Cambridge Assessment International Education

Cambridge International AS & A Level

PSYCHOLOGY **9990/41**

Paper 4 Specialist Options: Application **October/November 2021**

1 hour 30 minutes

1269902570

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.
    - Section A: answer **two** questions.
    - Section B: answer **one** question.
    - Section C: 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

You must answer **two** questions from this section.
Answer all the parts for the two questions you choose.

Psychology and abnormality

1 A woman was treated by Glover (2011) for kleptomania. She had a 14-year history of daily compulsive shoplifting and was treated with covert sensitisation. At a 19-month follow-up she was free of stealing behaviour apart from one lapse, and there were corresponding improvements in her self-esteem and socialisation.

(a) Explain what is meant by 'covert sensitisation'. [2]

(b) Outline how the aversive stimulus was used in the study by Glover (2011) to treat the woman's kleptomania. [4]

(c) Give **two** differences between covert sensitisation and imaginal desensitisation. [4]

(d) Discuss the advantages and disadvantages of using covert sensitisation to treat impulse control disorders. You should include a conclusion in your answer. [5]

Psychology and consumer behaviour

2 Machleit et al. (2000) found that perceived crowding in shops, created by manipulating either human (social) density or spatial density, changed levels of pleasure and satisfaction.

(a) Explain what is meant by 'perceived crowding'. [2]

(b) **(i)** Explain the difference between 'human density' and 'spatial density'. [2]

(ii) Outline the questionnaire that Machleit et al. (2000) used to measure perceived crowding. [2]

(c) Suggest how **one** model of the 'effects of ambience' explains how perceived crowding can make the ambience of a shop less pleasant. [4]

(d) Discuss the strengths and weaknesses of using questionnaires to investigate the effect of crowding when shopping in a retail store. You should include a conclusion in your answer. [5]

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Psychology and health

3 The consequences of irregular treatment and poor inhalation technique for children with asthma are linked to more hospitalisations and increased morbidity. The 'Funhaler'™ is a novel spacer device for asthma, devised by Watt et al. (2003) which aims to improve adherence.

(a) Describe how the Funhaler™ differs from other spacer devices. [2]

(b) Suggest why the Funhaler™ is a 'behavioural technique' to improve adherence. [4]

(c) Suggest **two** reasons why children may **not** adhere and therefore fail to take prescribed medication. [4]

(d) Discuss the advantages and disadvantages of conducting studies on non-adherence in children. You should include a conclusion in your answer. [5]

Psychology and organisations

4 Fig. 4.1 is an example of a question about the quality of working life from the QWL questionnaire (Walton, 1974).

How satisfied are you with the work influence on your family life/routine?

Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
1	2	3	4	5

Fig. 4.1

(a) Explain what is meant by 'quality of working life'. [2]

(b) Outline **two** of the eight 'key components' used to assess quality of working life. [4]

(c) **(i)** Suggest how the reliability of the QWL questionnaire could be assessed. [2]

(ii) Suggest how the validity of the QWL questionnaire could be assessed. [2]

(d) Discuss the advantages and disadvantages of using a five-point scale to measure quality of working life. You should include a conclusion in your answer. [5]

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Section B

You must answer **one** question from this section.

Psychology and abnormality

5 **(a)** Design a study to investigate the long-term effectiveness of applied tension. [10]

(b) Explain the psychological and methodological evidence on which your study is based. [8]

Psychology and consumer behaviour

6 Product placement can be used in different ways, in media such as films.

(a) Design a study to investigate which of three chocolate products placed in a film in different ways will be noticed **most** by participants. [10]

(b) Explain the psychological and methodological evidence on which your study is based. [8]

Psychology and health

7 The health belief model provides many reasons to explain why people do not adhere to medical requests.

(a) Design a study to investigate which reasons for non-adherence are **most** common in people from different age groups. [10]

(b) Explain the psychological and methodological evidence on which your study is based. [8]

Psychology and organisations

8 When goal-setting, some organisations set workers targets and some organisations do not.

(a) Design a study to investigate the extent to which setting targets motivates workers. [10]

(b) Explain the psychological and methodological evidence on which your study is based. [8]

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Section C

You must answer **one** question from this section.

Psychology and abnormality

9 *'Even though little Hans was just one child, the psychoanalytic explanation of phobias can be generalised to everyone.'*

To what extent do you agree with this statement? Use examples of research you have studied to support your answer. [12]

Psychology and consumer behaviour

10 *'There is no need to gather qualitative data when conducting studies on menu item position.'*

To what extent do you agree with this statement? Use examples of research you have studied to support your answer. [12]

Psychology and health

11 *'Young people have unrealistic optimism therefore do **not** think it is necessary to prevent stress.'*

To what extent do you agree with this statement? Use examples of research you have studied to support your answer. [12]

Psychology and organisations

12 *'Workers do **not** have the need to achieve; they just need to work hard to earn money.'*

To what extent do you agree with this statement? Use examples of research you have studied to support your answer. [12]

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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

Psychology and abnormality

1(a) Covert sensitisation is a form of behaviour therapy in which an undesirable behaviour is paired, in the imagination, with an unpleasant image or consequence in order to eliminate that behaviour. For example, a person with kleptomania imagines feeling sick every time they imagine stealing, so stealing becomes associated with an aversive feeling rather than pleasure.

1(b) Glover decided to use imagery of nausea and vomiting as the aversive stimulus, paired with the act of stealing. In each episode of imagery the woman imagined approaching an article in a supermarket that she intended to steal and feeling increasing nausea as she got nearer to it. As she lifted the article she imagined vomiting, with the attention of other shoppers being drawn to her, adding embarrassment. The vomiting and other unpleasant sensations stopped as soon as she imagined replacing the article, turning away and leaving the shop, so not stealing was rewarded by relief from the unpleasant feelings.

1(c) Difference 1: in covert sensitisation the client imagines carrying out the behaviour (e.g. stealing) and experiencing negative consequences such as vomiting, whereas in imaginal desensitisation the client is taught progressive muscle relaxation and then imagines successfully resisting or avoiding the behaviour while staying relaxed.

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Difference 2: covert sensitisation creates a new, unpleasant association between the impulsive behaviour and an aversive stimulus, so it is aversion based, whereas imaginal desensitisation is relaxation based: it aims to reduce the heightened arousal and anxiety that come with the urge (e.g. urges to gamble), so the person no longer needs to act on the urge to relieve tension.

1(d) One advantage is that covert sensitisation needs no medication, so the patient cannot become addicted to a drug or suffer side effects. A second advantage is that once learned, the technique can be applied by the patient anywhere and at any time, e.g. in a shop when an urge to steal starts, and Glover's patient was almost free of stealing at a 19-month follow-up, showing it can work long term. One disadvantage is that it takes time and effort from the patient, who must practise the imagery, unlike simply swallowing a pill, and it needs a trained therapist, which is more costly than a drug. A second disadvantage is that it treats the symptom (stealing) rather than the cause, and ignores biochemical factors, and imagining vomiting is unpleasant, so it is more negative than imaginal desensitisation.

In conclusion, covert sensitisation is a useful drug-free treatment for impulse control disorders, but because it depends on the patient's motivation and does not address causes, it is best used alongside other therapy for patients who are willing to practise it.

Psychology and consumer behaviour

2(a) Perceived crowding is a psychological state, not a physical one: it is a person's feeling that there are too many people or too little space, arising from physical, social and personal factors that make them aware of problems from scarce space (Stokols, 1972). This means there are individual differences: in the same busy shop

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	one shopper may feel crowded and another may not.
2(b)(i)	Human (social) density concerns the number of people in a setting and the rate and amount of social interaction between them, e.g. many shoppers in the aisles. Spatial density concerns the physical space, i.e. the amount of merchandise and fixtures and how they are arranged, e.g. narrow aisles full of display stands, which can make a shop feel crowded even when few people are there.
2(b)(ii)	Perceived crowding was measured with an eight-item, two-dimensional Likert-type scale (Machleit et al., 1994), with four items on human crowding and four on spatial crowding. Human crowding items included "The store seemed very crowded to me", "The store was a little too busy" and "There were a lot of shoppers in the store", with "There wasn't much traffic in the store during my shopping trip" reverse coded.
2(c)	The PAD model of Mehrabian and Russell (1974) says an environment produces emotions on three dimensions: pleasure (how happy, satisfied and relaxed a person feels), arousal (how stimulated, excited or jittery they feel) and dominance (how much they feel in control and able to act freely). These emotions lead to approach (staying, browsing, buying) or avoidance (leaving). Applied to crowding: in a crowded shop the shopper cannot move freely to reach products, so dominance falls; the noise and number of people raise arousal to an uncomfortable level; together these lower pleasure. The ambience is therefore felt as unpleasant, leading to avoidance, such as leaving early, which matches Machleit et al.'s finding that crowding lowered pleasure and satisfaction.
2(d)	One strength is that a questionnaire asks shoppers directly, so they can say how crowded they felt and why, rather than the researcher guessing from their

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behaviour; this suits crowding because it is a perception. A second strength is that large numbers of shoppers can be asked quickly as they leave the store, and Likert scales give quantitative data so crowding and satisfaction scores can be compared and the study replicated.

One weakness is that shoppers may give socially desirable answers or respond to demand characteristics, e.g. saying they enjoyed the shop to please the researcher. A second weakness is that closed questions may force shoppers to choose answers that do not reflect how they really felt, and leading questions could bias answers, lowering validity.

In conclusion, questionnaires are the most practical way to measure perceived crowding, as it is a subjective feeling, but they should be combined with observation of shopper behaviour, such as time spent in the store, to check that what shoppers say matches what they do.

Psychology and health

3(a) Unlike standard spacers, the Funhaler has incentive toys, a spinner and a whistle, placed in a separate branch from the inhalation path, which distract the child from the drug delivery and reward good technique. The toys are designed to work best with the deep breathing pattern needed for effective medication, and with enough resistance that air is not drawn in through the toy circuit.

