Cambridge Assessment International Education

Cambridge International AS & A Level

CANDIDATE NAME: StemUp Model Solution

CENTRE NUMBER | | | | | |

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4183122024

PSYCHOLOGY **9990/11**

Paper 1 Approaches, Issues and Debates **May/June 2020**

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.
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- 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 [ ].

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Answer **all** questions.

1 From the study by Saavedra and Silverman (button phobia):

(a) Identify the main research method of this study.

Case study. [1]

(b) Describe the incident that the boy recalls that started his phobia of buttons.

When he was in kindergarten the class was doing an art project using buttons. He ran out of buttons, so he was asked to go to the front of the class to get more from a large bowl of buttons on the teacher's desk. As he reached for the bowl his hand slipped and all of the buttons fell down on him. [3]

(c) Outline the results from the 6-month follow-up.

At the 6-month follow-up he reported minimal distress about buttons and was in remission according to DSM criteria (no longer met the diagnosis). He was wearing clear plastic buttons daily on his school uniform. [2]

2 From the study by Yamamoto et al. that used chimpanzees as participants:

(a) Outline **one** psychological concept that was investigated in this study.

Altruism: doing something to help another individual even when it brings no benefit, or a cost, to the helper. Here a chimpanzee passed a tool to a partner so the partner could get juice, although the helper received no juice itself. [2]

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(b) Outline **one** result from the 'First "Can See" Condition'.

All of the chimpanzees except Pan first offered a potential tool (the stick or the straw) significantly more often than a non-tool object, whereas Pan offered the brush (a non-tool) on 80% of trials.

..... [2]

3 From the study by Piliavin et al. (subway Samaritans):

(a) Outline **one** result about helping a victim with no model present.

With no model present, the black drunk victim received help on only 73% of trials, whereas the white drunk victim received help on 100% of trials.

..... [2]

(b) Outline **one** methodological strength of this study.

It was a field experiment in a natural setting, so it has high ecological validity: the passengers were on an ordinary New York subway car on a normal journey, and did not know they were in a study, so their helping was genuine and not affected by demand characteristics. [2]

(c) Outline **one** ethical weakness of this study.

The passengers were deceived and could not give consent: they did not know the collapse was staged and the victim was only acting ill or drunk. They were never debriefed, so they may have left feeling distressed or guilty about the "victim".

..... [2]

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

(a) Describe the procedure of this study from when the participant arrived at the laboratory until the participant fell asleep for the first time.

On the day of the study participants were told to eat normally but to avoid alcohol and caffeine. They arrived at the laboratory shortly before their usual bedtime. Two or more electrodes were attached near the eyes to record eye movements, and two or three electrodes were attached to the scalp to record brain waves (EEG). The participant then went to bed in a quiet, dark room, with all the electrode wires gathered at the top of the head and running to the EEG machine in the next room, and was left to fall asleep.

[4]

(b) Outline how dream recall was recorded during this study.

Participants were woken by a doorbell and spoke into a recording device beside the bed. They first stated whether or not they had been dreaming and, if so, described the content of the dream; sometimes the experimenter then entered to question them further.

[2]

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5 Mark wants to replicate the Epinephrine Informed (Epi Inf) condition from the study by Schachter and Singer (two factors in emotion) and needs your help. You must produce clear instructions for Mark, from when the participant arrives until they are given the injection.

Suggest instructions that Mark could use to replicate this part of the study.

1. When the participant arrives, tell them the study is about the effects of vitamin supplements on vision.

2. Explain that you are testing a vitamin compound called "Suproxin".

3. Tell them the injection is mild and harmless, then ask their permission to be injected with Suproxin.

4. Tell them there may be side effects which are short-lived, lasting only about 15 to 20 minutes.

5. Tell them that their hands may start to shake, their heart will start to pound and their face may get warm and flushed.

6. The physician then enters, repeats these side effects and gives the injection. [5]

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

(a) Identify **three** characteristics of the sample used in Experiment 1.

Undergraduate students.

Studying at the University of California.

Mostly female (77% female, 23% male), with a mean age of about 20 to 21 years.

[3]

(b) Describe how the participants were recruited for Experiment 1.

They were undergraduates at the University of California who volunteered to take part in return for course credit (a volunteer sample).

..... [2]

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

It is possible to implant a false belief or memory for a positive childhood experience (loving asparagus the first time it was tried), and this can make people's attitudes to the food more positive.

..... [2]

7 From the study by Andrade (doodling):

(a) Outline **one** aim of this study.

