Cambridge Assessment International Education

Cambridge International AS & A Level

PSYCHOLOGY **9990/41**

Paper 4 Specialist Options: Application and Research Methods **October/November 2025**

1 hour 30 minutes

7584372224

You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

- Answer **five** questions in total:
  - Answer questions from **two** options.
    - Section A: answer **four** questions.
    - Section B: answer **one** question.
- 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 [ ].

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Section A

Answer questions from **two** options in this section.

Clinical Psychology

Answer **all** questions if you have studied this option.

1 The key study by Grant et al. (2008) treated gambling disorder in one of two double-blind placebo-controlled trials, in a university and treatment centres.

(a) **(i)** Identify the drug used in each trial. [2]

(ii) State the duration of each trial. [2]

(b) Suggest why placebo-controlled trials were used in this study. [2]

(c) Explain **one** strength and **one** weakness of using multiple locations within this study. [4]

2 **(a)** Outline **one** case study of schizophrenia. [2]

(b) Suggest why the data gathered from a person with schizophrenia might **not** be reliable. [2]

(c) Explain **two** strengths of using case studies to collect data on schizophrenia. [4]

Consumer Psychology

Answer **all** questions if you have studied this option.

3 From the key study by Becker et al. (2011) on food package design, a pre-test on packaging shape was conducted.

(a) Describe the procedure of the pre-test on packaging shape. [4]

(b) Suggest **one** effect on the results if the pre-test had **not** been conducted. [2]

(c) Explain **one** strength and **one** weakness of conducting studies on packaging shape for food in the entrance hall of a supermarket. [4]

4 **(a)** Explain what is meant by the term ‘retail atmospherics’. [2]

(b) Suggest the effect **one** retail atmospheric might have on shopper ambience. [2]

(c) Explain **two** strengths of studying retail atmospherics for the seller (retailer). [4]

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Health Psychology

Answer **all** questions if you have studied this option.

5 The key study by Bridge et al. (1988) on reducing stress during medical treatment divided the female participants into two experimental groups and one control group.

(a) **(i)** Outline the procedure followed by the 'relaxation plus imagery' experimental group. [2]

(ii) Outline the experimental design that was used in this study. [2]

(b) Suggest **one** problem if a different experimental design was used in this study, other than the one you outlined in part **(a)(ii)**. [2]

(c) Explain **one** strength and **one** weakness of using a sample of female participants in studies on reducing stress. [4]

6 **(a)** Outline the methodology used in **one** study on improving adherence in children (e.g. Chaney et al. 2004). [2]

(b) Suggest **one** ethical guideline that applies to the children in the study you outlined in part **(a)**. [2]

(c) Explain **two** weaknesses of using parents/guardians to collect data about improving the adherence of children in their care. Do **not** refer to ethics in your answer. [4]

Organisational Psychology

Answer **all** questions if you have studied this option.

7 From the key study by Cuadrado et al. (2008) on women's access to managerial positions:

(a) **(i)** State **two** features of the sample of participants used in this study. [2]

(ii) Outline what each participant was asked to do after reading the narrative (the description of the supervisor's behaviour). [2]

(b) Suggest why Cuadrado et al. used four different versions of the same narrative. [2]

(c) Explain **two** strengths of using an experiment to investigate women's access to managerial positions in this study. [4]

8 Walton's quality of working life (QWL) has an evaluation scale with eight conditions, including a fair and appropriate salary.

(a) State **two** question items from the scale that relate to a fair and appropriate salary. [2]

(b) Suggest how the reliability of the QWL evaluation scale could be tested. [2]

(c) Explain **two** weaknesses of the question items from the QWL evaluation scale. [4]

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Section B

Answer **one** question from this section.

Clinical Psychology

9 **(a)** Plan a study using a structured observation to investigate the effectiveness of imaginal desensitisation for treating gambling disorder.

Your plan must include details about:
- naturalistic or controlled observation
- type(s) of data. [10]

(b) For **one** piece of psychological knowledge on which your plan is based:

(i) Describe this psychological knowledge. [4]

(ii) Explain how you used **two** features of this psychological knowledge to plan your study. [4]

(c) **(i)** Explain **one** reason for your choice of naturalistic observation or controlled observation. [2]

(ii) Explain **one** strength of using a structured observation in your study. [2]

(iii) Explain **one** reason for your choice of type(s) of data. [2]

Consumer Psychology

10 **(a)** Plan a field experiment to investigate the effect on spending when playing classical music in different types of restaurant.

Your plan must include details about:
- controls
- a directional or non-directional hypothesis. [10]

(b) For **one** piece of psychological knowledge on which your plan is based:

(i) Describe this psychological knowledge. [4]

(ii) Explain how you used **two** features of this psychological knowledge to plan your experiment. [4]

(c) **(i)** Explain **one** reason for your choice of controls. [2]

(ii) Explain **one** weakness of your choice of controls. [2]

(iii) Explain **one** reason for your choice of directional or non-directional hypothesis. [2]

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Health Psychology

11 **(a)** Plan an experiment to investigate the effectiveness of biofeedback to manage stress in university students.

Your plan must include details about:
- experimental design
- dependent variable. [10]

(b) For **one** piece of psychological knowledge on which your plan is based:

(i) Describe this psychological knowledge. [4]

(ii) Explain how you used **two** features of this psychological knowledge to plan your experiment. [4]

(c) **(i)** Explain **one** reason for your choice of experimental design. [2]

(ii) Explain **one** weakness of your choice of experimental design. [2]

(iii) Explain **one** reason for your choice of dependent variable. [2]

Organisational Psychology

12 **(a)** Plan a study using a questionnaire to investigate levels of job satisfaction following a job enlargement.

Your plan must include details about:
- questionnaire technique
- question format. [10]

(b) For **one** piece of psychological knowledge on which your plan is based:

(i) Describe this psychological knowledge. [4]

(ii) Explain how you used **two** features of this psychological knowledge to plan your study. [4]

(c) **(i)** Explain **one** reason for your choice of questionnaire technique. [2]

(ii) Explain **one** weakness of your choice of questionnaire technique. [2]

(iii) Explain **one** reason for your choice of question format. [2]

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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.

Question number

Answers for paper 9990/41

Section A: Clinical Psychology

1(a)(i) Nalmefene.

Naltrexone.

1(a)(ii) 16 weeks (nalmefene trial).

18 weeks (naltrexone trial).

1(b) A placebo group acts as a baseline, so the researchers could find out whether nalmefene or naltrexone reduced gambling urges and behaviour more than an inactive pill. Without it, any improvement might just be due to patients expecting to get better, giving false conclusions about the drug.

1(c) One strength is that using a university and out-patient treatment centres gives a more varied sample, e.g. people living near a university and people attending a psychiatric treatment centre. This makes the findings about drug treatment of gambling disorder more representative and generalisable.

One weakness is that participants at the different locations may have different characteristics, e.g. students at the university compared with non-students at the treatment centres. These participant variables, rather than the drug, might affect the results, and procedures may also differ between sites.

2(a) Aneja (2018) described a 14-year-old boy from an urban, middle socioeconomic

Question number	
	status family who was brought in with academic decline over 3 years and hearing voices for the past 2 years. He had aggressive, violent outbursts, his father was aggressive, and he was diagnosed with early onset schizophrenia.
2(b)	The person may not be consistent in their responses. For example, on one occasion they may report that voices are telling them to do something and later deny this or not remember what they said, so repeating the interview would not give consistent data, so it is not reliable.
2(c)	One strength is that a single person can be studied in great depth and detail. In Aneja's case, the boy's history, family background, school decline and the onset of hearing voices were all recorded, giving a full picture of how early onset schizophrenia developed. A second strength is that a person may show a unique set of symptoms that could not be studied in a large sample, e.g. schizophrenia starting in childhood, which is rare. A case study can also be used as a pilot to generate ideas for larger studies of schizophrenia.
	Section A: Consumer Psychology
3(a)	Twenty participants evaluated three pairs of yoghurt cup variants representing the intended shape manipulation (angular versus rounded). They used a 12-item potency construct, with items such as impressive, sour, bitter, spicy, rebellious and independent, and reverse-coded items such as mild, weak and bland. For each cup they rated on 7-point scales, from "not at all" to "very much so", how far each item described the shape. The six cups were presented in random order.
3(b)	The results might lack validity, because the researchers would not know that the

