Cambridge Assessment International Education

Cambridge International AS & A Level

PSYCHOLOGY **9990/41**

Paper 4 Specialist Options: Application **May/June 2021**

1 hour 30 minutes

0578645920

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 Griffiths (2005) refers to a case of a person addicted to gambling who says:
'If I wasn't actually gambling I was spending the rest of my time working out clever little schemes to obtain money to feed my habit. These two activities literally took up all my time.'
This quote is typical of gambling and many other types of addictive behaviours, including pyromania and kleptomania.

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

(b) Give **two** components of any addiction outlined by Griffiths (2005). [4]

(c) Suggest **two** ways to measure a person's addiction to gambling, other than using a questionnaire. [4]

(d) Discuss the strengths and weaknesses of using questionnaires to measure kleptomania. You should include a conclusion in your answer. [5]

Psychology and consumer behaviour

2 Porublev et al. (2009) gathered qualitative data to investigate whether a gift should be wrapped or not, because of the expectations surrounding the use of gift-wrapping.

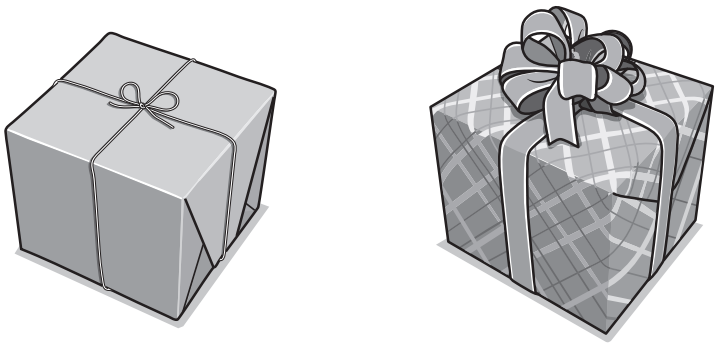


Fig. 2.1 Examples of wrapped gifts

(a) Explain the **two** key expectations surrounding the use of gift-wrapping. [2]

(b) Porublev et al. only collected qualitative data.

Give **two** ways in which qualitative data was gathered in this study. [4]

(c) **(i)** Explain what is meant by the term 'reliability'. [2]

(ii) Suggest how the reliability of the qualitative data gathered in this study could be assessed. [2]

(d) Discuss the advantages and disadvantages of using qualitative data to assess gift-wrapping preference. You should include a conclusion in your answer. [5]

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Psychology and health

3 Newspaper headline: Doctors with a directing style give more satisfaction.
Savage and Armstrong (1990) studied patient satisfaction with different consultation styles. Patients who received a directing style consultation reported significantly higher levels of satisfaction on almost all measures, compared with those who received a sharing style consultation.

(a) Explain what method was used to assess patient satisfaction in the study by Savage and Armstrong (1990). [2]

(b) Explain **two** reasons why the number of participants used in the analysis of results was lower than the original number of participants. [4]

(c) **(i)** Participants were randomly selected to participate in the study.

Explain why this was important. [2]

(ii) Participants were randomly allocated to a directing or a sharing style.

Explain why this was important. [2]

(d) Discuss the advantages and disadvantages of using postal questionnaires to gather data about health preferences. You should include a conclusion in your answer. [5]

Psychology and organisations

4 In the 1920s, scientific management studies were conducted at the Hawthorne Plant of the Western Electric Company in the United States, which were known as the 'Hawthorne studies'. The aim was to investigate which physical variables could be manipulated to increase production. The findings were not as expected, leading to a conclusion called the 'Hawthorne effect'.

(a) Explain what is meant by the 'Hawthorne effect'. [2]

(b) **(i)** Describe the main independent variable (IV). [2]

(ii) Describe the dependent variable (DV). [2]

(c) Suggest **two** alternative interpretations of the results of the study, other than the Hawthorne effect. [4]

(d) Discuss the advantages and disadvantages of controlling variables when conducting field experiments on physical working conditions. 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 longitudinal study to investigate whether cognitive-behavioural therapy (CBT) manages schizophrenia effectively. [10]

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

Psychology and consumer behaviour

6 People often experience discomfort when their personal space is invaded.

(a) Design a study using a questionnaire to investigate which theory of personal space **best** explains people's discomfort in a crowded shop. [10]

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

Psychology and health

7 Prochaska et al. (1997) proposed the stages of change (transtheoretical) model.

(a) Design a longitudinal study to investigate whether a person wishing to change their health behaviour follows the stages in this model. [10]

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

Psychology and organisations

8 Accidents at work may be caused by human errors or errors in operator-machine systems.

(a) Design a study to investigate which errors result in the **most** risk of accidents for 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 *'Psychometric measures, such as the Kleptomania Symptom Assessment Scale (K-SAS), provide therapists with no useful information.'*

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 *'Studies like 'defending a place in a queue' (Milgram et al., 1986) should never be conducted because they are unethical.'*

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 *'Promoting healthy eating to children in schools is irrelevant; it is more important to promote healthy eating to parents in the home.'*

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 *'Group conflict can always be managed successfully.'*

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) Pyromania is an impulse control disorder in which a person deliberately and intentionally sets fires on more than one occasion. They feel tension or arousal before the act and a fascination with fire, and they feel pleasure, gratification or relief when setting the fire or watching its aftermath. The fire setting is not done for money, revenge or to hide a crime.

1(b) Salience: the activity becomes the most important thing in the person's life and dominates their thinking, feelings and behaviour. In the quote, the gambler spends all the time not gambling planning schemes to get money to gamble, so gambling dominates his thoughts.

Withdrawal symptoms: unpleasant feelings and/or physical effects, such as irritability, moodiness or shaking, that occur when the activity is stopped or suddenly reduced, e.g. a gambler who cannot get to a betting shop becomes restless and bad tempered.