3(b) The Funhaler is a behavioural technique because it uses operant conditioning (Skinner). When the child breathes out through the device the whistle sounds and the spinner turns, and the harder and more effectively they breathe, the louder the whistle and the faster the spin. This is fun for a child, so it acts as positive reinforcement for taking the medication. Behaviour that is reinforced is more likely to be repeated, so the child is more likely to take the inhaler again, and to use

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	the correct deep breathing technique, which improves adherence without relying on the child understanding why the medicine matters.
3(c)	Fear: a child may be frightened of the inhaler, of the mask over the face or of side effects, so they resist taking it and parents give up. Boredom: taking medication every day through a spacer is dull and repetitive, so a child may refuse or not bother, especially when they feel well. (Forgetfulness is another reason, as children may simply forget to take medicine at the right time.)
3(d)	One advantage is that children are less likely to guess the aims and so are more likely to behave naturally, giving valid data on whether they really take their medication. A second advantage is that children are a group who often do not adhere, as in Watt et al. (2003), so studying them directly is more appropriate than generalising from adults and leads to useful devices such as the Funhaler. One disadvantage is that children may not understand complex instructions or questions, and may not be able to explain what they think or feel about their medication, so researchers often rely on parents' reports. A second disadvantage is ethical: children cannot give full informed consent, may not use the right to withdraw or understand a debrief, and could be harmed if, for example, they receive a less effective treatment in a control group. In conclusion, studies of children's non-adherence are worthwhile because the health benefits can be great, but they must use parental consent, simple child-friendly measures and objective checks such as dose counters to be both ethical and valid.
	Psychology and organisations
4(a)	Quality of working life is the extent to which an employee is satisfied with their

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	personal and working needs through taking part in the workplace, while achieving the goals of the organisation, e.g. fair pay, safe conditions and a good balance between work and family life.
4(b)	Adequate and fair compensation: whether the worker is paid fairly for the work they do compared with others, and receives extra benefits such as bonuses or health insurance. Total life space: the balance between work and the rest of life, i.e. whether work leaves enough time and energy for family and leisure, as in the question in Fig. 4.1 about work influence on family life.
4(c)(i)	Test-retest: give the QWL questionnaire to the same workers twice, e.g. one month apart, and correlate their two sets of scores; a high positive correlation shows the questionnaire is reliable.
4(c)(ii)	Concurrent validity: give workers the QWL questionnaire and another established measure of job satisfaction at the same time and compare the scores; if they correlate highly the QWL questionnaire is valid.
4(d)	One advantage is that a five-point scale allows a range of responses, from very dissatisfied to very satisfied, so it shows how strongly a worker feels, and it includes a neutral mid-point for workers who genuinely feel neither. A second advantage is that it gives quantitative data, so QWL can be compared between workers, departments or before and after changes, and analysed statistically. One disadvantage is that workers may give socially desirable answers, or fear that management will see them, so they say they are satisfied when they are not. A second disadvantage is that fixed choices do not let workers explain why, e.g. why work affects family life, and some may overuse the mid-point to avoid committing,

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lowering validity.

In conclusion, a five-point scale is a quick and useful way to measure QWL across a whole organisation, but it should be anonymous and include some open questions so managers understand the reasons behind the scores.

Section B

Psychology and abnormality

5(a) Aim: to investigate whether applied tension remains effective in reducing fainting and fear in people with blood-injury phobia over two years. Method: a longitudinal field experiment with an independent measures design, in outpatient clinics. Sample: 60 adults diagnosed with blood-injury phobia who have a history of fainting, recruited by volunteer sampling through posters in GP surgeries and blood donation centres, and randomly allocated to two groups.
IV: type of treatment. The applied tension group has five weekly one-hour sessions in which they learn to tense the muscles of the arms, legs and body for 10 to 15 seconds, relax for 20 to 30 seconds, and repeat five times, then practise this while viewing pictures of wounds and blood, and finally watching a blood sample being taken. The control group has the same number of sessions of exposure to the same stimuli without tension.
DV: measured before treatment, after treatment, and at 6, 12 and 24 months. (1) Behavioural test: participants watch a 10-minute video of surgery and the time they can watch, and whether they faint, is recorded. (2) Blood pressure and heart rate measured during the video. (3) A self-report fear rating from 0 (no fear) to 10 (extreme fear). (4) A short interview at follow-up, e.g. "Have you had a blood test or injection since treatment? What happened?", giving qualitative data.
Controls: the researcher measuring outcomes does not know which group the

Question number	
	participant was in (single blind); the same video and procedure are used each time.
	Ethics: informed consent, the right to withdraw at any time, medical staff present in case of fainting, confidentiality, and the control group offered applied tension after the study.
	Analysis: mean viewing times, blood pressure and fear ratings are compared between groups at each time point using a statistical test; if applied tension is effective long term, the tension group should keep its improvement at 24 months.
5(b)	Psychological evidence: people with blood-injury phobia show a diphasic response; at the sight of blood their blood pressure and heart rate first rise, then drop sharply, often causing fainting. The way to counter the drop is to raise blood pressure. Ost et al. (1989) called the technique of raising blood pressure applied tension: tensing the muscles of the arms, legs and body for about 10 to 15 seconds, relaxing for 20 to 30 seconds, and repeating both five times. This is why I used exactly this procedure, and why I measured blood pressure, since a successful treatment should stop the fall. Practice with pictures and then a real blood sample follows the idea of gradual exposure, so the person learns to apply the tension in real situations.
	Methodological evidence: a longitudinal design follows the same people over two years, so it can show whether benefits last rather than fading after the therapy ends. Random allocation removes participant variables, and the exposure-only control group shows whether improvement is due to tension itself rather than just exposure or attention. Using a behavioural test, a physiological measure and self-report gives triangulation: blood pressure is objective and not affected by social desirability, while fear ratings and interviews show how the person feels. A single-blind researcher reduces researcher bias. The weakness is attrition over two years, which might leave only the most successful patients in the sample.

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Psychology and consumer behaviour

6(a) Aim: to investigate which of three ways of placing a chocolate product in a film is noticed most. Method: a laboratory experiment with a repeated measures design. Sample: 90 participants aged 16 to 25, chosen by volunteer sampling from colleges. IV: the type of placement, with three levels. (1) Visual only: the chocolate bar is seen in the background on a shop shelf. (2) Verbal only: a character mentions the brand name but it is not seen. (3) Visual and verbal with plot connection: the main character holds the bar, says its name and eats it during an important scene. Three chocolate brands are used, and the brand given each type of placement is counterbalanced across three groups of 30, so that brand popularity does not confound the results.

Procedure: participants watch a 20-minute edited film clip, told only that the study is about enjoyment of films, to avoid demand characteristics.

DV: noticing, measured by a questionnaire straight after the film: first free recall ("List any brands of food or drink you saw or heard in the film"), then recognition (a list of 9 chocolate brands, ticking those that appeared), then a confidence rating from 1 to 5. Finally, participants are offered a free chocolate bar from the three brands as a behavioural measure.

Controls: same clip length, same viewing conditions, each placement on screen for the same time.

Ethics: deception is minor, so participants are fully debriefed and can withdraw their data.

Analysis: the percentage of participants recalling and recognising each placement type is compared using a bar chart and a statistical test.

6(b) Psychological evidence: product placement is when a branded product is given a

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prominent position in a scene in a film or programme. Auty and Lewis (2004) showed children a clip from the film Home Alone in which Pepsi is mentioned and seen during a family meal, while a control group saw a clip without the placement. When later offered a drink, more children who saw the placement chose Pepsi than Coke, and the effect was stronger in children who had seen the film before, showing placement can influence choice even without conscious awareness. My study follows this by using a real film clip and offering a choice of product as a behavioural measure, but compares three types of placement, as a placement that is both seen and heard, and linked to the plot, should get more attention and be processed more deeply than one in the background.

Methodological evidence: a laboratory experiment allows control of extraneous variables, such as how long each product is on screen, so differences in noticing are due to the type of placement. A repeated measures design removes participant variables, and counterbalancing the brands controls for brand familiarity. Using a cover story reduces demand characteristics, as in Auty and Lewis where the purpose was hidden. Free recall and recognition give quantitative data that can be compared, and the free choice adds a behavioural measure of influence. However, watching in a laboratory is less natural than watching at home or in a cinema, lowering ecological validity.

Psychology and health

7(a) Aim: to find which reasons for non-adherence are most common in three age groups. Method: a questionnaire with a quasi-experimental comparison of age groups.

Sample: 300 patients who have been prescribed medication for at least one month, recruited at GP surgeries using stratified sampling: 100 aged 18 to 30, 100 aged 31 to 55 and 100 aged over 55.

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Questionnaire: first, "In the last month, have you missed or stopped taking any of your medication? Yes / No". Then statements based on the health belief model, rated from 1 (strongly disagree) to 5 (strongly agree): perceived seriousness, "My illness is not serious enough to need medication"; perceived susceptibility, "I do not think I will get worse if I miss doses"; barriers, "The side effects outweigh the benefits" and "The medicine is too expensive"; cues to action, "Nobody reminds me to take it"; plus forgetting, "I often forget to take it". Finally an open question: "Describe the main reason you sometimes do not take your medication."

Ethics: informed consent, anonymity using numbers instead of names, right to withdraw, and patients advised to speak to their doctor about any problems.

Reliability: test-retest on a sample two weeks later. Validity: a pilot study to remove unclear or leading questions; self-reports checked against pharmacy refill records for a sub-sample.

Analysis: mean ratings for each reason are calculated for each age group and shown in a bar chart; the highest mean shows the most common reason, and a statistical test compares age groups. Open answers are grouped into themes by content analysis.

7(b) Psychological evidence: the health belief model (Becker and Rosenstock, 1974) says whether a person carries out a health behaviour, such as taking medication, depends on individual perceptions: perceived seriousness of the illness and perceived susceptibility to it, which together give perceived threat. This is weighed against the perceived benefits of the action minus the perceived barriers, such as cost or side effects. Modifying factors include demographic variables, such as age, and socio-psychological variables, and cues to action, such as media campaigns and advice or reminders from others, trigger the behaviour. My statements were written to measure each part of the model, and age was chosen as the IV because it is a demographic modifying factor: younger people may feel less susceptible and older

Question number

people may face more barriers, such as side effects from several medicines.

Methodological evidence: a questionnaire lets a large stratified sample be collected quickly, so each age group is fairly represented. Likert scales give quantitative data, so reasons can be ranked and compared statistically, while the open question gives qualitative data and allows reasons not in the model to emerge. Because non-adherence may be embarrassing, anonymity reduces social desirability bias, and checking pharmacy refill records gives an objective measure to validate the self-reports. Age is a naturally occurring IV, so this is a quasi-experiment and cause and effect cannot be certain.

Psychology and organisations

8(a) Aim: to investigate the extent to which setting targets motivates workers. Method: a field experiment with an independent measures design in two branches of a call centre selling insurance.

Sample: 80 sales staff, 40 in each branch, matched on their average sales over the previous three months.

IV: goal-setting. In the target condition each worker is given a specific, challenging but achievable target, agreed with their manager, e.g. "Complete 12 sales per week for the next 8 weeks", with weekly feedback on progress. In the no-target condition workers are told to "do your best".

DV: (1) productivity: number of sales and calls made per week, taken from company records over 8 weeks; (2) motivation: a questionnaire at the end with statements rated from 1 to 5, e.g. "I feel motivated to work hard", "I know exactly what I am aiming for", and an open question, "What affects how hard you work?"

Controls: same products, same pay and bonus system, same working hours and same length of study in both branches.