Question number	
	angular and rounded cups really differed in perceived potency, and they might test an unrealistic design such as a square yoghurt pot, wasting time on a package that would never be used.
3(c)	One strength is that the location suits the study: people are in a supermarket that sells food, so testing yoghurt packaging there is realistic, and shoppers are readily available as an opportunity sample, coming straight to the researchers. One weakness is that extraneous variables cannot be controlled, as it is a field setting. Other shoppers, noise and people being in a hurry to shop may stop them concentrating on tasting the yoghurt, so the ratings of the packaging may be less valid.
4(a)	Retail atmospherics are the controllable characteristics of a retail space that entice customers to enter the store, shop and buy at the point of purchase, e.g. interior layout (grid, freeform, racetrack), window displays, music and odour.
4(b)	Slow classical background music might create pleasure and low arousal (PAD model), making the ambience feel relaxed and upmarket, so shoppers stay longer and an older, wealthier type of customer is attracted to the store.
4(c)	One strength is that the retailer can use the findings to increase sales. North et al. (2003) found that playing classical music led diners to spend more, especially on coffee, so a seller can choose music that raises spending. A second strength is that atmospherics can draw customers into the store even when they do not intend to buy. If a shop is known for a pleasant smell, such as fresh bread, or for a type of music, people who like it are more likely to visit, giving more chances of a sale.

Question number	
	Section A: Health Psychology
5(a)(i)	Patients were taught relaxation by concentrating on a series of individual muscle groups, with diaphragmatic breathing to slow respiration. In addition, each patient was taught to imagine a peaceful scene of her own choice to enhance the relaxation.
5(a)(ii)	An independent measures design: each woman took part in only one condition, either relaxation only, relaxation plus imagery, or the control group.
5(b)	If a repeated measures design was used, learning one technique would influence the next, e.g. women who had already learned relaxation would still use it in the imagery condition, so the effect of adding imagery could not be separated out.
5(c)	One strength is that stress reduction techniques can be tailored specifically to females and female illnesses, rather than "one size fits all". In this study the women had breast cancer, so the technique was designed to reduce their particular anxiety during radiotherapy. One weakness is that the findings may not generalise to men or other illnesses. Men would need a range of different techniques, e.g. for prostate cancer, so the effectiveness of relaxation and imagery for males is unknown.
6(a)	Chaney et al. (2004) used a matched questionnaire-based survey of children with asthma using the Funhaler. Parents were interviewed twice in their own home by the same person, and random telephone calls checked whether the child had taken their medication the previous day.
6(b)	Informed consent: the children were aged 1.5 to 6 years, so they could not

Question number	
	understand the study and give their own consent. Consent had to be obtained from their parents instead.
6(c)	One weakness is that a parent may not actually know whether the child is taking the medication, e.g. an older child may say they used the Funhaler when they did not, so the data on adherence would not be valid. A second weakness is that parents may want themselves and their child to be seen in a good light, so they may not answer honestly and may say the child used the inhaler every day when they missed doses, overestimating adherence (social desirability).
	Section A: Organisational Psychology
7(a)(i)	136 participants. Psychology students from the National Open University of Spain (53% women, 47% men).
7(a)(ii)	They were asked to evaluate the supervisor (male or female, depending on the condition) who was in the position for a trial period, by means of an anonymous questionnaire to help make decisions about the candidates, e.g. rating 14 adjectives on a 7-point scale.
7(b)	To test each combination of the two variables: 2 leader sexes (male, female) × 2 leadership styles (male-stereotypical, female-stereotypical), so the effect of the leader's sex and style could be compared.
7(c)	One strength is that the DV can be measured precisely using 7-point rating scales for leadership capacity and effectiveness, giving quantitative data so ratings of the

Question number	
	male and female supervisors can be compared statistically. A second strength is that the procedure is standardised: all participants read the same narrative about the supervisor's behaviour with only the sex and style changed, so any differences in ratings are likely to be caused by the IV rather than other factors.
8(a)	How satisfied are you with your salary (remuneration)? How satisfied are you with your salary, if you compare it to your colleagues' salary?
8(b)	Test-retest: the QWL scale is given to the same workers on two occasions, e.g. two weeks apart, and the scores are correlated. A strong positive correlation shows the scale is reliable.
8(c)	One weakness is that many words are complex and may not be understood by workers, such as "salubrity", "alimentation", "recompenses" and "polyvalence", so answers may not reflect true satisfaction. A second weakness is that the scale is long, with 35 questions, so workers may become bored and give any answer near the end, making the later items less valid.
	Section B: Clinical Psychology
9(a)	Aim: to investigate the effectiveness of imaginal desensitisation for treating gambling disorder. Hypothesis: patients will show fewer gambling behaviours after imaginal desensitisation than before it. Sample: 20 adults diagnosed with gambling disorder (ICD-11) who play slot machines, recruited by volunteer sampling through a gambling treatment clinic. Procedure: before therapy and after 8 weekly sessions of imaginal desensitisation, each patient spends 30 minutes in a simulated casino room at the clinic with slot

Question number	
	machines and tokens instead of real money.
	Observation: a controlled, structured, overt, non-participant observation, recorded through a one-way mirror and on video.
	Behavioural categories (event sampling, tally chart): approaches a machine; inserts a token; presses play; sits at the machine; walks away; says something about wanting to gamble.
	Observers: two trained observers record independently; inter-rater reliability is checked by correlating their tallies.
	Data: quantitative data from the tallies, with the mean number of each behaviour before and after therapy shown in a bar chart; qualitative data from notes on what patients say about urges.
	Ethics: informed consent, right to withdraw, no real money can be lost, data are confidential, and patients are debriefed and offered further support.
9(b)(i)	Imaginal desensitisation is a behavioural therapy for impulse control disorders such as gambling. The patient is first taught progressive muscle relaxation, then visualises themselves being exposed to the situation. This triggers the drive to carry out the impulsive behaviour, and the aim is to reduce the strength of the drive while the person stays relaxed. Blaszczynski and Nower (2003) found it particularly effective with gamblers. A typical sequence has six steps: initiating the urge, planning to follow it, arriving at the venue, arousal and excitement, having second thoughts, and the behaviour becoming less attractive. Initial sessions are with a therapist, then continued at home.
9(b)(ii)	First, I used the idea that the person imagines arriving at the venue and feeling the urge. I modified this by putting patients in a simulated casino after therapy, to see whether the trained relaxation stops them actually approaching and playing the machines.

Question number	
	Second, I used the aim that the drive to gamble becomes weaker. I turned this into behavioural categories (inserts token, presses play, walks away), so a fall in the tally after therapy shows the drive has reduced.
9(c)(i)	A controlled observation was chosen because it is a safe setting: patients know they are observed and cannot lose real money, and the type of gambling (slot machines) and time are the same for everyone.
9(c)(ii)	Structured observation uses a behaviour checklist, so both observers know exactly what to record, e.g. "inserts a token". Their tallies can be compared to check inter-rater reliability.
9(c)(iii)	Quantitative tallies were chosen because they can be statistically analysed, e.g. the mean number of tokens inserted before and after therapy can be compared to judge effectiveness.
	Section B: Consumer Psychology
10(a)	Aim: to investigate the effect of classical music on spending in different types of restaurant. Directional hypothesis: customers will spend more per head when classical music is played than when no music is played, in both an upmarket and a fast-food restaurant. Type of experiment: a field experiment in two real restaurants in the same city, one upmarket restaurant and one fast-food restaurant. IV: classical music or no music, alternating on matched days over 4 weeks (e.g. Monday to Thursday evenings), and type of restaurant. DV: actual spend per head in £, taken from the till receipts, broken down into starters, mains, desserts, coffee and drinks, divided by the number of people on

Question number

the bill.

Design: independent measures, as each customer experiences only one condition.

Controls: same music volume (measured with a sound meter), same CD of classical music, same menu and prices, same lighting and temperature, same time of evening (6 to 9 pm), and only weekdays so busy weekends are excluded.

Sample: all customers dining in the two restaurants during the study.

Data: quantitative; the mean spend per head is calculated for each condition in each restaurant and shown in a bar chart.

Ethics: the restaurant owners give consent; no customer names or card details are recorded, so the data are anonymous; customers are not deceived in a way that causes harm.