1(c) Observation: a structured, covert non-participant observation in a casino or betting shop, recording the gambler's behaviour on a tally chart, e.g. how many times they place a bet, how much money they stake each time, and whether they chase losses by betting again immediately after losing.

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	Physiological measure: measuring the gambler's heart rate or galvanic skin response while they gamble, e.g. on a slot machine, compared with a baseline at rest. A large rise in arousal (the buzz) when betting, and when they are prevented from betting, would indicate a higher level of addiction.
1(d)	One strength is that a questionnaire asks the person directly, so people with kleptomania can explain their urges to steal and their feelings before and after stealing, rather than the researcher guessing the reasons from their behaviour. A second strength is that questionnaires can be given to large numbers of people quickly and are easy to replicate, and closed questions such as those on the K-SAS give quantitative scores that allow severity to be compared between patients or before and after treatment. One weakness is social desirability: stealing is illegal and embarrassing, so people may under-report how often they steal or how strong their urges are, which lowers validity. A second weakness is that closed, fixed-choice questions may force people to choose answers that do not reflect their true experience, and leading questions could bias the answers, again lowering validity. In conclusion, questionnaires are a useful first measure of kleptomania because they are quick and give comparable scores, but because honesty about stealing cannot be guaranteed they should be used alongside an interview with a therapist, where trust can be built, rather than on their own.
	Psychology and consumer behaviour
2(a)	The first key expectation is that receivers prefer gifts to be wrapped. The second is that the gift (its wrapping) meets individual and social expectations of what a gift should look like, so it is recognisable as a gift.

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2(b)	Observation: the researchers observed customers at a Christmas gift-wrapping stall, noting how people chose to have their gifts wrapped and what they said about it. Interviews: twenty in-depth interviews were carried out in which participants reflected on their experiences of and feelings about gift-wrapping. (Projective workshops were also used, where pairs of participants wrapped two gifts, one for someone close and one for an acquaintance, and discussed gift-wrapping while doing so.)
2(c)(i)	Reliability means consistency. It is the extent to which a procedure or measure produces the same results on different occasions, e.g. the same participant gives the same answers when tested again, or two observers give the same score to the same behaviour.
2(c)(ii)	Inter-rater reliability could be assessed. Two or more independent researchers would each read the transcripts of the twenty in-depth interviews and code what was said into predefined categories, e.g. "wrapping shows effort" or "wrapping is wasteful". The extent of agreement between them would be calculated; a high correlation would show the qualitative data is reliable.
2(d)	An advantage is that qualitative data lets people express their feelings in their own words, so they can explain why they prefer a gift to be wrapped in a particular way, e.g. that it shows effort or care, rather than the researcher guessing the reasons. Another advantage is that it is rich and detailed: people can say as much or as little as they wish, so unexpected reasons for gift-wrapping preferences can emerge. A disadvantage is that participants may give socially desirable answers, e.g. claiming they always wrap gifts carefully, or respond to demand characteristics, which lowers validity. Another disadvantage is that qualitative data cannot easily

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	be turned into statistics, so preferences cannot be easily compared between groups, and the interpretation of the data may be subjective and open to researcher bias. In conclusion, because gift-wrapping is about personal and social meaning, qualitative data is the most appropriate way to discover why people hold their preferences, but adding some quantitative ratings would allow those preferences to be compared more objectively.
	Psychology and health
3(a)	A questionnaire completed by the patients was used. Patients filled in the first questionnaire, about the quality of communication in the consultation, in the waiting room straight after the consultation was over, and a second questionnaire with a stamped addressed envelope was posted back one week later.
3(b)	First, some patients failed to complete the follow-up assessment. Of the 359 patients invited, about 120 did not complete and return the postal questionnaire a week later, so their data could not be analysed. Second, some patients were excluded from the study. Five were excluded for clinical reasons, such as having schizophrenia or manic depression, and about 30 failed to complete the initial questionnaire in the waiting room. (In addition, four patients declined to take part, as they did not give consent.)
3(c)(i)	Random selection gives every member of the target population an equal chance of taking part, so there is no selection bias by the doctor. In this study a random number generator was used to select four patients in advance from each of the doctor's surgeries over four months, so the doctor could not pick patients he thought would be easy or satisfied.

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3(c)(ii)	Random allocation means every patient had an equal chance of receiving either the directing or the sharing style, so there was no allocation bias. A card, kept face down on the doctor's desk, was only turned over once the patient had described their problem, so the doctor could not choose a style to suit a particular patient and differences in satisfaction could be put down to the consultation style.
3(d)	An advantage of postal questionnaires is that people can complete them at their own leisure in their own home, so they can think carefully about their health preferences without any pressure from a doctor. Another advantage is that people may prefer to write about personal health matters rather than tell someone face-to-face, so answers may be more honest and full. A disadvantage is that people may never receive the questionnaire, or receive it but not read or return it, giving a low response rate: in Savage and Armstrong about 120 patients did not return the postal questionnaire. This may bias the sample, as only the most motivated people reply. Another disadvantage is that no researcher is present to explain questions that are misunderstood, which lowers validity. In conclusion, postal questionnaires are a convenient and private way to gather health preferences, but because of low and biased response rates they are only worth using if steps are taken to boost returns, such as reminders and a stamped addressed envelope.
	Psychology and organisations
4(a)	The Hawthorne effect is when people change their behaviour, e.g. working harder, because they know they are being watched and are receiving special attention, rather than because of the independent variable being manipulated.

