| Surname | StemUp Model Solution | Centre Number | Candidate Number |
|---|---|---|---|
| First name(s) | | | 2 |

# GCE AS

B290U20-1

S24-B290U20-1

**TUESDAY, 21 MAY 2024 – AFTERNOON**

## PSYCHOLOGY – AS component 2
### Psychology: Investigating Behaviour

1 hour 45 minutes

| For Examiner's use only | | |
|---|---|---|
| **Question** | **Maximum Mark** | **Mark Awarded** |
| **1.** | **2** | |
| **2.** | **2** | |
| **3.** | **2** | |
| **4.** | **3** | |
| **5.** | **3** | |
| **6.** | **18** | |
| **7.** | **33** | |
| **8.** | **17** | |
| **Total** | **80** | |

B290U201
01

**ADDITIONAL MATERIALS**

In addition to this paper you may require a calculator and a ruler.

**INSTRUCTIONS TO CANDIDATES**

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided in this booklet. If you run out of space, use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

**INFORMATION FOR CANDIDATES**

The number of marks is given in brackets at the end of each question or part-question.

You are reminded of the need for good English and orderly, clear presentation in your answers.

Assessment will take into account the quality of written communication used in your answers.



© WJEC CBAC Ltd.



stemup.co.uk

Examiner only

## Section A

Answer **all** questions.

**1.** Explain **one** difference between a structured interview and a semi-structured interview. [2]

*In a structured interview every participant is asked the same pre-set, standardised questions in a fixed order, and the interviewer cannot deviate from them, whereas in a semi-structured interview there are some pre-set questions but the interviewer can also ask follow-up questions to explore and expand on a participant's answers.*

**2.** Explain **one** reason why a researcher might use a matched pairs experimental design. [2]

*A researcher might use matched pairs to reduce participant variables: participants are matched on relevant characteristics (e.g. age or IQ) and one of each pair goes into each condition, so differences in the DV are more likely due to the IV. Also, each participant only takes part once, so there are no order effects such as practice or fatigue.*

**3.** Explain what is meant by 'ratio data'. [2]

*Ratio data is the highest level of measurement: the data is measured on a scale with equal intervals between the units and it has an absolute (true) zero point, so ratios can be calculated, e.g. time in seconds, height in cm or speed in mph.*



© WJEC CBAC Ltd.



stemup.co.uk

Examiner only

**4.** Briefly explain how a case study could be carried out. [3]

A case study is an in-depth investigation of one individual, one small group or one event (e.g. a person with a rare brain injury). The researcher first gathers detailed background (case history) information about the person.

More than one method is used to collect the data, for example interviews with the person and their family, observations, psychometric tests and records such as medical notes, so the findings can be triangulated.

Rich, detailed qualitative (and some quantitative) data is collected, often over a long period of time, so changes in the person can be tracked.

**5.** Identify what is being defined in the following statements:

(a) A sampling technique where every nth person on a list is selected by the researcher, for example every 3rd house on a street or 5th person on a register. [1]

Systematic sampling

(b) A numerical value that gives an indication of the likelihood that results are due to a real difference/correlation and not due to chance. [1]

Significance level (p value, e.g. $p \leq 0.05$)

(c) Participants give the response that they think will show them in the best possible light. This may mean that they are not a true reflection of their real thoughts/feelings. [1]

Social desirability bias



© WJEC CBAC Ltd.



stemup.co.uk

Examiner only

**6.** (a) Describe the sample and methodology used by Kohlberg (1968) in his research '*The child as a moral philosopher*'. [8]

Sample: Kohlberg's core sample was 75 American boys who were aged between 10 and 16 years at the start of the study. He followed the same boys until they were aged 22 to 28. The boys came from both middle-class and lower-class backgrounds. To test whether his stages are universal, Kohlberg (or his colleagues) also interviewed additional samples of boys and young people in Great Britain, Canada, Mexico, Turkey and Taiwan, including boys in urban areas and in isolated rural villages.

Methodology: The study was a longitudinal study, as the same group of boys was followed for 12 years, being re-tested at roughly three-yearly intervals, so changes in each boy's moral reasoning could be tracked over time. It was also a cross-cultural study, as the American findings were compared with the boys from the other five countries to see if the same stages appeared in the same order.

Data was collected using interviews in which the boys were presented with hypothetical moral dilemmas, such as the Heinz dilemma, where a man must decide whether to steal a drug he cannot afford to save his dying wife. The boys were asked what the person should do and, more importantly, why, with follow-up questions probing their reasoning, so the interviews were semi-structured and produced qualitative data. Kohlberg was interested in the reasoning behind the answers, not the decision itself.