10(b)(i) North et al. (2003) carried out a field experiment in a restaurant to investigate the effect of type of music on the amount of money spent. Over 3 weeks, the three conditions (classical music, pop music and no music) were tested on different days, so each of the 393 diners heard only one type of music. The DV was actual spend in £ on starters, main courses, desserts, coffee, bar drinks and wine, and total spend. Most was spent with classical music (£32.50) compared with pop music (£29.46) and no music (£29.73). The biggest difference was on coffee: classical £1.06, pop £0.80 and no music £0.53.

10(b)(ii) First, I used North et al.'s IV of classical music versus no music, tested on different days. I expanded it by playing classical music in both an upmarket restaurant (like theirs) and a fast-food restaurant.

Second, I used their DV of actual spend in £ broken down by item. I measured spend per head from till receipts for starters, mains, desserts, coffee and drinks in both restaurants.

Question number	
10(c)(i)	Controls such as the same volume, menu prices and time of evening were chosen so that any difference in spend per head is more likely to be caused by the classical music and not other situational variables.
10(c)(ii)	Keeping the same volume and menu in a fast-food restaurant is less natural; staff may feel watched and change their behaviour, so the field experiment loses some ecological validity.
10(c)(iii)	A directional hypothesis was chosen because there is evidence for the direction: North et al. found diners spent more with classical music (£32.50) than no music (£29.73).
	Section B: Health Psychology
11(a)	Aim: to investigate the effectiveness of biofeedback to manage stress in university students. Directional hypothesis: students given biofeedback will show a greater fall in forehead muscle tension than students given no biofeedback. Type of experiment: a laboratory experiment in a university psychology lab. Sample: 40 undergraduate students who report high stress, recruited by volunteer sampling from posters. Experimental design: independent measures, with students randomly allocated to the biofeedback group or the control group (20 in each). Groups are matched on baseline stress score. IV: biofeedback (EMG electrodes on the forehead give a tone whose pitch rises with muscle tension, and the student learns to lower it) versus no feedback (same electrodes, no tone), 30 minutes twice a week for 5 weeks. DV: forehead muscle tension in microvolts measured by EMG at the start and end of the 5 weeks, plus a self-rated stress score from 0 (no stress) to 10 (extreme

Question number	
	stress). Controls: same room, time of day, chair and standardised instructions. Data: the mean change in muscle tension and stress ratings is compared for the two groups in a bar chart. Ethics: informed consent, right to withdraw, confidentiality; the control group is offered biofeedback afterwards and all students are debriefed and given details of the university counselling service.
11(b)(i)	Biofeedback is a psychological therapy where a person receives information about a physiological process, such as muscle tension, and learns to control it. Budzynski et al. (1969) used biofeedback with people suffering tension headaches. The device gave auditory feedback, the pitch of the tone being set by forehead muscle tension. Group 1 heard feedback that reflected their muscle tension; group 2 received irrelevant constant low tone feedback; group 3 was a silent no-feedback group. The feedback group showed a 50% decrease in forehead muscle tension, the no-feedback group a 24% decline and the irrelevant feedback group a 28% increase.
11(b)(ii)	First, I used the auditory tone whose pitch reflects forehead muscle tension. I used the same type of EMG device and tone with stressed university students, who learn to lower the pitch. Second, I used the comparison between a feedback group and a no-feedback group. I compared a biofeedback group with a control group wearing the electrodes with no tone, so any fall in tension is due to the feedback.
11(c)(i)	An independent design allows the biofeedback group to be compared directly with a no-feedback control group, and avoids students learning relaxation in one condition and using it in the other.

Question number	
11(c)(ii)	Participant variables are not controlled: students in the biofeedback group may naturally be calmer or have fewer exams, so the fall in muscle tension may not be due to the biofeedback.
11(c)(iii)	Muscle tension in microvolts was chosen because it is an objective, recognised physiological measure of stress, giving quantitative data so the two groups' mean changes can be compared.
	Section B: Organisational Psychology
12(a)	Aim: to investigate levels of job satisfaction following a job enlargement. Hypothesis: workers will report higher job satisfaction 3 months after job enlargement than before it. Sample: 80 assembly workers in a car factory whose jobs are being horizontally enlarged (each worker now fits doors, mirrors and seals instead of just doors). An opportunity sample of all workers on that line. Questionnaire technique: online, completed on a work computer in a private room, one week before and 3 months after the change. Question format: 20 closed questions on a 5-point scale (1 = strongly disagree, 5 = strongly agree), e.g. "My job is interesting", "My work is boring" (reverse scored), "I am satisfied with the variety of tasks". Two open questions, e.g. "Describe how the new tasks have changed how you feel about your job." Scoring: the total satisfaction score ranges from 20 to 100; open answers are coded into themes by two raters. Data: the mean and median satisfaction scores before and after are compared in a bar chart. Reliability and validity: piloted first; test-retest; standardised instructions.

Question number	
	Ethics: informed consent; anonymous, so managers cannot see individual answers; right to withdraw; debrief.
12(b)(i)	Job enlargement (Belias and Sklikas, 2013) transforms jobs to include more and/or different tasks. The aim is to stimulate the employee's interest in the job through varied tasks, so the needs of employees meet the interests of the organisation. Horizontal enlargement adds more tasks at the same skill level, to reduce specialisation and boredom, reduce the number of difficult tasks and develop new skills. Vertical enlargement is the degree to which employees decide how the task is done; it aims to enhance status and self-fulfilment needs by letting employees take part in planning and controlling tasks.
12(b)(ii)	First, I used the aim of horizontal enlargement to reduce boredom. Workers who now fit doors, mirrors and seals answer closed items such as "My work is boring", to see whether boredom falls after enlargement. Second, I used the idea that variety stimulates interest. I included "I am satisfied with the variety of tasks" and an open question on how the new tasks changed their feelings about the job.
12(c)(i)	Online was chosen because no researcher or manager is watching, so car workers are more likely to answer honestly about their enlarged job.
12(c)(ii)	Workers may abandon an online questionnaire half way, e.g. if called back to the line, so data are lost.
12(c)(iii)	Closed questions give answers in the same format for all 80 workers, so total scores before and after job enlargement can easily be calculated and compared.

Cambridge Assessment International Education

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PSYCHOLOGY **9990/42**

Paper 4 Specialist Options: Application and Research Methods **October/November 2025**

1 hour 30 minutes

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You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

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Section A

Answer questions from **two** options in this section.

Clinical Psychology

Answer **all** questions if you have studied this option.

1 From the key study by Lovell et al. (2006) on the treatment of obsessive-compulsive disorder (OCD):

(a) Outline **two** measures used in this study, other than the client satisfaction questionnaire. [4]

(b) Suggest how the validity of **one** of these measures could be tested. [2]

(c) Explain **two** strengths of using rating scales to assess the effectiveness of telephone-administered treatment of OCD. [4]

2 Miller used a case study to support his 'feeling-state theory' of impulse control disorders.

(a) Outline Miller's feeling-state theory explanation of impulse control disorders. [2]

(b) Suggest **one** way Miller could support his theory, other than with a case study. [2]

(c) Explain **two** reasons why generalisations **cannot** be made about feeling-states from one study. [4]

Consumer Psychology

Answer **all** questions if you have studied this option.

3 From the key study by Snyder and DeBono (1985) on consumer personality and advertising:

(a) Outline the **two** types of message that were presented to the participants in study 3. [4]

(b) Suggest how **one** feature of the design of a telephone interview could have been applied in this study. [2]

(c) Explain **one** strength and **one** weakness of using university students as participants in this study on consumer personality and advertising. [4]

4 Cialdini outlined six ways to close a sale.

(a) Outline what is meant by the term 'scarcity' in relation to closing a sale, using any sales example. [2]

(b) Suggest **one** reason why the use of scarcity leads people to buy a product. [2]

(c) Explain **two** strengths of using scarcity, for the seller of a product. [4]

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Health Psychology

Answer **all** questions if you have studied this option.

