Cambridge Assessment International Education

Cambridge International AS & A Level

CANDIDATE NAME: StemUp Model Solution

CENTRE NUMBER | | | | | |

CANDIDATE NUMBER | | | | |

4151353000

PSYCHOLOGY **9990/12**

Paper 1 Approaches, Issues and Debates **February/March 2022**

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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Answer **all** questions.

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

(a) Participants were woken at two different time intervals during REM sleep and asked to estimate their dream-duration. One of the time intervals was five minutes.

State the other time interval.

15 minutes. [1]

(b) Name the apparatus used to measure brain activity in this study.

EEG (electroencephalogram). [1]

(c) Outline **one** dream reported by a participant that had horizontal eye movements.

One participant dreamed of watching two people throwing tomatoes at each other, so his eyes moved from side to side as he looked from one person to the other.

[2]

2 From the study by Pepperberg (parrot learning):

(a) Name **two** items that Alex the parrot had to verbally request when he wanted them.

1 *Nuts (e.g. cashews).*

2 *Keys.*

[2]

(b) Outline **one** strength of this study in relation to reliability.

The testing procedure was standardised, so it could be repeated in the same way. For example, the principal trainer was always present during a test, but she sat with her back to Alex so she could not give him cues.

[2]

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3 From the study by Bandura et al. (aggression):

(a) Describe the sample used in this study.

The sample was 72 children, 36 boys and 36 girls, enrolled at the Stanford University Nursery School. They were aged between 37 and 69 months, with a mean age of 52 months. They were split into eight experimental groups of six and a control group of 24.

[3]

(b) Describe **one** result about aggressive gun play in this study.

Boys showed more aggressive gun play than girls in all conditions. For example, after seeing an aggressive male model, boys showed much more aggressive gun play than girls who had seen the same model.

[2]

4 From the study by Milgram (obedience):

(a) Describe the shock generator used in this study.

The shock generator had a horizontal line of 30 lever switches. Each switch was clearly labelled with a voltage, from 15 volts up to 450 volts, increasing in 15 volt steps. Groups of four switches also had verbal labels, from "Slight Shock" through to "Danger: Severe Shock", and the last two switches were simply labelled XXX. When a switch was pressed a red pilot light came on, an electric buzzing was heard, a blue light labelled "voltage energizer" flashed and the dial on the voltage meter swung to the right.

..... [4]

(b) Suggest **one** real-world application based on this study. Your suggestion **must** be ethical.

A teacher could make students more obedient in class, for example following safety rules in a laboratory, by wearing clothing that shows authority, such as a lab coat like the experimenter's grey technician's coat, and giving instructions in a firm, calm voice.

..... [2]

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5 From the study by Andrade (doodling):

(a) Outline the aim of this study.

To investigate whether doodling affects concentration, by finding out whether participants who doodled (shaded shapes) while listening to a boring telephone message would recall more names and places than those who did not doodle.

..... [2]

(b) Explain **one** reason why the procedure was standardised in this study.

Standardising the procedure reduces extraneous variables. Every participant heard the same 2.5 minute mock telephone message about a party, in the same monotone voice, after the same tiring task. This means the only thing that differed between the groups was whether they doodled (the IV), so any difference in recall of names and places (the DV) is likely to be caused by doodling, which increases validity.

..... [3]

6 The debate about individual and situational explanations relates to the study by Schachter and Singer (two factors in emotion).

Outline what is meant by this debate. Include **one** example from the individual explanation and **one** example from the situational explanation from the study by Schachter and Singer.

The debate is about whether behaviour is caused by factors within the person, such as their personality or disposition (individual explanations), or by factors in the external environment, such as other people and the setting (situational explanations).

Individual: some participants may have joined in the euphoric activities, such as playing with the hula hoop, because of their personality, e.g. being extravert.

Situational: other participants may have become euphoric or angry because of the environment, as the stooge behaved in a euphoric or angry way in the room with them.

..... [4]

7 From the study by Laney et al. (false memory):

Describe the procedure from the point when participants had to view slides in Experiment 2.

