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A Level Psychology

H567/02 Psychological themes through core studies

Wednesday 14 June 2017 – Afternoon

Time allowed: 2 hours



No additional materials required



First name	StemUp Model Solution									
Last name										
Centre number						Candidate number				

INSTRUCTIONS

- Use black ink.
- Complete the boxes above with your name, centre number and candidate number.
- Answer **all** the questions.
- Write your answer to each question in the space provided. If additional space is required, use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
- Do **not** write in the barcodes.

INFORMATION

- The total mark for this paper is **105**.
- The marks for each question are shown in brackets [].
- Quality of extended responses will be assessed in questions marked with an asterisk (*).
- This document consists of **16** pages.

SECTION A: Core studies

Answer **all** the questions.

- 1 (a) In Bocchiaro et al.'s study on disobedience and whistleblowing, eight pilot tests were carried out before the main study:

Explain why Bocchiaro carried out these pilot tests.

Bocchiaro ran the eight pilot tests to check that the cover story about a sensory deprivation study was credible and believable to participants, and to make sure the procedure was morally acceptable. They also let him standardise the behaviour of the experimenter-authority so it was identical for everyone in the main study. [2]

- (b) In Bocchiaro et al.'s study into disobedience and whistleblowing a sample of 149 students were selected for the main study:

Outline **one** way this study may be considered ethnocentric.

Ethnocentrism means judging other cultures by the standards of your own. The study only used students from one cultural location, the VU University in Amsterdam, so the Dutch rates of obedience, disobedience and whistleblowing may not reflect how people in other cities or cultures would respond, yet the findings are treated as universal. [2]

- 2 (a) In Levine et al.'s study into cross-cultural altruism, four community variables were recorded:

Describe how **two** of the community variables were measured.

Pace of life was measured by walking speed. In each of the 23 cities, the time taken by healthy pedestrians walking alone to cover a marked distance of 60 feet along a flat, clear pavement in a main downtown area during business hours was recorded, and the average speed was used for that city.

The economic indicator was the wealth of each city. This was measured using Purchasing Power Parity (PPP), a figure for the economic productivity and purchasing power of the population per head of the city's country, taken from international statistics for that year. [4]

- (b) Explain how Levine et al.'s study into cross-cultural altruism informs our understanding of cultural diversity in helping behaviour.

Levine found clear cross-cultural differences in helping behaviour, so helping is shaped by culture rather than being universal. For example, cities in countries with high simpatia, such as Rio de Janeiro, San Jose, San Salvador, Mexico City and Madrid, helped a stranger who dropped a pen, had a hurt leg or was blind at a crossing far more often than New York or Kuala Lumpur. Cities with lower Purchasing Power Parity were also more helpful than wealthy ones, suggesting economic values affect willingness to help. [3]

- 3 (a) In Loftus and Palmer's study on eyewitness testimony a laboratory experiment was used.

Describe why Loftus and Palmer's study is considered a laboratory experiment.

It is a laboratory experiment because an independent variable was deliberately manipulated, the verb in the critical question (smashed, collided, bumped, hit or contacted), while a dependent variable, the speed estimate in miles per hour, was measured. This took place in a highly controlled artificial setting where every student watched the same film clips in the same way. [2]

- (b) Explain **one** weakness of using a laboratory experiment for this study.

One weakness is low ecological validity. The participants watched short, controlled film clips of staged car crashes in a classroom, knowing they were in a study, which is nothing like witnessing a real and shocking accident. Their speed estimates may therefore not show how leading questions affect a real eyewitness. [2]

- 4 (a) Bandura et al.'s study on the transmission of aggression is based on the principles of social learning theory.

Outline social learning theory.

Social learning theory states that people learn behaviour by observing other people around them who act as role models, rather than only through direct reinforcement. The learner pays attention to the model's behaviour, retains it in memory, must be able to reproduce it and must be motivated to do so, for example because the model is powerful or is seen being rewarded. The observed behaviour is then likely to be imitated, and it is more likely to be copied if the model is similar to the observer, such as the same sex. [3]

- (b) Outline how the results of Bandura et al.'s study on the transmission of aggression support social learning theory.

Social learning theory is supported because the children who observed an aggressive adult role model did imitate that specific aggressive behaviour. They hit the Bobo doll with the mallet, sat on it and punched it, and shouted the same phrases such as 'Pow' and 'Sock him in the nose', whereas children who saw a non-aggressive model or no model showed far less aggression. [2]

- 5 Outline how Lee et al.'s study links to the developmental area in psychology.

