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

GCE AS/A LEVEL

2290U20-1

S23-2290U20-1

MONDAY, 22 MAY 2023 – AFTERNOON

PSYCHOLOGY – AS unit 2
Using Psychological Concepts

1 hour 30 minutes

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
1.	**20**	
2.	**4**	
3.	**7**	
4.	**2**	
5.	**3**	
6.	**6**	
7.	**2**	
8.	**19**	
9.	**17**	
Total	**80**	

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01

ADDITIONAL MATERIALS

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.

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. Additional space is provided for some questions within the booklet (if required). If further space is required for any question, you should 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 necessity for good English and orderly presentation in your answers.

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

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Answer **all** questions in Section A **and** Section B.

SECTION A – Contemporary Debate

1. 'Using conditioning techniques to control the behaviour of children is unethical and has negative social and economic implications.'
Discuss the extent to which psychological research and/or theories agree or disagree with this statement. [20]

Conditioning techniques come from the behaviourist approach, which assumes that behaviour is learned through the environment. Operant conditioning (Skinner) uses positive reinforcement (adding something pleasant, e.g. praise or stickers), negative reinforcement (removing something unpleasant) and punishment to make a behaviour more or less likely. These techniques are used widely to control children's behaviour by parents, schools and therapists, so it is important to judge whether the statement is supported.

Research that disagrees with the statement suggests conditioning can be ethical and beneficial. Lovaas (1987) used applied behaviour analysis (ABA) with young autistic children, giving about 40 hours a week of one-to-one reinforcement of desired behaviours for two or more years. 47% of the intensive group (9 of 19 children) reached normal intellectual and educational functioning, compared with only 2% of a control group. Token economies have also helped children with ADHD: Robinson et al. (1981) found that giving hyperactive boys tokens, exchangeable for privileges, for completing work significantly increased the number of reading tasks completed. This suggests conditioning can protect vulnerable children's welfare and so is not necessarily unethical, as the child gains skills and independence. There are also positive economic implications: Jacobson et al. (1998) estimated that early intensive behavioural intervention could save roughly $200,000 per child by age 22, and children who learn self-control in school may become more productive adults, benefiting the economy.

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However, there are clear ethical problems. Lovaas's early work used aversive punishment, such as shouting and slaps, breaching protection from harm, and many autistic adults argue that ABA trains children to suppress natural behaviours such as stimming, which may cause long-term distress. Young children cannot give informed consent to having their behaviour shaped, as they are vulnerable and adults hold all the power. Punishment-based control is especially harmful: Gershoff's (2002) meta-analysis found that physical punishment produced immediate compliance but was linked to later aggression, antisocial behaviour and poorer mental health. Bandura's (1961) Bobo doll study also shows that an adult who hits a child is modelling aggression which the child may imitate. Even milder techniques can cause harm: Morris (2014) argued that time-out on the 'naughty step' can cause emotional harm, because the child experiences isolation and withdrawal of affection. Reward has social costs too. Lepper et al. (1973) found that nursery children who expected a certificate for drawing with felt-tip pens later spent about half as much free time drawing as children who were not rewarded, showing that extrinsic rewards undermine intrinsic motivation (the overjustification effect). If schools rely on stickers and merits, society may produce adults motivated only by external reward. Economically, Levitt et al. (2010) found that paying pupils for test scores improved performance only when the reward was immediate; when it was delayed by a month the effect disappeared, so paying for grades may waste money without creating a better educated workforce.

These concerns have influenced politics. Corporal punishment was banned in UK state schools in 1986, and Wales removed the defence of 'reasonable punishment' in 2022, making smacking children illegal. This shows society now judges punishment-based conditioning to be unethical, although reinforcement-based

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behaviour policies are still standard in schools.

Other approaches also challenge the statement. The psychodynamic approach suggests that harsh control in childhood, such as strict toilet training, can affect adult personality (e.g. an anal-retentive personality), supporting the view that controlling techniques have long-term negative effects. Gray's reinforcement sensitivity theory proposes that children differ in their behavioural inhibition system (sensitivity to punishment) and behavioural activation system (sensitivity to reward), so one technique will not suit all children, and punishment may be particularly distressing for anxious, high-BIS children. Alternatives such as modelling desired behaviour (Bandura) and emotion coaching, where adults help children name and regulate emotions, may control behaviour while respecting the child's autonomy.

The evidence itself has limitations. Much of the theory comes from Skinner's lab experiments on rats and pigeons, and there are qualitative differences between animals and children, so generalising to classrooms may lack validity. Lovaas's study was not fully randomised, as allocation to groups depended partly on therapist availability, so the effect may be overestimated. On the other hand, field studies such as token economies in real classrooms have high ecological validity.