5 From the key study by Savage and Armstrong (1990) on the effect of practitioner style on patient satisfaction:

(a) Describe **two** ways that ethical guidelines were followed in this study. [4]

(b) Suggest **one** way that data about satisfaction with the doctor could have been collected, other than by postal questionnaire. [2]

(c) Explain **one** strength and **one** weakness of collecting data on patient satisfaction one week after the consultation, as done in this study. [4]

6 **(a)** Outline how **one** study used fear arousal to promote health (e.g. Janis and Feshbach, 1953). [2]

(b) Suggest **one** way the fear arousal and providing information strategies could be used together to promote fire safety behaviour. [2]

(c) Explain **two** weaknesses of using fear arousal to promote health. [4]

Organisational Psychology

Answer **all** questions if you have studied this option.

7 The key study on applying self-determination theory to motivational rewards by Landry et al. (2019) was conducted in a laboratory.

(a) Describe the **two** measures used to control individual differences in this study. [4]

(b) Suggest **one** reason why using a laboratory could limit the application of this study to everyday life in organisations. [2]

(c) Explain **two** strengths of using a laboratory to investigate motivational rewards. [4]

8 Scouller proposed three levels of leadership.

(a) Outline what is meant by a 'private' level of leadership. [2]

(b) Suggest **one** closed question that a worker could be asked to investigate a leader's private level of leadership. [2]

(c) Explain **two** weaknesses of asking workers about their leader's private level of leadership. [4]

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Section B

Answer **one** question from this section.

Clinical Psychology

9 **(a)** Plan a study using a questionnaire to investigate thoughts about fires in people diagnosed with pyromania.

Your plan must include details about:
- question format
- questionnaire technique. [10]

(b) For **one** piece of psychological knowledge on which your plan is based:

(i) Describe this psychological knowledge. [4]

(ii) Explain how you used **two** features of this psychological knowledge to plan your study. [4]

(c) **(i)** Explain **one** reason for your choice of question format. [2]

(ii) Explain **one** weakness of your choice of question format. [2]

(iii) Explain **one** reason for your choice of questionnaire technique. [2]

Consumer Psychology

10 **(a)** Plan an experiment to investigate differences between adult males and adult females in brand recognition.

Your plan must include details about:
- directional or non-directional hypothesis
- descriptive statistics. [10]

(b) For **one** piece of psychological knowledge on which your plan is based:

(i) Describe this psychological knowledge. [4]

(ii) Explain how you used **two** features of this psychological knowledge to plan your experiment. [4]

(c) **(i)** Explain **one** reason for your choice of directional or non-directional hypothesis. [2]

(ii) Explain **one** strength of your choice of type of experiment. [2]

(iii) Explain **one** reason for your choice of descriptive statistics. [2]

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Health Psychology

11 **(a)** Plan a study using an interview to investigate unrealistic optimism in adults about health beliefs.

Your plan must include details about:
- question format
- interview format. [10]

(b) For **one** piece of psychological knowledge on which your plan is based:

(i) Describe this psychological knowledge. [4]

(ii) Explain how you used **two** features of this psychological knowledge to plan your study. [4]

(c) **(i)** Explain **one** reason for your choice of question format. [2]

(ii) Explain **one** weakness of your choice of question format. [2]

(iii) Explain **one** reason for your choice of interview format. [2]

Organisational Psychology

12 **(a)** Plan a study using an interview to investigate whether praise or recognition is the **most** effective way to motivate workers in an organisation.

Your plan must include details about:
- sampling technique
- interview format. [10]

(b) For **one** piece of psychological knowledge on which your plan is based:

(i) Describe this psychological knowledge. [4]

(ii) Explain how you used **two** features of this psychological knowledge to plan your study. [4]

(c) **(i)** Explain **one** reason for your choice of sampling technique. [2]

(ii) Explain **one** weakness of your choice of sampling technique. [2]

(iii) Explain **one** reason for your choice of interview format. [2]

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

Question number

Answers for paper 9990/42

Section A: Clinical Psychology

1(a) Yale-Brown Obsessive Compulsive Scale (Y-BOCS), self-report version: a 10-item questionnaire, each item scored 0 (no symptoms) to 4 (severe symptoms), giving a total from 0 to 40, where 0 to 7 is very mild and 32 to 40 is severe.
Beck Depression Inventory (BDI), a secondary outcome measure: 21 items each scored 0 to 3, giving a maximum of 63 points.

1(b) Concurrent validity: patients complete the Y-BOCS and another established measure of OCD at the same time. If the two scores have a strong positive correlation, the Y-BOCS is valid.

1(c) One strength is that a rating scale can assess the same person over time, e.g. the Y-BOCS before and after telephone CBT, so a fall in score shows whether their OCD has improved after treatment.
A second strength is that a rating scale is standardised, so it can be used as an assessment tool to show the severity of OCD on the same scale for every patient, and the telephone group can be compared with the face-to-face group fairly.

2(a) Miller (2010) argues that impulse control disorders are created when intense positive feelings become linked with a specific behaviour, creating a state-dependent memory, a "feeling-state". To regenerate the same feeling-state, the person compulsively repeats the behaviour, even when it is harmful.

Question number	
2(b)	He could use a questionnaire constructed to assess feeling-states, e.g. asking gamblers to rate on a 1 to 10 scale how strongly winning is linked to feelings such as "being a winner", and how often they gamble.
2(c)	One reason is that Miller's support comes from the case study of John, who had a gambling problem. John is only one person, so his feeling-state may be unique and cannot be generalised to everyone. A second reason is that feeling-state theory is only one explanation of impulse control disorders, and others, such as behavioural explanations, may be more accurate, so one study is not enough to show that feeling-states cause all impulse control disorders such as kleptomania or pyromania.
	Section A: Consumer Psychology
3(a)	Image message: about the appearance the product gives. "The results of tests have indicated this brand usually rates about average in how it cleans your hair, it consistently rates above average in how good it makes your hair look." Quality message: about the quality of the product. "The results of tests have indicated this brand usually rates about average in how good it makes your hair look, it consistently rates above average in how clean it gets your hair."
3(b)	Questions should be simple, as nothing is written down. Participants could be asked just one question, "How much would you like to try the shampoo?", answered on a five-point scale from "definitely not" to "definitely, yes".
3(c)	One strength is that students are readily available and form a standardised sample, and students are consumers with personalities just like other groups, so

Question number	
	they can respond to shampoo advertisements. One weakness is that students know they are in a study and may respond to demand characteristics, e.g. guessing it is about advertising and giving the answer they think the researcher wants, so the results may not generalise to real consumers.
4(a)	Scarcity means products are valued more when they are limited, so "buy now before there are none left". For example, a hotel website saying "only two rooms left at this price".
4(b)	If people delay they may miss out, so they buy now rather than be disappointed. For example, a customer takes the "last seat available at this price" on a flight rather than risk paying more later.
4(c)	One strength is that sellers can sell more of their product, e.g. an airline saying "only 3 seats left" sells seats quickly even though plenty are still available. A second strength is that sellers can clear items at the end of a line before new models arrive, e.g. a "limited offer" on an older iPhone before the latest model is released.
	Section A: Health Psychology
5(a)	Informed consent: all patients attending each surgery were given a written request to allow audio tape recording of their consultation as part of a research project. If a patient refused, the next eligible patient was selected. Protection from psychological harm: patients were excluded if it was thought they would be upset by taking part, or if they presented with a life threatening condition, so they left the study in the same state.

Question number	
5(b)	A telephone interview a week after the consultation, asking exactly the same questions as the postal questionnaire about how satisfied they were with the doctor.
5(c)	One strength is that one week is close enough to the consultation for patients to remember details of what the doctor said, while giving time to reflect rather than give a knee-jerk reaction, so the satisfaction data reflect the consulting style. One weakness is that in a week patients may forget important details of the consultation, or may drop out, e.g. 110 failed to complete the assessment one week later, so the data on consulting style may be flawed.
6(a)	Janis and Feshbach (1953) gave students a dental hygiene talk with minimal, moderate or strong fear, plus a control group, using self-report questionnaires before, immediately after and 1 week later. Minimal fear was most effective: 36% changed behaviour compared with 8% for strong fear.
6(b)	A short video of a house fire caused by an unattended chip pan could be shown to arouse fear, followed by information on how to prevent fires, fit and test smoke alarms, and plan an escape route.
6(c)	One weakness is that the fear created may be too much, so people respond negatively and avoid the message, e.g. very graphic images on cigarette packets may make smokers ignore the warning. A second weakness is that fear alone does not tell people what to do. Without information, e.g. how to brush teeth properly, people may be scared but not know how to change their behaviour.