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4(b)(i)	The main IV was the level of illumination (lighting). For the experimental group the illumination was decreased step by step, while the control group worked under constant illumination.
4(b)(ii)	The DV was productivity, i.e. the workers' performance, measured as their output in inspecting parts, assembling relays or winding coils.
4(c)	First, relief from harsh supervision: in the test room the workers were supervised by a friendly observer rather than a strict foreman, so they may have felt more relaxed and worked harder. Second, higher income: the workers in the test room were paid on an incentive system based on the output of their small group, so they could earn more by producing more, which would explain the increase in productivity. (The threat of losing one's job in the economic depression may also have motivated them to work harder.)
4(d)	An advantage of controlling variables is that it reduces the effect of extraneous variables, such as noise or temperature, so any change in productivity is more likely to be caused by the IV, e.g. lighting, increasing internal validity. Another advantage is that using a control group, as at Hawthorne, provides a baseline for what normal productivity is, so the effect of changing physical conditions can be compared against it. A disadvantage is that in a field experiment there will always be uncontrolled variables, e.g. the attention workers received at Hawthorne, which can confound the results. Another disadvantage is that too many controls make the workplace artificial and reductionist, as physical conditions never act in isolation from social factors such as relationships with supervisors, so the findings may not apply to normal working conditions.

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In conclusion, controlling variables is necessary to establish cause and effect, but the Hawthorne studies show that complete control is impossible in a real workplace, so researchers should control the key variables while also measuring social factors that could explain the results.

Section B

Psychology and abnormality

5(a) Aim: to investigate whether CBT manages schizophrenia effectively over time.

Method: a longitudinal field experiment with an independent measures design, carried out in outpatient psychiatric clinics.

Sample: 80 patients aged 18 to 60 with a diagnosis of schizophrenia who are stable on antipsychotic medication, recruited by volunteer sampling through posters in clinics, with consent from the patient and their psychiatrist. Participants would be randomly allocated to two conditions, using a random number generator.

IV: the type of therapy. The experimental group receives CBT: 20 one-hour weekly sessions with a trained therapist who engages with the patient, discusses the disorder and challenges their beliefs about voices and delusions. The control group receives 20 weekly befriending sessions of the same length, so both groups get the same amount of attention. Both groups continue their usual medication (a controlled variable).

DV: severity of symptoms, measured by a psychiatrist using a standardised rating scale for positive and negative symptoms, giving quantitative scores, plus a short semi-structured interview, e.g. "How much do the voices you hear bother you now?", giving qualitative data. Measurements are taken before therapy, at the end of therapy (5 months) and at follow-ups of 9 and 18 months, so the study is longitudinal.

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Controls: the psychiatrist rating symptoms does not know which group the patient is in (single blind), and two raters score a sample of interviews to check inter-rater reliability.

Ethics: informed consent is checked at each stage because capacity may change, patients may withdraw at any time without losing treatment, data are confidential, and the control group is offered CBT at the end.

Analysis: mean symptom scores for each group are compared at each time point and a statistical test used to see if any difference is significant. If CBT is effective, the CBT group should improve more and keep improving at follow-up.

5(b) Psychological evidence: my study is based on Sensky et al. (2000), who compared CBT with befriending for patients with schizophrenia who were still having symptoms despite medication. About 90 patients were randomly allocated and received an average of 19 sessions over nine months. Both groups improved by the end of treatment, but at the 9-month follow-up only the CBT group continued to improve, so they concluded that CBT is effective. This is why I used a befriending control group, kept medication constant and included long follow-ups, so I can see whether the benefits of CBT last. CBT is based on the cognitive approach: faulty, irrational beliefs about hallucinations maintain distress, so challenging them should reduce symptoms.

Methodological evidence: a longitudinal design measures the same people repeatedly, so change over time can be tracked and lasting effects shown, unlike a snapshot study. Random allocation removes allocation bias, so any difference is due to the therapy rather than participant variables, and the befriending condition controls for the effect of attention, as at Hawthorne. Single-blind rating reduces researcher bias, and inter-rater checks show the scores are reliable. Standardised rating scales give quantitative data that can be statistically compared, while the interview adds qualitative detail about how patients experience their symptoms,

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increasing validity. The main weakness is attrition: patients may drop out over 18 months, so the final sample may be biased towards those who improved. Ethical guidelines are especially important because patients with schizophrenia are a vulnerable group.

Psychology and consumer behaviour

6(a) Aim: to find which theory of personal space (overload, arousal or behaviour constraint) best explains discomfort in a crowded shop. Method: a questionnaire given to shoppers as they leave a busy department store on Saturday afternoons, when it is crowded.

Sample: 200 adult shoppers chosen by opportunity sampling at the exit, with equal numbers of males and females so that gender can be compared.

Questionnaire: first, a closed question: "Did you feel uncomfortable because of the crowding today? Yes / No". Then statements rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree), with five statements for each theory, mixed up in order. Overload: "There was too much noise and too many people to take in." Arousal: "I felt tense and my heart was racing when people came close." Behaviour constraint: "I could not move around the shop freely to get what I wanted." Some items are reversed to avoid response bias. Finally, an open question: "Describe what made you feel uncomfortable in the shop", giving qualitative data.

Scoring: the scores for the five statements on each theory are added, giving a score from 5 to 25 per theory. The theory with the highest mean score is the one that best explains discomfort.

Ethics: shoppers are told the purpose, give informed consent, are told they can withdraw, and answers are anonymous. Reliability: test-retest on a small group a week later. Validity: a pilot study checks the questions are clear and not leading.

Analysis: mean scores for each theory are compared using a bar chart and a

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statistical test, and open answers are put into categories by two researchers using content analysis.

