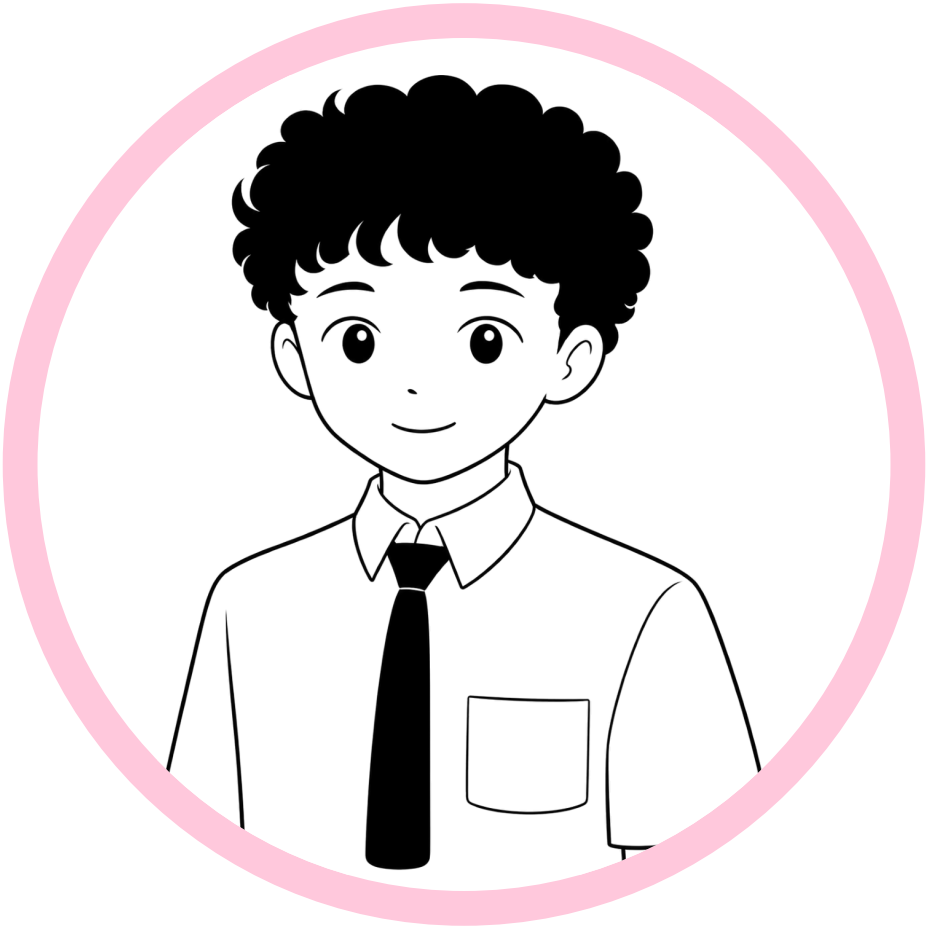
AQA A-LEVEL PSYCHOLOGY · 7182

PSYCHOLOGY



EXAM QUESTION PACK

3.2.3.1 VARIABLES: MANIPULATION AND CONTROL

SCORE	PERCENTAGE
/24	%

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Q1.

A researcher was interested in the relationship between the number of hours a course was taught using a computer program and the satisfaction of the students on the course.

As part of his research he conducted a pilot study as follows. A topic from a business studies course was divided into 10 equal one-hour sessions.

Eleven students who were matched for their high level of interest in business studies took part in the study.

All 11 students completed all 10 hours of the topic. They were taught either completely online, with a combination of online teaching and classroom teaching, or just in a classroom.

Each student was allocated a letter, from A to K randomly. This determined the number of hours they studied online and the number of hours they studied in a classroom. The combinations are shown in **Table 1**.

Table 1: The numbers of hours each student (labelled A – K) studied the topic online and in a classroom with a teacher

	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**
Number of online hours	10	9	8	7	6	5	4	3	2	1	0
Number of classroom hours	0	1	2	3	4	5	6	7	8	9	10

(a) Explain why it was important to match the students on their high level of interest in business studies.

_____

_____

_____

_____

(2)

(b) Suggest **one** other variable for which the researcher should have matched the students. Explain how this might have affected the satisfaction scores if it was not controlled.

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(2)

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(c) Outline **one** benefit of allocating the students randomly to the different numbers of online hours and classroom hours as seen in **Table 1**.

(2)

(d) The sample used in this pilot study was an opportunity sample. Briefly explain how using a stratified sample when the final study is conducted might be an improvement to the design.