Question number	
	Section A: Organisational Psychology
7(a)	Perceived value of reward: participants rated on a 3-item scale how valuable the reward was. The composite score controlled for individual differences in motivation arising from how much they valued the reward. Positive and negative affect: participants completed the PANAS short form, e.g. feeling "alert" and "inspired" or "upset" and "nervous". These scores controlled for differences in mood caused by the instruction paragraph.
7(b)	Participants know they are in a laboratory and that the rewards are artificial, not real pay or bonuses, so they may behave differently from employees in a real organisation.
7(c)	One strength is that situational variables such as temperature, lighting and noise can be controlled, so motivation on the task is influenced only by the type of reward given. A second strength is that the procedure is standardised: every participant receives the same task and the same instruction paragraph, apart from the reward condition, so the study can be replicated and any difference in motivation is likely to be due to the reward.
8(a)	Private leadership is handling individuals one-to-one, treating each with respect as they differ in knowledge, experience, motivation and confidence, e.g. setting individual goals and recognising talent.
8(b)	"On a scale of 1 to 5 (1 = very poor, 5 = very good), how good is your leader at building a relationship with you?"

Question number	
8(c)	One weakness is that the worker may fear losing their job if they criticise the leader, so they may give falsely positive answers, leading to inaccurate conclusions about the leader's behaviour. A second weakness is that a conformist follower may support all the leader's decisions, while an alienated follower may not, so their views are biased and the data on the leader's one-to-one behaviour may be flawed.
	Section B: Clinical Psychology
9(a)	Aim: to investigate thoughts about fires in people diagnosed with pyromania. Sample: 30 adults diagnosed with pyromania (ICD-11), recruited through psychiatrists at specialist clinics (volunteer sample from those referred). Questionnaire technique: paper and pencil, completed in a private clinic room with a researcher present to help if needed; it takes about 20 minutes. Question format: 15 closed and 3 open questions. Closed questions use a 5-point scale (1 = never, 5 = very often), e.g. "How often do you think about fire?", "Before setting a fire, how often do you feel tension or arousal?", "After setting a fire, how often do you feel relief?", and yes/no, e.g. "Do you like to watch the emergency services arrive?". Open questions, e.g. "Describe how you feel when you watch a fire." Scoring: closed items are totalled (15 to 75) and the mean and range are calculated; open answers are coded into themes (e.g. relief, excitement) by two independent raters to check inter-rater reliability. Validity: piloted with clinicians; anonymity reduces social desirability. Ethics: informed consent; right to withdraw; confidentiality, using a number not a name; a psychiatrist is available in case the questions cause distress; debriefing.
9(b)(i)	Pyromania is an impulse control disorder in ICD-11 where a person has the urge to

Question number	
	deliberately start fires, often to watch the fire or the emergency services. Before setting the fire, the person must have felt tension or arousal, and they must show an attraction to fire, e.g. fascination with fire and its consequences. They feel a sense of relief or satisfaction from setting and witnessing the fire, and must not have other motives such as money or revenge.
9(b)(ii)	First, I used the criterion that tension or arousal is felt before setting the fire. I turned it into the closed question "Before setting a fire, how often do you feel tension or arousal?" on a 5-point scale. Second, I used the criterion of relief or satisfaction after witnessing the fire. I included the open question "Describe how you feel when you watch a fire" so participants can explain these feelings.
9(c)(i)	Open questions allow participants to express a range of feelings, giving rich, detailed data, e.g. how watching a fire makes them feel relieved or excited.
9(c)(ii)	Open answers are qualitative with no fixed scale, so they are harder to analyse: two raters must code each description of watching a fire into themes, which takes time and may be subjective.
9(c)(iii)	A paper and pencil technique was chosen because, face-to-face in a clinic, people with pyromania are more likely to complete it, and the researcher can help with any questions.
	Section B: Consumer Psychology
10(a)	Aim: to investigate differences between adult males and adult females in brand recognition. Non-directional hypothesis: there will be a difference between adult

Question number	
	males and adult females in the number of brand logos correctly identified.
	Type of experiment: a quasi experiment carried out in a quiet room at a university, so it is controlled like a laboratory.
	IV: sex of participant (male or female), a naturally occurring IV. Design: independent measures.
	Sample: 50 males and 50 females aged 18 to 60, recruited by opportunity sampling.
	Procedure: each person sees 20 logos on a screen, one at a time for 5 seconds, with the brand name removed, covering food, cars, clothing, technology and cosmetics. They write the brand name.
	DV: the number of logos correctly identified, out of 20.
	Controls: same logos, order, time and instructions.
	Descriptive statistics: the mean, median and range of correct identifications for males and females, with the standard deviation, and a bar chart of mean scores by product category.
	Ethics: informed consent, right to withdraw, anonymity using participant numbers, and debriefing.
10(b)(i)	Brand recognition is the extent to which a consumer can correctly identify a product just by viewing the product's logo, tag line, packaging or advertising. Some brands become synonymous with their function, e.g. people "Hoover" the carpet.
	Fischer et al. (1991) studied how children aged 3 to 6 recognise logos. Children were shown brand logos on cards and had to match each to one of the products pictured on a game board. Recognition increased with age, and by age 6 almost as many children matched Old Joe the Camel to cigarettes as matched the Disney Channel logo to Mickey Mouse.
10(b)(ii)	First, I used the definition of brand recognition as correctly identifying a product

Question number	
	from its logo. I made the DV the number of logos correctly identified, with the brand name removed.
	Second, I used Fischer et al.'s method of showing logos from different product categories. I modified it for adults by showing logos for cars, technology and cosmetics, and comparing males and females.
10(c)(i)	A non-directional hypothesis was chosen because there is no clear evidence that adult males or adult females recognise more brand logos; the Fischer et al. study was on children.
10(c)(ii)	The controlled setting means the same logos, timing and instructions for every participant, so a difference in recognition scores is more likely to be caused by the sex of the participant.
10(c)(iii)	Means and a bar chart summarise the data, so the outcome is easy to see, e.g. comparing the mean number of logos out of 20 recognised by males and by females.
	Section B: Health Psychology
11(a)	Aim: to investigate unrealistic optimism in adults about health beliefs. Hypothesis: adults will rate their own chance of experiencing negative health events as below average.
	Sample: 60 adults aged 25 to 65, recruited by opportunity sampling at a community centre.
	Interview technique and format: a face-to-face structured interview, in a quiet room, with the same 20 questions in the same order, read from a script by a trained interviewer; it takes about 15 minutes.

Question number	
	Question format: closed questions on a 7-point comparative scale (−3 = much less than average, 0 = average, +3 = much more than average), e.g. "Compared with other people of your age and sex, what is your chance of having a heart attack?", "...developing lung cancer?", "...getting type 2 diabetes?", "...living past 80?". Scoring: the mean rating for the negative events is calculated for each person; a mean below 0 shows unrealistic optimism. The group mean and range are shown in a bar chart for each event. Reliability: standardised instructions; a pilot interview first. Ethics: informed consent, right to withdraw, confidential answers, and a debrief with a leaflet on healthy living.
11(b)(i)	Unrealistic optimism (optimistic bias) is a reason for disregarding positive health advice: people falsely believe that bad things will not happen to them, e.g. smokers think they will not get lung cancer. Weinstein (1980) asked 258 college students to estimate how much their own chances of experiencing 42 positive and negative life events differed from those of other students. Overall, they rated their own chances as above average for positive events and below average for negative events. In study 2, when female students learned about others' reasoning, unrealistic optimism decreased but was not eliminated.
11(b)(ii)	First, I used Weinstein's comparative judgement of one's own chances against others. I used this in closed questions such as "Compared with other people of your age and sex, what is your chance of a heart attack?" Second, I used his finding that negative events are rated below average. I scored each person's mean rating for negative health events, so a mean below 0 shows unrealistic optimism.
11(c)(i)	Closed questions give answers in the same format for all 60 adults, so the ratings

