Cambridge Assessment International Education

Cambridge International AS & A Level

PSYCHOLOGY **9990/32**

Paper 3 Specialist Options: Theory **February/March 2022**

1 hour 30 minutes

4090971281

You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

- Answer **four** questions in total:
  - Answer questions from **two** options.
  - For each chosen option, answer **all** questions.
- Follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.

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 **4** pages. Any blank pages are indicated.

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Psychology and abnormality

Answer **all** questions.

1 **(a)** Outline **one** way that Freeman (2008) used virtual reality to assess the symptoms of schizophrenia. [2]

(b) Describe the study by Sensky (2000) that used cognitive-behavioural therapy (CBT) as a treatment for schizophrenia. [4]

(c) Explain **two** strengths of the study by Sensky. [6]

2 **(a)** Describe explanations of obsessive-compulsive disorder (OCD). [8]

(b) Evaluate explanations of obsessive-compulsive disorder (OCD), including a discussion of reductionism versus holism. [10]

Psychology and consumer behaviour

Answer **all** questions.

3 **(a)** Outline the overload theory of personal space, using shoppers as an example. [2]

(b) Describe the study by Robson et al. (2011) about table spacing in restaurants. [4]

(c) Explain **one** strength and **one** weakness of the study by Robson et al. [6]

4 **(a)** Describe what psychologists have discovered about advertising applications (brand recognition in children, advertising and consumer personality, effective slogans). [8]

(b) Evaluate what psychologists have discovered about advertising applications (brand recognition in children, advertising and consumer personality, effective slogans), including a discussion on the use of children in psychological research. [10]

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Psychology and health

Answer **all** questions.

5 **(a)** Explain what is meant by 'chronic' pain. [2]

(b) There are medical and psychological techniques for managing and controlling pain. There are also alternative techniques to these.

Outline **two** alternative techniques for managing and controlling pain. [4]

(c) Explain **one** similarity and **one** difference between a medical technique and an alternative technique for managing and controlling pain. [6]

6 **(a)** Describe what psychologists have discovered about practitioner and patient interpersonal skills (non-verbal communications and verbal communications). [8]

(b) Evaluate what psychologists have discovered about practitioner and patient interpersonal skills (non-verbal communications and verbal communications), including a discussion of generalisability. [10]

Psychology and organisations

Answer **all** questions.

7 **(a)** Identify **two** team roles as proposed by Belbin (1981). [2]

(b) Describe the theory of group development (Tuckman, 1965). [4]

(c) Explain **one** strength and **one** weakness of the theory of group development. [6]

8 **(a)** Describe what psychologists have discovered about health and safety in organisational work conditions (accidents at work, reducing accidents at work, safety promotion campaigns). [8]

(b) Evaluate what psychologists have discovered about health and safety in organisational work conditions (accidents at work, reducing accidents at work, safety promotion campaigns), including a discussion about experiments. [10]

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Surname	StemUp Model Solution
Answer booklet	Write the question number in the left-hand margin at the start of each answer.

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Psychology and abnormality

1(a) Freeman used a virtual reality simulation of a train ride on the London Underground between two stations, with neutral avatar passengers. While the participant was in the virtual carriage, the comments they made about the avatars were noted down and classed as positive, neutral or paranoid, so paranoid thinking could be assessed.

1(b) Sensky used a randomised controlled trial with 90 patients with schizophrenia whose symptoms had not responded to medication. Patients were randomly allocated to either cognitive-behavioural therapy or a befriending control condition, and received an average of 19 sessions over 9 months.
Patients were assessed by raters who were blind to the condition, at baseline, after treatment (9 months) and at a follow-up 9 months later. Straight after treatment both groups had improved and there was no significant difference between them. However, at the 9-month follow-up the CBT group showed greater improvement on all measures, including positive and negative symptoms and depression, while the befriending group had lost some of its gains.

1(c) One strength is that the study had high validity because it was a randomised controlled trial. Patients did not choose which treatment they received, so individual differences such as motivation to get better were spread across the CBT and befriending groups. The befriending group also controlled for the effect of simply spending time with a friendly therapist. Together with raters who were blind to the treatment, this reduced researcher bias, so the extra improvement at

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follow-up can be more confidently put down to the CBT itself.