(3)

(e) The researcher designed a questionnaire to collect data from the students about how satisfied they felt when they had completed the course.
Give an example of an appropriate question that the researcher might use to collect qualitative data on the questionnaire.

(1)

(f) Briefly explain **one** problem the researcher might have in analysing the qualitative data collected from the questionnaires.

(2)

(g) Outline **one** ethical issue that should have been taken into account when carrying out the questionnaire.

(1)

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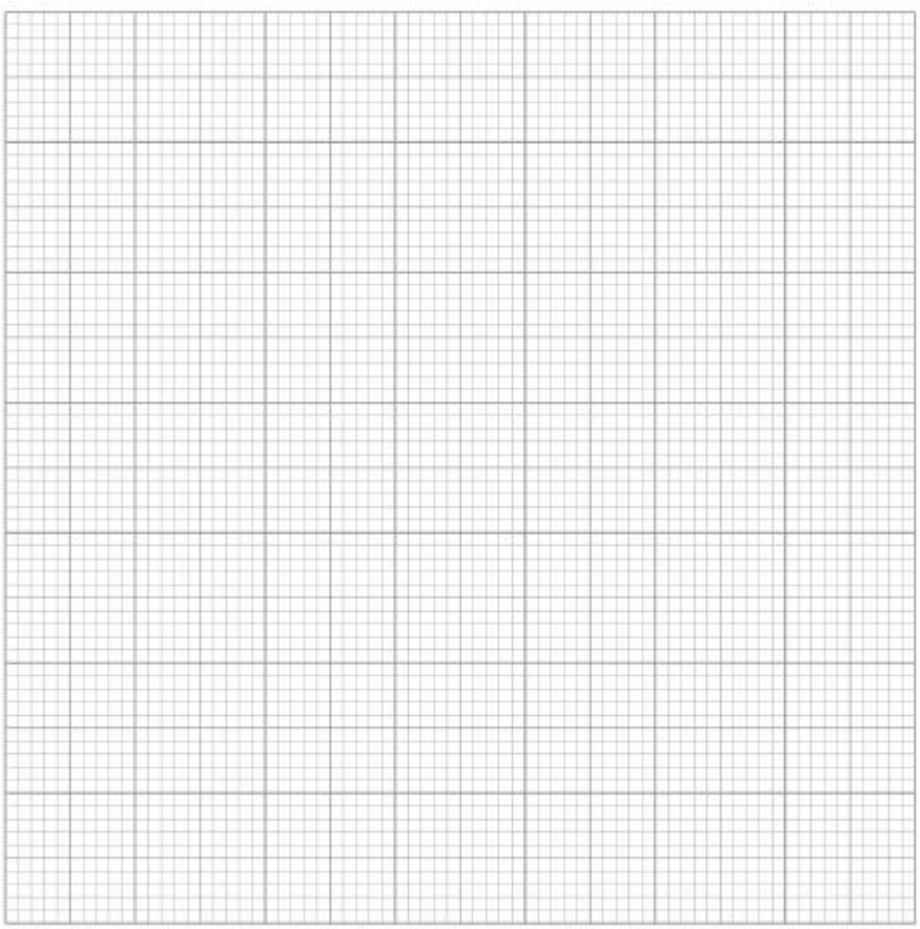
In order to analyse all the responses to the questionnaire, each response was given a score by the researcher. The maximum score on the questionnaire was 20, where a score of 0 meant dissatisfied and a score of 20 meant very satisfied.

The following data was collected by the researcher.

Table 2: The numbers of hours each student (labelled A – K) studied the topic online and the satisfaction scores of each student.

	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**
Number of online hours	10	9	8	7	6	5	4	3	2	1	0
Satisfaction scores	5	6	8	7	10	12	13	15	17	19	19

(h) Using the data in **Table 2** and the graph paper provided below, draw an appropriate scattergram. Fully label your display.



(4)

(i) What conclusion might the researcher draw, based on the results of the study?

_____

_____

_____

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(2)

(j) The researcher looked at the mode and median satisfaction scores of the students. Calculate these two descriptive statistics.

(2)

(k) Explain why the median would be more suitable than the mode to represent the average score for satisfaction for the students.

(2)

(l) Another researcher looked at the data for the satisfaction scores and commented that they suggested a negative skew in the data.

Look at the following sets of descriptive statistics from a different study. Which of the sets (A or B or C) would indicate a negative skew in the distribution of the data?

Shade **one** box only.

A Mean: 7.3, median: 7.5, mode: 7.0 ⬭

B Mean: 7.3, median: 10.5, mode: 16 ⬭

C Mean: 7.3, median: 6.5, mode: 5 ⬭

(1)

(Total 24 marks)

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