Each boy's answers were then content analysed and scored, placing his reasoning into one of six stages within three levels: pre-conventional, conventional and post-conventional morality. This allowed Kohlberg to compare the stage each boy reached at different ages and across cultures.



© WJEC CBAC Ltd.



stemup.co.uk

Examiner only

(b) Research conducted by social psychologists, such as Milgram, often has ethical issues. Analyse ethical issues that arise in social psychological research. [10]

Social psychology studies how behaviour is influenced by other people, so researchers often need participants to be unaware of the true aim to avoid demand characteristics, which creates ethical issues.

Deception is a major issue. In Milgram's (1963) study 40 male volunteers were told it was a study of memory and learning, the drawing of roles was rigged, and they believed they were giving real electric shocks to the learner, a confederate. This deception meant that participants could not give fully informed consent, as they did not know what they were agreeing to. However, it can be argued that deception was necessary, because if participants had known the study was about obedience, their behaviour would not have been natural and the findings (65% went to 450 volts) would have lacked validity. Milgram also debriefed everyone afterwards and introduced them to the unharmed learner, and in a follow-up questionnaire 84% said they were glad to have taken part, so the deception may be justified by a cost-benefit analysis.

A second issue is protection from harm, as social situations can cause stress, anxiety or humiliation. Milgram's participants showed extreme tension: sweating, trembling, nervous laughter and, in three cases, full-blown seizures. They may also have suffered longer-term harm to their self-esteem from learning that they were capable of hurting someone. Critics such as Baumrind argued this harm was not justified. On the other hand, Milgram stated that the distress could not have been predicted, since psychiatrists had expected very few people to go to the end, and a psychiatrist who interviewed participants a year later found no evidence of lasting harm.

The right to withdraw is also an issue, as social research often studies pressure from authority. Milgram's verbal prods (e.g. 'you have no other choice, you must go



© WJEC CBAC Ltd.



stemup.co.uk

Examiner only

## Section B

Answer **all** questions.

**7.** An educational psychologist investigated reasons why some students complete their homework and others don't. She suggested that there is a relationship between enjoyment of the course and completion of homework. The psychologist recruited an opportunity sample of six history students. She gave the students an online survey, asking them to rate their enjoyment of the history course on a scale of 0–10, where 0 is not enjoying at all and 10 is really enjoying the course. She also asked the teacher for a copy of their mark book for six weeks and recorded the number of times the students completed homework.

The results are displayed in **Figure 1** below:

**Figure 1:** Relationship between enjoyment of subject and completion of homework

| Participant | Enjoyment of history on a scale of 0–10 | Number of times homework was completed |
|---|---|---|
| 1 | 5 | 1 |
| 2 | 8 | 5 |
| 3 | 5 | 4 |
| 4 | 0 | 3 |
| 5 | 7 | 6 |
| 6 | 6 | 6 |

(a) State an operationalised hypothesis for this research. [2]

There will be a positive correlation between the rating of enjoyment of the history course on a scale of 0 to 10 and the number of times homework was completed over six weeks, as recorded in the teacher's mark book.



© WJEC CBAC Ltd.