A second strength is that quantitative data were collected using three standardised rating scales: the Comprehensive Psychiatric Rating Scale, the Scale for Assessment of Negative Symptoms and a depression rating scale. This meant the scores of the CBT and befriending groups could be compared statistically at each time point, and using three measures gave a fuller picture of improvement. Because the follow-up was 9 months after treatment ended, it also showed that CBT has longer-lasting benefits, which is a useful practical application for treating schizophrenia that is resistant to drugs.

2(a) Biomedical explanations see OCD as a physical disorder. Genetic explanations suggest OCD runs in families and that certain genes, such as PTPRD, SLITRK3 and DRD4 (involved in dopamine uptake), may raise the risk of OCD symptoms.

Biochemical explanations focus on neurotransmitters: low serotonin activity is linked to OCD, and oxytocin dysfunction may increase worry and fear of certain situations, with the belief that survival is threatened.

Neurological explanations point to abnormal brain structure and function in the "worry circuit". The orbitofrontal cortex and anterior cingulate gyrus detect warning messages about threats, and the basal ganglia (including the caudate nucleus and striatum) and the thalamus normally filter these messages. If this circuit malfunctions, the person keeps receiving the urge to carry out survival behaviours such as hand-washing even after they have been done.

The cognitive explanation says OCD begins with obsessive, intrusive thoughts based on faulty reasoning, for example that a toilet is covered in germs that could kill. These thoughts raise stress and anxiety, and stressful situations make them worse.

The behavioural explanation says the compulsion, such as repeated washing, reduces the anxiety for a short time. Removing this unpleasant feeling negatively reinforces the compulsion, so it is repeated and the cycle is maintained.

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The psychodynamic explanation (Freud) says OCD comes from the anal stage of psychosexual development. Conflict between parent and child over toilet training may leave the person fixated, becoming anally retentive. Obsessive thoughts come from the id and disturb the ego, or the id and superego are in conflict. Compulsive cleaning and other rituals act as an ego defence mechanism that soothes this early childhood conflict.

2(b) The explanations differ in how reductionist they are. The biomedical explanation is the most reductionist, because it reduces a complex disorder to genes, neurotransmitters or brain areas. This has scientific value, since precise causes can be tested, for example with brain scans showing differences in the orbitofrontal cortex. However, it ignores the person's thoughts and life experiences. The cognitive-behavioural explanation is more holistic, as it combines faulty thinking with learned behaviour, but it is still reductionist because it ignores biology. The psychodynamic explanation is the most holistic, considering the unconscious, personality and childhood experiences together, but this makes it vague. No single explanation is complete, which suggests an interactionist view is best.

The explanations also differ on nature versus nurture. Biomedical explanations stress nature, while the behavioural explanation stresses nurture through reinforcement. Genetic links are not 100%, so the environment must also play a part, for example stress triggering obsessive thoughts in a biologically vulnerable person.

The biomedical and cognitive-behavioural explanations are more scientific. Neurotransmitter levels and brain activity can be measured objectively, and negative reinforcement can be tested. The psychodynamic explanation is unscientific, because concepts such as the id and fixation at the anal stage cannot be observed or falsified.

The explanations are useful because they lead to treatments. The biochemical

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	explanation led to SSRIs, and the cognitive-behavioural explanation led to exposure and response prevention, which is effective. However, the biomedical view has a cause and effect problem: low serotonin could be a result of OCD rather than its cause. The psychodynamic explanation has led to few effective treatments, which reduces its usefulness. Finally, biomedical explanations are deterministic, implying a person cannot control their OCD, which may discourage them from trying to change. Cognitive-behavioural explanations allow more free will, because thoughts and behaviour can be changed. Overall, the biomedical and cognitive-behavioural explanations are best supported, but a more holistic combination of the two gives the fullest account of OCD.
	Psychology and consumer behaviour
3(a)	Overload theory says we keep personal space to avoid overloading our information processing system with too much stimulation. A shop is busy, with many people, products and signs to attend to, so shoppers keep their distance from others to reduce the amount of information they have to process.
3(b)	Robson et al. carried out an online survey of over 1000 American participants. In the first part they gave their details, such as age, ethnicity and the type of restaurant they used most often. In the second part each participant was shown one of three images of tables for two placed 6, 12 or 24 inches apart, and imagined one of three dining scenarios: a romantic meal, a meal with a friend or a business lunch. They then rated 32 statements measuring their emotional reactions, intentions and expected behaviour. The 6 inch spacing led participants to report feeling more crowded, less private, more dissatisfied with the table and having a less positive

