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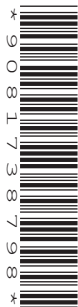
Monday 22 May 2023 – Afternoon

AS Level Psychology

H167/02 Psychological themes through core studies

Time allowed: 1 hour 30 minutes

No extra materials are needed.



Please write clearly in black ink. **Do not write in the barcodes.**

Centre number

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Candidate number

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First name(s) StemUp Model Solution

Last name _____

INSTRUCTIONS

- Use black ink.
- Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.
- Answer **all** the questions.

INFORMATION

- The total mark for this paper is **75**.
- The marks for each question are shown in brackets [].
- Quality of extended response will be assessed in questions marked with an asterisk (*).
- This document has **16** pages.

ADVICE

- Read each question carefully before you start your answer.

Section A

Core studies

- 1 (a) Participants in Grant et al.'s (1998) study into context-dependent memory completed two types of test.

Identify which **one** of these types of test was completed first.

The short-answer (recall) test was completed first, before the multiple-choice test.

..... [1]

- (b) (i) Outline why Loftus and Palmer conducted their (1974) experiments into eyewitness testimony.

Loftus and Palmer wanted to investigate the effect of leading questions on eyewitness testimony, that is whether information introduced after an event could distort or reconstruct a person's memory of it. They tested whether changing one verb in a question about how fast the cars were going when they smashed or hit each other would change the speed estimates given and, a week later, make people falsely remember seeing broken glass.

[3]

- (ii) Describe how the independent variable (IV) was manipulated in Loftus and Palmer's (1974) **second experiment** into eyewitness testimony.

The IV was manipulated through the wording of one critical question in a questionnaire given after the film of a car crash. One group of 50 was asked 'About how fast were the cars going when they smashed into each other?', a second group of 50 was asked the same question with the verb 'hit', and a third control group of 50 was not asked about the speed of the cars at all.

..... [3]

- 2 (a) Outline **two** controls used by Milgram's (1963) study into obedience.

1 *The setting was standardised: every participant was tested in the same laboratory at Yale University, with the same confederate 'learner' (Mr Wallace) and the same experimenter in a grey lab coat, so the situation was identical for all 40 men.*

2 *The learner's responses were controlled: the shock generator was the same for every participant, with 30 switches rising in 15-volt steps from 15 to 450 volts, and the learner's pre-recorded answers and protests were played at the same voltages for all participants.*

[4]

- (b) Bocchiaro et al. used a comparison group to predict the results of their (2012) study into disobedience and whistle-blowing.

Describe the procedure used in this part of the study.

A separate comparison group of 138 students from the same university were given a detailed description of the sensory deprivation scenario used in the main study, in which participants were asked by a researcher to write a letter persuading fellow students to take part in a cruel sensory deprivation study. They were then asked 'What would you do?' and 'What would the average student at your university do?' to predict their own and others' obedience, disobedience and whistle-blowing.

[3]

- 3 (a) Bandura et al. (1961) in their study on transmission of aggression used an independent measures design.

Explain a strength of this design as used in this study.

A strength is that there are no order effects, because each child only took part in one condition, for example only seeing an aggressive male model or a non-aggressive female model or no model. This means the children could not become bored or practised, and could not guess the aim by comparing conditions, so their behaviour towards the Bobo doll in the final room was not affected by demand characteristics. [2]

- (b) Identify **two** features of the sample used in Chaney et al.'s (2004) Funhailer study.

- 1 *They were 32 Australian children aged 1.5 to 6 years (mean age 3.2 years).*
- 2 *All had asthma and had been prescribed an inhaler with a spacer device.*

[2]

- 4 Describe how the type of data collected **and** the equipment used differed between Sperry's (1968) study on hemisphere disconnection and Casey et al.'s (2011) study on neural correlates of delay of gratification.