To test whether doodling while listening to a boring telephone message aids concentration and so improves memory for the message, compared with not doodling.

..... [2]

(b) Suggest **one** real-world application of this study.

Workers doing boring listening tasks, e.g. call-centre staff or people in long meetings, could be allowed to doodle while they listen, as this should help them concentrate and remember more of the information.

..... [2]

8 The study by Milgram (obedience) is from the social approach.

(a) Outline **two** assumptions of the social approach, using any example for each.

1 *Behaviour, thoughts and emotions are influenced by other individuals. For example, in Milgram's study the experimenter in a grey lab coat used verbal prods ("The experiment requires that you continue") to make participants keep giving shocks.*

2 *Behaviour is influenced by the groups and social context we are in. For example, in an emergency in a crowd, people may assume someone else is already helping or calling for help, so they walk past when alone they would have helped.*

[4]

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(b) Explain how **one** result from the study by Milgram supports the situational explanation of obedience and how **one** result does **not** support the situational explanation of obedience.

Result that supports the situational explanation of obedience: 26 of the 40 participants (65%) obeyed all the way to the maximum 450 volts, and all 40 went to at least 300 volts, even though psychology students had predicted that only 0 to 3% would go to the end.

Explain how: Ordinary men from a range of jobs obeyed far more than predicted, so the cause must be the situation: the authority of the experimenter, the prestige of Yale and the prods, not their personalities.

Result that does **not** support the situational explanation of obedience: 14 of the 40 participants (35%) defied the experimenter and stopped before 450 volts, even though they were in exactly the same situation as the 65% who obeyed fully.

Explain how: If the situation alone caused obedience, everyone in the identical situation should have obeyed equally. As some refused, individual factors such as personality or moral values (a dispositional explanation) must also matter. [8]

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9 Evaluate the study by Pepperberg (parrot learning) in terms of **two** strengths and **two** weaknesses. At least one of your evaluation points **must** be about quantitative data.

One strength is that Pepperberg collected quantitative data: Alex's answers were scored as correct or incorrect and turned into percentages, e.g. about 70% correct on the first trial with familiar objects. This is objective, as it does not depend on the trainer's opinion, and it can be compared with the level expected by chance, showing that Alex really understood the concepts of same and different rather than guessing.

A second strength is the control of cueing. The principal trainer sat with her back to Alex and did not know which objects the secondary trainer was presenting, so she could not give him unconscious cues. Alex was also tested on novel objects he had never seen, so his success could not be explained by rote learning. This increases the validity of the conclusion that he could form abstract concepts.

However, a weakness of the quantitative data is that a percentage correct does not explain why Alex made errors. A wrong answer could be due to boredom, inattention or genuine confusion between colour, shape and matter, and the scores cannot tell these apart. Qualitative descriptions of his errors and behaviour would have given more depth and so a fuller picture of his understanding.

A second weakness is generalisability. The study was effectively a case study of one African grey parrot, Alex, who had been trained intensively for years with the model/rival technique. His abilities may be unusual, so we cannot conclude that other parrots, or other non-human animals, can learn the concepts of same and different.

Overall, the controls and objective scoring make the findings about Alex convincing, but the single, highly trained participant and the lack of qualitative detail mean the conclusions should be applied to other animals with caution.

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Cambridge International AS & A Level

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PSYCHOLOGY **9990/12**

Paper 1 Approaches, Issues and Debates **May/June 2020**

1 hour 30 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
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Answer **all** questions.

1 From the study by Milgram (obedience):

(a) Identify the sampling technique used in this study.

Volunteer (self-selecting) sampling. [1]

(b) Identify **two** examples of 'signs of extreme tension' shown by participants in this study.

1 *Sweating.*

2 *Trembling.*

[2]

(c) Describe the 'preliminary run' that participants had to complete before the 'regular run' in this study.

Before the regular run the teacher had a practice series. He was given a list of 10 words to read to the learner. Three of the learner's answers were correct and seven were incorrect, so the teacher gave a shock for each error, rising 15 volts each time up to 105 volts.

[3]

2 From the study by Laney et al. who investigated whether new information about liking asparagus can change old information:

(a) Outline **one** psychological concept that was investigated in this study.

False memory: an apparent recollection of an event or experience that never actually happened, e.g. a "memory" of loving asparagus the first time you tried it, created by false feedback.

[2]

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(b) Outline **one** result from the Food History Inventory in Experiment 2 of this study.