Lee et al.'s study is developmental because children at different ages were studied: Chinese and Canadian children aged 7, 9 and 11 years rated truth telling and lie telling in prosocial and antisocial stories. This showed how moral attitudes develop with age, as older Chinese children rated lying about a good deed more positively, showing the growing influence of their culture on moral development. [2]

- 6 (a) From Sperry's 'split brain' study into the psychological effects of hemisphere disconnection:

Outline **one** way the results may be considered valid.

The results are valid because every participant was tested in the same standardised way: an image was flashed to the left or right visual field for one tenth of a second so it could not be seen by both hemispheres, and the hands were hidden behind a screen. This control means the differences in naming objects were genuinely caused by the severed corpus callosum, so internal validity is high. [2]

- (b) Casey et al.'s study examined behavioural and neural correlates of delay of gratification using functional magnetic resonance imaging (fMRI):

Outline how delay of gratification is linked to regions in the brain.

Casey found that the ability to delay gratification is linked to two regions of the brain. The inferior frontal gyrus in the right prefrontal cortex was more active in high delayers when they had to inhibit a response to the alluring happy faces in the go/no-go task, showing it is involved in cognitive control. The ventral striatum, part of the brain's reward system, was more active in the low delayers than in the high delayers, which suggests that low delayers find rewarding cues harder to resist and so give in to temptation. [3]

- 7 Outline **one** difference between Blakemore and Cooper's study on the impact of early visual experience and Maguire's taxi driver study.

One difference is the sample used. Blakemore and Cooper used a non-human sample, whereas Maguire used a human sample. Blakemore and Cooper reared kittens from birth in darkness except for five hours a day in a cylinder with only horizontal or only vertical stripes, to see whether the development of the visual cortex was innate or learned. Maguire, however, studied 16 right-handed male London taxi drivers and compared MRI scans of their hippocampi with those of 50 non-taxi-driver control males. Because Maguire used humans, her findings about brain plasticity can be generalised to people far more confidently than those of Blakemore and Cooper, since a kitten's visual system may not develop in the same way as a human's. [4]

8 (a) From Freud's study of Little Hans:

What is meant by the term Oedipus complex?

The Oedipus complex occurs in the phallic stage of psychosexual development, around three to five years old, where a boy unconsciously desires his mother and wants to possess her, so he sees his father as a rival and feels hostility towards him, while also fearing that his father will punish him by castration. [2]

(b) Outline **one** piece of evidence that suggests Little Hans was experiencing the Oedipus complex.

Hans' phobia of horses was interpreted by Freud as an unconscious fear of his father, who was his rival for his mother's love. Hans was especially afraid of white horses with black around the mouth and blinkers, which Freud said represented his father's dark moustache and glasses, and his fear that the horse would bite him symbolised his fear of castration by his father. [2]

SECTION B: Areas, perspectives and debates

Answer **all** the questions.

- 9 (a) Outline the different positions of the 'psychology as a science' debate.

One position is that psychology is a science because it follows the scientific method: it manipulates variables under controlled, standardised conditions in laboratory experiments, collects objective, quantifiable data and tests falsifiable hypotheses, so cause and effect can be established and studies can be replicated to check the reliability of findings.

The other position is that psychology cannot be a true science because human thoughts and feelings cannot be directly observed or measured objectively, many extraneous variables such as demand characteristics cannot be fully controlled, and much of the data relies on subjective self-report or interpretation, so firm cause and effect cannot be established. [4]

- (b) Outline how **one** core study challenges the view that psychology can be considered a science. Support your answer with evidence from your chosen study.

Freud's study of Little Hans challenges the view that psychology is a science because the data collection was subjective and not empirical. Hans' father gathered the information about Hans' fear of horses, his fantasies about giraffes and the plumber and his dreams, often using leading questions, and sent it to Freud in letters. Freud then interpreted this second-hand data to fit his theory of the Oedipus complex, so it was biased rather than objective.

It also challenges falsifiability, because unconscious desires such as Hans' wish to possess his mother cannot be observed or tested, so Freud's explanation could never be proved wrong, which is a key requirement of scientific research. [4]

- (c)* Discuss the extent to which psychology can be considered a science. Use examples from appropriate core studies to support your answer.

Psychology can be considered a science to a large extent because much of its research uses the scientific method. Many core studies manipulate an independent variable in a controlled laboratory and measure a quantifiable dependent variable, so cause and effect can be established. Loftus and Palmer manipulated the verb in the critical question (smashed, collided, bumped, hit or contacted) while every student watched the same film clips, and measured speed estimates in miles per hour, finding that 'smashed' produced a mean of 40.8 mph compared with 31.8 mph for 'contacted'. Because the procedure was standardised it could be replicated, and their second experiment confirmed the effect of the verb, showing the findings are reliable.