Ethics: permission from management and informed consent from workers, data

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	kept confidential so no one is disciplined, right to withdraw, and both groups debriefed and offered goal-setting afterwards. Analysis: mean weekly sales and motivation scores are compared between groups with a statistical test, and open answers analysed for themes.
8(b)	Psychological evidence: goal-setting theory (Latham and Locke, 1984) says that specific and challenging goals lead to higher performance than vague goals such as "do your best". Goals should be SMART: specific, measurable, attainable or agreed, realistic or relevant, and time-based. Goals work best when they follow the principles of clarity, challenge, commitment, feedback and task complexity. This is why my target is a clear number of sales, challenging but achievable, agreed with the manager to build commitment, given a time limit of a week, and why workers receive weekly feedback. The "do your best" condition is the vague goal that the theory predicts will be less motivating. Methodological evidence: a field experiment in a real call centre gives high ecological validity, as workers are doing their normal job. Matching the groups on past sales controls for differences in ability, so any difference is due to the targets. Company sales records are objective quantitative data, not affected by social desirability, while the questionnaire measures motivation itself and the open question gives qualitative reasons. A weakness is that the two branches may differ in managers or customers, and workers who know they are being studied may work harder anyway (the Hawthorne effect).
	Section C
	Psychology and abnormality
9	I largely disagree: some principles of the psychoanalytic explanation can be applied

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widely, but its account of phobias cannot be generalised to everyone from one child.

Freud (1909) studied little Hans, a five-year-old boy with a phobia of horses, mostly through letters from Hans's father. Freud explained the phobia through the Oedipus complex: Hans desired his mother and saw his father as a rival, causing castration anxiety. This fear of his father was repressed and displaced onto horses, which Freud linked to his father through the black around their mouths, like a moustache, and the blinkers, like glasses. Hans's fear lessened as he resolved the complex, e.g. in his fantasy of the plumber.

For the statement: Freud claimed the Oedipus complex is a universal stage that all children pass through, so the explanation should apply to everyone. The structure of id, ego and superego and defence mechanisms such as repression and displacement are general principles that can be applied to many people, even if the specific horse example cannot. The approach also led to the development of therapies that explain fears through unconscious conflicts.

Against: Hans was one child, and a case study cannot be generalised, especially as he may not have been a typical child. The data were collected by his father, a supporter of Freud, who asked leading questions, and Freud interpreted them subjectively, so validity is low; the theory is also unfalsifiable. There are alternative explanations. Hans had seen a horse fall down in the street, so his phobia could be explained by classical conditioning, as in Watson and Rayner's (1920) little Albert, where fear of a rat was learned. Cognitive explanations also apply: DiNardo et al. (1988) found that people fearful of dogs and people who were not had often had similar painful experiences with dogs, but the fearful group expected harm to happen, showing the importance of faulty thinking, which the psychoanalytic approach ignores. Successful behavioural treatments such as systematic desensitisation also suggest phobias are learned.

In conclusion, I disagree. The general psychoanalytic ideas may apply to some

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people, but a single, subjectively interpreted case study cannot be generalised to everyone, and behavioural and cognitive explanations have stronger evidence.

Psychology and consumer behaviour

10 I disagree: quantitative data show which menu positions are chosen most, but qualitative data are needed to explain why.

Dayan and Bar-Hillel (2011) studied primacy and recency effects on menus. In a laboratory study participants chose from different versions of a menu in which the same items were placed at the top, middle or bottom of a category, and items at the beginning and end were chosen more often. In a field study in a cafe, the menu was changed over time so items moved to the extremes or the middle, and items were ordered more often when they were at the beginning or end of a category. This shows that position affects choice.

For the statement: these studies used only quantitative data, the number of times each item was chosen, and this was enough to answer the aim and allowed direct statistical comparison of conditions. Sales records are objective, so they are not open to social desirability bias or misinterpretation by the researcher, and the field data have high ecological validity because diners did not know they were studied. Eye-tracking could also measure what diners look at objectively. Asking diners why they chose could add little, because position effects are probably unconscious, so diners would not know that position influenced them and may give socially desirable reasons such as "it was healthy".

Against: quantitative data cannot tell us why an item was chosen; a diner may choose the first item because they read only the start of the list, or because of price, hunger or a description. Wansink et al. (2001) found that descriptive menu labels increased sales and that diners evaluated the food more positively, so other menu features also matter and interviews could separate these factors. Qualitative

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data are rich and in-depth and avoid reducing choice to a single variable, and participants may feel they have contributed more.

In conclusion, I disagree. Quantitative data are essential for showing whether position affects choice, but qualitative data are needed to understand the reasons, so a mixed approach gives the most useful findings for restaurants.

Psychology and health

11 I partly agree: many young people do show unrealistic optimism, but this does not mean that all young people think preventing stress is unnecessary.

Weinstein (1980) asked college students to rate their chances, compared with other students, of experiencing positive and negative life events. They rated their own chances as above average for positive events and below average for negative events, showing unrealistic optimism. In a second study, optimism was reduced when students saw the reasons other people gave for their chances.

For the statement: if students believe bad events will not happen to them, they are unlikely to see themselves as susceptible to stress-related illness and will not take part in prevention, such as stress inoculation training (Meichenbaum, 1985), which involves conceptualisation, skill acquisition and rehearsal, then application and follow-through. Young people are generally fit and healthy, so they are less concerned with protecting their future health. Lau et al. describe an enduring family socialisation model, in which health beliefs learned in childhood stay stable, so optimistic beliefs may be hard to change.

Against: unrealistic optimism is an average effect, so some young people are not optimistic and believe stress will affect them; some are even anxious about minor symptoms and would welcome stress inoculation. Weinstein's second study showed optimism can be reduced by information, and Lau et al.'s lifelong openness model suggests people remain open to persuasion, so young people may simply not yet

Question number

have been persuaded. Many students under exam pressure do use stress management. Weinstein's sample were American college students, so the findings may not generalise to all young people or cultures, and the self-report ratings may not match what they actually do.

In conclusion, I partly agree. Unrealistic optimism is common in young people and can reduce interest in preventing stress, but it can be changed by information, so the statement is too absolute.

Psychology and organisations

12 I disagree: some workers are motivated mainly by money, but most also have a need to achieve.

McClelland (1965) proposed that people have three learned needs: the need for achievement (nAch), the desire to succeed and do challenging tasks well; the need for affiliation (nAff), to have good relationships; and the need for power (nPow), to influence others. Needs were measured using the Thematic Apperception Test, in which people write stories about pictures and the stories are scored for achievement themes. People high in nAch prefer moderately difficult tasks, personal responsibility and feedback, showing work can be motivating for its own sake.

For the statement: some workers are extrinsically motivated, and see work as a means to an end, a job that pays money with no value in itself. They will work overtime for extra pay, and scientific management assumes workers are economically motivated. Some jobs, such as repetitive factory work, give little chance to achieve, and people may find satisfaction in family and leisure rather than work.

Against: McClelland showed people differ, and many have a high need for achievement, taking pride in their work and finding meeting targets self-rewarding.

Question number

Herzberg's two-factor theory (1959) found that pay is a hygiene factor, which prevents dissatisfaction but does not motivate, while motivators such as achievement, recognition and responsibility produce satisfaction. Intrinsically motivated people, such as volunteers or nurses on low pay, work hard for the satisfaction of the job. People also have a need for affiliation, enjoying working with colleagues. However, McClelland's TAT is subjective to score, and needs may vary between cultures, e.g. individualist cultures may value personal achievement more.

In conclusion, I disagree. Money matters, especially for low-paid workers, but it is reductionist to say workers only need money; most workers are motivated by a combination of pay and the need to achieve.

Cambridge Assessment International Education

Cambridge International AS & A Level

PSYCHOLOGY **9990/42**

Paper 4 Specialist Options: Application **October/November 2021**

1 hour 30 minutes

7797624502

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.
    - Section A: answer **two** questions.
    - Section B: answer **one** question.
    - Section C: 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

You must answer **two** questions from this section.
Answer all the parts for the two questions you choose.

Psychology and abnormality

1 The ABC model of psychological change:
- Activating event
- Beliefs about the event
- Consequences: emotional and behavioural responses.

Ellis (1962) used this model in rational emotive behaviour therapy (REBT). The aim of REBT is to treat depression by changing a client's thinking.

(a) Explain why a depressed client's thinking needs to be changed in order to treat their depression. [2]

(b) **(i)** Outline **one** irrational belief that clients might have before starting REBT. [2]

(ii) Outline how irrational beliefs are changed by REBT. [2]

(c) Suggest **one** psychological treatment for depression, other than REBT. [4]

(d) Discuss the strengths and weaknesses of psychological treatments for depression. You should include a conclusion in your answer. [5]

Psychology and consumer behaviour

2 Leisure environment design should serve two functions: to encourage the customer to spend more money, and to enable the customer to relax and enjoy the pleasant surroundings. Finlay et al. (2006) compared two casino designs, the Kranes 'playground' model and the Friedman design, to investigate which was preferred by customers.

(a) Explain which design was preferred by customers. [2]

(b) Give **two** differences between the casino designs suggested by Kranes and by Friedman. [4]

(c) Finlay et al. (2006) gathered a sample of participants using opportunity sampling.

(i) Outline the sample of participants in this study. [2]

(ii) Give **one** disadvantage of recruiting participants using opportunity sampling. [2]

(d) Discuss whether the findings of the study by Finlay et al. can be generalised. You should consider both sides of the argument and include a conclusion. [5]

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Psychology and health

3 Wang et al. (2005) used several measures to test the validity of their stress tasks. One of these measures was heart rate.

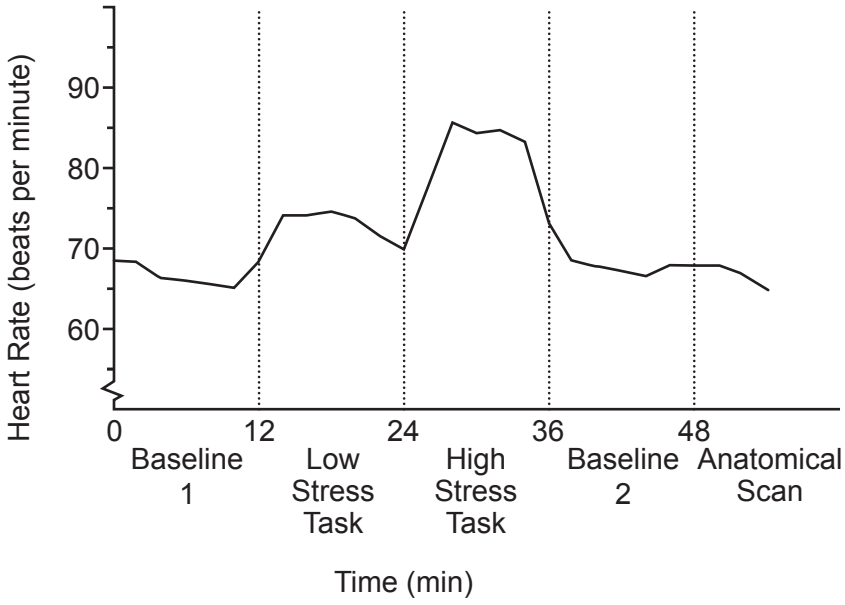


Fig. 3.1

(a) Give **two** findings from the graph in Fig. 3.1. [2]

(b) **(i)** Outline the **two** tasks given by Wang et al. (2005) to create stress. [2]

(ii) Explain what causes heart rate to change with stress levels. [2]

(c) Outline **two** non-physiological measures that were used to test the validity of the stress tasks. [4]

(d) Discuss the advantages and disadvantages of using physiological measures to test the validity of stress tasks in this study. You should include a conclusion in your answer. [5]

Psychology and organisations

4 One type of rapid rotation is the metropolitan shift-work rota: work two early shifts (6 am to 2 pm), two late (2 pm to 10 pm), two night (10 pm to 6 am), two rest days. Then repeat.