On the Food History Inventory, the Love group's mean confidence that they had loved asparagus the first time they tried it increased after the manipulation, and increased more than the control group's confidence did.

..... [2]

3 From the study by Andrade (doodling):

(a) Outline **one** result from the memory scores for names (monitored information) in this study.

On average, the doodling group recalled more of the names of the people coming to the party (the monitored information) than the control group, who did not doodle.

..... [2]

(b) Outline **one** methodological strength of this study.

The procedure was standardised and controlled: every participant heard the same 2.5-minute taped telephone message at the same pace, so the only difference between the groups was doodling, and Andrade could be confident doodling caused the difference in recall. ..... [2]

(c) Outline **one** ethical weakness of this study.

Participants were deceived: they were not told that they would be given a surprise memory test on the names and places in the telephone message, so they may have felt anxious or embarrassed when they could not remember them.

..... [2]

4 In the study by Pepperberg (parrot learning), a principal trainer and secondary trainers were used during the 'test procedures'.

(a) Describe what the principal trainer would do during the 'test procedures'.

The principal trainer sat in the room with her back to Alex, so she did not look at him or at the objects while the secondary trainer presented them and asked the question. She did not know which objects were being presented, so she could not cue him. She repeated out loud what Alex said, and it was then decided whether his answer was correct, incorrect or indistinct.

..... [4]

(b) Outline how the overall test score was calculated in this study.

The total number of correct identifications was divided by the total number of presentations needed (× 100 to give a percentage).

..... [2]

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5 Adelia wants to replicate the Epinephrine Misinformed (Epi Mis) condition from the study by Schachter and Singer (two factors in emotion) and needs your help. You must produce clear instructions for Adelia, from when the participant arrives until they are given the injection.

Suggest instructions that Adelia could use to replicate this part of the study.

1. When the participant arrives, tell them the study is about the effects of vitamin supplements on vision.

2. Explain that you are testing a vitamin compound called "Suproxin".

3. Tell them the injection is mild and harmless, then ask their permission to be injected with Suproxin.

4. Tell them there may be side effects which are short-lived, lasting only about 15 to 20 minutes.

5. Tell them that their feet will feel numb, they may feel itching over parts of their body and they may get a slight headache.

6. The physician then enters, repeats these side effects and gives the injection. [5]

6 From the study by Baron-Cohen et al. (eyes test):

(a) Identify **two** characteristics of the sample used in Group 3.

Normal adults who were students at Cambridge University.

An equal number of males and females.

[2]

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(b) Describe how the participants were recruited for Groups 2 and 3.

Group 2 were adults from the general population, recruited by opportunity/volunteer sampling from adult community and education classes in Exeter and from public libraries in Cambridge. Group 3 were also an opportunity/volunteer sample of undergraduate students at Cambridge University, all of whom had done well at Advanced Level.

..... [3]

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

The Revised Eyes Test overcame the problems of the original version, so it is a valid test of social intelligence (theory of mind) in adults that can tell apart adults with AS/HFA and normal adults.

..... [2]

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

(a) Outline **one** aim of this study.

To investigate whether the amygdala is sensitive to the different levels of emotional intensity people experience, and whether this affects how well the scenes are remembered.

..... [2]

(b) Suggest **one** real-world application of this study.

Advertisers could use emotionally intense images in adverts. Pictures rated as more emotionally intense were remembered better, so products linked to such images should be remembered better by consumers.

..... [2]

8 The study by Yamamoto et al. (chimpanzee helping) is from the social approach.

(a) Outline **two** assumptions of the social approach, using any example for each.

1 *Behaviour, thoughts and emotions are influenced by other individuals. For example, in Milgram's study the experimenter in a grey lab coat used verbal prods ("The experiment requires that you continue") to make participants keep giving shocks.*

2 *Behaviour is influenced by the groups and social context we are in. For example, in an emergency in a crowd, people may assume someone else is already helping or calling for help, so they walk past when alone they would have helped.*

[4]

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(b) Explain how **one** result from the study by Yamamoto et al. supports the individual explanation of prosocial behaviour and how **one** result does **not** support the individual explanation of prosocial behaviour.