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	experience of the meal. Women reported being more uncomfortable than men at all three distances.
3(c)	One strength is the large and fairly well balanced sample. Over 1000 participants took part, balanced by gender and area of residence, and they were randomly assigned to the table distances and dining scenarios. This means participant variables were spread across the conditions, and individual quirks in personal space preferences had less effect on the results. The findings are therefore more valid and representative of American diners, so they are useful for restaurants deciding how far apart to place their tables. One weakness is low ecological validity. Participants only looked at a photograph and imagined how they would feel and behave, rather than actually sitting at a table in a real restaurant. Imagining a meal does not involve the real noise, smells, other diners or a partner to talk to, so people may predict feelings they would not really have. Their answers may also be affected by social desirability. As a result the findings may not show how diners would truly react to table spacing in a busy restaurant.
4(a)	Fischer et al. (1991) studied brand recognition in 229 children aged 3 to 6 at pre-schools in Georgia, USA. The children played a game in which they matched 22 logos, including children's brands, adult brands and two cigarette brands, to products pictured on a game board. Recognition rates were high and rose with age. The Disney Channel logo and Old Joe, the cartoon camel used to advertise Camel cigarettes, were among the most recognised. They concluded that very young children see, understand and remember advertising, so tobacco advertising may be a health risk. Snyder and DeBono (1985) studied advertising and consumer personality using university students classified as high or low self-monitors. In Study 1, 50

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participants compared pairs of identical adverts for whiskey, cigarettes and coffee that differed only in the slogan: one appealed to image and one made a claim about quality. High self-monitors preferred the image-oriented adverts and low self-monitors preferred the quality adverts. In Study 2, 40 participants saw either image or quality adverts and said how much they would pay: high self-monitors would pay more for image-advertised products, and low self-monitors more for quality-advertised ones. In Study 3, participants were offered a new shampoo by telephone with an image or a quality message, and the same pattern was found for willingness to try it.

Kohli et al. (2007) reviewed what makes slogans effective. Slogans change more often than logos and aim to build brand awareness and image. They made seven recommendations: keep your eye on the horizon, use the slogan to position the brand clearly, link the slogan to the brand name, repeat it consistently across adverts, use jingles to aid memory but carefully, use slogans from the outset, and be creative, because more complex slogans trigger deeper processing and may be recalled better.

4(b)

Fischer et al. used young children, which raises several issues. Ethically, parents gave informed consent and the matching game was not harmful. However, showing 3 to 6 year olds tobacco logos could be seen as unethical, even though they were only images and no one was trying to sell them cigarettes. Young children have short attention spans and limited language, and a game reduced both problems because they only had to match a logo to a picture. This meant they could not explain their choices, and some correct matches may have been lucky guesses. Recognising a logo at age 3 also does not mean the child will prefer or buy the brand as an adult. Even so, the research was valuable because it showed that children remember cigarette advertising, supporting tighter advertising controls.

Snyder and DeBono used self-report questionnaires, which give quantitative data

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that can be compared statistically across high and low self-monitors. However, participants may have given socially desirable answers, and saying how much you would pay for a product is not the same as really buying it. Using three studies with different methods and products increases reliability, as the same pattern was found each time.

Generalisability is limited. Snyder and DeBono used only university students from Minnesota, and Fischer et al. used pre-school children from one US state, so the findings may not apply to other ages or cultures. Kohli et al. was a review rather than an experiment, so its recommendations are not directly tested, although it draws on many real brands, which gives it practical relevance.

Ecological validity is mixed. Rating magazine adverts in a laboratory is unlike seeing them in everyday life, whereas the telephone shampoo offer in Study 3 was more realistic. The research has strong practical applications: advertisers can match slogans to self-monitoring, design memorable slogans, and governments can protect children. Overall the findings are useful, but the issues with children and self-reports mean they should be applied with care.

