

Q1.

A psychologist wanted to investigate whether exercise would affect stress levels in 15-year-olds. Previous research into the effects of exercise on stress in teenagers had shown that exercise decreased stress levels.

The psychologist decided to use a repeated measures design to investigate the effects of exercise on stress levels in 20 15-year-old students. All the students were approaching their end-of-year exams.

For **Condition A**, students were required to complete a 2 km run during their morning breaktime each school day for one week.

In **Condition B**, students continued their normal activities in the playground during their morning breaktime each school day for one week.

At the end of each week of the investigation, for both **Condition A** and **Condition B**, each student was asked to rate their levels of stress on a rating scale of 1–10, where the higher the self-reported rating the greater the stress levels.

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

Shade **one** circle only.

- | | |
|-------------------------------------|-----------------------|
| A Directional hypothesis | ☐ |
| B Non-directional hypothesis | ☐ |
| C Null hypothesis | ☐ |
| D One-tailed hypothesis | ☐ |

(Total 1 mark)

Q2.

A psychologist investigated the relationship between stress and illness at a local school. The psychologist placed an advert on the staffroom noticeboard. Ten teachers contacted the psychologist offering to complete the psychologist's questionnaire.

In the questionnaire stress levels were measured on a scale from 1 to 10, with a higher score indicating greater stress. The questionnaire also asked how many days they had been absent from work due to sickness in the previous six months.

- (a) Write a suitable operationalised non-directional hypothesis for this investigation.

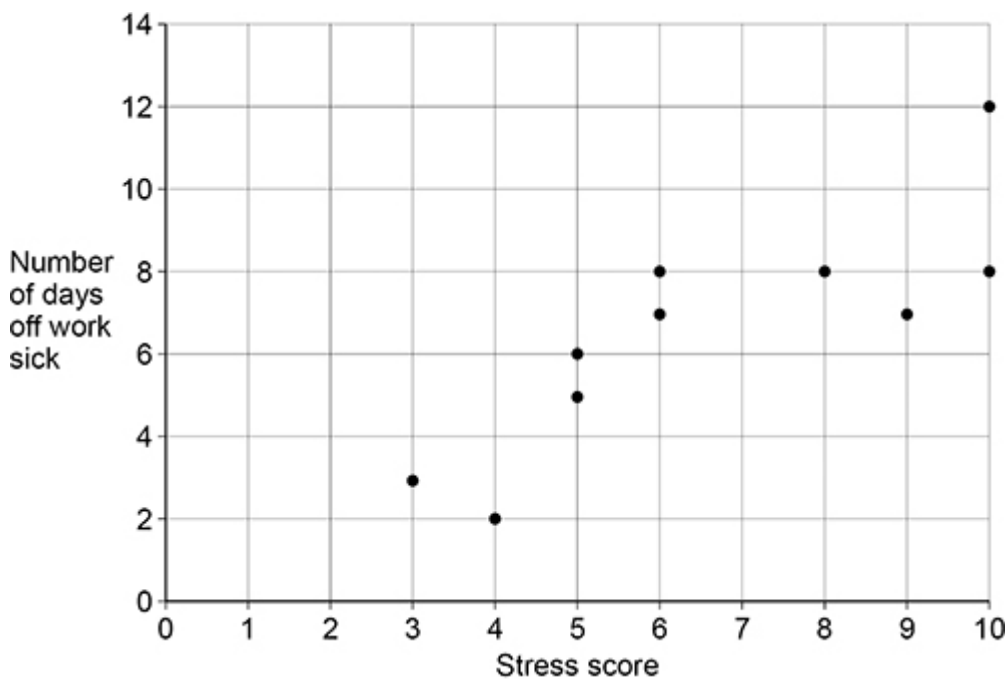
(3)

- (b) Identify the sampling method used in this investigation.

(1)

The results from the study are shown in the diagram below.

The relationship between stress level scores 1–10 and number of days absent from work due to sickness in the previous six months



(c) What does the graph above suggest about the relationship between stress and illness?

(2)

(d) Explain why the psychologist could not conclude that stress caused illness on the basis of the data in the diagram above.

(3)

- (e) Which **two** of the following best describe the stress level scores collected by the psychologist?

Shade **two** boxes.