Result that supports the individual explanation of prosocial behaviour: *In the "Can See" condition all the chimpanzees except Pan first offered a potential tool significantly more often than a non-tool, but Pan offered the brush on 80% of trials.*

Explain how: *In the same situation the chimps helped differently, so whether help is useful depends on the individual, e.g. its ability to understand what the partner needs.*

Result that does **not** support the individual explanation of prosocial behaviour: *Chimpanzees chose the correct tool for the partner's task much more often when they could see the partner's situation than in the "Cannot See" condition, where they still helped but did not choose the right tool.*

Explain how: *The same chimpanzees helped appropriately or not depending on what they could see, so a situational factor, not a fixed individual characteristic, explains their targeted helping.* [8]

9 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 observations.

One strength concerns the observations. Children were observed through a one-way mirror for 20 minutes, so they did not know they were watched and behaved naturally. Behaviour was recorded every 5 seconds into predetermined categories such as imitative physical aggression and imitative verbal aggression, giving quantitative data that could be compared across conditions. Inter-rater reliability was high, as a second observer, who did not know which condition the child was in, also scored some children, so the observations were reliable and unbiased.

A second strength is the high level of control. All children saw the same scripted aggressive acts towards the Bobo doll, used the same toys, and were mildly frustrated in the same way, and the groups were matched for pre-existing aggression. This means cause and effect can be established: observing an aggressive model caused more aggression.

However, a weakness of the observations is that hitting a Bobo doll may not be real aggression. A Bobo doll is designed to be hit, so the children may have been playing or doing what they thought was expected (demand characteristics). The observers recorded the behaviour but could not record the intention behind it, which lowers validity, and the observations were only made shortly after the model, so long-term effects are unknown.

A second weakness is generalisation. The 72 children all came from the Stanford University nursery, so they were from a narrow, mostly privileged background in 1960s America. Children from other cultures or backgrounds may respond differently to aggressive models, so the results may not be representative.

Overall, the controlled, reliable observations give strong evidence that aggression can be learned by observation, but the artificial task and narrow sample mean it is less clear how far this explains real-life aggression in all children.

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PSYCHOLOGY **9990/13**

Paper 1 Approaches, Issues and Debates **May/June 2020**

1 hour 30 minutes

You must answer on the question paper.

No additional materials are needed.

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[Turn over

Answer **all** questions.

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

(a) Identify the sampling technique used in this study.

Volunteer (self-selecting) sampling. [1]

(b) Outline the scale that was used by participants to indicate their emotional arousal to each picture.

A 4-point scale from 0 to 3 using buttons; 0 meant "not emotionally intense at all" and 3 meant "extremely emotionally intense".

[2]

(c) Describe what happened to a participant during the 'recognition test' in this study.

The participant was shown the pictures they had seen before mixed with new "foil" pictures that were balanced for valence and arousal. For each picture they said whether they had seen it before. If no, they answered "new"; if yes, they chose whether they "remembered" it with certainty or whether it just felt "familiar".

[3]

2 From the study by Pepperberg that used a parrot as the participant:

(a) Outline **one** psychological concept that was investigated in this study.

The concepts of same and different: understanding whether two objects share a feature (e.g. colour, shape or matter) or not, which shows abstract thinking (animal cognition).

[2]

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(b) Outline **one** result for first-trial-only performance from this study. You must use data in your answer.

In first-trial-only performance on familiar objects, Alex scored about 70% correct, which is well above chance.

..... [2]

3 From the study by Baron-Cohen et al. (eyes test):

(a) Outline **one** result from this study. Refer only to results from the eyes test in your answer.

Adults with AS/HFA (Group 1) scored significantly lower on the Revised Eyes Test than the Cambridge students (Group 3) and the general population adults (Group 2).

..... [2]

(b) Outline **one** methodological strength of this study.

The Revised Eyes Test is a standardised measure: every participant saw the same 36 pairs of eyes, each with the same four word choices, so scores could be compared directly across the groups.

..... [2]

(c) Outline **one** ethical weakness of this study.

Participants with AS/HFA may have experienced psychological distress: they may have found it hard to work out the emotions in many of the eyes, which could have made them feel stressed or inadequate.

..... [2]

4 In the study by Saavedra and Silverman (button phobia), the boy with the phobia went through a 'behavioural exposures' procedure as part of his treatment.

(a) Describe the 'behavioural exposures' procedure as used in this study.

It was based on contingency management. A hierarchy of distress was built with the boy, in which a series of buttons was rated from 0 to 8 on a Feeling Thermometer. He was then gradually exposed to the buttons, working up the hierarchy, and his mother gave positive reinforcement contingent on him completing each exposure. Each session lasted about 30 minutes with the boy alone and then another 20 minutes with the boy and his mother.