6(b) Psychological evidence: there are three theories of personal space and crowding. Overload theory says that when many people are close we receive too much sensory stimulation, more than we can process, so we feel stressed; this is why I asked about noise and too many people. Arousal theory says invasion of personal space raises physiological arousal; whether we feel it as pleasant or unpleasant depends on how we label it, and if negative we may move away; this is why I asked about tension and a racing heart. Behaviour constraint theory says crowding is unpleasant because it limits our freedom to move and act as we wish, so I asked about moving freely around the shop. Fisher and Byrne (1975) showed people do react to invasions of personal space, as in their library study males disliked face-to-face invasion and females side-by-side invasion, which is why I included equal numbers of males and females.
Methodological evidence: a questionnaire allows a large sample to be collected quickly, and opportunity sampling is practical at a shop exit, although it may not be representative. Likert scales give quantitative data, so the three theories can be compared directly with mean scores and a statistical test. Mixing the order of items and including reversed items reduces response bias. The open question gives qualitative data, allowing shoppers to explain discomfort in their own words, increasing validity. Asking straight after shopping, in a real crowded store, gives high ecological validity and means the experience is fresh in memory. Ethical guidelines of consent, right to withdraw and confidentiality are followed.

Psychology and health

7(a) Aim: to investigate whether people wishing to change a health behaviour, giving up

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smoking, move through the stages of the transtheoretical model in order.

Method: a longitudinal study using a self-report questionnaire and a short interview, repeated every three months for two years.

Sample: 100 adult smokers who say they want to quit, recruited by volunteer sampling through advertisements in doctors' surgeries and stop-smoking clinics.

Procedure: at each three-month point participants complete a stage-of-change questionnaire. Example closed question: "Which statement best describes you? (a) I have no intention of stopping smoking in the next six months (precontemplation); (b) I am thinking of stopping in the next six months (contemplation); (c) I plan to stop in the next month and have taken steps (preparation); (d) I have stopped in the last six months (action); (e) I stopped more than six months ago (maintenance)." They also rate statements on a 5-point scale, e.g. "I am confident I could resist a cigarette when stressed". A short semi-structured interview asks open questions such as "What has changed since we last spoke?", giving qualitative data.

Validity check: self-reports of not smoking are checked with a carbon monoxide breath test.

Ethics: informed consent, right to withdraw, confidentiality using participant numbers, and participants are given information on stop-smoking services.

Analysis: each person's stage is plotted over the eight time points to see whether they move through the stages in order, skip stages, or relapse to earlier stages. The percentage following the predicted sequence is calculated, and interview answers are analysed by theme.

7(b) Psychological evidence: Prochaska et al. (1997) proposed that health behaviour change happens through a series of stages: precontemplation (not intending to change in the next six months), contemplation (intending to change in the next six months), preparation (intending to act within the next month), action

Question number

(changed behaviour within the last six months), maintenance (sustained change for more than six months) and termination (no temptation to relapse). People can relapse and move back to earlier stages, so change is seen as a cycle rather than a single event. The model also includes self-efficacy, confidence in resisting temptation, which increases through the stages. This is why my questionnaire puts each person in a stage using the time periods from the model, measures their confidence, and why I track relapse. Smoking was chosen because the model was originally developed with smokers.

Methodological evidence: a longitudinal design follows the same people over two years, so movement between stages can be seen directly; a cross-sectional design would only show different people in different stages at one time. Repeated measures remove participant variables. Closed questions give quantitative data so the percentage following the sequence can be calculated, while the interview gives qualitative reasons for moving forwards or relapsing, increasing validity. The breath test checks self-reports against an objective physiological measure, reducing the effect of social desirability. Volunteer sampling ensures participants want to quit, but they may be more motivated than typical smokers, and attrition over two years may bias the sample.

Psychology and organisations

8(a) Aim: to investigate which type of error (omission, commission, sequence or timing) results in the most risk of accidents for workers.

Method: a covert, structured non-participant observation in a large factory where workers operate machinery, followed by an analysis of the factory accident records.

Sample: 60 machine operators from day and night shifts, chosen by stratified sampling so each shift is represented in proportion.

Procedure: two trained observers watch the workers from the control room and

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through existing CCTV, using time sampling (each operator observed for 10 minutes every hour for four weeks). Behavioural categories recorded on a tally chart are: omission error, e.g. forgetting to switch on a safety guard; commission error, e.g. pressing the wrong button; sequence error, e.g. loading material before locking the machine; timing error, e.g. feeding material too fast. For each error they also rate the risk on a scale of 1 (no danger) to 5 (could cause serious injury), and record whether a near miss or accident followed.

Reliability: the two observers code independently and inter-observer reliability is checked by correlating their tallies.

Ethics: because the observation is covert, permission is gained from management and unions, workers are debriefed afterwards and given the right to withdraw their data, and no names are recorded. Any dangerous error is stopped immediately.

Analysis: the frequency and mean risk rating of each error type, and the number of near misses and accidents following each, are compared, and day and night shifts compared.

8(b)

Psychological evidence: Riggio (1990) classified the errors made in operator-machine systems. Errors of omission are failing to do something, such as forgetting to turn something off. Errors of commission are performing an act incorrectly. Sequence errors are doing something out of order, and timing errors are doing something too quickly or too slowly. These four types became my behavioural categories. Errors are more likely when workers are tired or affected by alcohol or drugs, and more errors happen on the night (graveyard) shift between about 8 pm and 6 am, which is why I sampled both day and night shifts. Some workers may also be more accident prone, which is why each worker is observed many times.

Methodological evidence: a covert observation means workers do not know they are being watched, so they behave naturally and there is no Hawthorne effect, giving high ecological validity; self-reports would be affected by social desirability, as

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workers may not admit errors. Behavioural categories and time sampling make the observation structured and replicable and give quantitative data, so error types can be compared. Using two observers allows inter-observer reliability to be checked. Accident records add an objective measure of actual harm. Stratified sampling makes the sample representative of both shifts. However, covert observation raises ethical issues of consent and privacy, so permission and a full debrief are essential.