- | | |
|------------------------|--------------------------|
| A Meta-analysis | ☐ |
| B Primary | ☐ |
| C Qualitative | ☐ |
| D Quantitative | ☐ |
| E Secondary | ☐ |

(2)

(Total 11 marks)

Q3.

Psychology students sometimes propose hypotheses that are untestable.

Which **one** of the following is essential for a testable hypothesis?

Shade **one** box only.

- | | |
|--|--------------------------|
| A The hypothesis should be written to include the word 'significant'. | ☐ |
| B The hypothesis should include fully operationalised variables. | ☐ |
| C The hypothesis should refer to a difference between the conditions. | ☐ |
| D The hypothesis should use appropriate psychological terminology. | ☐ |

(Total 1 mark)

Q4.

Explain **two** ethical limitations of Asch's investigations into conformity.

(Total 4 marks)

Q5.

Studies of social influence are often criticised for using volunteer sampling to select participants.

Explain how you could use a different sampling technique to select participants.

(Total 2 marks)

Q6.

A psychologist conducted a case study of a patient who had difficulty sleeping.

Briefly explain **one** ethical issue the psychologist would need to consider in this study.

(Total 2 marks)

Q7.

In psychological reporting it is usual to present book references in an accepted format.

The reference below includes some, but not all, of the necessary pieces of information. The pieces of information included here are the author's surname and initials, and the title of the book.

Reference: Eysenck, H.J. *The Measurement of Personality*.

Three further pieces of information are missing from the reference. What are they?

(Total 3 marks)

Q8.

A psychologist constructed a questionnaire which was designed to measure and define abnormality. The figure below shows part of the questionnaire.

Which of these statements do you agree with?

- A I find it hard to maintain eye contact with another person when in conversation.
- B I often feel extremely distressed.
- C I regularly skip meals and do not wash myself.

The psychologist completed her research and submitted it to be peer reviewed. Briefly explain **two** reasons why conducting a peer review might improve psychological research.

1. _____

2. _____

(Total 4 marks)

Q9.

A psychologist investigated whether productivity levels are affected by the amount of sleep a person gets. They asked 30 participants to sleep for 4 hours on the first night and then stay awake all of the next day (**Day 1**). The same participants were then asked to sleep for 8 hours on the second night and stay awake all of the next day (**Day 2**).

Each participant was then asked to rate their productivity at the end of **Day 2** as 'more than', or 'less than', or 'the same as' **Day 1**.

Outline what is meant by an aim. Write a suitable aim for this study.

(Total 2 marks)

Q10.

A psychologist investigated whether productivity levels are affected by the amount of sleep a person gets. The psychologist concluded that participants assessed themselves as more productive after eight hours' sleep than after four hours' sleep. Other previous research has also shown that having more sleep has a positive effect on problem-solving skills.

In a follow-up study, the psychologist designed an experiment to investigate further the effect of sleep duration on problem solving. They randomly selected 20 students from a local university. There were two conditions:

Condition 1 – the students were invited to a university sleep laboratory and were allowed to sleep for six hours. Fifteen minutes after waking, each student was timed to see how long it took them to solve 10 simple mathematical problems, correctly.

Condition 2 – the same 20 students were invited back to the sleep laboratory a week later. This time they were allowed to sleep for two hours. Fifteen minutes after waking, each student was again timed to see how long it took them to solve a different set of 10 simple mathematical problems, correctly.

- (a) Should the hypothesis for the follow-up study be directional or non-directional?
Explain your answer.

(2)

- (b) Write a suitable experimental hypothesis for the follow-up study.

(3)

(Total 5 marks)

Q11.

A psychologist investigated whether productivity levels are affected by the amount of sleep a person gets. The psychologist concluded that participants assessed themselves as more productive after eight hours' sleep than after four hours' sleep. Other previous research has also shown that having more sleep has a positive effect on problem-solving skills.

In a follow-up study, the psychologist designed an experiment to investigate further the effect of sleep duration on problem solving. They randomly selected 20 students from a local university. There were two conditions:

Condition 1 – the students were invited to a university sleep laboratory and were allowed to sleep for six hours. Fifteen minutes after waking, each student was timed to see how long it took them to solve 10 simple mathematical problems, correctly.