In conclusion, the evidence only partly agrees with the statement. Punishment-based techniques (smacking, isolation) are generally unethical and have negative social implications, which is why the law has changed. However, carefully used positive reinforcement, especially in therapy with consent from parents and close monitoring of the child's welfare, can bring major social and economic benefits. Whether conditioning is unethical therefore depends on the technique, the child and how it is used, so the statement is too sweeping.

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SECTION B – Principles of Research

2. Using an example from psychology, explain the ethical issue of 'risk of stress, anxiety, humiliation or pain'. [4]

This ethical issue means that researchers must protect participants from harm: according to BPS guidelines, they should not be exposed to any greater risk of stress, anxiety, humiliation or pain than they would experience in everyday life, and should be able to withdraw. For example, in Milgram's (1963) obedience study participants believed they were giving shocks of up to 450 volts to Mr Wallace; many sweated, trembled and showed nervous laughter, and one had a full seizure. This stress, and possible humiliation on learning the shocks were fake, would not be acceptable today.

3. (i) Outline the main features of self-reports. [3]

Self-reports are research methods in which participants report on their own thoughts, feelings, behaviour and perceptions, rather than these being observed. They include questionnaires and interviews (structured, semi-structured or unstructured). They may use closed questions giving quantitative data, or open questions letting participants answer in their own words, giving qualitative data.

(ii) Explain **one** advantage and **one** disadvantage of self-reports. [2 + 2]

Advantage: open questions let participants explain their views in their own words, giving a valid insight into their perceptions, and the researcher's expectations are less likely to bias the answers than if behaviour was interpreted by an observer.

Disadvantage: responses may be affected by social desirability bias or demand characteristics, as people give the answer that makes them look good. This means what they say may not reflect what they actually think or do, reducing validity.

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4. Define the term 'interval data'. [2]

Interval data is a level of measurement where scores are on a scale with equal intervals between units, e.g. temperature in °C: the gap between 1° and 2° is the same as between 21° and 22°.

5. Explain why Milgram (1963) might have claimed that his '*Behavioral study of Obedience*' gained valid consent. [3]

Milgram used a volunteer sample who answered a newspaper advert and agreed to take part, and all were fully debriefed afterwards and met Mr Wallace, so consent was confirmed retrospectively: 84% said they were glad to have taken part. He could also claim presumptive consent: since people of the same kind as his participants approved of the study once they knew its true aims, he could presume his participants would have agreed had they known in advance.

6. With reference to Kohlberg's (1968) research '*The child as a moral philosopher*', discuss how the choices he made impacted on external validity. [6]

Kohlberg chose an all-male sample of 75 American boys aged 10 to 16. This reduces population validity, as the stages may not generalise to girls; Gilligan argued that his scale is androcentric and underrates the 'care' morality more typical of females (beta bias).

However, he chose a longitudinal design, retesting the boys every three years until they were aged 22 to 28. This showed the stages developing in the same invariant sequence over time in the same people, which strengthens the external validity of his conclusion that moral reasoning develops in stages.

He also chose to carry out cross-cultural research, in countries such as Taiwan, Mexico and Turkey, finding the same sequence of stages. This increases the generalisability of his theory to other cultures, although the dilemmas were

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based on Western values, so some cultures may have been judged as less moral. Finally, he chose to use interviews about hypothetical moral dilemmas, such as Heinz stealing a drug for his dying wife. These lack mundane realism and measure moral reasoning rather than real moral behaviour, and answers could be affected by social desirability or researcher bias in coding, so results may not generalise to real-life moral decisions.

7. Outline **one** strength of a semi-structured interview. [2]

A semi-structured interview allows the interviewer to ask follow-up questions based on the participant's answers, so more depth and detail can be gained, and new topics that the researcher had not anticipated can be explored, increasing validity.

8. A psychologist decided to conduct a questionnaire to find out students' perceptions of how much their peers study for an exam. She suspected that this perception would affect how much they themselves revised. She used a random sample of 20 A level students.

(a) Design **one** question that the psychologist could have included to measure the students' perceptions of how much their peers study for an exam. [2]

On average, how many hours per week do you think other students in your A level class spend revising for an exam?

0-2 hours / 3-5 hours / 6-8 hours / 9 or more hours

(b) Give **one** advantage and **one** disadvantage of using a questionnaire to study student perceptions. [2 + 2]

Advantage: questionnaires are standardised, as every student is asked identical questions about how much they think their peers study, so the data is reliable and easy to compare. They can also be given to many more students at once

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than interviews could, so a broader picture of student perceptions is gained.

Disadvantage: students may give socially desirable answers, e.g. exaggerating how much they revise compared with their peers, and cannot ask for questions to be clarified, so their answers may not be a valid reflection of their perceptions.