Section C

Psychology and abnormality

9 I disagree with the statement, as psychometric measures such as the K-SAS provide therapists with a lot of useful information, although they do have limitations.

The K-SAS is an 11-item self-report questionnaire that measures the severity of kleptomania symptoms over the past week, such as the strength and frequency of urges to steal, thoughts about stealing, the tension before and pleasure after the act, and actual stealing behaviour. Each item is scored 0 to 4, giving a total out of 44. This tells a therapist how severe the disorder is, which helps to decide on treatment, and it highlights which specific features, e.g. urges or behaviour, are the biggest problem. Because it gives quantitative data, the score can be compared before, during and after treatment, so the therapist can see whether a drug such as naltrexone or a therapy is working. It can also compare the patient with others who have the same disorder. As a standardised psychometric test it is reliable and objective, so different therapists would obtain the same score, and it is quick and cheap to administer. Similar measures, such as the Y-BOCS for OCD, are widely used by therapists for exactly these reasons.

However, there are limitations. The K-SAS uses rating scales which may allow a

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person to give a neutral answer and so opt out of revealing the truth. As stealing is illegal and shameful, patients may give socially desirable answers and under-report symptoms. The scale is general, so it does not take individual differences into account: there may be aspects of a person's problem, such as a trauma or depression linked to the stealing, that the items do not cover. A patient may also want to talk to the therapist about their problem, not just fill in a questionnaire. In the case study by Kohn and Antonuccio (2002), the patient's thoughts and feelings were explored in detail in therapy, and this was used to design covert sensitisation treatment individually suited to her, which a score alone could not reveal. Interviews can therefore uncover far more about the individual problem and its causes.

In conclusion, I largely disagree. The K-SAS gives therapists valuable, reliable information about the severity of kleptomania and whether treatment is working, which cannot easily be obtained in other ways. It does not explain why the person steals, so it is most useful when combined with a clinical interview rather than used on its own.

Psychology and consumer behaviour

10 I partly agree that the queue study was unethical, but I disagree that such studies should never be conducted.

Milgram et al. (1986) carried out a field experiment in 129 queues in New York City, such as at railway ticket counters. Confederates intruded into the queue, saying "Excuse me, I'd like to get in here", with one or two intruders and zero, one or two passive confederate buffers. Reactions of the people in the queue, such as verbal objections or physical action, were recorded. They found objections were more common with two intruders, that buffers reduced objections, and that people behind the point of intrusion objected most.

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The study can be seen as unethical. The people in the queue did not give informed consent, as they did not know they were in a study, and they were deceived into thinking the intruder was real. They could not withdraw, and they were not debriefed. Someone pushing in can cause stress, anger and the psychological harm of feeling unfairly treated, and some people may have lost their place or been delayed, e.g. missing a train. Even if they had been debriefed, many would argue that a debrief does not justify unethical procedures.

However, there are strong arguments that such studies should be conducted. The ethical issues were minimal: no one was physically hurt, the intrusion lasted only a moment, and queue-jumping is something people experience in everyday life, so the risk of harm was no greater than normal. Deception was necessary, because if people knew they were in a study their behaviour would not be natural, so the study would lack validity. The ends can justify the means, as the research tells us how people defend queues as social systems, which has practical value for designing queues in shops, banks and airports. Many important field experiments in consumer behaviour, such as studies of shoppers in real stores, also rely on people not knowing they are being studied.

In conclusion, I disagree with the statement. Although the study broke ethical guidelines on consent and deception, the harm was small and brief and the findings were valuable and could not have been gained in any other way. Such studies should be conducted, but only with ethical approval and, where possible, a debrief.

Psychology and health

11 I disagree that promoting healthy eating to children in schools is irrelevant, although I agree that parents at home are very important.

There is evidence that school programmes work. Tapper et al. (2003) evaluated

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the Food Dudes programme, in which children watched videos of heroic Food Dude characters who eat fruit and vegetables and received small rewards for tasting them. This uses modelling (social learning) and positive reinforcement from operant conditioning. Consumption of fruit and vegetables increased significantly, both at school and, importantly, at home, and the effect lasted months later. This shows that what children learn in school can transfer to the home. Schools also reach almost all children, including those whose parents do not have the time or knowledge to promote healthy eating, so a school programme can reduce inequalities. Children spend a large part of the day at school and eat school meals, so the school environment directly shapes what they eat. Children can even influence their parents, a back route to changing the family's diet.

On the other hand, there are reasons to agree that parents matter more. Lau et al. (1990) proposed the enduring family socialisation model: health beliefs and behaviours are learned from parents and stay stable into adulthood, and in their longitudinal study of students, parents were the main influence on health behaviours, with peers having only a limited effect. Parents buy and cook most of the food children eat, so if parents do not provide healthy food, whatever the school teaches cannot be put into practice. Some argue it is also ethically questionable to try to change children's behaviour in school without parents' consent, as children are easily influenced.

In conclusion, I disagree with the statement. Lau et al. show parents are a key influence, but Tapper et al. show school programmes are effective and even change eating at home. School promotion is therefore highly relevant, and the best approach combines both, involving parents in school programmes.

Psychology and organisations

12 I disagree that group conflict can always be managed successfully, although it

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often can be.

Thomas (1976) described five conflict-handling styles based on two dimensions, assertiveness (satisfying your own concerns) and cooperativeness (satisfying the other person's concerns): competing, collaborating, compromising, avoiding and accommodating. This suggests managers can choose the most suitable style for the situation; for example, collaborating can produce a win-win solution where both sides' needs are met, which can turn conflict into a positive force, generating new ideas. Forsyth also describes ways to manage conflict, such as negotiation and compromise by both sides. Tuckman's model shows that conflict at the storming stage is a normal part of group development and is usually resolved as a team moves on to norming and performing. If all else fails, a manager can use radical solutions, such as moving a person to another department or dismissing them, so the conflict is removed for the benefit of the organisation.

