks]**

**Marks for this question: AO1 = 6**

Award **one mark** for **each** ethical issue identified (**max 2 marks**).

**For explanation of how each ethical issue could be dealt with award:**

**2 marks** for a clear, coherent explanation with appropriate elaboration.

**1 mark** for a limited or muddled explanation.

**Possible content:**
- informed consent – participants should be given a consent form including all the details of the study so they can make an informed decision as to whether they wish to participate; for children under 16 years their parent/guardian needs to sign on their behalf; presumptive consent/retrospective consent
- deception – fully debrief participants at the end of the study and make aware of the true aims of the study; participants should be given the right to withdraw their data from the study
- protection from harm – reassurance provided about their behaviour/performance in the study (debrief); counselling provided if necessary; fully debrief participants at the end of the study and make aware of the true aims of the study; participants should be given the right to withdraw their data from the study
- privacy & confidentiality – protect any personal details collected; maintain anonymity by using pseudonyms/initials/numbers when referring to participants.

Credit other relevant material, e.g. ethical issues related to the use of animals.