Condition 2 – the same 20 students were invited back to the sleep laboratory a week later. This time they were allowed to sleep for two hours. Fifteen minutes after waking, each student was again timed to see how long it took them to solve a different set of 10 simple mathematical problems, correctly.

Identify **one** extraneous variable that could have affected the results of the follow-up study.

Suggest why it would have been important to control this extraneous variable **and** how the psychologist could have controlled it.

(Total 3 marks)

Q12.

Patients with depression were asked to keep a daily diary of their experiences as part of their therapy. Two researchers analysed the same extracts from the diaries using content analysis.

The two researchers' analyses of the diary extracts were found to be quite different.

Explain how the reliability of this content analysis could be improved.

(Total 4 marks)

Q13.

A psychologist wanted to investigate whether exercise would affect stress levels in 15-year-olds. Previous research into the effects of exercise on stress in teenagers had shown that exercise decreased stress levels.

The psychologist decided to use a repeated measures design to investigate the effects of exercise on stress levels in 20 15-year-old students. All the students were approaching their end-of-year exams.

For **Condition A**, students were required to complete a 2 km run during their morning breaktime each school day for one week.

In **Condition B**, students continued their normal activities in the playground during their morning breaktime each school day for one week.

At the end of each week of the investigation, for both **Condition A** and **Condition B**, each student was asked to rate their levels of stress on a rating scale of 1–10, where the higher the self-reported rating the greater the stress levels.

Students self-reported their stress levels on a scale of 1–10.

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

(Total 4 marks)

Q14.

Your psychology teacher has read about the beneficial effects of exercise.

She asks you to design a study to see if there is a correlation between time spent swimming and anxiety levels in A-level psychology students.

You need to select a sample of 20 participants using random or stratified sampling.

Your teacher tells you **not** to use self-report to measure anxiety levels and tells you to use a different way of measuring anxiety.

- (a) Suggest how you could measure the co-variables, time spent swimming and anxiety levels, for your study.

Co-variable 1

Co-variable 2

(4)

- (b) 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)

(Total 9 marks)

Q15.

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

(Total 2 marks)

Q16.

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.

(Total 6 marks)

Q17.

In a study into the effectiveness of a new drug therapy for stress, researchers gave one group of patients the new drug and another group of patients a placebo (a pretend drug).

The researchers were concerned that the outcome of the study might be influenced by the problems of demand characteristics **and** investigator effects.

Explain what the researchers could do to eliminate or reduce demand characteristics **and** investigator effects in this study.

(Total 4 marks)

Q18.

A controlled observation was designed to compare the social behaviours of pre-school children of working parents and pre-school children of stay-at-home parents. The sample consisted of 100 children aged three, who were observed separately. Half of the children had working parents and the other half had stay-at-home parents.

The observation took place in a room which looked like a nursery, with a variety of toys available. In the room, there were four children and one supervising adult. Their behaviour was not recorded.

Each child participant was brought into the room and settled by their parent. The parent then left to sit outside. Each child participant’s behaviour was observed covertly for five minutes while they played in the room.

The observation was conducted in a controlled environment and a standardised script was used when the children and their parents arrived.

Explain why the researcher used a controlled observation **and** a standardised script in this study.

(Total 4 marks)

Q19.

A controlled observation was designed to compare the social behaviours of pre-school children of working parents and pre-school children of stay-at-home parents. The sample consisted of 100 children aged three, who were observed separately. Half of the children had working parents and the other half had stay-at-home parents. The observation took place in a room which looked like a nursery, with a variety of toys available.

In the room, there were four children and one supervising adult. Their behaviour was not recorded.

Each child participant was brought into the room and settled by their parent. The parent then left to sit outside. Each child participant’s behaviour was observed covertly for five minutes while they played in the room.

The observation was conducted in a controlled environment and a standardised script was used when the children and their parents arrived.

The researcher used two trained observers to record the social behaviours of each child box during the observation.

Explain how the reliability of the controlled observation could be assessed through inter-observer reliability.

(Total 4 marks)

Q20.

A controlled observation was designed to compare the social behaviours of pre-school children of working parents and pre-school children of stay-at-home parents. The sample consisted of 100 children aged three, who were observed separately. Half of the children had working parents and the other half had stay-at-home parents. The observation took place in a room which looked like a nursery, with a variety of toys available.