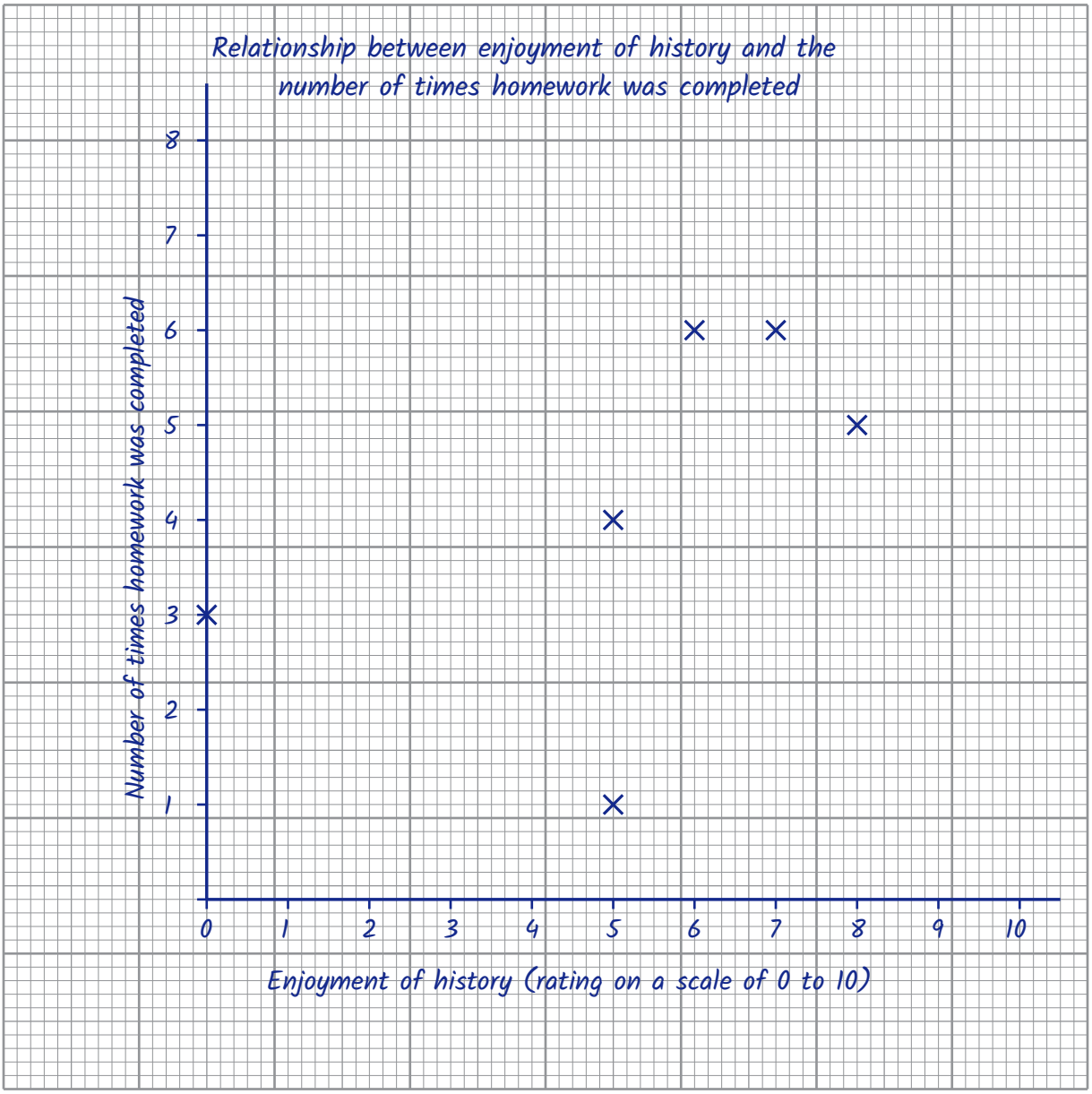
stemup.co.uk

Examiner only

(b) (i) Identify **one** graphical representation that could be used to display the results from **Figure 1**. [1]

A scattergram (scatter graph)

(ii) Construct the graphical representation you have chosen in (b)(i) to display the results from **Figure 1**. [4]




B290U201
07



© WJEC CBAC Ltd.



stemup.co.uk

Examiner only

(c) Evaluate the use of conducting this research on-line. [6]

One strength of an online survey is that the history students can complete it at home in private, rather than in the classroom where the teacher might see their answers. They may therefore be more honest about how little they enjoy history, reducing social desirability bias and making the enjoyment ratings more valid. It is also quick and cheap, and the psychologist could easily send the survey to many more history students, giving a larger, more representative sample than just six. Every student also completes exactly the same survey in the same format, with no interviewer effects, which standardises the procedure and improves reliability. However, it is difficult to control where and when the students complete the survey: one student might do it straight after a bad history lesson or with friends who influence their rating, so extraneous variables could lower the reliability and validity of the ratings. The psychologist also cannot check who actually filled it in. There are ethical problems too. The students may just tick a consent box without reading the details of the research, so consent may not be fully informed, and the psychologist cannot be sure they are old enough to consent. It is harder to debrief them or support any student who becomes worried, for example about failing a subject they do not enjoy, so there is less protection from harm.



© WJEC CBAC Ltd.



stemup.co.uk

Examiner only

(d) (i) Identify an appropriate inferential statistic that could be used to analyse the data in this research in **Figure 1**. [1]

Spearman's rho

(ii) Justify **two** reasons why the inferential statistic identified in (d)(i) is appropriate for this research. [2]

1. The research is looking for a relationship (correlation) between enjoyment of history and the number of times homework was completed, not a difference.

2. The data is at least ordinal: enjoyment is a subjective rating on a scale of 0 to 10, so the intervals between ratings are not equal.

(e) Explain **one** strength and **one** weakness of using an opportunity sample in this research. [2 + 2]

Strength: an opportunity sample is quick and easy to obtain, as the psychologist can simply use history students who are available at the time, e.g. one class in the school, without needing a full list of all history students as in random or stratified sampling.