(c) (i) Define what is meant by the term 'random sampling'. [2]

Random sampling is a technique in which every member of the target population (sampling frame) has an equal chance of being selected, e.g. by drawing names out of a hat or using a random number generator.

(ii) Explain how the psychologist might have collected her random sample of 20 participants in this research. [3]

She would obtain a list of all A level students in the college sitting the same exams (e.g. from the college register) as the sampling frame. Each student's name would be put into a hat or a computer random name generator, and the first 20 names drawn out would be asked to complete her questionnaire.

(d) State a possible directional alternative (experimental) hypothesis for this research. [2]

Students who perceive their peers to study for more hours per week (as measured by the questionnaire) will themselves spend more hours per week revising for an exam than students who perceive their peers to study for fewer hours.

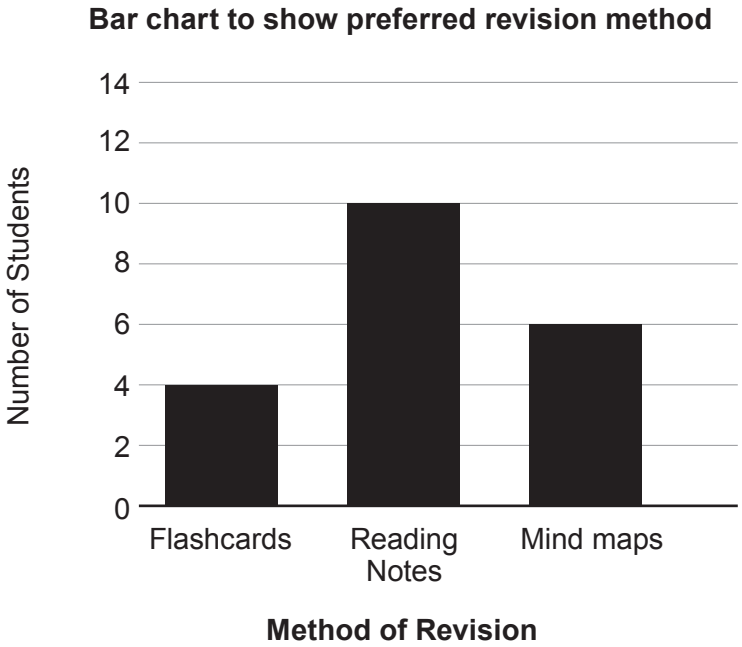
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(e) Another question that was asked in the questionnaire was: 'What is your preferred method of revision?'. The results are shown in the bar chart below.

Using the data from the bar chart, create a frequency table showing these results. [4]



Insert your frequency table here:

Frequency table to show preferred revision method

Method of revision	*Flashcards*	*Reading notes*	*Mind maps*	*Total*
Number of students (frequency)	*4*	*10*	*6*	*20*

(f) Identify and briefly explain **one** way that this study could have been improved. [2]

Instead of a random sample of only 20, she could use a larger stratified sample (e.g. in proportion to year group and gender), so that her findings about student perceptions are more representative and generalisable.

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9. A psychology teacher wanted to know how to improve the concentration span of his students. He didn't know whether 15 minutes of jogging or 15 minutes of relaxation at the beginning of a lesson would be more beneficial. To find out he got half of his students to jog on the spot for 15 minutes and the other half to participate in a 15 minute guided yoga session. The whole class then completed a concentration test.

Table to show concentration test scores for participants who jogged on the spot.

Participant Number	Score on concentration test
1	68
2	76
3	65
4	83
5	79
6	82
7	102
8	43
9	94
10	78

(a) (i) Using the data in the table above, calculate the range of concentration test scores for the students who jogged on the spot. Show your workings. [2]

Highest score = 102, lowest score = 43

Range = 102 - 43 = 59

(ii) The range of concentration test scores for the participants who completed 15 minutes of yoga was 89.
Give **one** disadvantage of using the range to compare the effects of the different activities in this research. [2]

The range only uses the highest and lowest scores, so it is easily distorted by anomalies, e.g. participant 8's score of 43 in the jogging group. It ignores the spread of all other scores, so ranges of 59 and 89 may not validly show which activity is better.