In the room, there were four children and one supervising adult. Their behaviour was not recorded.

Each child participant was brought into the room and settled by their parent. The parent then left to sit outside. Each child participant's behaviour was observed covertly for five minutes while they played in the room.

The observation was conducted in a controlled environment and a standardised script was used when the children and their parents arrived.

Explain **one** reason why collecting quantitative data could reduce the validity of this study.

(Total 2 marks)

Q21.

A controlled observation was designed to compare the social behaviours of pre-school children of working parents and pre-school children of stay-at-home parents. The sample consisted of 100 children aged three, who were observed separately. Half of the children had working parents and the other half had stay-at-home parents. The observation took place in a room which looked like a nursery, with a variety of toys available.

In the room, there were four children and one supervising adult. Their behaviour was not recorded.

Each child participant was brought into the room and settled by their parent. The parent then left to sit outside. Each child participant’s behaviour was observed covertly for five minutes while they played in the room.

The observation was conducted in a controlled environment and a standardised script was used when the children and their parents arrived.

The findings of this study might have implications for the economy.

Explain **one or more** possible implications of this study for the economy.

(Total 3 marks)

Q22.

Describe features of the abstract section in a scientific report.

(Total 3 marks)

Q23.

A researcher wanted to investigate whether there was a relationship between locus of control and resistance to social influence. Before the investigation began, he devised a questionnaire to measure locus of control.

- (a) Why would the researcher's questionnaire produce primary data? Suggest **one** limitation of primary data.

(2)

- (b) To assess the questionnaire's validity, the researcher gave it to 30 participants and recorded the results. He then gave the same 30 participants an established questionnaire measuring locus of control. The researcher found a weak positive correlation between the two sets of results, suggesting that his questionnaire had low validity.

Explain how the validity of the researcher's questionnaire could be improved.

(4)

(Total 6 marks)

Q24.

Some critics have said that Pavlov's studies may lack ecological validity.

What is meant by the term ecological validity?

(Total 2 marks)

Q25.

Discuss features of science. Refer to **one or more** examples of psychological research in your answer.

(Total 8 marks)

Q26.

Two psychology students investigated the effect of type of play area on friendly behaviours. They watched the behaviour of six-year-old children in two different play areas and recorded their observations using a set of behavioural categories. They observed 25 children in the first play area and another 25 children in a second play area.

Play Area 1 was a grass space, surrounded by trees and plants.
Play Area 2 was a paved space, surrounded by brick and concrete walls.

- (a) What are behavioural categories? Explain why it was important to use behavioural categories in this observation.

(4)

The table below shows the raw data for the observation.

	The number of friendly behaviours observed in each category		
	Playing near to another child	Standing near to another child	Sitting near to another child
Play Area 1 Grass space	28	35	32
Play Area 2 Paved space	18	19	20

After the observation, the students showed their raw data table to their psychology teacher.
The teacher suggested that some of the behavioural categories in the table above were not valid examples of friendly behaviour.

- (b) Suggest **two** better examples of friendly behaviours that the students could have used in their observation. Explain why these might be more valid examples of friendly behaviour than the behaviours in the table.

(4)

When she looks at the results in the table, the teacher says, "I can see there is a difference in behaviour between the two conditions, but is the difference significant at the 0.05 level of significance?"

- (c) What do the students need to do with the data in the table above so that they can answer their teacher's question? Explain your answer.

(4)

In this study, the students used a nomothetic approach for their research.

- (d) Name the opposite approach to the nomothetic approach. Briefly outline what this opposite approach might have involved in a study of friendly behaviour.

(3)

(Total 15 marks)

Q27.

Researchers observed recordings of students in a library and obtained questionnaire responses from students in their investigations into workspace use.

- (a) Briefly explain ethical issues that the researchers involved in these studies of student behaviour should have considered.

(4)

In a final, follow-up study, the researchers wanted to know if there was a difference in the type of work students engaged in at a single desk with a chair, at a large table with chairs and on a settee with low tables. They conducted an observation study using CCTV recording.

Before the observation could begin the researchers needed to operationalise the behavioural category 'type of work'.