A second reason psychology is scientific is its use of objective data collection. Casey et al. used fMRI to measure activity in the inferior frontal gyrus and ventral striatum of high and low delayers during a go/no-go task, and Maguire used MRI and voxel-based morphometry to show that taxi drivers had greater posterior hippocampal volume. Brain scans do not depend on the opinion of the researcher, so the data is empirical and free from bias.

However, there are reasons psychology may not be considered a science. Some studies rely on subjective and biased data collection. In Freud's study of Little Hans, the information about Hans' horse phobia and his giraffe fantasy was gathered by his father, a supporter of Freud, often using leading questions, and sent to Freud by letter. Freud then interpreted this to fit his theory of the Oedipus complex. Unconscious desires cannot be observed or measured, so the theory cannot be falsified, which is a key feature of science.

Another problem is that only partial control can be achieved with human participants. Even in a laboratory, participants know they are being studied and may show demand characteristics. In Milgram's study some participants may have continued to 450 volts because they trusted that Yale would not allow real harm, rather than out of genuine obedience, so the behaviour measured may not reflect real life. Self-report studies such as Hancock et al.'s analysis of psychopaths' accounts of their murders also depend on what participants choose to say, and psychopaths may lie.

In conclusion, psychology can be considered a science to a considerable extent, since experimental

and biological research such as Loftus and Palmer and Casey uses controlled, objective and replicable methods. However, when it studies the unconscious mind or relies on self-report and interpretation, as in Freud, it falls short of scientific standards, so psychology is a science in its methods rather than in all of its subject matter. [15]

- (d) Compare the biological area to the behaviourist perspective. Use examples from appropriate core studies to support your answer.

One similarity is that both the biological area and the behaviourist perspective use controlled laboratory experiments that manipulate an independent variable. In Blakemore and Cooper's study from the biological area, the IV was whether kittens were reared in a horizontal or a vertical striped environment, and the DV was their response to a rod held in each orientation and the orientation of neurones in the visual cortex. Similarly, in Bandura's study from the behaviourist perspective, the IV was whether children observed an aggressive, non-aggressive or no role model, and the environment was controlled so every child saw the same toys and the same Bobo doll. This means both can establish cause and effect because extraneous variables are minimised, although both have been criticised for low ecological validity.

One difference is their position on the nature-nurture debate. The biological area argues that behaviour is caused by nature, such as genes, brain structure and neurochemistry, whereas the behaviourist perspective argues that all behaviour is learned from the environment through nurture. For example, Casey et al. found that low delayers had reduced activity in the inferior frontal gyrus and greater activity in the ventral striatum, explaining their inability to resist temptation as a feature of their brains that was stable across forty years. In contrast, Bandura showed that children learned aggression such as hitting the Bobo doll simply by observing and imitating an adult model. This means the biological area is more deterministic, whereas the behaviourist view implies behaviour can be changed by changing the environment. [8]

- (e) Describe how the biological area is reductionist. Support your answer with evidence from **one** appropriate core study.

Reductionism means breaking a complex behaviour down into its simplest parts and explaining it by one factor. The biological area is reductionist because it reduces behaviour to a single biological cause, such as brain structure or hormones, ignoring cognitive, social and environmental factors.

For example, Sperry explained his split-brain patients' inability to name an object flashed to the left visual field purely by the severed corpus callosum stopping information reaching the left hemisphere's language centre. He had no control group of epileptics without the surgery, so factors such as years of epilepsy or medication were ignored. [4]

SECTION C: Practical applications

Answer **all** the questions.

An experiment in discrimination (the unjust or prejudicial treatment of different groups of people)

A psychology teacher splits her class of 20 students into two groups based on the colour of their eyes to test if this would lead to one group discriminating against the other. The blue-eyed group are told they are the superior group; they are her best students. The blue-eyed students are given extra support from the teacher and always praised for their behaviour. The brown-eyed children are set the same tasks in lessons, but are expected to work in silence without support. When a brown-eyed student asks for support with the lesson activity, the teacher points out that no blue-eyed children have asked for support; she says openly to the class “*Not following instructions and low intelligence are clearly traits of brown-eyed students*”. In response to this the blue-eyed students laughed.

During the study, the brown-eyed students became withdrawn, angry and the quality of their work declined. The blue-eyed children exceeded their predicted grades. The blue-eyed children went along with the situation even though they knew it was wrong. A brown-eyed student forgot their pencil case and one blue-eyed student remarked “*that’s the sort of thing a brown-eyed student would do*”.

- 10 (a) Outline **one** possible reason why it was necessary to divide the students into a superior and inferior group to test for discrimination in this study. Justify your answer in relation to the source.