However, managing conflict does not always mean it is successfully resolved. Using avoiding or competing may end the open conflict, but one side is left feeling they have lost, and resentment may lead to further conflict, low morale or even sabotage. People may say a conflict is resolved and be professional at work, yet privately keep their grudge or distrust. Some people never believe they are wrong or hold strong principles, and would rather leave the organisation than compromise. Radical solutions such as dismissal remove the conflict but not by managing it, and losing a skilled worker may harm the organisation. The success of conflict management also depends on individual differences in the skill of the manager.

In conclusion, I disagree with the word "always". Thomas's styles show that many group conflicts can be managed successfully, especially through collaboration, but some conflicts based on personality or deeply held principles cannot be fully resolved, only contained.

Cambridge Assessment International Education

Cambridge International AS & A Level

PSYCHOLOGY **9990/42**

Paper 4 Specialist Options: Application **May/June 2021**

1 hour 30 minutes

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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 Three comments about electro-convulsive therapy (ECT):

'It was the best thing that my wife could have had at that time; a good decision by the doctors after drugs had failed.'
'It was a positive experience; worked well for my schizophrenia.'
'I was able to go home after five months of inpatient stay as a result of ECT, after years of unsuccessful psychological treatment.'

(a) Outline the procedure of electro-convulsive therapy (ECT). [2]

(b) **(i)** Outline **one** biochemical treatment for schizophrenia. [2]

(ii) Give **one** advantage of this biochemical treatment for schizophrenia. [2]

(c) Outline **two** psychological treatments for schizophrenia. [4]

(d) Discuss the strengths and weaknesses of ECT as a treatment for schizophrenia. You should include a conclusion in your answer. [5]

Psychology and consumer behaviour

2 Newspaper headline: Your brain goes shopping.
You go shopping and you see a product. By the time you decided to buy it, some brain regions already knew what you were buying and how much it cost. These brain regions are the neural predictors of purchases, studied by Knutson et al. (2007).

(a) Identify **two** brain regions Knutson et al. found to be predictors of purchases. [2]

(b) Outline the novel 'SHOP' task used when each participant had their brain scanned. [4]

(c) **(i)** Suggest **one** reason why the findings of this study can be generalised. [2]

(ii) Suggest **one** reason why the findings of this study cannot be generalised. [2]

(d) Discuss the advantages and disadvantages of using brain scans to gather data about consumer decision-making. You should include a conclusion in your answer. [5]

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Psychology and health

3 The UAB pain behaviour scale

This pain scale is administered by an observer of a person who is experiencing pain. One of the categories used by the observer is shown in Fig. 3.1.

Name: .....

Rater: .....

	DATE:	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
1. Vocal Complaints: Verbal	**None**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Occasional	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½	½
	Frequent	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Fig. 3.1 An extract from a version of the UAB scale

(a) Identify **two** categories included in the UAB scale, other than 'vocal complaints: verbal'. [2]

(b) **(i)** Explain what makes the UAB scale in Fig. 3.1 a longitudinal measure. [2]

(ii) Explain the usefulness of a longitudinal measure in relation to pain. [2]

(c) Suggest **two** ways in which pain can be assessed using a self-report questionnaire. [4]

(d) Discuss the advantages and disadvantages of pain measures that are observed independently of the person who is experiencing the pain. You should include a conclusion in your answer. [5]

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Psychology and organisations

4 Heifetz (1997) proposes a 'modern' theory of adaptive leadership, and suggests that 'getting on the balcony' to see the whole organisation is more effective than seeing a specific part of one work process.



Fig. 4.1 'getting on the balcony'

(a) Explain **one** principle from adaptive leadership, other than 'getting on the balcony'. [2]

(b) **(i)** Explain what is meant by the reductionism versus holism debate. [2]

(ii) Suggest how adaptive leadership shows holism rather than reductionism. [2]

(c) Suggest **two** ways in which adaptive leadership differs from 'traditional' leadership. [4]

(d) Discuss the advantages and disadvantages of adaptive leadership. 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 Cognitive-behavioural therapy (CBT) can be used to treat obsessive-compulsive disorder (OCD).

(a) Design a study to test gender differences in effectiveness of CBT administered by telephone for OCD. [10]

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

Psychology and consumer behaviour

6 There are several ways to close a sale, including reciprocity and authority.

(a) Design a study to investigate which is the **most** successful way to close a sale when selling a computer. [10]

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

Psychology and health

7 The style of a practitioner's clothing, the way they dress, can influence what patients think of them.

(a) Design a study gathering qualitative data to investigate why patients prefer one practitioner style of dress to another. [10]

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

Psychology and organisations

8 A machine in your factory has been sabotaged. You know who is responsible and want to find the reason for this unacceptable behaviour.

(a) Design a study using an interview to investigate the reason for sabotaging the machine. [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 Charles was just one child, Rapoport's case study of Charles' obsessive-compulsive disorder (OCD) 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 *'The findings of experiments of consumer behaviour using eye-tracking have no value because they lack ecological validity.'*

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 *'If there is any doubt about making a correct diagnosis, a medical practitioner should always decide that an ill person is healthy.'*

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 *'Organisational commitment can be measured simply by looking at attendance and absenteeism.'*

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) The patient is given a general anaesthetic and a muscle relaxant. Electrodes are placed on the head (bilaterally, or unilaterally on one side) and an electric current is passed through the brain, causing a seizure; the relaxant means the body only twitches. The patient then wakes and recovers. It is usually given two or three times a week for several weeks.

1(b)(i) Antipsychotic drugs, e.g. the typical antipsychotic chlorpromazine. These block dopamine (D2) receptors in the brain, reducing the effect of the excess dopamine thought to cause positive symptoms such as hallucinations.