Type of data collected *Sperry collected qualitative data, whereas Casey et al. collected quantitative data. Sperry described what his split-brain patients could and could not do, for example that an object shown to the left visual field could be pointed to with the left hand but could not be named in speech or writing. Casey et al. recorded numerical scores such as percentage errors on the go/no-go task.*

The equipment used *Sperry used a tachistoscope to flash images to one visual field for one tenth of a second, and objects hidden behind a screen for tactile tasks, whereas Casey et al. used a computer running a go/no-go task showing happy and fearful faces, plus an fMRI scanner to measure activity in the right inferior frontal gyrus and ventral striatum.*

[4]

- 5 Baron-Cohen et al. conducted a (1997) study into autism in adults.

Outline how the procedure used in the Eyes task helped to ensure the reliability of the findings.

Baron-Cohen et al. used a standardised procedure in which every participant was treated in exactly the same way, so the task could be repeated and consistent results obtained. All participants were shown the same 25 black and white photographs of the eye region of faces, each of the same size and each presented for three seconds. For each pair of eyes they had to choose between the same two mental state words, the target and the foil, and were tested in the same quiet room. Because the stimuli, timing and scoring were identical for the autism, Tourette's and normal groups, any differences in scores on the Eyes Task reflect real differences in theory of mind, not variations in how the test was run. [3]

Section B

Areas, perspectives and debates

- 6 (a) Outline the defining principles of the nature/nurture debate.

The nature side of the debate argues that thinking and behaviour are the product of innate, inherited factors such as genes, biology and brain structure, so they are present from birth or unfold through maturation. The nurture side argues that behaviour is learned or acquired through experience, upbringing and the environment, for example through conditioning and observation. [2]

- (b) Explain how Freud's (1909) study of Little Hans can support the nature side of the nature/nurture debate.

The nature side argues that behaviour is innate and unfolds through biological maturation rather than being learned. Freud's study supports this because he claimed every child passes through the same fixed, inborn stages of psychosexual development, with the phallic stage and its Oedipus complex occurring naturally around the age of three to five regardless of upbringing. Hans's lively interest in his 'widdler' from just before the age of three, his fear of being bitten by white horses with black mouths (symbolising his father) and his giraffe fantasy, in which he sat on the crumpled giraffe to take it from the big giraffe, were all interpreted as evidence that Hans was unconsciously passing through the phallic stage and resolving the Oedipus complex, something Freud saw as a universal and natural part of development rather than a product of Hans's environment. [3]

- (c) Explain how Chaney et al.'s (2004) Funhaler study can support the nurture side of the nature/nurture debate.

The nurture side argues that behaviour is learned from the environment and the consequences of our actions. Chaney et al.'s study supports this because the children's use of their asthma medication changed through operant conditioning, specifically positive reinforcement. When a child breathed correctly through the Funhaler, the toy whistle sounded and the spinner turned, which acted as a reward. After two weeks with the Funhaler, 81 per cent of parents reported medicating their child the previous day compared with 59 per cent with the standard inhaler, and 80 per cent said the child took the recommended four or more cycles compared with 50 per cent. Adherence to the medical regime was therefore shaped by external reinforcement and learning, which is the nurture explanation. [3]

- (d) Describe **two** strengths of the biological area. Support your answer with evidence from appropriate core studies.

1 *A strength of the biological area is that it uses highly scientific, objective methods carried out in controlled laboratory settings with specialised equipment, which raises the status of psychology as a science and makes studies replicable. For example, Casey et al. used fMRI to measure blood flow in the right inferior frontal gyrus and ventral striatum while participants completed a go/no-go task on a computer, and Sperry used a tachistoscope to flash images for one tenth of a second to a single visual field, so the data could not be influenced by researcher bias.*

2 *A second strength is that the area produces quantitative data that allows objective comparisons between individuals or groups and the identification of cause and effect. For example, Casey et al. found that low delayers made more false alarms than high delayers on the hot no-go trials (14.5 per cent compared with 10.9 per cent) and showed reduced recruitment of the inferior frontal gyrus, which let them conclude that a specific brain region underlies the ability to resist temptation across the lifespan.*

[6]

- (e)* Discuss to what extent the biological area is similar to the developmental area. Support your answer with evidence from appropriate core studies. [11]

The biological area explains behaviour in terms of the brain, nervous system and genes, while the developmental area looks at how behaviour changes across the lifespan, often through learning. Although their assumptions differ, the two areas are similar in a number of important ways.