- (b) Explain what is meant by operationalisation and suggest **two** ways in which 'type of work' could be operationalised.

(4)

(Total 8 marks)

Q28.

A researcher placed an advert in a university psychology department asking for third year students to participate in a sleep experiment.

Each student had a sleep tracker watch to wear at home for the two-week study. Each morning they were asked to open the sleep tracker app to view their sleep quality data on their mobile phones. The students were unaware that the sleep data they could see on their phones had been manipulated by the researcher. Over the two weeks of the study, each student saw that he or she had had poor sleep quality for seven random nights of the experiment and good sleep quality for the remaining nights.

Every morning, after viewing the sleep data, each student completed a questionnaire about the previous night's sleep. One of the questions asked the students to rate how well rested they felt, on a scale from 1–10, after the previous night's sleep. Apart from this, students were asked to continue their normal everyday activities.

- (a) Which of the following best describes the experimental method used in this study?

Shade **one** box only.

- | | |
|--------------------------------|-----------------------|
| A Field experiment | ☐ |
| B Laboratory experiment | ☐ |
| C Natural experiment | ☐ |
| D Quasi-experiment | ☐ |

(1)

- (b) Write a directional hypothesis the researcher might use for this study.

(3)

- (c) Which of the following best describes the sampling method used in this study?

Shade **one** box only.

A Opportunity sampling

☐

B Stratified sampling

☐

C Systematic sampling

☐

D Volunteer sampling

☐

(1)

- (d) Explain **one** strength **and one** limitation of using this sampling method in this study.

(4)

The researcher collected quantitative data about how well rested the students felt.

- (e) Explain **one** strength of collecting quantitative data in this study.

(2)

One ethical issue in this study is deception, as the students were unaware that the sleep data they could see on their phones had been manipulated by the researcher.

- (f) Explain **one** way in which the researcher might deal with the deception in this study.

(2)

Apart from the question about how well rested the students felt, the researcher's questionnaire contained nine other questions. The responses to these questions were not analysed.

- (g) Explain **one** reason why the researcher decided to include these additional questions on the questionnaire.

(2)

- (h) Explain **one** limitation of assessing sleep quality using a rating scale of 1–10.

(2)

The researcher believed that the actual number of hours slept by the students could have affected the results of the study.

- (i) Suggest **one other** extraneous variable that could have affected the results of this study. Explain why it would have been important to control this extraneous variable and how it could have been controlled in this study.

(4)

(Total 21 marks)

Q29.

Researchers wanted to see if there was a difference in the number of students choosing to use various work spaces in the college library. Previous research findings on this topic were inconsistent.

There were three types of work space available in the library:

- single desks with a chair
- large tables with chairs
- settees with low tables.

The researchers used CCTV camera recordings of the different work space areas taken over three days. From each day, they analysed two hours' worth of recordings from the morning and two hours' worth of recordings from the afternoon. They noted down the number of students seen working at each of the three work spaces.

- (a) Should the hypothesis for this observation be directional or non-directional?

Explain your answer.

(2)

- (b) Which **two** of the following procedures did the researchers use in this study?

Shade **two** boxes.

- | | |
|-----------------------------------|--------------------------|
| A Controlled observation | ☐ |
| B Event sampling | ☐ |
| C Natural experiment | ☐ |
| D Naturalistic observation | ☐ |
| E Random sampling | ☐ |

(2)

(c) Explain why watching students covertly should reduce demand characteristics in this study.

(2)

The results of the library study are shown in **Table 1** below.

Table 1: Total number of students working in each work space

	Single desks with a chair	Large tables with chairs	Settees with low tables
Morning	34	22	120
Afternoon	37	23	183

(d) Summarise the findings of this study using the data in **Table 1**.

(4)

Students who were in a library over a three-day period were asked to complete a questionnaire about their work space use.

The questionnaire contained only closed questions.

- (e) Explain **one** way in which using open questions, in addition to closed questions, might improve the questionnaire.

(2)

Question 4 on the questionnaire was ‘Which of the following work spaces do you use most often in the library?’

The results for question 4 are shown in the **Table 2** below.

Table 2: Responses to question 4

Question 4 options	Total responses
working at a single desk with a chair	310
working at a large table with chairs	78
working on a settee with low tables	31

Table 2 includes only the responses of students whose data was analysed in the first part of the study.