Psychology and health

5(a) Chronic pain is persistent pain of long duration, usually lasting 3 months or more. It can be constant or intermittent and mild or severe, for example low back pain, headaches or cancer pain.

5(b) Acupuncture: fine needles are inserted into points in the skin. This stimulates sensory nerves under the skin and in the muscles, so the body releases endorphins, which reduce the pain.

Stimulation therapy (TENS): electrodes are placed on the skin and a mild electric current is passed between them. This floods the nervous system with signals,

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reducing its ability to transmit pain signals to the spinal cord and brain.

5(c) A medical technique is analgesic drugs (painkillers) such as aspirin, which act against pain, inflammation and fever. An alternative technique is TENS.

One similarity is that both aim to control pain by stopping pain signals reaching the brain. Analgesics act on the nervous system to reduce the pain signal, and TENS floods the nerves with electrical signals so that, as gate control theory suggests, the gate is closed and less pain is felt. Both are also easy and cheap for the patient to use at home: they can simply take a tablet or apply the pads of the TENS machine, without needing a practitioner.

One difference is in side effects and addiction. Some analgesics, especially opiates such as morphine, can be addictive and cause side effects such as nausea, and the patient may need larger doses over time. TENS is non-addictive and has no side effects, because no chemical enters the body. This makes TENS more suitable for long-term use with chronic pain, whereas strong analgesics may act more quickly and powerfully for severe pain.

6(a) McKinstry and Wang (1991) studied non-verbal communication through doctors' dress. 475 patients attending 30 doctors in 5 general practices in Lothian, Scotland were shown 8 photographs: a male doctor in five styles of dress (for example a formal suit and tie, or jeans and an open-neck shirt) and a female doctor in three styles (for example a white coat over a skirt). They rated on a 0 to 5 scale how happy they would be to see each doctor for the first time, and answered questions about confidence in each doctor's ability and their attitudes to doctors' dress. The doctor in a formal suit and tie and the female doctor in a white coat were most preferred. 28% said they would be unhappy to consult one of the doctors, usually an informally dressed one, and 41% said appearance would affect their confidence in the doctor.

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McKinlay (1975) studied verbal communication. Lower working-class women using maternity services in Aberdeen, Scotland were interviewed about their understanding of words used by doctors and staff, such as medical terms, and their answers were scored independently. Under-users of the services had the lowest understanding, although only for two words. Overall the women understood the words better than the practitioners expected, yet staff still used jargon they thought patients would not understand.

Ley (1988) studied why patients forget practitioner advice. Forgetting depends on the order, amount, nature and perceived importance of the information, and on patient factors such as age, anxiety and medical knowledge. Patients remember best what they are told first and what they think is important. Ley proposed that practitioners use simple language, give the most important information first, give concrete and specific advice, categorise information (diagnosis, treatment, prognosis), repeat key points and summarise at the end.

6(b) Generalisability is limited in some studies. McKinstry and Wang had a large sample of 475 patients, but all were from one area of Scotland, and expectations of doctors' dress may differ across cultures. The study is also from 1991, so it may lack temporal validity as dress codes have become more casual. McKinlay used only working-class women from one area, Aberdeen, so the findings may not apply to men, other social classes or other countries. In contrast, Ley's recommendations come from a review of many studies, so they can be applied to most practitioners and patients.

The research uses different methods. McKinstry and Wang used questionnaires with photographs, which are easy to standardise and replicate, giving good reliability. However, judging a photograph lacks ecological validity, as patients in a real consultation also respond to the doctor's manner and voice. McKinlay's interviews were set in real maternity services, which increases ecological validity,

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and scoring by independent raters improves reliability.

Quantitative data, such as the 0 to 5 ratings and the 28% and 41% figures, allow easy comparison between styles of dress, but give little insight into why patients felt as they did. Qualitative data from interviews give more detail, though they are harder to analyse objectively. Self-reports may also be affected by social desirability.

The research has useful practical applications. Doctors can dress formally to build patient confidence, avoid jargon, and follow Ley's advice by giving key information first and summarising, which should improve recall and adherence. Overall, the findings are useful, but the narrow samples mean they should be tested in other cultures before being applied widely.