Weakness: the students who were available may not be typical of all history students. For example, those present might be the keen students who attend lessons and like history, so the sample of only six is biased and unrepresentative and the findings cannot be generalised to all history students.



© WJEC CBAC Ltd.



stemup.co.uk

Examiner only

(f) To measure the central tendency of the data for enjoyment of history, a median was calculated. Explain why this is the most appropriate measure for this data. [2]

The enjoyment ratings are ordinal data (a subjective scale of 0 to 10), so a median is appropriate. Also, Participant 4's score of 0 is an outlier which would distort a mean; the median (5.5) is not affected.

(g) Evaluate the advantages and disadvantages of using quantitative data in psychology. [6]

One advantage of quantitative data is that it is numerical, so it can be analysed statistically using descriptive statistics (e.g. means) and inferential tests to see whether differences or correlations are significant, allowing objective comparisons between groups or conditions. This makes it more scientific and less open to researcher bias in interpretation.

It can also be summarised in graphs and tables, such as scattergrams or bar charts, so patterns and trends are easy to see. It is usually quick to collect and analyse and is often gathered with standardised methods such as closed questions or rating scales, so the research is easy to replicate, allowing reliability to be checked.

However, a disadvantage is that quantitative data lacks depth and detail: it shows what people do but not why. For example, a rating of 3 out of 10 does not tell us the reasons someone does not enjoy a subject, so it gives little insight into the causes of behaviour, reducing validity.

Quantitative data can also be reductionist, as complex experiences are reduced to numbers that may oversimplify them, and scales may be interpreted differently by different people. Numbers can also be selectively presented or manipulated to fit the expected results. Therefore, it is often best combined with qualitative data.



© WJEC CBAC Ltd.



stemup.co.uk

Examiner only

(h) The educational psychologist was asked to share the findings of this research. Explain the format she should use for reporting this psychological investigation. [5]

She should write a scientific report. It starts with a title and an abstract, a brief summary of the aim, method (a correlation using an online survey and mark book data from six history students), key findings and conclusions.

The introduction should review previous research on motivation, enjoyment and homework, leading to the aim and the hypothesis that enjoyment of history positively correlates with homework completion.

The method section should describe the design, the opportunity sample of six history students, the materials (online 0 to 10 rating scale, teacher's mark book), the procedure over six weeks and ethical issues, in enough detail for replication.

The results should give descriptive statistics (e.g. median enjoyment of 5.5), the scattergram and Spearman's rho with its significance. The discussion should interpret the findings in relation to past research, consider limitations such as the small sample, suggest improvements and further research, and explain implications for teachers. It ends with references and appendices (e.g. the survey).


© WJEC CBAC Ltd.

stemup.co.uk

Examiner only

**8.** A marketing manager wanted to investigate the power of social media reviews on the sales of fiction books. She chose two books with a similar storyline with similar front covers and asked a local bookstore to display them both. During November, she posted a review of each book on social media – Book A was reviewed as 'a fabulous, gripping story that will keep you reading' and Book B was reviewed as 'a slow start to the story, that doesn't get any better'.

She counted the sales of each book for three months and the results are displayed below:

**Figure 2:** Sales of books from October to December.

| | **Sales of Book A** | **Sales of Book B** |
|---|---|---|
| October | 353 | 362 |
| November | 410 | 135 |
| December | 727 | 578 |

(a) (i) Explain **one** extraneous variable that could affect the findings of this research. [2]

The author could be an extraneous variable: if Book A was written by a famous or favourite author, people might buy it because of the author rather than because of the positive social media review, so sales would not be due to the review.

(ii) Explain **one** way of dealing with the extraneous variable identified in (a)(i). [2]

Both books chosen should be by the same author (or by equally unknown authors), so that the author cannot be the reason customers choose one book over the other, and any difference in sales is more likely due to the reviews.



