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Cambridge Assessment International Education

Cambridge International AS & A Level

CANDIDATE NAME: StemUp Model Solution

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PSYCHOLOGY **9990/12**

Paper 1 Approaches, Issues and Debates **February/March 2025**

1 hour 30 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.

INFORMATION

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages. Any blank pages are indicated.

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Section A

Answer **all** questions.

1 In the study by Perry et al. (personal space), there were four types of 'approaching figure'. One of these figures was a friend.

(a) Identify **one** other 'approaching figure'.

A stranger. [1]

(b) Outline what is meant by the term 'empathy'.

Empathy is the ability to understand and share the emotional state (feelings) of another person, by imagining what it would be like to be in their situation, i.e. seeing it from their perspective or "putting yourself in their shoes". [2]

(c) Outline **one** conclusion from this study.

Oxytocin affects how much personal space a person needs, but the effect depends on how empathic they are: oxytocin makes social cues more salient, so people high in empathy want closer distances, whereas people low in empathy need more personal space after oxytocin. [2]

2 In the study by Hölzel et al. (mindfulness and brain scans), some participants took part in formal mindfulness training. This included yoga, meditation and body scan.

(a) Outline what happened during the 'body scan' part of the training in this study.

Participants were guided sequentially through the entire body, focusing on each region in turn and becoming aware of the sensations there. They observed these sensations with non-judgemental awareness, ending with awareness of the body as a whole. [2]

(b) Explain **one** weakness of this study.

It relied on self-reports, which may be affected by social desirability. Participants completed the FFMQ mindfulness questionnaire and recorded their home practice, so they may have exaggerated how mindful they were or how much MBSR practice they had done. [2]

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3 From the study by Dement and Kleitman (sleep and dreams):

(a) One aim was to investigate whether eye movement patterns were related to the content of dreams.

Outline **one** other aim of this study.

To investigate whether dream recall differs between REM and NREM sleep, i.e. whether people woken during REM sleep recall dreams more often than people woken during NREM sleep.

[2]

(b) One feature of the sample was that there were nine participants.

Identify **two** other features of this sample.

1 *They were all adults.*

2 *Most were male; seven males and two females.*

[2]

(c) Suggest **one** application to everyday life using evidence from this study. Your suggestion **must** be ethical.

It could help people with sleep disorders. Patients could sleep in a sleep clinic with their consent, attached to an EEG, so doctors can check whether their brain waves and REM cycles are typical, e.g. REM roughly every 90 minutes, and plan treatment if they are not. [2]

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4 In the study by Pozzulo et al. (line-ups), the participants were adults and children.

Describe **one** result from the children in the target-absent line-ups. You **must** use data in your answer.

In the target-absent line-ups, the children were more accurate with cartoon faces than with human faces: they had a higher correct rejection rate for the cartoon targets (74%) than for the human targets. The highest correct rejection rate for children was for Dora (80%), which was higher than for Diego and for both the male and female human targets.

..... [3]

5 **(a)** Outline **one** assumption of the cognitive approach.

Humans process information in a similar way to a computer: information is input through the senses, processed by cognitive processes such as attention, memory and language, and then output as behaviour, and this processing is the same for all humans. ..... [2]

(b) Explain how the study by Baron-Cohen et al. (eyes test) supports the assumption you outlined in part **(a)**.

In the Eyes Test, participants were shown a photograph of a pair of eyes (input), had to process this to work out the emotion or mental state shown (process), and then chose the correct word from four options (output), so it measured information processing. ..... [2]

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6 **(a)** Outline what is meant by the term 'shaping'. Include an example from the study by Fagen et al. (elephant learning) in your answer.

Shaping is when behaviour is reinforced through successive approximations; each time the animal's behaviour gets closer to the target behaviour it is rewarded, so rewards are given for each progressive step until the full goal behaviour is performed. In Fagen et al., for "trunk up", the elephant was rewarded with a piece of banana each time it raised its trunk higher, until it lifted its trunk fully into the air.

..... [3]

(b) Two friends, Tenzin and Ambar, are discussing the ethics of the study by Fagen et al. (elephant learning).

Tenzin says the study is ethical, but Ambar says it is **not** ethical.

Outline why you think **either** Tenzin **or** Ambar is correct, using evidence from this study.

The friend who I think is correct is: *Tenzin*

because: *the study followed the guideline on rewards and deprivation; the elephants were not deprived of food to make them work, as they had constant access to food and water outside training, and only positive reinforcement (banana pieces) was used, never punishment. It also followed the guideline on numbers, as only 5 elephants were used, which kept the sample to a minimum. The species was appropriate, because the aim was to teach elephants a trunk wash for TB testing, and the elephants could walk away from a session if they did not want to take part, which minimised harm.*

.....

[4]

7 From the study by Andrade (doodling):

Describe the procedure for a participant who was in the doodling condition.