[4]

(b) Outline the posttreatment follow-up assessment session.

Two measures were re-administered: the ADIS-C/P interview to measure his anxiety about buttons, and an assessment against DSM-IV criteria to see whether he still had a phobia.

[2]

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5 Maria wants to replicate the Epinephrine Ignorant (Epi Ign) condition from the study by Schachter and Singer (two factors in emotion) and needs your help. You must produce clear instructions for Maria, from when the participant arrives until they are given the injection.

Suggest instructions that Maria could use to replicate this part of the study.

1. When the participant arrives, tell them the study is about the effects of vitamin supplements on vision.

2. Explain that you are testing a vitamin compound called "Suproxin".

3. Tell them the injection is mild and harmless, then ask their permission to be injected with Suproxin.

4. Do not tell them anything about side effects.

5. Leave the room before the physician arrives.

6. Remind the physician to repeat only that the injection is mild and harmless, mentioning no side effects, before giving the injection.

..... [5]

6 From the study by Piliavin et al. (subway Samaritans):

(a) Identify **two** characteristics of the sample used in this study.

Both males and females.

45% were black and 55% were white.

.....

..... [2]

(b) Describe how the sample was obtained for this study.

It was an opportunity sample of unsolicited passengers who happened to be travelling on a New York subway train. They were travelling on weekdays between 11 am and 3 pm, between April and June, and were in the car when the staged collapse took place.

[3]

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

A victim who appears ill is more likely to receive help than a victim who appears drunk, probably because the costs of helping are lower and the rewards higher.

[2]

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

(a) Outline **one** aim of this study.

To investigate whether dream recall differs between REM and non-REM (nREM) stages of sleep.

[2]

(b) Suggest **one** real-world application of this study.

It could help diagnose sleep disorders: a patient could have an EEG while sleeping to see whether their cycles of REM and nREM sleep are happening normally.

[2]

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8 The study by Bandura et al. (aggression) is from the learning approach.

(a) Outline **two** assumptions of the learning approach, using any example for each.

1 *Behaviour is learned through conditioning. For example, if a child is rewarded with praise for tidying their room, the behaviour is reinforced and they are more likely to repeat it.*

2 *Behaviour can be learned through social learning, by observing and imitating models. For example, Bandura et al. found that children imitated the aggressive acts of an adult model towards a Bobo doll.* [4]

(b) Explain how **one** result from the study by Bandura et al. supports the nature side of the nature–nurture debate and how **one** result supports the nurture side of the nature–nurture debate.

Result that supports the nature side of the nature–nurture debate: *Boys showed more imitative physical aggression than girls, whichever model they had watched.*

Explain how: *Boys may be naturally more physically aggressive than girls because of biological differences such as higher testosterone, which is an innate (nature) factor.*

Result that supports the nurture side of the nature–nurture debate: *Children who watched the aggressive model showed much more imitative physical and verbal aggression than children who saw the non-aggressive model or no model (control).*

Explain how: *The children copied specific aggressive acts they had seen, so the aggression was learned from the environment through observation and imitation (nurture).*

[8]

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9 Evaluate the study by Laney et al. (false memory) in terms of **two** strengths and **two** weaknesses. At least one of your evaluation points **must** be about generalisations.

One strength is that the study used standardised questionnaires, such as the Food History Inventory and the Food Preferences Questionnaire, rated on numerical scales. This gave quantitative data, so the Love group and the control group could be compared objectively and the change in confidence about loving asparagus could be measured precisely.

A second strength is that the study used controls to reduce demand characteristics. The false feedback was given as a "computer profile" based on the participant's own earlier answers, and asparagus was hidden among many filler food items, so participants were unlikely to guess the aim. Comparing with a control group means the change in beliefs can be attributed to the false feedback, which increases validity.

However, a weakness is that the results may not generalise. The participants were undergraduate students at the University of California, mostly female (77%) and with a mean age of about 20. Older people, children or people from other cultures might have stronger, more established memories of food and be less easily influenced, so we cannot generalise the findings to them.

A second weakness is low ecological validity. Participants only reported how much they would like to eat asparagus and how much they would pay for it on questionnaires, such as an imaginary restaurant menu; they did not actually eat any. So we do not know whether the false memory would change real eating behaviour. Deceiving participants is also an ethical issue.

Overall, the controlled and quantitative design gives good evidence that positive false beliefs can be implanted, but the narrow student sample and artificial measures limit how far the findings can be generalised and applied, for example to healthy eating programmes.

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