One similarity is that both areas collect quantitative data that can be analysed statistically. Casey et al. found that in the hot go/no-go task low delayers made more false alarms than high delayers (14.5 per cent compared with 10.9 per cent), and Bandura et al. found that boys who saw an aggressive male model scored 25.4 for imitative physical aggression compared with 7.2 for girls. In both cases numerical data made objective comparisons between groups possible, so both areas can be seen as scientific.

A second similarity is that both areas use the experimental method and controlled environments to measure the effect of an IV on a DV. Sperry tested each split-brain patient in a laboratory using a tachistoscope that flashed images for one tenth of a second so the eyes could not move, while Bandura et al. used three specially set out rooms, a matched pairs design based on pre-rated aggression and a mild aggression arousal stage for every child. Both areas therefore allow cause and effect conclusions, such as that witnessing a model causes imitation of aggression.

A third similarity is that both areas use specialised equipment and so both can be criticised for low ecological validity. Casey et al. used an fMRI scanner and a computerised face task, and Sperry's patients covered one eye and responded to flashes on a screen, neither of which reflects everyday life. Similarly, Bandura et al.'s children watched an adult punch a Bobo doll in an unfamiliar nursery room, which is not how children normally encounter aggression, so findings from both areas may not generalise to real behaviour.

However, the areas also differ. The biological area mostly studies adults, such as

Sperry's 11 adult epileptic patients and Casey et al.'s participants in their 40s, whereas the developmental area concentrates on children, such as Bandura et al.'s 72 nursery children aged three to five and Chaney et al.'s 32 asthmatic children aged 1.5 to 6. The developmental area also offers more scope for ecologically valid research: Chaney et al. let children use the Funhaler at home as part of their normal routine, whereas Sperry's and Casey et al.'s tasks could only be run with laboratory equipment. Finally, the biological area supports the nature side of the debate, as Casey et al. attributed resistance to temptation to the right inferior frontal gyrus and Sperry to the organisation of the hemispheres, while the developmental area tends to support nurture, as Bandura et al. and Chaney et al. showed behaviour being learned through observation and reinforcement.

In conclusion, the biological and developmental areas are similar to a large extent in their methods, both producing controlled, quantitative and scientific evidence that often lacks ecological validity, but they differ in who they study and in whether they explain behaviour through nature or nurture.

Section C

Practical applications

In the 1600s the philosopher John Locke believed that what is learnt in a given environment is best recalled in that environment. In 1975, Locke's belief was tested by Godden and Baddeley who used members of a university diving club as participants in an experiment in two different environments – on land and underwater. In a free recall experiment, the same divers learnt lists of words both on land and underwater. They were then asked to recall the words in either the environment of original learning, or in the alternative environment. Lists learnt underwater were recalled significantly better underwater, and lists learnt on land were recalled significantly better on land.

Based on: Godden, D. R. and Baddeley, A. D. (1975). Context-dependent memory in two natural environments: On land and underwater. *British Journal of Psychology*, 66, (3), 325–331.

- 7 (a) With reference to the article, identify the research design used by Godden and Baddeley.

Godden and Baddeley used a repeated measures design, because the same divers from the university diving club learnt and recalled word lists in both environments, on land and underwater, so each diver took part in every condition. [2]

- (b) With reference to the article, suggest why Godden and Baddeley's research had high ecological validity.

Ecological validity is the extent to which a study reflects real-life settings and behaviour. Godden and Baddeley's research had high ecological validity because it was carried out in two natural environments rather than a laboratory. The divers learnt and recalled the word lists on land and genuinely underwater, which is a real setting that these diving club members would normally work in, so their recall reflected how memory operates in the real world. [2]

- (c) Explain how this article links to the cognitive area of psychology.