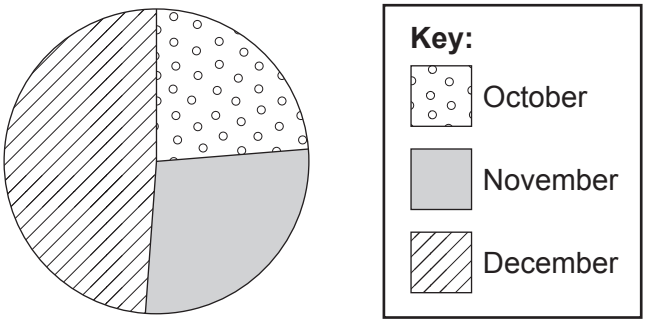
© WJEC CBAC Ltd.



stemup.co.uk

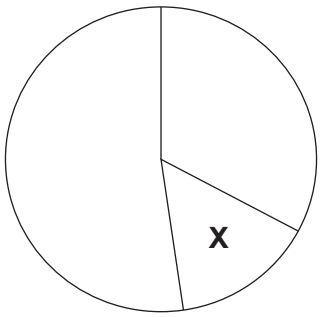
Examiner only

(b) The researcher decided to display the results in a pie chart. Using the information in **Figure 2**, identify whether the book represented in the pie chart is Book A or Book B. [1]




*Book A*

(c) The data for the other book is represented in the pie chart below. Which month is represented by the area X of the pie chart? [1]




*November*


© WJEC CBAC Ltd.


stemup.co.uk

Examiner only

(d) (i) Explain **one** issue of validity with the review of the books in this research. [2]

The reviews are subjective: phrases such as 'gripping' or 'a slow start' might mean different things to different readers, so the reviews might not influence everyone in the same way, which lowers the validity of measuring the effect of the reviews on sales.

(ii) Explain how the issue identified in (d)(i) could be dealt with. [2]

The reviews could be made more objective and standardised, for example by giving each book a star rating (e.g. 5 stars for Book A and 1 star for Book B), so every reader interprets the review in the same way.



© WJEC CBAC Ltd.



stemup.co.uk

Examiner only

(e) Identify and explain **one** ethical issue with this research. [3]

Deception: customers are deceived, as the reviews were written by the marketing manager to test their effect rather than being genuine opinions. Customers may spend money on Book A, perhaps as a Christmas present in December, based on a false review, and could be embarrassed or annoyed when they find out, and they never consented or were debriefed.

(f) Briefly evaluate the use of longitudinal research. [4]

A strength of longitudinal research is that the same participants are followed over a long period, so trends and developmental changes can be seen over time, e.g. Kohlberg followed boys for 12 years. As the same people are compared with themselves, participant variables are controlled.

However, longitudinal studies are costly and time consuming, so results take years to obtain. Participants may drop out (attrition), and those who remain may be different, e.g. more motivated, so the final sample is less representative and population validity falls. Participants may also become familiar with the tests, and cohort effects mean findings may not apply to other generations.

**END OF PAPER**


© WJEC CBAC Ltd.


stemup.co.uk

| Question number | Additional page, if required. Write the question number(s) in the left-hand margin. | Examiner only |
|---|---|---|
| 6 (b) | on') made withdrawal very difficult, although participants were told at the start they could keep their payment whatever happened.<br>Confidentiality is a further issue, as findings could embarrass people, e.g. if it became known that someone had obeyed to 450 volts. Researchers deal with this by not using names or identifying details when publishing.<br>Valid consent is especially difficult in field experiments, where people do not know they are being studied at all. Researchers can use presumptive consent, prior general consent and a thorough debrief to reduce this problem.<br>Ethical issues can be managed by modern guidelines such as the BPS Code of Human Research Ethics. Burger's (2009) replication of Milgram stopped the study at 150 volts, screened out vulnerable participants using a clinical psychologist, told participants three times that they could withdraw and still keep their $50, and debriefed them immediately, while still finding that 70% were willing to continue past 150 volts. This shows that social psychology can be both ethical and valid, although the reduced procedure means it cannot tell us exactly what people would do at higher voltages.<br>In conclusion, ethical issues such as deception, harm and the right to withdraw are hard to avoid in social research because full knowledge would change behaviour. However, as Burger shows, careful safeguards and debriefing can balance the rights of participants against the value of the findings, so these issues can be reduced but not fully removed. | |


© WJEC CBAC Ltd.

stemup.co.uk

| Question number | Additional page, if required.<br>Write the question number(s) in the left-hand margin. |
|---|---|
| | |

Examiner only



© WJEC CBAC Ltd.



stemup.co.uk

| Question number | Additional page, if required.<br>Write the question number(s) in the left-hand margin. |
|---|---|
| | |

Examiner only



© WJEC CBAC Ltd.



stemup.co.uk

| Question number | Additional page, if required.<br>Write the question number(s) in the left-hand margin. |
|---|---|
| | |

Examiner only



© WJEC CBAC Ltd.



stemup.co.uk

| Question number | Additional page, if required.<br>Write the question number(s) in the left-hand margin. |
|---|---|
| | |

Examiner only



© WJEC CBAC Ltd.



stemup.co.uk