Psychology and organisations

7(a) Plant: a creative problem solver who comes up with new ideas.

Completer finisher: good at finding errors and finishing projects on time.

7(b) Tuckman proposed that groups develop through stages. In forming, members meet, get to know each other and establish the ground rules. In storming, conflict occurs as members establish their place in the group, sometimes between the leader and other members. In norming, members begin to feel part of the team and each person's role becomes clear. In performing, the group has a clear vision and purpose and focuses on achieving its shared goal. A fifth stage, adjourning, was added later (Tuckman and Jensen, 1977), when the group disbands after completing its task and reviews what it has achieved and each person's contribution.

7(c) One strength is that the theory has useful practical applications for organisations. It helps managers and staff understand that groups develop in predictable stages

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and that conflict in the storming stage is normal rather than a sign that the team is failing. This can reassure employees who find this stage uncomfortable, and managers can use leadership strategies to suit each stage, for example coaching in forming and empowering in performing, so the team reaches the performing stage more quickly.

One weakness is that the theory lacks temporal validity. It was created in 1965, when almost all groups met face to face. Today many teams work remotely and interact through the internet, where conflict may be hidden and roles may form differently, so the stages may not occur in the same way. The theory was also based on small groups and gives no guidance on how long each stage should take, so it may be less useful for large or virtual teams in modern organisations.

8(a) Accidents at work often happen in operator-machine systems. In automated workplaces each worker operates a machine that controls only part of the production process, and as technology becomes more advanced the operator must monitor complex displays and controls. Human error can occur when the operator misreads information or acts wrongly, for example at Three Mile Island in 1979, where operators misread the status of a valve, or the Herald of Free Enterprise in 1987, which sailed with its bow doors open and capsized.

Fox et al. (1987) studied reducing accidents with a token economy in two open-pit mines in the USA. Workers were given trading stamps for working without lost-time injuries, with extra stamps if their whole group had no injuries, for having no equipment-damaging accidents, and for behaviour that prevented an accident or injury. Stamps could be exchanged for thousands of items at local stores. After the token economy was introduced there was a large reduction in the number of days lost due to injury, and this was maintained over several years.

Cowpe (1989) tested the effectiveness of a safety campaign about chip pan fires using a quasi-experiment. TV adverts showing how to prevent and put out chip pan

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fires were shown in 10 British TV regions. Viewers completed questionnaires, and official statistics on the number of fires were measured. Awareness of how to prevent and put out chip pan fires rose from 62% to 96%, and all regions showed a decrease in chip pan fires of about 12%. Fires were lowest during the campaign but stayed below the original level afterwards. Where adverts overlapped, the reduction was smallest, suggesting over-exposure made people desensitised to the message.

8(b) Both Fox et al. and Cowpe used field or quasi-experiments, which have strengths. They have high ecological validity: Fox et al. was done in two working mines where workers did their normal jobs, and in Cowpe people watched television at home and used chip pans as normal. Some controls were also used: in Cowpe the regions and the content of the adverts were standardised, and in Fox et al. the reasons for giving tokens and the items available were set out. However, real-world experiments lack control. In Cowpe we do not know how many households saw the adverts or paid attention, and the fall in fires could be due to other factors. In Fox et al. tokens may have been given out inconsistently, and the fall in injuries could partly be due to other safety changes.

Both studies collected quantitative data, such as days lost to injury and numbers of fires, which are objective and allow comparison before and after. Cowpe also used self-report questionnaires, which may be affected by social desirability, as viewers may claim to know more about chip pan safety than they really do.

Ethically, Fox et al. raises few concerns, as the scheme rewarded safe behaviour. However, it could encourage workers to hide injuries so their group still receives stamps. The token economy is also deterministic and behaviourist, suggesting safety is controlled by rewards and ignoring workers' free will and attitudes.

Generalisability is limited, since Fox et al. studied only two American mines and Cowpe one type of fire in Britain, and explanations of operator error rely on case

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studies of disasters that are unique events. However, the research has strong practical applications: organisations can use token economies and well-timed campaigns, avoiding over-exposure, to reduce accidents. Overall the research is useful, even though the lack of control means cause and effect cannot be fully established.