The cognitive area is concerned with internal mental processes such as memory, perception and attention and how information is processed. This article links to the cognitive area because it studies the mental process of memory, specifically how the context in which information is encoded affects retrieval. Godden and Baddeley found that word lists learnt underwater were recalled significantly better underwater, and lists learnt on land were recalled better on land. [2]

- (d) Outline how this article can be linked to Grant et al.'s (1998) study into context-dependent memory.

Both the article and Grant et al.'s study investigate context-dependent memory, the idea that recall is better when the environment at retrieval matches the environment at learning. Grant et al. had 39 participants read an article on psychoimmunology either in silence or with background cafeteria noise through headphones, and then tested them in matching or mismatching conditions. Those tested in the same context as they studied (silent/silent or noisy/noisy) recalled more on the short-answer and multiple-choice tests than those in mismatched conditions. In the same way, Godden and Baddeley found that divers who learnt lists underwater recalled them significantly better underwater, and lists learnt on land were recalled better on land. Both studies therefore show that the learning environment becomes a retrieval cue for the information learnt in it. [3]

- (e) Using your knowledge of psychology, suggest **and** explain **two** ways teachers could encourage children to remember important information.

One way teachers could help children remember important information is to use context-dependent learning, based on Grant et al. and Godden and Baddeley. Teachers should make the conditions in which children learn as similar as possible to the conditions in which they will be tested, because the environment acts as a retrieval cue. For example, teachers could run revision lessons in the exam hall itself, with the desks in rows and the room silent, and encourage children to revise in quiet conditions at home rather than with music or television on, since Grant et al. found that those who studied and were tested in silence recalled more than those tested in mismatched conditions. Teachers could also use the same posters, colours and seating during lessons and tests so that the surroundings cue recall of the information. Even playing the same quiet background sound during revision and the test would help, as the match of context is what matters.

A second way is to use positive reinforcement, based on the behaviourist perspective and Chaney et al.'s Funhaler study. Behaviour that is followed by a pleasant consequence is more likely to be repeated, so teachers could set up a token economy in which children earn a sticker or house point each time they correctly recall a set of important information, such as spellings or key dates, in a weekly quiz. Tokens could be exchanged for a larger reward such as extra playtime or a certificate presented in assembly. Just as the whistle and spinner on the Funhaler rewarded children for breathing correctly and raised adherence from 59 to 81 per cent, the immediate reward would make children more willing to practise and rehearse the information, moving it into long-term memory. Rewards should be given straight after the correct recall so the association is strongest, and gradually phased out once the habit is formed.

[8]

- (f)* Evaluate the suggestions you have made in 7(e) with reference to issues and debates you have studied in psychology.

One issue with my context-dependent learning suggestion is usefulness. Grant et al.'s findings were obtained with 39 participants aged 17 to 56 reading a psychoimmunology article in silence or noise, and Godden and Baddeley used adult divers, so there is good evidence that matching learning and test environments improves recall, which makes the suggestion useful and cheap for schools to apply. However, it is not always practical, as exam halls are shared and children cannot always revise where they will be tested, so the real-world usefulness is limited. The suggestion also relates to psychology as a science and validity. Grant et al. used a controlled laboratory procedure with standardised reading material and tests, so the suggestion is based on objective, replicable evidence. On the other hand, reading a two-page article is an artificial task, so the suggestion may lack ecological validity when applied to a whole year of classroom learning.

My positive reinforcement suggestion raises the issue of free will and determinism. A token economy assumes children's behaviour is determined by rewards from the environment, as Chaney et al. showed with the Funhaler, which ignores the child's free choice to learn for its own sake, and intrinsic motivation may fall when rewards are removed. It also links to the nature/nurture debate: it takes a nurture view that remembering is a learned behaviour and ignores biological differences in memory ability, such as those Casey et al. linked to the inferior frontal gyrus.

Finally there are ethical considerations: publicly rewarding some children may cause distress to those who never earn tokens, so the teacher must protect the children from harm by also rewarding effort and improvement.

[8]

END OF QUESTION PAPER

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