Question number	
	can be scored easily and mean ratings for each health event compared.
11(c)(ii)	Adults cannot explain their rating, e.g. why they think their chance of a heart attack is below average, so the reasons for their unrealistic optimism are not discovered.
11(c)(iii)	A structured interview was chosen so all participants received the same questions in the same order, so ratings for each health event can be compared fairly.
	Section B: Organisational Psychology
12(a)	Aim: to investigate whether praise or recognition is the most effective way to motivate workers. Sample and sampling technique: a random sample of 40 workers from a supermarket chain of 400 staff. Every name on the staff list is given a number and 40 numbers are selected by a random number generator. Interview format: a face-to-face semi-structured interview in a private office, lasting 20 minutes, carried out by an independent researcher, not a manager. Questions: fixed closed questions, e.g. "How motivated do you feel when your manager says well done? (1 = not at all, 5 = very)", "How motivated do you feel when you receive an award, such as employee of the month? (1 to 5)", "Which motivates you more: praise or recognition?" Fixed open questions, e.g. "Describe a time when being praised made you work harder", with follow-up questions such as "Why did that motivate you?" Data: the mean ratings for praise and recognition are compared, and the percentage choosing each is shown in a bar chart; open answers are coded into themes. Reliability: standardised introduction and recorded interviews checked by two

Question number	
	raters. Ethics: informed consent; right to withdraw; answers are anonymous and not shown to managers; debriefing.
12(b)(i)	Intrinsic motivators at work include non-monetary rewards such as praise, respect, recognition, empowerment and a sense of belonging. Praise can be a few words from a manager, such as a simple "well done", which is often all a worker needs to stay happy and motivated, but it must be given fairly and consistently to be effective. Recognition results from working hard and showing responsibility, leadership, organisation and other skills the organisation values, and may be an award or a certificate.
12(b)(ii)	First, I used the idea that praise can be a simple "well done". I asked workers to rate how motivated they feel when their manager says well done, and to describe a time praise made them work harder. Second, I used the idea that recognition can be an award or certificate. I asked them to rate how motivated they feel when given employee of the month, so the two ratings can be compared.
12(c)(i)	A random sample was chosen so every one of the 400 supermarket workers has an equal chance of being selected, so the sample is more likely to be representative.
12(c)(ii)	Workers selected at random may refuse to take part, e.g. busy night shift staff, so the final sample may not be representative of all 400 workers.
12(c)(iii)	A semi-structured interview has fixed questions so praise and recognition ratings can be compared, but also allows follow-up questions, e.g. "Why?"

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PSYCHOLOGY **9990/43**

Paper 4 Specialist Options: Application and Research Methods **October/November 2025**

1 hour 30 minutes

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You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)

INSTRUCTIONS

- Answer **five** questions in total:
  - Answer questions from **two** options.
    - Section A: answer **four** questions.
    - Section B: answer **one** question.
- 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 **8** pages. Any blank pages are indicated.

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Section A

Answer questions from **two** options in this section.

Clinical Psychology

Answer **all** questions if you have studied this option.

1 The key study by Grant et al. (2008) treated gambling disorder in one of two double-blind placebo-controlled trials, in a university and treatment centres.

(a) **(i)** Identify the drug used in each trial. [2]

(ii) State the duration of each trial. [2]

(b) Suggest why placebo-controlled trials were used in this study. [2]

(c) Explain **one** strength and **one** weakness of using multiple locations within this study. [4]

2 **(a)** Outline **one** case study of schizophrenia. [2]

(b) Suggest why the data gathered from a person with schizophrenia might **not** be reliable. [2]

(c) Explain **two** strengths of using case studies to collect data on schizophrenia. [4]

Consumer Psychology

Answer **all** questions if you have studied this option.

3 From the key study by Becker et al. (2011) on food package design, a pre-test on packaging shape was conducted.

(a) Describe the procedure of the pre-test on packaging shape. [4]

(b) Suggest **one** effect on the results if the pre-test had **not** been conducted. [2]

(c) Explain **one** strength and **one** weakness of conducting studies on packaging shape for food in the entrance hall of a supermarket. [4]

4 **(a)** Explain what is meant by the term ‘retail atmospherics’. [2]

(b) Suggest the effect **one** retail atmospheric might have on shopper ambience. [2]

(c) Explain **two** strengths of studying retail atmospherics for the seller (retailer). [4]

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Health Psychology

Answer **all** questions if you have studied this option.

5 The key study by Bridge et al. (1988) on reducing stress during medical treatment divided the female participants into two experimental groups and one control group.

(a) **(i)** Outline the procedure followed by the 'relaxation plus imagery' experimental group. [2]

(ii) Outline the experimental design that was used in this study. [2]

(b) Suggest **one** problem if a different experimental design was used in this study, other than the one you outlined in part **(a)(ii)**. [2]

(c) Explain **one** strength and **one** weakness of using a sample of female participants in studies on reducing stress. [4]

6 **(a)** Outline the methodology used in **one** study on improving adherence in children (e.g. Chaney et al. 2004). [2]

(b) Suggest **one** ethical guideline that applies to the children in the study you outlined in part **(a)**. [2]

(c) Explain **two** weaknesses of using parents/guardians to collect data about improving the adherence of children in their care. Do **not** refer to ethics in your answer. [4]

Organisational Psychology

Answer **all** questions if you have studied this option.

7 From the key study by Cuadrado et al. (2008) on women's access to managerial positions:

(a) **(i)** State **two** features of the sample of participants used in this study. [2]

(ii) Outline what each participant was asked to do after reading the narrative (the description of the supervisor's behaviour). [2]

(b) Suggest why Cuadrado et al. used four different versions of the same narrative. [2]

(c) Explain **two** strengths of using an experiment to investigate women's access to managerial positions in this study. [4]

8 Walton's quality of working life (QWL) has an evaluation scale with eight conditions, including a fair and appropriate salary.

(a) State **two** question items from the scale that relate to a fair and appropriate salary. [2]

(b) Suggest how the reliability of the QWL evaluation scale could be tested. [2]

(c) Explain **two** weaknesses of the question items from the QWL evaluation scale. [4]

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Section B

Answer **one** question from this section.

Clinical Psychology

9 **(a)** Plan a study using a structured observation to investigate the effectiveness of imaginal desensitisation for treating gambling disorder.

Your plan must include details about:
- naturalistic or controlled observation
- type(s) of data. [10]

(b) For **one** piece of psychological knowledge on which your plan is based:

(i) Describe this psychological knowledge. [4]

(ii) Explain how you used **two** features of this psychological knowledge to plan your study. [4]

(c) **(i)** Explain **one** reason for your choice of naturalistic observation or controlled observation. [2]

(ii) Explain **one** strength of using a structured observation in your study. [2]

(iii) Explain **one** reason for your choice of type(s) of data. [2]

Consumer Psychology

10 **(a)** Plan a field experiment to investigate the effect on spending when playing classical music in different types of restaurant.

Your plan must include details about:
- controls
- a directional or non-directional hypothesis. [10]

(b) For **one** piece of psychological knowledge on which your plan is based:

(i) Describe this psychological knowledge. [4]

(ii) Explain how you used **two** features of this psychological knowledge to plan your experiment. [4]

(c) **(i)** Explain **one** reason for your choice of controls. [2]

(ii) Explain **one** weakness of your choice of controls. [2]

(iii) Explain **one** reason for your choice of directional or non-directional hypothesis. [2]

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Health Psychology

11 **(a)** Plan an experiment to investigate the effectiveness of biofeedback to manage stress in university students.

Your plan must include details about:
- experimental design
- dependent variable. [10]

(b) For **one** piece of psychological knowledge on which your plan is based:

(i) Describe this psychological knowledge. [4]

(ii) Explain how you used **two** features of this psychological knowledge to plan your experiment. [4]

(c) **(i)** Explain **one** reason for your choice of experimental design. [2]

(ii) Explain **one** weakness of your choice of experimental design. [2]

(iii) Explain **one** reason for your choice of dependent variable. [2]

Organisational Psychology

12 **(a)** Plan a study using a questionnaire to investigate levels of job satisfaction following a job enlargement.

Your plan must include details about:
- questionnaire technique
- question format. [10]

(b) For **one** piece of psychological knowledge on which your plan is based:

(i) Describe this psychological knowledge. [4]

(ii) Explain how you used **two** features of this psychological knowledge to plan your study. [4]

(c) **(i)** Explain **one** reason for your choice of questionnaire technique. [2]

(ii) Explain **one** weakness of your choice of questionnaire technique. [2]

(iii) Explain **one** reason for your choice of question format. [2]

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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.