1(b)(ii) Antipsychotic drugs are effective: they reduce the positive symptoms of schizophrenia in many patients. They also need very little effort from the patient, who just swallows a pill on a fixed schedule, unlike CBT which needs active engagement in weekly sessions.

1(c) Token economy (Paul and Lentz, 1977): based on operant conditioning, patients in an institution are given tokens as positive reinforcement for desirable behaviours such as self-care, attending therapy and socialising. The tokens are later exchanged for rewards such as sweets, cigarettes or watching TV.

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	Cognitive-behavioural therapy (Sensky et al., 2000): a talking therapy in which the therapist engages with the patient, discusses the disorder and its symptoms and challenges their irrational beliefs, e.g. about the voices they hear. In Sensky et al., 90 patients received an average of 19 sessions and improved more at follow-up than a befriending control group.
1(d)	A strength of ECT is that it can work for patients where all other treatments have failed, as the comments show, e.g. "after drugs had failed" and "after years of unsuccessful psychological treatment". Another strength is that it is a medical treatment, prescribed and given by doctors under anaesthetic, and it successfully treats many patients with schizophrenia and depression, sometimes allowing them to leave hospital, as the third comment shows. A weakness is that it has side effects, both short and long term, especially memory loss, which may be temporary or permanent. Another weakness is that it is still not known exactly how ECT works, and in some countries it can be given without the patient's consent if they are judged not to be of sound mind. In conclusion, because of its side effects and unclear mechanism ECT should not be a first-choice treatment, but it is justified as a last resort for patients with severe schizophrenia who have not responded to drugs or psychological therapy.
	Psychology and consumer behaviour
2(a)	The nucleus accumbens (NAcc), which was activated by product preference, and the insula, which was activated by excessive prices. (The mesial prefrontal cortex, MPFC, was also a predictor, deactivated by high prices.)
2(b)	SHOP stands for "Save Holdings Or Purchase". It was a series of trials with an identical structure in which participants could buy products while in the fMRI

Question number	
	scanner. In each trial the participant first saw a labelled product for 4 seconds, then saw the product's price for 4 seconds, and then chose whether to purchase it or not by selecting "yes" or "no", which appeared randomly on the right or left of the screen, for 4 seconds. They then fixated on a crosshair for 2 seconds before the next trial began.
2(c)(i)	The brain is physiologically the same in all people, so everyone has a nucleus accumbens, insula and MPFC, whatever their culture. The same regions are therefore likely to be activated when anyone weighs up a product and its price, and fMRI data are objective.
2(c)(ii)	Shopping is a real-world task, but participants made decisions lying in an fMRI scanner in a laboratory, looking at products on a screen. Real shopping involves touching products, other shoppers and store atmosphere, so decisions in a real shop may differ.
2(d)	An advantage of brain scans is that they are scientific and produce objective data about consumer decision-making, which is not affected by social desirability as self-reports are. Another advantage is that they show exactly which part of the brain is involved, e.g. the NAcc for preference and the insula for price, and can even predict a purchase before the person decides. A disadvantage is that brain scans lack ecological validity, as tasks are carried out in a scanner rather than a real shop. Another disadvantage is that they are reductionist: the tasks are simple and exclude the other factors that contribute to a sale, such as store ambience and sales techniques. Being in a scanner may also cause anxiety, which is not usually part of shopping. In conclusion, brain scans are valuable for showing the biological processes underlying decisions, but because they cannot reflect real shopping they should be

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	combined with field research in stores.
	Psychology and health
3(a)	Non-verbal vocal complaints, such as groans, moans and gasps. Down time, the time spent lying down because of pain each day between 8 am and 8 pm.
3(b)(i)	The same individual's pain behaviour is rated repeatedly over a period of time, every day, Monday to Sunday, for up to three weeks, as shown in Fig. 3.1. This tracks how the person's chronic pain changes, or does not change, over time.
3(b)(ii)	A longitudinal measure shows whether a patient's pain is improving or not, e.g. whether a treatment such as medication or physiotherapy is working, as a single measure taken once could not show recovery. For example, fewer vocal complaints over three weeks would show the treatment is effective.
3(c)	The McGill Pain Questionnaire (MPQ): the patient chooses words from groups of descriptors that best describe their pain, covering sensory (e.g. throbbing, stabbing), affective (e.g. exhausting, frightful) and evaluative qualities, and rates present pain intensity from no pain to excruciating. The Paediatric Pain Questionnaire (PPQ): designed for children, it includes a visual analogue scale where the child marks how much pain they feel now and the worst pain this week, plus a body outline to colour in where the pain is, and pain words to choose from.
3(d)	An advantage of independent observation is that the observer is usually a trained medical specialist who observes many people, so they are expert at recognising pain

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	behaviour. Another advantage is that the observer knows the categories, e.g. on the UAB scale, and applies them consistently and objectively, so the measure is more reliable and not affected by the patient exaggerating or playing down their pain. A disadvantage is that the observer is not experiencing the pain, so they can only infer it from behaviour; some people in severe pain show few outward signs, which lowers validity. Another disadvantage is that the observer does not ask the person about their pain, so information about the type of pain and how it feels is lost. In conclusion, observed measures are useful because they are objective, especially for patients who cannot self-report, such as young children, but pain is a subjective experience, so they should be used alongside self-report measures such as the MPQ.
	Psychology and organisations
4(a)	Give the work back to the employees: rather than the leader solving every problem, the leader puts the responsibility for solving the adaptive challenge back on the people who must change, e.g. a team works out how to adapt to new technology itself, so they develop the skills and ownership to make the change last.
4(b)(i)	Reductionism explains complex behaviour by breaking it down into its simplest component parts. Holism looks at the whole person or system and all its components together, arguing that the whole is greater than the sum of its parts.
4(b)(ii)	Adaptive leadership is holistic because "getting on the balcony" means the leader steps back to see the whole organisation and how all its parts work together, e.g. who is dancing with whom and the patterns of the dance, rather than focusing only on one part of one work process on the dance floor.