Participants viewed 20 slides of photographs of common food items, such as asparagus, spinach, strawberries and pizza. Each slide was shown for 30 seconds. They rated each photograph on four scales: how appetising the food looked, how disgusting it looked, the artistic quality of the photo, and whether the photographer was a novice, amateur or professional. Ratings were on an 8 point scale from 1 (not at all) to 8 (very much). They then completed the Restaurant Questionnaire, Food History Inventory, Memory or Belief questionnaire and Food Preferences Questionnaire, and finally they were debriefed.

..... [4]

8 From the study by Canli et al. (brain scans and emotions):

(a) Outline how participants were asked to respond to pictures during the recognition test in this study.

About three weeks later, participants were unexpectedly shown the old pictures mixed with new ones, and asked whether they had seen each one before. They answered "remember" if they were certain they had seen it, "know" if it seemed familiar, or "forgotten" if not. ..... [2]

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(b) Two friends, Govinda and Ansh, are discussing this study in terms of validity.

Govinda believes the study does have validity but Ansh believes the study does **not** have validity.

Outline why you think **either** Govinda **or** Ansh is correct, using evidence from the study.

I think Ansh is correct. The task lacked mundane realism, because participants rated pictures for emotional intensity while lying in an fMRI scanner, which is not an everyday activity, and emotional events in real life are experienced, not just viewed in photographs. It also had low ecological validity as it took place in a laboratory. In addition, the sample had low population validity, because it was only ten right-handed females, so the findings about brain activity and emotional memory may not generalise to males or left-handed people.

..... [4]

9 **(a)** Describe the psychology being investigated in the study by Yamamoto et al. (chimpanzee helping).

The study investigated altruism, which is helping another individual without any benefit to yourself. It was about prosocial behaviour and targeted helping, which is helping based on understanding the specific needs of another, and whether chimpanzees help only when asked. For example, one chimpanzee passed a straw to its partner in the next booth so the partner could drink juice, even though the helper got no juice itself. This links to empathy, understanding the state of another by imagining being in their position.

..... [4]

(b) Explain whether each ethical guideline below was broken in the study by Yamamoto et al. (chimpanzee helping):

housing *Not broken. Housing should suit the social behaviour of the species. The chimpanzees lived in a social group at Kyoto University, as chimps do in the wild.*

numbers *Not broken. Researchers should use the fewest animals needed. Only five pairs of chimpanzees were used, which was the minimum needed to compare helping across pairs.*

reward *Could be broken. Behaviour should not be controlled by reward alone. One chimp got juice as a reward while its helping partner got no reward at all for giving the tool.*

species *Not broken. An appropriate species should be chosen. Chimpanzees are social, are close to humans, and these captive chimps were used to taking part in studies.*

[8]

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10 Evaluate the study by Saavedra and Silverman (button phobia) in terms of **two** strengths and **two** weaknesses. At least one of your evaluation points **must** be about self-reports.

One strength is that the study used self-reports that gave quantitative data. The boy rated his distress on a feelings thermometer (a scale from 0 to 8) for each item on his hierarchy of buttons, and also rated his disgust. This made it easy to see whether therapy was working, for example that exposure alone reduced distress but disgust only fell after the imagery-based exposure focusing on disgust. Using the same scales at follow-up also allowed changes to be compared over time.

A second strength is its application to everyday life. It shows that a phobia can be maintained by disgust as well as fear, so therapists treating phobias could add disgust-based imagery to exposure therapy, as this boy no longer met the criteria for a specific phobia at follow-up.

However, one weakness is that self-reports may be affected by social desirability. The boy was only nine years old and may have given lower distress ratings because he wanted to please the therapist or his mother, or wanted the sessions to end, so his ratings may not reflect how he really felt about buttons. His mother's reports could also be biased because she wanted him to get better.

A second weakness is low generalisability. It was a case study of one Hispanic-American boy whose phobia began with a specific experience of buttons falling on him at kindergarten. Other people with button phobia, such as adults or people from other cultures, may not respond to the therapy in the same way, so we cannot conclude that disgust-based imagery works for everyone.

Overall, the study gives useful, detailed evidence that treating disgust can help a phobia, but because it relies on one child and on self-reports, the findings should be tested with larger samples before they are widely applied.

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