(a) Explain what is meant by 'temporal conditions of work environments'. [2]

(b) **(i)** Give **one** difference between the metropolitan rota and **one** other type of rapid rotation. [2]

(ii) Suggest **two** negative effects of shift-work on health. [2]

(c) Suggest **two** ways in which the number of hours people work can be organised, other than rotation of shifts. [4]

(d) Discuss the advantages and disadvantages of shift-work, other than in relation to health. You should include a conclusion in your answer. [5]

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Section B

You must answer **one** question from this section.

Psychology and abnormality

5 **(a)** Design a study to investigate the **most** common type of compulsive behaviour in people with obsessive-compulsive disorder (OCD). [10]

(b) Explain the psychological and methodological evidence on which your study is based. [8]

Psychology and consumer behaviour

6 **(a)** Design a field experiment to investigate which ambient odour customers prefer in a shop selling clothes. [10]

(b) Explain the psychological and methodological evidence on which your experiment is based. [8]

Psychology and health

7 **(a)** Design an experiment to investigate whether pain treatment using medical techniques (biochemical) is more effective than alternative techniques (acupuncture, stimulation therapy/ TENS) for treating chronic pain. [10]

(b) Explain the psychological and methodological evidence on which your experiment is based. [8]

Psychology and organisations

8 **(a)** Design a study to investigate which of Muczyk and Reimann's styles of leader behaviour is shown by the person in charge of a school or college. [10]

(b) Explain the psychological and methodological evidence on which your study is based. [8]

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Section C

You must answer **one** question from this section.

Psychology and abnormality

9 *'Biomedical treatments for obsessive-compulsive and related disorders are irrelevant.'*

To what extent do you agree with this statement? Use examples of research you have studied to support your answer. [12]

Psychology and consumer behaviour

10 *'Theories of consumer decision-making based on choice heuristics, such as anchoring, are of no use for the person selling a product.'*

To what extent do you agree with this statement? Use examples of research you have studied to support your answer. [12]

Psychology and health

11 *'Psychological measures of stress, such as the measure of life events proposed by Holmes and Rahe, are too subjective to be of any use.'*

To what extent do you agree with this statement? Use examples of research you have studied to support your answer. [12]

Psychology and organisations

12 *'Adaptive leaders should **not** spend time 'on the balcony', thinking about the organisation as a whole; they should spend time on the factory floor with the workers.'*

To what extent do you agree with this statement? Use examples of research you have studied to support your answer. [12]

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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 9990/42

Section A

Psychology and abnormality

1(a) Depression is caused and maintained by irrational, negative thoughts and beliefs about events, not by the events themselves. To treat it, these mistaken beliefs must be identified and changed into rational ones, so the client responds to situations rationally and the emotional consequences (low mood) change.

1(b)(i) Awfulising: the client exaggerates how bad an outcome would be, e.g. "If I don't succeed it will be awful and I could not bear it."

1(b)(ii) In the D stage the therapist disputes, or challenges, the irrational beliefs, e.g. asking "Where is the evidence that it would be awful?". This leads to E, new, more effective emotions and behaviours from more rational thinking about the original event.

1(c) Cognitive restructuring (Beck et al., 1979). The therapist first explains the therapy, then helps the client identify unpleasant emotions, the situations in which they occur and the negative automatic thoughts linked to them, e.g. "Everyone thinks I am useless". The client is then helped to challenge these thoughts by testing them against evidence, e.g. keeping a diary of times when people were friendly, and to replace them with more positive, realistic thoughts. Finally the deeper

Question number	
	dysfunctional beliefs underlying the thoughts are challenged before the therapy ends.
1(d)	One strength is that psychological treatments use no medication, so the patient cannot become addicted or suffer drug side effects. A second strength is that the skills of challenging irrational thoughts can be applied by the client anywhere and at any time, even after therapy ends, which may help prevent relapse, and a therapist guides them through it. One weakness is that the treatments take time and effort from the client, who must attend sessions and do homework, which is hard for a severely depressed person with low motivation, unlike swallowing a pill. A second weakness is that they need a trained therapist, which is more costly, and they ignore biochemical causes such as low serotonin, so they may not cure the depression. In conclusion, psychological treatments are effective for many clients, particularly in the long term, but as they depend on motivation they may work best for mild to moderate depression, with medication first used for severe cases so that the client can engage with therapy.
	Psychology and consumer behaviour
2(a)	The Kranes (playground) design was preferred. Participants who had gambled in all six casinos gave Kranes-type casinos significantly higher ratings on pleasure and restoration, i.e. relief from environmental stress, than Friedman-type casinos.
2(b)	Difference 1: Kranes casinos have high ceilings, open space, sunlight, plants and water, whereas Friedman casinos have low ceilings and nothing to draw the eye above the level of play. Difference 2: in a Kranes casino the design is legible and coherent, aiming to

Question number	
	maximise pleasure and restoration, whereas Friedman casinos use maze-like layouts that reduce legibility and create private spaces to encourage continuous play, and the first view on entering is of gaming machines.
2(c)(i)	The participants were 48 adults (26 males and 22 females) with a mean age of 28 years, who had at least a high school degree, recruited in Las Vegas.
2(c)(ii)	The sample may not be representative of the population, as only people available at that place and time are asked, e.g. people leaving a casino in the evening; the researcher may also choose people because of how they look, causing bias.
2(d)	The findings can be generalised in some ways. People leaving a casino are ideal participants to ask about casino design, so they are likely to be typical of casino visitors. Also, pleasure and restoration are universal responses, so people who enjoy a relaxing environment, whether they gamble or not, are likely to prefer the features of the Kranes design anywhere. However, the sample was small, only 48 participants, of restricted age and all from the USA, so the results may not apply to other cultures. A limited number of casinos in one city were used and only two designs were compared, and there may be other designs. Also, hard gamblers who only want to gamble may prefer the Friedman design, so the findings may not apply to all gamblers. In conclusion, the findings can be generalised only cautiously: the preference for Kranes features is probably widespread among casual visitors, but the study should be replicated in other countries with larger samples before generalising to all casino customers.
	Psychology and health

Question number	
3(a)	Heart rate was highest during the high stress task, at about 85 beats per minute. Heart rate was lower during the low stress task (about 74 bpm) than the high stress task, but higher than during baseline 1 (about 65 to 68 bpm).
3(b)(i)	Low stress task: participants counted aloud backwards from 1000. High stress task: participants did serial subtraction of 13 from a four-digit number, answering aloud while being told to go faster.
3(b)(ii)	Stress activates the sympathetic nervous system and the pituitary releases ACTH, which stimulates the adrenal glands: the adrenal medulla releases adrenaline and the adrenal cortex releases cortisol, both of which increase heart rate (and blood pressure).
3(c)	Self-report of stress and anxiety: participants gave a number from 1 to 9 rating how stressed and anxious they felt, before and after each task, so the ratings could be compared across tasks. Self-report of effort, frustration and task difficulty: after each stress task only, participants rated how much effort they used, how frustrated they felt and how difficult the task was, on a 1 to 9 scale.
3(d)	One advantage is that physiological measures such as heart rate are objective: participants cannot easily control them, so they are not affected by social desirability or misinterpretation by the experimenter, giving a valid check that the high stress task really was more stressful. A second advantage is that the recording equipment measures on a standard scale, so the measure is reliable and comparable between tasks and participants, and human physiology is similar across cultures, so findings are easier to generalise. One disadvantage is that physiological data do not show how the participant feels;

Question number	
	heart rate could rise because of effort or talking aloud rather than stress, so it is correlational and cause cannot be assumed. A second disadvantage is that one physiological measure is reductionist, which is why Wang et al. also used self-report ratings to validate the tasks. In conclusion, physiological measures were valuable as an objective check, but they were most convincing because they agreed with the self-report ratings, so a combination of measures gave the best test of validity.
	Psychology and organisations
4(a)	Temporal conditions relate to time: when and for how long people work, e.g. shift work, flexi-time, compressed working weeks or being on call.
4(b)(i)	The metropolitan rota always uses the same pattern of two days on each shift (two early, two late, two night) followed by two rest days, whereas the continental rota varies the pattern, e.g. two early, two late, three night, then rest, giving a longer weekend break.
4(b)(ii)	Sleep disturbances, such as difficulty sleeping during the day after night shifts, leading to fatigue. Gastrointestinal problems, such as peptic ulcers, and increased risk of coronary heart disease (Knutsson, 2003).
4(c)	Flexi-time: people work a set number of hours each week, e.g. 36, but choose when to work them, e.g. starting at 10 am and finishing at 6 pm, usually around compulsory core hours. Compressed working week: people work longer days so they have more days off, e.g. working 12 hours a day for three days a week instead of 7 hours a day for five days.

Question number	
4(d)	One advantage is that the organisation can keep production going, or provide a service such as a hospital, 24 hours a day, making full use of expensive equipment. A second advantage is that workers can be paid more for working unsociable hours, and some can choose shifts that fit around their family life, e.g. childcare. One disadvantage is that workers must work unsociable hours in rotation, including weekends and holidays, which disrupts family and social life. A second disadvantage, especially with rapid rotation like the metropolitan rota, is that workers cannot settle into a routine because their working times keep changing. In conclusion, shift-work is essential for organisations that must run 24 hours a day, but to reduce the disadvantages workers should be given some choice over their shifts and rotas with longer breaks.
	Section B
	Psychology and abnormality
5(a)	Aim: to find the most common type of compulsive behaviour in people with OCD. Method: a structured interview combined with a two-week diary. Sample: 80 adults with a diagnosis of OCD, recruited by volunteer sampling through psychiatric outpatient clinics and OCD support groups, with their psychiatrist's agreement. Procedure: a trained clinician gives a structured interview using a checklist of compulsions, for example washing or cleaning, checking, repeating, counting, ordering or arranging, and hoarding. For each one the participant is asked: "Do you currently do this? Yes / No", "How many minutes a day does it take?" and "How much distress would you feel if you were stopped?" rated from 0 (none) to 4 (extreme). One open question asks: "Describe a typical day and the rituals you

Question number	
	carry out." Diary: for two weeks participants record each compulsion when it happens, ticking its category and noting the time spent, giving data closer to real behaviour than memory alone. Ethics: informed consent, the right to withdraw at any time, confidentiality using numbers, and care not to cause distress by asking about rituals; participants can stop the interview and are given support details. Reliability: two clinicians score a sample of interviews independently to check inter-rater reliability. Analysis: the percentage of participants reporting each compulsion and the mean time per day are calculated and shown in a bar chart; the compulsion with the highest frequency and time is the most common. Open answers are analysed by theme.
5(b)	Psychological evidence: OCD involves obsessions, recurrent intrusive thoughts that cause anxiety, and compulsions, repetitive behaviours performed to reduce that anxiety. Common compulsions include cleaning or washing, checking, repeating, counting, ordering and hoarding, and also slowness and doubting, which is why these became my checklist categories. Rappaport (1989) described Charles, a boy who was a compulsive washer, following a daily washing ritual that took hours and stopped him living a normal life. This shows that time spent and distress are important in judging how much a compulsion dominates a person's life, so I measured time per day and distress as well as presence. Methodological evidence: a structured interview with set questions is standardised, so it is replicable and gives quantitative data that can be totalled to identify the most common compulsion. Using a trained clinician means questions can be clarified for the participant. Because people with OCD may be embarrassed about their rituals, a sensitive interviewer and confidentiality reduce social desirability.