It was necessary to create two distinct groups where one was perceived as superior, because discrimination can only occur if students see themselves as a higher-status in-group and view the others as an inferior out-group. For example, the blue-eyed students were told they were the teacher's best students and given extra support, so she could test whether they would discriminate against the brown-eyed group, which they did when they laughed at them and mocked the forgotten pencil case. [3]

- (b) Outline **one** possible reason the blue-eyed students ‘exceeded their predicted grades’. Support your answer with evidence from the source.

One reason is a self-fulfilling prophecy. The blue-eyed students were told they were the superior group and the teacher's best students, and they were given extra support and were always praised for their behaviour. Being told by a legitimate authority that they were intelligent raised their self-esteem and expectations of themselves, and the extra help and praise reinforced their effort, so they worked harder and lived up to the label, which led them to exceed their predicted grades. [3]

- (c) Explain **two** ways the study in the source was not ethically considerate. Justify your answer in relation to the source.

Firstly, the students were not protected from harm. The brown-eyed students were made to work in silence without support and were told openly that 'not following instructions and low intelligence are clearly traits of brown-eyed students', while the blue-eyed students laughed at them. As a result the brown-eyed students became withdrawn and angry and their work declined, so they could have left the study with lasting psychological damage to their self-esteem and feeling inferior and stupid.

Secondly, there was no valid informed consent and the students were deceived. The teacher simply split her class of 20 students by eye colour and told the blue-eyed group they were genuinely superior without explaining the true aim of testing for discrimination, so the students, who are likely to be under 18, and their parents could not willingly and knowingly agree to take part or realise they had a right to withdraw from the lessons. [6]

- (d) Outline **one** reason the blue-eyed children 'went along with the situation even though they knew it was wrong'. Support your answer with evidence from the source.

One reason is obedience to a legitimate authority figure. The teacher has power in the classroom and the students are used to following her instructions, so they obeyed her definition of the situation even though it conflicted with their conscience. For example, when she said openly that low intelligence was a trait of brown-eyed students, the blue-eyed students laughed and copied her by saying forgetting a pencil case was 'the sort of thing a brown-eyed student would do'. [3]

- (e) Explain how the source is relevant to the social area of psychology. Support your answer with evidence from the source.

The social area assumes that our behaviour is influenced by the social situation we are in and by other people around us, such as authority figures, groups and institutions, rather than by personality alone. The source is relevant because the teacher, a legitimate authority, created a social situation that changed the students' behaviour: by telling the blue-eyed students they were superior and openly giving them praise and support denied to the brown-eyed group, she made it socially acceptable to discriminate. The students conformed to the group norms she created, laughing at the brown-eyed children, so the social context, not the students' character, produced the discrimination. [4]

- (f) Describe **two** changes you could make to the experiment detailed in the source material.

One change would be to make the study more ethical by obtaining informed consent and debriefing. Before the lessons the teacher would give the students and their parents a consent form explaining that the class would take part in a short role-play about how groups treat each other, that the labels were not real and that anyone could leave the lesson at any time. At the end she would hold a full debrief in which she revealed that the superior and inferior labels were made up, reassured the brown-eyed students that their intelligence had not been judged and discussed how discrimination had felt. A second change would be to change the segregation technique. Instead of splitting the 20 students by eye colour, which is visible and fixed, the teacher would allocate them to the superior and inferior groups randomly, for example by drawing names from a hat, and give the inferior group a coloured armband to wear. The groups would then be swapped halfway through the week so that each group experienced both roles. [6]

(g)* Discuss the implications of the suggestions you made in question 10(f).

A positive implication of gaining informed consent and debriefing is that the study would meet the BPS ethical guidelines of consent, right to withdraw and protection from harm. The brown-eyed students who became withdrawn and angry would know the labels were not real and could leave the lesson, and the debrief would repair their self-esteem, so they would be less likely to suffer long-term psychological harm.

However, a negative implication is that validity may fall. If the students know in advance that the exercise is a role-play about discrimination, they may show demand characteristics, with the blue-eyed students deliberately being kind or the brown-eyed students exaggerating their anger to please the teacher. The spontaneous behaviour in the source, such as the blue-eyed students laughing and the remark about the pencil case, would be less likely, so the study would tell us less about real discrimination.

A positive implication of random allocation with armbands is that it removes the bias of eye colour. Any pre-existing differences between blue-eyed and brown-eyed students would be spread evenly across the groups, so any decline in the inferior group's work could be attributed to the inferior label rather than to who happened to have brown eyes, increasing internal validity. Swapping roles also means every student experiences both discrimination and privilege, so the findings are more representative.

A negative implication is that an armband is an obvious artificial marker, which is less realistic than eye colour because real discrimination is based on fixed characteristics such as race, lowering ecological validity. Also, once the groups are swapped the second group already knows what is coming, so their reactions may be weaker than the first group's, making the two halves hard to compare. [10]

END OF QUESTION PAPER

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