Question number

Answers for paper 9990/43

Section A: Clinical Psychology

1(a)(i) Nalmefene.

Naltrexone.

1(a)(ii) 16 weeks (nalmefene trial).

18 weeks (naltrexone trial).

1(b) A placebo group acts as a baseline, so the researchers could find out whether nalmefene or naltrexone reduced gambling urges and behaviour more than an inactive pill. Without it, any improvement might just be due to patients expecting to get better, giving false conclusions about the drug.

1(c) One strength is that using a university and out-patient treatment centres gives a more varied sample, e.g. people living near a university and people attending a psychiatric treatment centre. This makes the findings about drug treatment of gambling disorder more representative and generalisable.

One weakness is that participants at the different locations may have different characteristics, e.g. students at the university compared with non-students at the treatment centres. These participant variables, rather than the drug, might affect the results, and procedures may also differ between sites.

2(a) Aneja (2018) described a 14-year-old boy from an urban, middle socioeconomic

Question number	
	status family who was brought in with academic decline over 3 years and hearing voices for the past 2 years. He had aggressive, violent outbursts, his father was aggressive, and he was diagnosed with early onset schizophrenia.
2(b)	The person may not be consistent in their responses. For example, on one occasion they may report that voices are telling them to do something and later deny this or not remember what they said, so repeating the interview would not give consistent data, so it is not reliable.
2(c)	One strength is that a single person can be studied in great depth and detail. In Aneja's case, the boy's history, family background, school decline and the onset of hearing voices were all recorded, giving a full picture of how early onset schizophrenia developed. A second strength is that a person may show a unique set of symptoms that could not be studied in a large sample, e.g. schizophrenia starting in childhood, which is rare. A case study can also be used as a pilot to generate ideas for larger studies of schizophrenia.
	Section A: Consumer Psychology
3(a)	Twenty participants evaluated three pairs of yoghurt cup variants representing the intended shape manipulation (angular versus rounded). They used a 12-item potency construct, with items such as impressive, sour, bitter, spicy, rebellious and independent, and reverse-coded items such as mild, weak and bland. For each cup they rated on 7-point scales, from "not at all" to "very much so", how far each item described the shape. The six cups were presented in random order.
3(b)	The results might lack validity, because the researchers would not know that the

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	angular and rounded cups really differed in perceived potency, and they might test an unrealistic design such as a square yoghurt pot, wasting time on a package that would never be used.
3(c)	One strength is that the location suits the study: people are in a supermarket that sells food, so testing yoghurt packaging there is realistic, and shoppers are readily available as an opportunity sample, coming straight to the researchers. One weakness is that extraneous variables cannot be controlled, as it is a field setting. Other shoppers, noise and people being in a hurry to shop may stop them concentrating on tasting the yoghurt, so the ratings of the packaging may be less valid.
4(a)	Retail atmospherics are the controllable characteristics of a retail space that entice customers to enter the store, shop and buy at the point of purchase, e.g. interior layout (grid, freeform, racetrack), window displays, music and odour.
4(b)	Slow classical background music might create pleasure and low arousal (PAD model), making the ambience feel relaxed and upmarket, so shoppers stay longer and an older, wealthier type of customer is attracted to the store.
4(c)	One strength is that the retailer can use the findings to increase sales. North et al. (2003) found that playing classical music led diners to spend more, especially on coffee, so a seller can choose music that raises spending. A second strength is that atmospherics can draw customers into the store even when they do not intend to buy. If a shop is known for a pleasant smell, such as fresh bread, or for a type of music, people who like it are more likely to visit, giving more chances of a sale.

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	Section A: Health Psychology
5(a)(i)	Patients were taught relaxation by concentrating on a series of individual muscle groups, with diaphragmatic breathing to slow respiration. In addition, each patient was taught to imagine a peaceful scene of her own choice to enhance the relaxation.
5(a)(ii)	An independent measures design: each woman took part in only one condition, either relaxation only, relaxation plus imagery, or the control group.
5(b)	If a repeated measures design was used, learning one technique would influence the next, e.g. women who had already learned relaxation would still use it in the imagery condition, so the effect of adding imagery could not be separated out.
5(c)	One strength is that stress reduction techniques can be tailored specifically to females and female illnesses, rather than "one size fits all". In this study the women had breast cancer, so the technique was designed to reduce their particular anxiety during radiotherapy. One weakness is that the findings may not generalise to men or other illnesses. Men would need a range of different techniques, e.g. for prostate cancer, so the effectiveness of relaxation and imagery for males is unknown.
6(a)	Chaney et al. (2004) used a matched questionnaire-based survey of children with asthma using the Funhaler. Parents were interviewed twice in their own home by the same person, and random telephone calls checked whether the child had taken their medication the previous day.
6(b)	Informed consent: the children were aged 1.5 to 6 years, so they could not

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	understand the study and give their own consent. Consent had to be obtained from their parents instead.
6(c)	One weakness is that a parent may not actually know whether the child is taking the medication, e.g. an older child may say they used the Funhaler when they did not, so the data on adherence would not be valid. A second weakness is that parents may want themselves and their child to be seen in a good light, so they may not answer honestly and may say the child used the inhaler every day when they missed doses, overestimating adherence (social desirability).
	Section A: Organisational Psychology
7(a)(i)	136 participants. Psychology students from the National Open University of Spain (53% women, 47% men).
7(a)(ii)	They were asked to evaluate the supervisor (male or female, depending on the condition) who was in the position for a trial period, by means of an anonymous questionnaire to help make decisions about the candidates, e.g. rating 14 adjectives on a 7-point scale.
7(b)	To test each combination of the two variables: 2 leader sexes (male, female) × 2 leadership styles (male-stereotypical, female-stereotypical), so the effect of the leader's sex and style could be compared.
7(c)	One strength is that the DV can be measured precisely using 7-point rating scales for leadership capacity and effectiveness, giving quantitative data so ratings of the

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male and female supervisors can be compared statistically.

A second strength is that the procedure is standardised: all participants read the same narrative about the supervisor's behaviour with only the sex and style changed, so any differences in ratings are likely to be caused by the IV rather than other factors.

8(a) How satisfied are you with your salary (remuneration)?

How satisfied are you with your salary, if you compare it to your colleagues' salary?

8(b) Test-retest: the QWL scale is given to the same workers on two occasions, e.g. two weeks apart, and the scores are correlated. A strong positive correlation shows the scale is reliable.

8(c) One weakness is that many words are complex and may not be understood by workers, such as "salubrity", "alimentation", "recompenses" and "polyvalence", so answers may not reflect true satisfaction.

A second weakness is that the scale is long, with 35 questions, so workers may become bored and give any answer near the end, making the later items less valid.

Section B: Clinical Psychology

9(a) Aim: to investigate the effectiveness of imaginal desensitisation for treating gambling disorder. Hypothesis: patients will show fewer gambling behaviours after imaginal desensitisation than before it.

Sample: 20 adults diagnosed with gambling disorder (ICD-11) who play slot machines, recruited by volunteer sampling through a gambling treatment clinic.

Procedure: before therapy and after 8 weekly sessions of imaginal desensitisation, each patient spends 30 minutes in a simulated casino room at the clinic with slot

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	machines and tokens instead of real money. Observation: a controlled, structured, overt, non-participant observation, recorded through a one-way mirror and on video. Behavioural categories (event sampling, tally chart): approaches a machine; inserts a token; presses play; sits at the machine; walks away; says something about wanting to gamble. Observers: two trained observers record independently; inter-rater reliability is checked by correlating their tallies. Data: quantitative data from the tallies, with the mean number of each behaviour before and after therapy shown in a bar chart; qualitative data from notes on what patients say about urges. Ethics: informed consent, right to withdraw, no real money can be lost, data are confidential, and patients are debriefed and offered further support.
9(b)(i)	Imaginal desensitisation is a behavioural therapy for impulse control disorders such as gambling. The patient is first taught progressive muscle relaxation, then visualises themselves being exposed to the situation. This triggers the drive to carry out the impulsive behaviour, and the aim is to reduce the strength of the drive while the person stays relaxed. Blaszczynski and Nower (2003) found it particularly effective with gamblers. A typical sequence has six steps: initiating the urge, planning to follow it, arriving at the venue, arousal and excitement, having second thoughts, and the behaviour becoming less attractive. Initial sessions are with a therapist, then continued at home.
9(b)(ii)	First, I used the idea that the person imagines arriving at the venue and feeling the urge. I modified this by putting patients in a simulated casino after therapy, to see whether the trained relaxation stops them actually approaching and playing the machines.