Question number

The diary records behaviour as it happens, reducing reliance on memory and increasing validity. The open question adds qualitative detail, as in the case study of Charles. Inter-rater checks increase reliability. Volunteers from clinics may not represent people with OCD who have not sought help.

Psychology and consumer behaviour

6(a) Aim: to find which ambient odour customers prefer in a clothes shop. Method: a field experiment in a high-street clothes shop, using a repeated measures design over time.

IV: ambient odour, with four conditions each used for one week in random order, repeated over eight weeks: no scent (control), citrus, vanilla and lavender, released at the same low intensity by diffusers hidden in the shop.

Sample: an opportunity sample of 50 adult customers per week, approached as they leave the shop.

DV: (1) a short exit questionnaire: "How pleasant was the atmosphere in the shop?" from 1 (very unpleasant) to 7 (very pleasant); "How much did you like the smell of the shop?" from 1 to 7; and "Would you return? Yes / No"; (2) time spent in the shop, recorded by a covert observer; (3) average spending per customer, from till records.

Controls: same shop, same days and times, same staff, music, lighting, layout and prices; no special offers during the study.

Ethics: the scents are safe and mild; customers are told about the study when asked to complete the questionnaire, give consent, can refuse, and are anonymous.

Analysis: mean ratings, time and spending are compared across the four odour conditions using a bar chart and a statistical test; the odour with the highest liking and pleasantness scores is the one customers prefer.

Question number	
6(b)	Psychological evidence: Chebat and Michon (2003) tested the effect of ambient odour on shoppers by comparing a citrus scent with a no-scent control in a shopping mall, alternating conditions over time. The scent improved shoppers' perceptions of the mall environment and of product quality, which in turn affected their mood and spending. This is why I included a no-scent control, a citrus condition and spending as a measure, and used conditions on different weeks in a real shop. The PAD model of Mehrabian and Russell (1974) explains that a pleasant environment increases pleasure, leading to approach behaviours such as staying longer and spending more, so I measured time in the shop and intention to return. Some clothes shops use a signature scent, which suggests odour is believed to matter in clothes retail. Methodological evidence: a field experiment in a real shop gives high ecological validity, as customers shop naturally and do not know about the scent until afterwards. The IV is manipulated and other variables such as music and staff are controlled, so differences are likely to be caused by the odour. Randomising the order of weeks controls for order effects such as seasons or pay days. The rating scales give quantitative data that can be compared statistically, and spending is an objective behavioural measure not affected by social desirability. However, different customers shop in different weeks, so participant variables cannot be fully controlled.
	Psychology and health
7(a)	Aim: to investigate whether biochemical pain treatment is more effective than alternative techniques for chronic pain. Method: a laboratory-based clinical experiment with an independent measures design, carried out in a pain clinic. Sample: 90 adults with chronic lower back pain lasting more than three months, recruited through a hospital pain clinic by volunteer sampling, and randomly

Question number	
	allocated to three groups of 30. IV: type of treatment for eight weeks. (1) Biochemical: a standard daily dose of pain medication (e.g. a non-steroidal anti-inflammatory drug) prescribed by a doctor. (2) Acupuncture: two sessions a week with a qualified acupuncturist. (3) TENS: a TENS machine used for 30 minutes twice a day. DV: pain measured before, at the end of treatment and three months later, using (1) a visual analogue scale from 0 (no pain) to 10 (worst pain imaginable); (2) the McGill Pain Questionnaire, where patients choose words describing their pain; (3) a pain behaviour observation scale, e.g. limping or guarding, scored by a nurse. Controls: same type of pain, same length of treatment, no other new treatments; the nurse rating behaviour does not know the condition (single blind). Ethics: informed consent, right to withdraw, all treatments are approved and safe, and patients may switch treatment if pain worsens. Analysis: the mean reduction in pain scores is compared between the three groups using a statistical test.
7(b)	Psychological evidence: chronic pain lasts more than three months, unlike acute pain, so the study must use chronic patients and measure lasting change. Medical (biochemical) techniques use drugs such as analgesics, which reduce pain by acting on the body's chemistry, e.g. reducing inflammation or blocking pain signals, but may cause side effects or dependence. Alternative techniques are explained by gate control theory (Melzack and Wall, 1965), which says a neural gate in the spinal cord can be closed by stimulating other nerve fibres, reducing the pain signals reaching the brain. TENS uses small electrical pulses through the skin to close the gate, and acupuncture inserts fine needles, which may also stimulate the release of endorphins. This is why I compared one biochemical treatment with acupuncture and TENS. Pain is subjective, so I used the McGill Pain Questionnaire (Melzack, 1975) and a visual analogue scale to measure it.

Question number

Methodological evidence: an experiment with random allocation means participant variables are spread evenly, so differences in pain reduction can be attributed to the treatment. Independent measures avoids order effects, since a treatment's effect could carry over. Combining self-report scales with an observational pain behaviour scale gives triangulation, as patients may exaggerate or minimise pain, and single-blind rating reduces researcher bias. A follow-up shows whether the effect lasts. Expectations may cause placebo effects, a limitation as treatments cannot be fully blinded.

Psychology and organisations

8(a) Aim: to find which of Muczyk and Reimann's four styles of leader behaviour is shown by the head of a school. Method: a questionnaire given to teachers, plus a structured observation of staff meetings.

Sample: all teaching staff (about 40) in one secondary school, so the sample includes everyone led by the head teacher.

Questionnaire: statements rated from 1 (never) to 5 (always) measuring participation in decisions, e.g. "The head asks staff for their views before making decisions", "The head makes decisions alone"; and direction, e.g. "The head closely checks how we carry out decisions", "The head leaves it to us to decide how to carry out decisions". One open question: "Describe how the head handled a recent decision, e.g. a new homework policy."

Observation: two trained observers attend four staff meetings and tally behavioural categories: asks for opinions, takes a vote, announces a decision already made, gives detailed instructions, delegates the task.

Scoring: a participation score and a direction score are calculated. High participation and high direction is a directive democrat; high participation and low direction a permissive democrat; low participation and high direction a directive

Question number

autocrat; low on both a permissive autocrat.

Ethics: consent from the head and staff, anonymity so teachers cannot be identified, right to withdraw, and the head given feedback afterwards. Reliability: inter-observer reliability checked by correlating tallies.

8(b) Psychological evidence: Muczyk and Reimann (1987) suggest leaders differ on two dimensions: the degree of participation they allow followers in decision-making (democratic or autocratic), and the amount of direction they give in carrying out decisions (directive or permissive). This produces four styles. A directive autocrat makes decisions alone and closely supervises; a permissive autocrat makes decisions alone but lets followers decide how to carry them out; a directive democrat involves followers in decisions but closely supervises their execution; and a permissive democrat lets followers participate in decisions and in how to carry them out. My questionnaire statements and observation categories measure both dimensions so the head can be placed in one of the four styles.

Methodological evidence: a questionnaire allows all staff to be asked anonymously, so they can answer honestly about their head without fear, and rating scales give quantitative scores that can be compared against the two dimensions. The open question gives qualitative examples to support the scores. Observation of meetings shows what the head actually does rather than what staff say, so using both methods gives triangulation and higher validity. Two observers allow inter-observer reliability to be checked. However, the head may behave differently when observed (the Hawthorne effect), and one school may not be representative.

Section C

Psychology and abnormality

Question number

9

I disagree: biomedical treatments are relevant and help many people with OCD, although they have important limitations.

The main biomedical treatment for OCD is drugs, particularly selective serotonin reuptake inhibitors (SSRIs), which increase the activity of serotonin in the brain. They are based on the biochemical explanation that OCD is linked to low serotonin. Drugs are also used for related disorders such as body dysmorphic disorder, and hoarding.

Against the statement: if OCD is caused partly by low serotonin, then drugs that increase serotonin activity target the cause, and many patients show reduced symptom scores on measures such as the Y-BOCS. OCD often occurs with anxiety and depression (comorbidity), and drugs can relieve these symptoms too. Drugs are quick and cheap to give, need little effort from the patient, and can reduce anxiety enough for the patient to engage with psychological therapy. Even if they work partly as a placebo, the belief that something is working can itself reduce anxiety.

For the statement: drugs do not cure OCD; when they are stopped symptoms often return, so they are not a long-term solution. Some drugs have side effects and some anti-anxiety drugs can be addictive, creating further problems. If OCD is psychological rather than physiological, drugs only treat symptoms. Psychological treatments such as exposure and response prevention (ERP) address the behaviour directly: Lehmkuhl et al. (2008) treated a boy with autism and OCD using CBT with ERP, and his symptoms were greatly reduced, without medication. The biochemical approach is also reductionist and determinist, ignoring learning and cognitive factors such as the obsessional thoughts themselves.

In conclusion, I disagree. Biomedical treatments are clearly relevant, especially for severe OCD and comorbid depression, but they are most effective when combined with psychological therapy, which gives longer-lasting change.

Psychology and consumer behaviour

Question number	
10	I disagree: theories of choice heuristics such as anchoring are very useful to sellers, although they do not apply to every customer. A heuristic is a mental shortcut used to make decisions quickly. Anchoring is when people rely on an initial number (the anchor) and adjust insufficiently from it. Tversky and Kahneman (1974) showed that an arbitrary number from a wheel of fortune influenced people's estimates of the percentage of African countries in the UN. Wansink et al. (1998) applied this to purchase quantity decisions: in supermarkets, a sign such as "limit of 12 per person" on soup led shoppers to buy far more cans, around 7, than when there was no limit, around 3. Multiple-unit pricing, such as "2 for $2", also increased sales compared with single-unit pricing. Against the statement: these field studies show that sellers can directly increase sales by using anchors such as quantity limits, multiple-unit prices or showing a high original price next to a sale price. Because anchoring is a common bias found in most people, a seller can use the same strategy on every customer, and the studies were done in real supermarkets, so they have high ecological validity and apply to the real world. For the statement: theories generalise, but individuals differ; some customers, e.g. those who plan purchases with a list or use compensatory decision-making by carefully weighing all attributes, may not be influenced by anchors. Customers who notice the strategy may feel manipulated and react against it. A good salesperson who understands the customer's needs and knows how to close a sale may matter more than a theory. Wansink's studies focused on low-cost food, so anchoring may have less effect on expensive purchases such as cars where people think more carefully. In conclusion, I disagree. Anchoring is of clear practical use to sellers, especially for everyday products, but it should be combined with good selling skills, as it will not work on every customer.