- (f) Explain Compare the results given in **Table 1** with those seen in **Table 2**.

What conclusion could now be made from these two sets of data? Explain your answer.

(4)

(Total 16 marks)

Q30.

A researcher placed an advert in a university psychology department asking for third year students to participate in a sleep experiment.

Each student had a sleep tracker watch to wear at home for the two-week study. Each morning they were asked to open the sleep tracker app to view their sleep quality data on their mobile phones. The students were unaware that the sleep data they could see on their phones had been manipulated by the researcher. Over the two weeks of the study, each student saw that he or she had had poor sleep quality for seven random nights of the experiment and good sleep quality for the remaining nights.

Every morning, after viewing the sleep data, each student completed a questionnaire about the previous night's sleep. One of the questions asked the students to rate how well rested they felt, on a scale from 1–10, after the previous night's sleep. Apart from this, students were asked to continue their normal everyday activities.

- (a) Which of the following best describes the experimental method used in this study?

Shade **one** box only.

A Field experiment

☐

B Laboratory experiment

☐

C Natural experiment

☐

D Quasi-experiment

☐

(1)

- (b) Write a directional hypothesis the researcher might use for this study.

(3)

- (c) Which of the following best describes the sampling method used in this study?

Shade **one** box only.

A Opportunity sampling

☐

B Stratified sampling

☐

C Systematic sampling

☐

D Volunteer sampling

☐

(1)

- (d) Explain **one** strength **and one** limitation of using this sampling method in this study.

(4)

The researcher collected quantitative data about how well rested the students felt.

- (e) Explain **one** strength of collecting quantitative data in this study.

(2)

One ethical issue in this study is deception, as the students were unaware that the sleep data they could see on their phones had been manipulated by the researcher.

- (f) Explain **one** way in which the researcher might deal with the deception in this study.

(2)

Apart from the question about how well rested the students felt, the researcher's questionnaire contained nine other questions. The responses to these questions were not analysed.

- (g) Explain **one** reason why the researcher decided to include these additional questions on the questionnaire.

(2)

- (h) Explain **one** limitation of assessing sleep quality using a rating scale of 1–10.

(2)

The researcher believed that the actual number of hours slept by the students could have affected the results of the study.

- (i) Suggest **one other** extraneous variable that could have affected the results of this study. Explain why it would have been important to control this extraneous variable and how it could have been controlled in this study.

(4)

(Total 21 marks)

Q31.

A researcher wanted to investigate the types of play parents engaged in with their children. Ten children and one parent of each child took part in the study. The researcher asked each parent to keep a diary for a month about the types of play their child engaged in.

The researcher noticed age-related differences in the types of play mentioned in the diary entries. They designed an experiment to investigate the differences in play choices between 2-year-old and 4-year-old children.

The researcher carried out the study using children from two local nursery schools. There were 30 children of each age group at nursery A. There were 20 children of each age group at nursery B. All parents gave informed consent for their children to take part in the study. The researcher used stratified sampling of the nurseries. Ten 2-year-olds and ten 4-year-olds took part in the study.

Each child was observed for 15 minutes during playtime in an area of the nursery where they could choose to play with building blocks, a sandpit and a slide. The researcher recorded how long each child spent playing with each activity.

Identify the type of experiment used in this study. Justify your answer.

(Total 3 marks)

Q32.

A new TV programme has been developed to increase positive social behaviours in pre-school children.

There is a proposal to carry out an experiment to compare the effects of the new TV programme and an existing TV programme, on positive social behaviours in pre-school children.

A sample of 500 pre-school children and their parents is available for the experiment. The parents have given consent for their children to take part in this experiment.

The experiment will take place over an 8-week period. Data on the children's social behaviours will be gathered from the parents using a self-report method.

Design the experiment to investigate whether watching the new TV programme leads to an increase in positive social behaviours in the children, compared with watching the existing TV programme.

In your answer you will gain credit for providing appropriate details of the following:

- the type of experimental design, with justification
- a self-report method of data collection, with justification
- how to control **one** extraneous variable, with justification as to why this would need to be controlled.

You may use this space to plan your answer.

(Total 12 marks)