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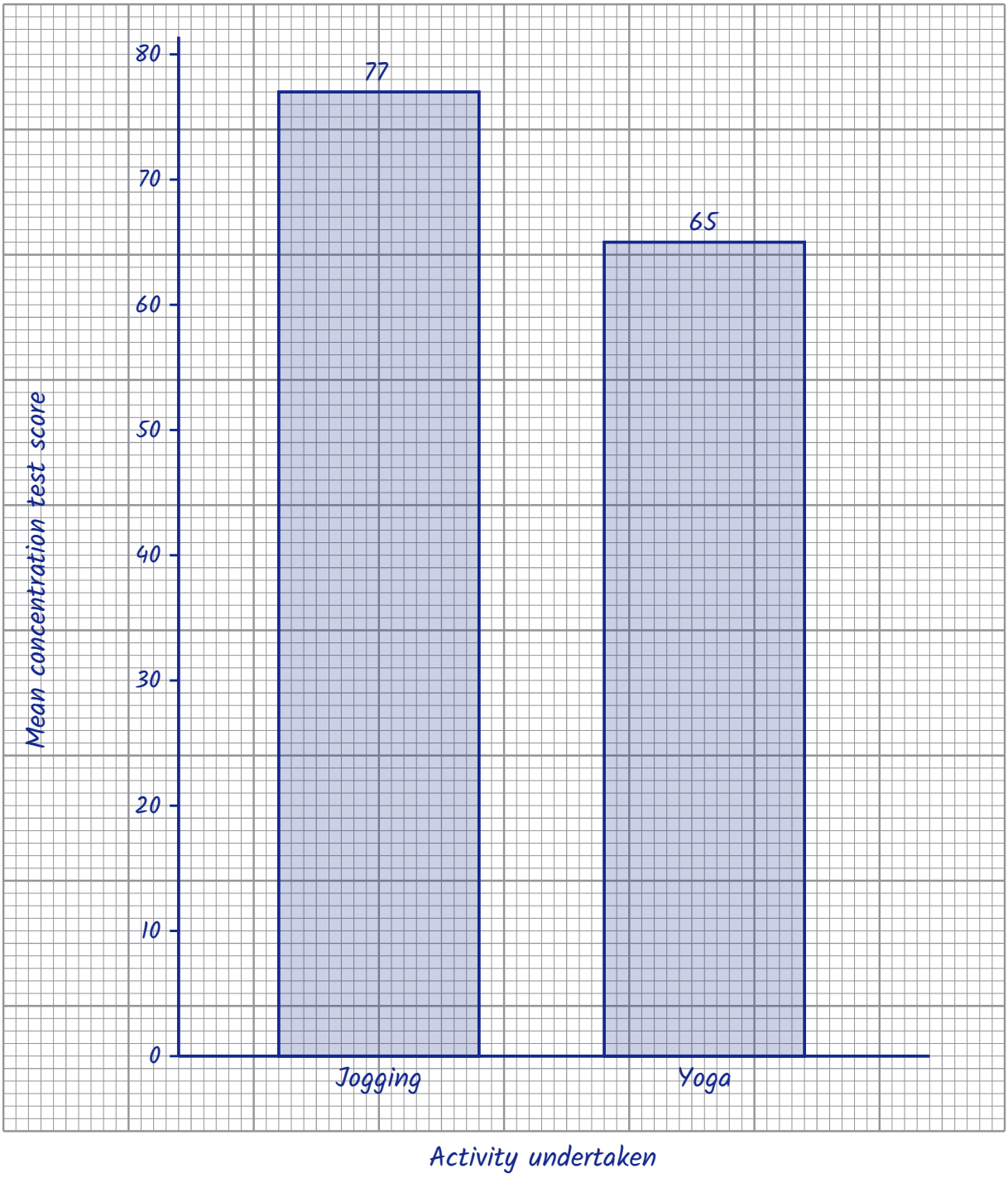
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(iii) In addition to the range, the teacher also calculated the mean for each group. The mean concentration test score for the jogging group was 77, whereas the mean concentration test score for the yoga group was 65.

Using this data, draw and label a bar chart on the graph paper below. [5]

Bar chart to show the mean concentration test score for students who jogged and students who did yoga



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(b) The psychology teacher used a stratified sample of his own students. Describe how a stratified sample is selected. [3]

First the target population (e.g. all the teacher's students) is divided into subgroups (strata) based on relevant characteristics, such as gender or year group. Participants are then selected randomly from each stratum, e.g. using a random number generator, so that the number from each subgroup is in direct proportion to its size in the target population (e.g. if 60% are girls, 60% of the sample are girls).

(c) Identify and explain the experimental design used in this research. [2]

Independent groups design: different students took part in each condition, as half the class jogged on the spot for 15 minutes and the other half did the guided yoga session, and each student only did one activity before the concentration test.

(d) Identify and explain how **one** confounding variable could have affected performance on the concentration test. [3]

Individual differences in fitness: some students in the jogging group may be much fitter than others. Unfit students may still be out of breath and tired after jogging for 15 minutes, so they find it harder to concentrate and score lower on the test, whereas fit students recover quickly. This means the lower scores may be due to fitness rather than the activity itself, reducing the validity of the comparison between jogging and yoga.

END OF PAPER

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