Question number

Psychology and health

11 I disagree: psychological measures of stress are subjective, but they are still very useful, especially when combined with physiological measures.

Holmes and Rahe (1967) developed the Social Readjustment Rating Scale (SRRS), listing 43 life events, each with a value in life change units (LCUs), e.g. death of a spouse 100 and marriage 50. Participants tick the events experienced in the last year and the LCUs are added; a high total is linked to greater risk of stress-related illness. Friedman and Rosenman (1974) used a structured interview to identify Type A behaviour, competitive, impatient and hostile, which was linked to coronary heart disease.

For the statement: self-reports are open to social desirability and memory errors, as people may forget or misremember events from a year ago. The SRRS gives a number, but the data are still subjective, because the same event, e.g. divorce, may be a relief for one person and devastating for another, yet both receive the same LCUs. The scale ignores daily hassles and the physiology of stress, and was written in the USA, so items may not apply in other cultures.

Against the statement: psychological measures give quantitative data that can be compared between people and over time, so they are useful for research and for identifying people at risk. They measure the person's experience of stress, which physiological measures cannot. In Wang et al. (2005), self-report ratings of stress and anxiety from 1 to 9 were used to validate the stress tasks alongside heart rate, showing they work well together. They can also target specific causes of stress, such as life events or personality type, which helps choose interventions. Friedman and Rosenman's structured interview also observed behaviour such as interrupting, making it less subjective.

In conclusion, I disagree. Psychological measures are subjective, but this is a

Question number

limitation rather than a reason to reject them; they are most useful when combined with objective physiological measures.

Psychology and organisations

12

I disagree: adaptive leaders do need time on the factory floor, but getting on the balcony is essential to adaptive leadership.

Heifetz (1997) distinguishes technical problems, which can be solved with existing knowledge, from adaptive challenges, which require people to change their values, behaviour and ways of working, such as responding to a changing economy. One principle of adaptive leadership is getting on the balcony: stepping back from the action to see the whole organisation and the patterns in it, like a person viewing a dance floor from above. Other principles include identifying the adaptive challenge, regulating distress, maintaining disciplined attention, giving the work back to the people and protecting voices of leadership from below.

For the statement: leaders on the factory floor know about immediate production problems and can solve them quickly. They can build relationships with workers, develop individuals and see how they feel, which is important for motivation.

Traditional management models emphasise leaders directing and supervising work, and blue-sky thinking on the balcony may be seen as remote from what workers need.

Against the statement: adaptive leadership is about helping an organisation adapt to changing conditions; if it does not adapt it may go out of business, and only by taking an overview can the leader identify the adaptive challenge. A leader who stays on the factory floor gets caught up in the action and sees only part of the picture, which is reductionist; the balcony view is holistic, seeing the whole as more than the sum of its parts. Heifetz's principle of giving the work back to the people suggests leaders should not be solving everyday problems for workers

Question number

anyway. However, Heifetz's ideas come mainly from case examples, so there is limited experimental evidence.

In conclusion, I disagree. The best adaptive leader moves between the balcony and the floor: time with workers provides information, but time on the balcony is needed to interpret it and lead change.

Cambridge Assessment International Education

Cambridge International AS & A Level

PSYCHOLOGY **9990/43**

Paper 4 Specialist Options: Application **October/November 2021**

1 hour 30 minutes

7830021943

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.
    - Section A: answer **two** questions.
    - Section B: answer **one** question.
    - Section C: 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

You must answer **two** questions from this section.
Answer all the parts for the two questions you choose.

Psychology and abnormality

1 A woman was treated by Glover (2011) for kleptomania. She had a 14-year history of daily compulsive shoplifting and was treated with covert sensitisation. At a 19-month follow-up she was free of stealing behaviour apart from one lapse, and there were corresponding improvements in her self-esteem and socialisation.

(a) Explain what is meant by 'covert sensitisation'. [2]

(b) Outline how the aversive stimulus was used in the study by Glover (2011) to treat the woman's kleptomania. [4]

(c) Give **two** differences between covert sensitisation and imaginal desensitisation. [4]

(d) Discuss the advantages and disadvantages of using covert sensitisation to treat impulse control disorders. You should include a conclusion in your answer. [5]

Psychology and consumer behaviour

2 Machleit et al. (2000) found that perceived crowding in shops, created by manipulating either human (social) density or spatial density, changed levels of pleasure and satisfaction.

(a) Explain what is meant by 'perceived crowding'. [2]

(b) **(i)** Explain the difference between 'human density' and 'spatial density'. [2]

(ii) Outline the questionnaire that Machleit et al. (2000) used to measure perceived crowding. [2]

(c) Suggest how **one** model of the 'effects of ambience' explains how perceived crowding can make the ambience of a shop less pleasant. [4]

(d) Discuss the strengths and weaknesses of using questionnaires to investigate the effect of crowding when shopping in a retail store. You should include a conclusion in your answer. [5]

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Psychology and health

3 The consequences of irregular treatment and poor inhalation technique for children with asthma are linked to more hospitalisations and increased morbidity. The 'Funhaler'™ is a novel spacer device for asthma, devised by Watt et al. (2003) which aims to improve adherence.

(a) Describe how the Funhaler™ differs from other spacer devices. [2]

(b) Suggest why the Funhaler™ is a 'behavioural technique' to improve adherence. [4]

(c) Suggest **two** reasons why children may **not** adhere and therefore fail to take prescribed medication. [4]

(d) Discuss the advantages and disadvantages of conducting studies on non-adherence in children. You should include a conclusion in your answer. [5]

Psychology and organisations

4 Fig. 4.1 is an example of a question about the quality of working life from the QWL questionnaire (Walton, 1974).

How satisfied are you with the work influence on your family life/routine?

Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
1	2	3	4	5

Fig. 4.1

(a) Explain what is meant by 'quality of working life'. [2]

(b) Outline **two** of the eight 'key components' used to assess quality of working life. [4]

(c) **(i)** Suggest how the reliability of the QWL questionnaire could be assessed. [2]

(ii) Suggest how the validity of the QWL questionnaire could be assessed. [2]

(d) Discuss the advantages and disadvantages of using a five-point scale to measure quality of working life. You should include a conclusion in your answer. [5]

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Section B

You must answer **one** question from this section.

Psychology and abnormality

5 **(a)** Design a study to investigate the long-term effectiveness of applied tension. [10]

(b) Explain the psychological and methodological evidence on which your study is based. [8]

Psychology and consumer behaviour

6 Product placement can be used in different ways, in media such as films.

(a) Design a study to investigate which of three chocolate products placed in a film in different ways will be noticed **most** by participants. [10]

(b) Explain the psychological and methodological evidence on which your study is based. [8]

Psychology and health

7 The health belief model provides many reasons to explain why people do not adhere to medical requests.

(a) Design a study to investigate which reasons for non-adherence are **most** common in people from different age groups. [10]

(b) Explain the psychological and methodological evidence on which your study is based. [8]

Psychology and organisations

8 When goal-setting, some organisations set workers targets and some organisations do not.

(a) Design a study to investigate the extent to which setting targets motivates workers. [10]

(b) Explain the psychological and methodological evidence on which your study is based. [8]

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Section C

You must answer **one** question from this section.

Psychology and abnormality

9 *'Even though little Hans was just one child, the psychoanalytic explanation of phobias can be generalised to everyone.'*

To what extent do you agree with this statement? Use examples of research you have studied to support your answer. [12]

Psychology and consumer behaviour

10 *'There is no need to gather qualitative data when conducting studies on menu item position.'*

To what extent do you agree with this statement? Use examples of research you have studied to support your answer. [12]

Psychology and health

11 *'Young people have unrealistic optimism therefore do **not** think it is necessary to prevent stress.'*

To what extent do you agree with this statement? Use examples of research you have studied to support your answer. [12]

Psychology and organisations

12 *'Workers do **not** have the need to achieve; they just need to work hard to earn money.'*

To what extent do you agree with this statement? Use examples of research you have studied to support your answer. [12]

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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

Psychology and abnormality

1(a) Covert sensitisation is a form of behaviour therapy in which an undesirable behaviour is paired, in the imagination, with an unpleasant image or consequence in order to eliminate that behaviour. For example, a person with kleptomania imagines feeling sick every time they imagine stealing, so stealing becomes associated with an aversive feeling rather than pleasure.

1(b) Glover decided to use imagery of nausea and vomiting as the aversive stimulus, paired with the act of stealing. In each episode of imagery the woman imagined approaching an article in a supermarket that she intended to steal and feeling increasing nausea as she got nearer to it. As she lifted the article she imagined vomiting, with the attention of other shoppers being drawn to her, adding embarrassment. The vomiting and other unpleasant sensations stopped as soon as she imagined replacing the article, turning away and leaving the shop, so not stealing was rewarded by relief from the unpleasant feelings.

1(c) Difference 1: in covert sensitisation the client imagines carrying out the behaviour (e.g. stealing) and experiencing negative consequences such as vomiting, whereas in imaginal desensitisation the client is taught progressive muscle relaxation and then imagines successfully resisting or avoiding the behaviour while staying relaxed.