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	Second, I used the aim that the drive to gamble becomes weaker. I turned this into behavioural categories (inserts token, presses play, walks away), so a fall in the tally after therapy shows the drive has reduced.
9(c)(i)	A controlled observation was chosen because it is a safe setting: patients know they are observed and cannot lose real money, and the type of gambling (slot machines) and time are the same for everyone.
9(c)(ii)	Structured observation uses a behaviour checklist, so both observers know exactly what to record, e.g. "inserts a token". Their tallies can be compared to check inter-rater reliability.
9(c)(iii)	Quantitative tallies were chosen because they can be statistically analysed, e.g. the mean number of tokens inserted before and after therapy can be compared to judge effectiveness.
	Section B: Consumer Psychology
10(a)	Aim: to investigate the effect of classical music on spending in different types of restaurant. Directional hypothesis: customers will spend more per head when classical music is played than when no music is played, in both an upmarket and a fast-food restaurant. Type of experiment: a field experiment in two real restaurants in the same city, one upmarket restaurant and one fast-food restaurant. IV: classical music or no music, alternating on matched days over 4 weeks (e.g. Monday to Thursday evenings), and type of restaurant. DV: actual spend per head in £, taken from the till receipts, broken down into starters, mains, desserts, coffee and drinks, divided by the number of people on

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	the bill.
	Design: independent measures, as each customer experiences only one condition.
	Controls: same music volume (measured with a sound meter), same CD of classical music, same menu and prices, same lighting and temperature, same time of evening (6 to 9 pm), and only weekdays so busy weekends are excluded.
	Sample: all customers dining in the two restaurants during the study.
	Data: quantitative; the mean spend per head is calculated for each condition in each restaurant and shown in a bar chart.
	Ethics: the restaurant owners give consent; no customer names or card details are recorded, so the data are anonymous; customers are not deceived in a way that causes harm.
10(b)(i)	North et al. (2003) carried out a field experiment in a restaurant to investigate the effect of type of music on the amount of money spent. Over 3 weeks, the three conditions (classical music, pop music and no music) were tested on different days, so each of the 393 diners heard only one type of music. The DV was actual spend in £ on starters, main courses, desserts, coffee, bar drinks and wine, and total spend. Most was spent with classical music (£32.50) compared with pop music (£29.46) and no music (£29.73). The biggest difference was on coffee: classical £1.06, pop £0.80 and no music £0.53.
10(b)(ii)	First, I used North et al.'s IV of classical music versus no music, tested on different days. I expanded it by playing classical music in both an upmarket restaurant (like theirs) and a fast-food restaurant.
	Second, I used their DV of actual spend in £ broken down by item. I measured spend per head from till receipts for starters, mains, desserts, coffee and drinks in both restaurants.

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10(c)(i)	Controls such as the same volume, menu prices and time of evening were chosen so that any difference in spend per head is more likely to be caused by the classical music and not other situational variables.
10(c)(ii)	Keeping the same volume and menu in a fast-food restaurant is less natural; staff may feel watched and change their behaviour, so the field experiment loses some ecological validity.
10(c)(iii)	A directional hypothesis was chosen because there is evidence for the direction: North et al. found diners spent more with classical music (£32.50) than no music (£29.73).
	Section B: Health Psychology
11(a)	Aim: to investigate the effectiveness of biofeedback to manage stress in university students. Directional hypothesis: students given biofeedback will show a greater fall in forehead muscle tension than students given no biofeedback. Type of experiment: a laboratory experiment in a university psychology lab. Sample: 40 undergraduate students who report high stress, recruited by volunteer sampling from posters. Experimental design: independent measures, with students randomly allocated to the biofeedback group or the control group (20 in each). Groups are matched on baseline stress score. IV: biofeedback (EMG electrodes on the forehead give a tone whose pitch rises with muscle tension, and the student learns to lower it) versus no feedback (same electrodes, no tone), 30 minutes twice a week for 5 weeks. DV: forehead muscle tension in microvolts measured by EMG at the start and end of the 5 weeks, plus a self-rated stress score from 0 (no stress) to 10 (extreme

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	stress). Controls: same room, time of day, chair and standardised instructions. Data: the mean change in muscle tension and stress ratings is compared for the two groups in a bar chart. Ethics: informed consent, right to withdraw, confidentiality; the control group is offered biofeedback afterwards and all students are debriefed and given details of the university counselling service.
11(b)(i)	Biofeedback is a psychological therapy where a person receives information about a physiological process, such as muscle tension, and learns to control it. Budzynski et al. (1969) used biofeedback with people suffering tension headaches. The device gave auditory feedback, the pitch of the tone being set by forehead muscle tension. Group 1 heard feedback that reflected their muscle tension; group 2 received irrelevant constant low tone feedback; group 3 was a silent no-feedback group. The feedback group showed a 50% decrease in forehead muscle tension, the no-feedback group a 24% decline and the irrelevant feedback group a 28% increase.
11(b)(ii)	First, I used the auditory tone whose pitch reflects forehead muscle tension. I used the same type of EMG device and tone with stressed university students, who learn to lower the pitch. Second, I used the comparison between a feedback group and a no-feedback group. I compared a biofeedback group with a control group wearing the electrodes with no tone, so any fall in tension is due to the feedback.
11(c)(i)	An independent design allows the biofeedback group to be compared directly with a no-feedback control group, and avoids students learning relaxation in one condition and using it in the other.

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11(c)(ii)	Participant variables are not controlled: students in the biofeedback group may naturally be calmer or have fewer exams, so the fall in muscle tension may not be due to the biofeedback.
11(c)(iii)	Muscle tension in microvolts was chosen because it is an objective, recognised physiological measure of stress, giving quantitative data so the two groups' mean changes can be compared.
	Section B: Organisational Psychology
12(a)	Aim: to investigate levels of job satisfaction following a job enlargement. Hypothesis: workers will report higher job satisfaction 3 months after job enlargement than before it. Sample: 80 assembly workers in a car factory whose jobs are being horizontally enlarged (each worker now fits doors, mirrors and seals instead of just doors). An opportunity sample of all workers on that line. Questionnaire technique: online, completed on a work computer in a private room, one week before and 3 months after the change. Question format: 20 closed questions on a 5-point scale (1 = strongly disagree, 5 = strongly agree), e.g. "My job is interesting", "My work is boring" (reverse scored), "I am satisfied with the variety of tasks". Two open questions, e.g. "Describe how the new tasks have changed how you feel about your job." Scoring: the total satisfaction score ranges from 20 to 100; open answers are coded into themes by two raters. Data: the mean and median satisfaction scores before and after are compared in a bar chart. Reliability and validity: piloted first; test-retest; standardised instructions.

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	Ethics: informed consent; anonymous, so managers cannot see individual answers; right to withdraw; debrief.
12(b)(i)	Job enlargement (Belias and Sklikas, 2013) transforms jobs to include more and/or different tasks. The aim is to stimulate the employee's interest in the job through varied tasks, so the needs of employees meet the interests of the organisation. Horizontal enlargement adds more tasks at the same skill level, to reduce specialisation and boredom, reduce the number of difficult tasks and develop new skills. Vertical enlargement is the degree to which employees decide how the task is done; it aims to enhance status and self-fulfilment needs by letting employees take part in planning and controlling tasks.
12(b)(ii)	First, I used the aim of horizontal enlargement to reduce boredom. Workers who now fit doors, mirrors and seals answer closed items such as "My work is boring", to see whether boredom falls after enlargement. Second, I used the idea that variety stimulates interest. I included "I am satisfied with the variety of tasks" and an open question on how the new tasks changed their feelings about the job.
12(c)(i)	Online was chosen because no researcher or manager is watching, so car workers are more likely to answer honestly about their enlarged job.
12(c)(ii)	Workers may abandon an online questionnaire half way, e.g. if called back to the line, so data are lost.
12(c)(iii)	Closed questions give answers in the same format for all 80 workers, so total scores before and after job enlargement can easily be calculated and compared.