The participant had just completed a different, unrelated study and was recruited afterwards. They were taken into a visually dull room and asked to listen to a monotonous tape recording of a telephone message about a party. They were told to write down the names of the people who were coming to the party, and that they did not need to remember anything else. While listening, they were asked to shade in the squares and circles on a sheet of paper, and told that it did not matter how neatly or quickly they did it, as it was just to relieve boredom. After the tape they had a one-minute conversation with the experimenter, and were then asked to write down the names of the party-goers and then, as a surprise test, the places mentioned. Finally they were debriefed and asked if they had suspected a memory test. [5]

8 Your friend, Aditi, has read a newspaper story about a person on a bus who collapsed but did not receive help from other bus passengers. The story did not contain any information about the characteristics of the victim. Aditi says that she cannot understand why the other passengers did not help the person who had collapsed.

Suggest to Aditi why the other passengers did not help, using your knowledge of the study by Piliavin et al. (subway Samaritans).

Aditi, the passengers may have diffused responsibility: with lots of people on the bus, each person expected someone else to help. Also, they may have thought the victim was drunk. In Piliavin et al., the ill victim (with a cane) received spontaneous help on 95% of trials but the drunk victim (smelling of alcohol) on only 50%. Helping a drunk person has higher costs, e.g. they might be aggressive or be sick, and people might feel a drunk victim does not deserve help. Finally, it may depend on the sex of the passengers: in Piliavin most first helpers were male, so if most passengers were female they may have expected a man to help. [4]

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Section B

Answer **all** questions.

9 **(a)** Describe the sample used in the study by Hassett et al. (monkey toy preferences).

The sample was rhesus monkeys from a troop of 135 individuals at the Yerkes National Primate Research Center field station, who had lived together as a group for more than 25 years, with a matrilineal social structure. They ranged in age from 3 months to over 13 years. The potential participants were 61 females and 21 males (82 monkeys), but 14 were excluded because of hormonal treatment and 39 infants were not used, so 53 were excluded in total. The data analysis used 34 monkeys: 23 females and 11 males.

[4]

(b) Explain **one** similarity and **one** difference between the study by Hassett et al. (monkey toy preferences) and **one** other study from the biological approach. Do **not** refer to the sample.

Similarity *Both Hassett et al. and Hölzel et al. collected quantitative data. Hassett et al. recorded the frequency and duration of each monkey's interactions with wheeled toys and plush toys, e.g. how long males played with wheeled toys compared with plush toys. Hölzel et al. used MRI scans to measure grey matter concentration in brain areas such as the hippocampus, and FFMQ scores. This means both studies could compare conditions objectively and test statistically whether differences were significant, rather than relying on interpretation.*

Difference *Hölzel et al. measured the brain directly, but Hassett et al. did not. Hölzel used MRI scans before and after the 8-week MBSR course to detect changes in grey matter. Hassett only observed behaviour, toy play, and inferred that the sex differences were caused by biological factors such as prenatal hormones, as the monkeys had no gendered socialisation. So Hölzel can show a physical biological change directly, whereas Hassett's biological explanation is indirect and other explanations remain possible.*

[8]

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10 Evaluate the study by Bandura et al. (aggression) in terms of **two** strengths and **two** weaknesses. At least one of your evaluation points **must** be about generalisations from the sample.

One strength is that Bandura et al. used a standardised procedure. Every child in a model condition watched the model for about 10 minutes, and the aggressive model performed the same distinctive acts in the same order, e.g. sitting on the Bobo doll and punching it on the nose, hitting it with a mallet and saying "Pow" and "Sock him in the nose". All children then had the same mild aggression arousal and 20 minutes in the same room with the same toys. This means the study can be replicated to test its reliability, and differences between conditions are more likely to be due to the model than to differences in the procedure.

A second strength is that the study collected quantitative data with high inter-rater reliability. Observers behind a one-way mirror recorded the number of imitative physical and verbal aggressive acts in 5-second intervals, and a second observer independently scored some of the children, with high agreement. This allowed direct, objective comparisons, e.g. between the aggressive and non-aggressive model groups and between same-sex and opposite-sex models.

However, one weakness is generalisation from the sample. The 72 children, 36 boys and 36 girls aged about 3 to 5 years, all came from one nursery school at Stanford University. These children may come from similar, relatively advantaged backgrounds, so they may not represent children from other cultures or social classes, or older children and adults, who might imitate aggression differently. So we cannot be confident that the findings apply to everyone.

A second weakness is low ecological validity and ethics. The children watched an unfamiliar adult attacking a Bobo doll, which is designed to be hit and bounces back, so this is not like real-life aggression towards people. The children were also deliberately frustrated by having attractive toys taken away, and were taught new aggressive behaviours that could last after the study, so they were not fully protected from harm.

Overall, the standardisation and quantitative data make the findings reliable, but the narrow sample and artificial setting limit how far they generalise to real-life aggression.

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