Question number	
	Difference 2: covert sensitisation creates a new, unpleasant association between the impulsive behaviour and an aversive stimulus, so it is aversion based, whereas imaginal desensitisation is relaxation based: it aims to reduce the heightened arousal and anxiety that come with the urge (e.g. urges to gamble), so the person no longer needs to act on the urge to relieve tension.
1(d)	One advantage is that covert sensitisation needs no medication, so the patient cannot become addicted to a drug or suffer side effects. A second advantage is that once learned, the technique can be applied by the patient anywhere and at any time, e.g. in a shop when an urge to steal starts, and Glover's patient was almost free of stealing at a 19-month follow-up, showing it can work long term. One disadvantage is that it takes time and effort from the patient, who must practise the imagery, unlike simply swallowing a pill, and it needs a trained therapist, which is more costly than a drug. A second disadvantage is that it treats the symptom (stealing) rather than the cause, and ignores biochemical factors, and imagining vomiting is unpleasant, so it is more negative than imaginal desensitisation. In conclusion, covert sensitisation is a useful drug-free treatment for impulse control disorders, but because it depends on the patient's motivation and does not address causes, it is best used alongside other therapy for patients who are willing to practise it.
	Psychology and consumer behaviour
2(a)	Perceived crowding is a psychological state, not a physical one: it is a person's feeling that there are too many people or too little space, arising from physical, social and personal factors that make them aware of problems from scarce space (Stokols, 1972). This means there are individual differences: in the same busy shop

Question number	
	one shopper may feel crowded and another may not.
2(b)(i)	Human (social) density concerns the number of people in a setting and the rate and amount of social interaction between them, e.g. many shoppers in the aisles. Spatial density concerns the physical space, i.e. the amount of merchandise and fixtures and how they are arranged, e.g. narrow aisles full of display stands, which can make a shop feel crowded even when few people are there.
2(b)(ii)	Perceived crowding was measured with an eight-item, two-dimensional Likert-type scale (Machleit et al., 1994), with four items on human crowding and four on spatial crowding. Human crowding items included "The store seemed very crowded to me", "The store was a little too busy" and "There were a lot of shoppers in the store", with "There wasn't much traffic in the store during my shopping trip" reverse coded.
2(c)	The PAD model of Mehrabian and Russell (1974) says an environment produces emotions on three dimensions: pleasure (how happy, satisfied and relaxed a person feels), arousal (how stimulated, excited or jittery they feel) and dominance (how much they feel in control and able to act freely). These emotions lead to approach (staying, browsing, buying) or avoidance (leaving). Applied to crowding: in a crowded shop the shopper cannot move freely to reach products, so dominance falls; the noise and number of people raise arousal to an uncomfortable level; together these lower pleasure. The ambience is therefore felt as unpleasant, leading to avoidance, such as leaving early, which matches Machleit et al.'s finding that crowding lowered pleasure and satisfaction.
2(d)	One strength is that a questionnaire asks shoppers directly, so they can say how crowded they felt and why, rather than the researcher guessing from their

Question number

behaviour; this suits crowding because it is a perception. A second strength is that large numbers of shoppers can be asked quickly as they leave the store, and Likert scales give quantitative data so crowding and satisfaction scores can be compared and the study replicated.

One weakness is that shoppers may give socially desirable answers or respond to demand characteristics, e.g. saying they enjoyed the shop to please the researcher. A second weakness is that closed questions may force shoppers to choose answers that do not reflect how they really felt, and leading questions could bias answers, lowering validity.

In conclusion, questionnaires are the most practical way to measure perceived crowding, as it is a subjective feeling, but they should be combined with observation of shopper behaviour, such as time spent in the store, to check that what shoppers say matches what they do.

Psychology and health

3(a) Unlike standard spacers, the Funhaler has incentive toys, a spinner and a whistle, placed in a separate branch from the inhalation path, which distract the child from the drug delivery and reward good technique. The toys are designed to work best with the deep breathing pattern needed for effective medication, and with enough resistance that air is not drawn in through the toy circuit.

3(b) The Funhaler is a behavioural technique because it uses operant conditioning (Skinner). When the child breathes out through the device the whistle sounds and the spinner turns, and the harder and more effectively they breathe, the louder the whistle and the faster the spin. This is fun for a child, so it acts as positive reinforcement for taking the medication. Behaviour that is reinforced is more likely to be repeated, so the child is more likely to take the inhaler again, and to use

Question number	
	the correct deep breathing technique, which improves adherence without relying on the child understanding why the medicine matters.
3(c)	Fear: a child may be frightened of the inhaler, of the mask over the face or of side effects, so they resist taking it and parents give up. Boredom: taking medication every day through a spacer is dull and repetitive, so a child may refuse or not bother, especially when they feel well. (Forgetfulness is another reason, as children may simply forget to take medicine at the right time.)
3(d)	One advantage is that children are less likely to guess the aims and so are more likely to behave naturally, giving valid data on whether they really take their medication. A second advantage is that children are a group who often do not adhere, as in Watt et al. (2003), so studying them directly is more appropriate than generalising from adults and leads to useful devices such as the Funhaler. One disadvantage is that children may not understand complex instructions or questions, and may not be able to explain what they think or feel about their medication, so researchers often rely on parents' reports. A second disadvantage is ethical: children cannot give full informed consent, may not use the right to withdraw or understand a debrief, and could be harmed if, for example, they receive a less effective treatment in a control group. In conclusion, studies of children's non-adherence are worthwhile because the health benefits can be great, but they must use parental consent, simple child-friendly measures and objective checks such as dose counters to be both ethical and valid.
	Psychology and organisations
4(a)	Quality of working life is the extent to which an employee is satisfied with their

Question number	
	personal and working needs through taking part in the workplace, while achieving the goals of the organisation, e.g. fair pay, safe conditions and a good balance between work and family life.
4(b)	Adequate and fair compensation: whether the worker is paid fairly for the work they do compared with others, and receives extra benefits such as bonuses or health insurance. Total life space: the balance between work and the rest of life, i.e. whether work leaves enough time and energy for family and leisure, as in the question in Fig. 4.1 about work influence on family life.
4(c)(i)	Test-retest: give the QWL questionnaire to the same workers twice, e.g. one month apart, and correlate their two sets of scores; a high positive correlation shows the questionnaire is reliable.
4(c)(ii)	Concurrent validity: give workers the QWL questionnaire and another established measure of job satisfaction at the same time and compare the scores; if they correlate highly the QWL questionnaire is valid.
4(d)	One advantage is that a five-point scale allows a range of responses, from very dissatisfied to very satisfied, so it shows how strongly a worker feels, and it includes a neutral mid-point for workers who genuinely feel neither. A second advantage is that it gives quantitative data, so QWL can be compared between workers, departments or before and after changes, and analysed statistically. One disadvantage is that workers may give socially desirable answers, or fear that management will see them, so they say they are satisfied when they are not. A second disadvantage is that fixed choices do not let workers explain why, e.g. why work affects family life, and some may overuse the mid-point to avoid committing,

Question number

lowering validity.

In conclusion, a five-point scale is a quick and useful way to measure QWL across a whole organisation, but it should be anonymous and include some open questions so managers understand the reasons behind the scores.

Section B

Psychology and abnormality

5(a) Aim: to investigate whether applied tension remains effective in reducing fainting and fear in people with blood-injury phobia over two years. Method: a longitudinal field experiment with an independent measures design, in outpatient clinics.

Sample: 60 adults diagnosed with blood-injury phobia who have a history of fainting, recruited by volunteer sampling through posters in GP surgeries and blood donation centres, and randomly allocated to two groups.

IV: type of treatment. The applied tension group has five weekly one-hour sessions in which they learn to tense the muscles of the arms, legs and body for 10 to 15 seconds, relax for 20 to 30 seconds, and repeat five times, then practise this while viewing pictures of wounds and blood, and finally watching a blood sample being taken. The control group has the same number of sessions of exposure to the same stimuli without tension.

DV: measured before treatment, after treatment, and at 6, 12 and 24 months. (1) Behavioural test: participants watch a 10-minute video of surgery and the time they can watch, and whether they faint, is recorded. (2) Blood pressure and heart rate measured during the video. (3) A self-report fear rating from 0 (no fear) to 10 (extreme fear). (4) A short interview at follow-up, e.g. "Have you had a blood test or injection since treatment? What happened?", giving qualitative data.

Controls: the researcher measuring outcomes does not know which group the

Question number

participant was in (single blind); the same video and procedure are used each time.

Ethics: informed consent, the right to withdraw at any time, medical staff present in case of fainting, confidentiality, and the control group offered applied tension after the study.

Analysis: mean viewing times, blood pressure and fear ratings are compared between groups at each time point using a statistical test; if applied tension is effective long term, the tension group should keep its improvement at 24 months.

5(b) Psychological evidence: people with blood-injury phobia show a diphasic response; at the sight of blood their blood pressure and heart rate first rise, then drop sharply, often causing fainting. The way to counter the drop is to raise blood pressure. Ost et al. (1989) called the technique of raising blood pressure applied tension: tensing the muscles of the arms, legs and body for about 10 to 15 seconds, relaxing for 20 to 30 seconds, and repeating both five times. This is why I used exactly this procedure, and why I measured blood pressure, since a successful treatment should stop the fall. Practice with pictures and then a real blood sample follows the idea of gradual exposure, so the person learns to apply the tension in real situations.

Methodological evidence: a longitudinal design follows the same people over two years, so it can show whether benefits last rather than fading after the therapy ends. Random allocation removes participant variables, and the exposure-only control group shows whether improvement is due to tension itself rather than just exposure or attention. Using a behavioural test, a physiological measure and self-report gives triangulation: blood pressure is objective and not affected by social desirability, while fear ratings and interviews show how the person feels. A single-blind researcher reduces researcher bias. The weakness is attrition over two years, which might leave only the most successful patients in the sample.

Question number

Psychology and consumer behaviour

6(a) Aim: to investigate which of three ways of placing a chocolate product in a film is noticed most. Method: a laboratory experiment with a repeated measures design. Sample: 90 participants aged 16 to 25, chosen by volunteer sampling from colleges. IV: the type of placement, with three levels. (1) Visual only: the chocolate bar is seen in the background on a shop shelf. (2) Verbal only: a character mentions the brand name but it is not seen. (3) Visual and verbal with plot connection: the main character holds the bar, says its name and eats it during an important scene. Three chocolate brands are used, and the brand given each type of placement is counterbalanced across three groups of 30, so that brand popularity does not confound the results.

Procedure: participants watch a 20-minute edited film clip, told only that the study is about enjoyment of films, to avoid demand characteristics.

DV: noticing, measured by a questionnaire straight after the film: first free recall ("List any brands of food or drink you saw or heard in the film"), then recognition (a list of 9 chocolate brands, ticking those that appeared), then a confidence rating from 1 to 5. Finally, participants are offered a free chocolate bar from the three brands as a behavioural measure.

Controls: same clip length, same viewing conditions, each placement on screen for the same time.

Ethics: deception is minor, so participants are fully debriefed and can withdraw their data.

Analysis: the percentage of participants recalling and recognising each placement type is compared using a bar chart and a statistical test.

6(b) Psychological evidence: product placement is when a branded product is given a

Question number

prominent position in a scene in a film or programme. Auty and Lewis (2004) showed children a clip from the film Home Alone in which Pepsi is mentioned and seen during a family meal, while a control group saw a clip without the placement. When later offered a drink, more children who saw the placement chose Pepsi than Coke, and the effect was stronger in children who had seen the film before, showing placement can influence choice even without conscious awareness. My study follows this by using a real film clip and offering a choice of product as a behavioural measure, but compares three types of placement, as a placement that is both seen and heard, and linked to the plot, should get more attention and be processed more deeply than one in the background.

Methodological evidence: a laboratory experiment allows control of extraneous variables, such as how long each product is on screen, so differences in noticing are due to the type of placement. A repeated measures design removes participant variables, and counterbalancing the brands controls for brand familiarity. Using a cover story reduces demand characteristics, as in Auty and Lewis where the purpose was hidden. Free recall and recognition give quantitative data that can be compared, and the free choice adds a behavioural measure of influence. However, watching in a laboratory is less natural than watching at home or in a cinema, lowering ecological validity.

Psychology and health

7(a) Aim: to find which reasons for non-adherence are most common in three age groups. Method: a questionnaire with a quasi-experimental comparison of age groups.

Sample: 300 patients who have been prescribed medication for at least one month, recruited at GP surgeries using stratified sampling: 100 aged 18 to 30, 100 aged 31 to 55 and 100 aged over 55.

Question number

Questionnaire: first, "In the last month, have you missed or stopped taking any of your medication? Yes / No". Then statements based on the health belief model, rated from 1 (strongly disagree) to 5 (strongly agree): perceived seriousness, "My illness is not serious enough to need medication"; perceived susceptibility, "I do not think I will get worse if I miss doses"; barriers, "The side effects outweigh the benefits" and "The medicine is too expensive"; cues to action, "Nobody reminds me to take it"; plus forgetting, "I often forget to take it". Finally an open question: "Describe the main reason you sometimes do not take your medication."

Ethics: informed consent, anonymity using numbers instead of names, right to withdraw, and patients advised to speak to their doctor about any problems.

Reliability: test-retest on a sample two weeks later. Validity: a pilot study to remove unclear or leading questions; self-reports checked against pharmacy refill records for a sub-sample.

Analysis: mean ratings for each reason are calculated for each age group and shown in a bar chart; the highest mean shows the most common reason, and a statistical test compares age groups. Open answers are grouped into themes by content analysis.

7(b)

Psychological evidence: the health belief model (Becker and Rosenstock, 1974) says whether a person carries out a health behaviour, such as taking medication, depends on individual perceptions: perceived seriousness of the illness and perceived susceptibility to it, which together give perceived threat. This is weighed against the perceived benefits of the action minus the perceived barriers, such as cost or side effects. Modifying factors include demographic variables, such as age, and socio-psychological variables, and cues to action, such as media campaigns and advice or reminders from others, trigger the behaviour. My statements were written to measure each part of the model, and age was chosen as the IV because it is a demographic modifying factor: younger people may feel less susceptible and older

Question number

people may face more barriers, such as side effects from several medicines.

Methodological evidence: a questionnaire lets a large stratified sample be collected quickly, so each age group is fairly represented. Likert scales give quantitative data, so reasons can be ranked and compared statistically, while the open question gives qualitative data and allows reasons not in the model to emerge. Because non-adherence may be embarrassing, anonymity reduces social desirability bias, and checking pharmacy refill records gives an objective measure to validate the self-reports. Age is a naturally occurring IV, so this is a quasi-experiment and cause and effect cannot be certain.

Psychology and organisations

8(a) Aim: to investigate the extent to which setting targets motivates workers. Method: a field experiment with an independent measures design in two branches of a call centre selling insurance.

Sample: 80 sales staff, 40 in each branch, matched on their average sales over the previous three months.

IV: goal-setting. In the target condition each worker is given a specific, challenging but achievable target, agreed with their manager, e.g. "Complete 12 sales per week for the next 8 weeks", with weekly feedback on progress. In the no-target condition workers are told to "do your best".

DV: (1) productivity: number of sales and calls made per week, taken from company records over 8 weeks; (2) motivation: a questionnaire at the end with statements rated from 1 to 5, e.g. "I feel motivated to work hard", "I know exactly what I am aiming for", and an open question, "What affects how hard you work?"

Controls: same products, same pay and bonus system, same working hours and same length of study in both branches.

Ethics: permission from management and informed consent from workers, data

Question number	
	kept confidential so no one is disciplined, right to withdraw, and both groups debriefed and offered goal-setting afterwards. Analysis: mean weekly sales and motivation scores are compared between groups with a statistical test, and open answers analysed for themes.
8(b)	Psychological evidence: goal-setting theory (Latham and Locke, 1984) says that specific and challenging goals lead to higher performance than vague goals such as "do your best". Goals should be SMART: specific, measurable, attainable or agreed, realistic or relevant, and time-based. Goals work best when they follow the principles of clarity, challenge, commitment, feedback and task complexity. This is why my target is a clear number of sales, challenging but achievable, agreed with the manager to build commitment, given a time limit of a week, and why workers receive weekly feedback. The "do your best" condition is the vague goal that the theory predicts will be less motivating. Methodological evidence: a field experiment in a real call centre gives high ecological validity, as workers are doing their normal job. Matching the groups on past sales controls for differences in ability, so any difference is due to the targets. Company sales records are objective quantitative data, not affected by social desirability, while the questionnaire measures motivation itself and the open question gives qualitative reasons. A weakness is that the two branches may differ in managers or customers, and workers who know they are being studied may work harder anyway (the Hawthorne effect).
	Section C
	Psychology and abnormality
9	I largely disagree: some principles of the psychoanalytic explanation can be applied

Question number

widely, but its account of phobias cannot be generalised to everyone from one child.

Freud (1909) studied little Hans, a five-year-old boy with a phobia of horses, mostly through letters from Hans's father. Freud explained the phobia through the Oedipus complex: Hans desired his mother and saw his father as a rival, causing castration anxiety. This fear of his father was repressed and displaced onto horses, which Freud linked to his father through the black around their mouths, like a moustache, and the blinkers, like glasses. Hans's fear lessened as he resolved the complex, e.g. in his fantasy of the plumber.

For the statement: Freud claimed the Oedipus complex is a universal stage that all children pass through, so the explanation should apply to everyone. The structure of id, ego and superego and defence mechanisms such as repression and displacement are general principles that can be applied to many people, even if the specific horse example cannot. The approach also led to the development of therapies that explain fears through unconscious conflicts.

Against: Hans was one child, and a case study cannot be generalised, especially as he may not have been a typical child. The data were collected by his father, a supporter of Freud, who asked leading questions, and Freud interpreted them subjectively, so validity is low; the theory is also unfalsifiable. There are alternative explanations. Hans had seen a horse fall down in the street, so his phobia could be explained by classical conditioning, as in Watson and Rayner's (1920) little Albert, where fear of a rat was learned. Cognitive explanations also apply: DiNardo et al. (1988) found that people fearful of dogs and people who were not had often had similar painful experiences with dogs, but the fearful group expected harm to happen, showing the importance of faulty thinking, which the psychoanalytic approach ignores. Successful behavioural treatments such as systematic desensitisation also suggest phobias are learned.

In conclusion, I disagree. The general psychoanalytic ideas may apply to some

Question number

people, but a single, subjectively interpreted case study cannot be generalised to everyone, and behavioural and cognitive explanations have stronger evidence.

Psychology and consumer behaviour

10 I disagree: quantitative data show which menu positions are chosen most, but qualitative data are needed to explain why.

Dayan and Bar-Hillel (2011) studied primacy and recency effects on menus. In a laboratory study participants chose from different versions of a menu in which the same items were placed at the top, middle or bottom of a category, and items at the beginning and end were chosen more often. In a field study in a cafe, the menu was changed over time so items moved to the extremes or the middle, and items were ordered more often when they were at the beginning or end of a category. This shows that position affects choice.

For the statement: these studies used only quantitative data, the number of times each item was chosen, and this was enough to answer the aim and allowed direct statistical comparison of conditions. Sales records are objective, so they are not open to social desirability bias or misinterpretation by the researcher, and the field data have high ecological validity because diners did not know they were studied.

Eye-tracking could also measure what diners look at objectively. Asking diners why they chose could add little, because position effects are probably unconscious, so diners would not know that position influenced them and may give socially desirable reasons such as "it was healthy".

Against: quantitative data cannot tell us why an item was chosen; a diner may choose the first item because they read only the start of the list, or because of price, hunger or a description. Wansink et al. (2001) found that descriptive menu labels increased sales and that diners evaluated the food more positively, so other menu features also matter and interviews could separate these factors. Qualitative

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data are rich and in-depth and avoid reducing choice to a single variable, and participants may feel they have contributed more.

In conclusion, I disagree. Quantitative data are essential for showing whether position affects choice, but qualitative data are needed to understand the reasons, so a mixed approach gives the most useful findings for restaurants.

Psychology and health

11 I partly agree: many young people do show unrealistic optimism, but this does not mean that all young people think preventing stress is unnecessary.

Weinstein (1980) asked college students to rate their chances, compared with other students, of experiencing positive and negative life events. They rated their own chances as above average for positive events and below average for negative events, showing unrealistic optimism. In a second study, optimism was reduced when students saw the reasons other people gave for their chances.

For the statement: if students believe bad events will not happen to them, they are unlikely to see themselves as susceptible to stress-related illness and will not take part in prevention, such as stress inoculation training (Meichenbaum, 1985), which involves conceptualisation, skill acquisition and rehearsal, then application and follow-through. Young people are generally fit and healthy, so they are less concerned with protecting their future health. Lau et al. describe an enduring family socialisation model, in which health beliefs learned in childhood stay stable, so optimistic beliefs may be hard to change.

Against: unrealistic optimism is an average effect, so some young people are not optimistic and believe stress will affect them; some are even anxious about minor symptoms and would welcome stress inoculation. Weinstein's second study showed optimism can be reduced by information, and Lau et al.'s lifelong openness model suggests people remain open to persuasion, so young people may simply not yet

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have been persuaded. Many students under exam pressure do use stress management. Weinstein's sample were American college students, so the findings may not generalise to all young people or cultures, and the self-report ratings may not match what they actually do.

In conclusion, I partly agree. Unrealistic optimism is common in young people and can reduce interest in preventing stress, but it can be changed by information, so the statement is too absolute.

Psychology and organisations

12 I disagree: some workers are motivated mainly by money, but most also have a need to achieve.

McClelland (1965) proposed that people have three learned needs: the need for achievement (nAch), the desire to succeed and do challenging tasks well; the need for affiliation (nAff), to have good relationships; and the need for power (nPow), to influence others. Needs were measured using the Thematic Apperception Test, in which people write stories about pictures and the stories are scored for achievement themes. People high in nAch prefer moderately difficult tasks, personal responsibility and feedback, showing work can be motivating for its own sake.

For the statement: some workers are extrinsically motivated, and see work as a means to an end, a job that pays money with no value in itself. They will work overtime for extra pay, and scientific management assumes workers are economically motivated. Some jobs, such as repetitive factory work, give little chance to achieve, and people may find satisfaction in family and leisure rather than work.

Against: McClelland showed people differ, and many have a high need for achievement, taking pride in their work and finding meeting targets self-rewarding.

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Herzberg's two-factor theory (1959) found that pay is a hygiene factor, which prevents dissatisfaction but does not motivate, while motivators such as achievement, recognition and responsibility produce satisfaction. Intrinsically motivated people, such as volunteers or nurses on low pay, work hard for the satisfaction of the job. People also have a need for affiliation, enjoying working with colleagues. However, McClelland's TAT is subjective to score, and needs may vary between cultures, e.g. individualist cultures may value personal achievement more.

In conclusion, I disagree. Money matters, especially for low-paid workers, but it is reductionist to say workers only need money; most workers are motivated by a combination of pay and the need to achieve.