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4(c)	First, traditional leadership is an authority figure giving orders, whereas an adaptive leader helps workers to change and adapt themselves. Second, traditional leadership uses long-established solutions and suits times of certainty, whereas adaptive leadership tries new solutions through experimentation and is useful in times of uncertainty and change.
4(d)	An advantage of adaptive leadership is that it helps an organisation adapt to changing economic conditions, so it survives and thrives instead of going out of business. Another advantage is that it involves everyone, as work is given back to employees, so workers change in the same direction as the organisation and look to the future rather than only the here and now. A disadvantage is that some workers may not have the skills to adapt, so they may become redundant. Another disadvantage is that change causes distress for workers; it cannot be avoided, only regulated, and if the leader is not truly adaptive the organisation may not survive, and it is hard to know in advance whether a leader has these skills. In conclusion, adaptive leadership is the most effective style in times of rapid change, but because it is stressful and depends heavily on the leader's skill, a more traditional style may be better in stable conditions.
	Section B
	Psychology and abnormality
5(a)	Aim: to test whether there are gender differences in the effectiveness of CBT given by telephone for OCD. Method: a quasi-experiment with an independent measures design. IV: gender (male or female), a naturally occurring variable. All participants receive the same

Question number	
	telephone CBT. DV: improvement in OCD symptoms, measured as the change in Y-BOCS score (Yale-Brown Obsessive Compulsive Scale, scored 0 to 40) from before to after treatment.
	Sample: 40 males and 40 females aged 18 to 65 with a diagnosis of OCD, recruited by volunteer sampling through OCD clinics and charities. Males and females are matched on age and starting Y-BOCS score.
	Procedure: each participant has 10 weekly telephone sessions with a trained therapist, following a standard treatment manual including exposure and response prevention, e.g. touching a door handle and not washing, and challenging thoughts such as "if I do not wash I will make my family ill". The same therapists treat equal numbers of men and women. Y-BOCS is completed by a blind assessor by phone before treatment, at the end and at a 3-month follow-up. Participants also rate their satisfaction with telephone therapy on a 1 to 10 scale and answer an open question, "What did you find helpful or unhelpful about having therapy by phone?"
	Controls: standardised manual and number of sessions, same therapists, matched groups.
	Ethics: informed consent, right to withdraw, confidentiality, and anyone who does not improve is offered face-to-face treatment.
	Analysis: the mean reduction in Y-BOCS scores for males and females is compared with a statistical test, and open answers are analysed for themes.
5(b)	Psychological evidence: Lovell et al. (2006) compared CBT delivered face-to-face with CBT delivered by telephone for patients with OCD. Both groups received the same therapy, and symptom measures such as the Y-BOCS and the Beck Depression Inventory were taken before, after and at follow-up. They found no significant difference in effectiveness, so telephone CBT was as good as face-to-face. However, they did not explore differences between groups such as

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gender or age, which is why I chose gender as my IV. My therapy includes exposure and response prevention, based on Lehmkuhl et al. (2008), in which a boy with OCD was gradually exposed to feared situations up a hierarchy and prevented from carrying out his compulsions, so his anxiety reduced. CBT works by changing faulty cognitions and breaking the link between obsessions and compulsions.

Methodological evidence: gender cannot be manipulated, so the study is a quasi-experiment and cause and effect cannot be fully established. Matching on age and starting severity controls participant variables that could otherwise explain a gender difference. A standardised manual and the same therapists for both genders control therapist variables, increasing internal validity. The Y-BOCS is a standardised, reliable psychometric measure giving quantitative data, so the mean improvement of males and females can be compared statistically. A blind assessor prevents researcher bias. The open question adds qualitative data explaining why telephone therapy may suit one gender more. The follow-up shows whether improvements last. Volunteer sampling may attract the most motivated patients, limiting generalisation.

Psychology and consumer behaviour

6(a) Aim: to find which way of closing a sale (reciprocity, authority or scarcity) is most successful when selling a computer.

Method: a field experiment in four branches of the same computer store, with an independent measures design. IV: the closing technique used by the salesperson. Reciprocity: "As you have been so patient, I will give you a free wireless mouse with this computer." Authority: "As our senior IT technician, I can tell you this is the best computer for your needs." Scarcity: "This is the last one at this price; the offer ends today." A control condition uses no special closing technique.

Question number

DV: whether the customer buys the computer (yes or no), recorded by the till system, giving the percentage of sales in each condition.

Sample: 400 customers who ask a salesperson about a laptop costing about $600, chosen by opportunity sampling, about 100 per condition. The technique is rotated each day so time of day and day of week are balanced.

Controls: the same model of computer and price, four trained salespeople who each use all four techniques with a standardised script, and the same store layout.

Customers who buy are briefly asked to rate on a 1 to 5 scale "How much did the salesperson influence your decision?" and asked "Why did you decide to buy today?"

Ethics: customers are debriefed after the sale, may withdraw their data, and can return the computer if they wish; no personal details are recorded.

Analysis: the percentage of sales in each condition is compared using a bar chart and a chi-squared test.

6(b)

Psychological evidence: Cialdini (1984) proposed six principles of persuasion that can be used to close a sale. Reciprocity means people feel obliged to return a favour, so if the seller gives something free, such as a mouse, the customer feels they should give something back, the sale. Authority means people are more likely to buy a product recommended by an expert, so the salesperson presents themselves as a senior technician. Scarcity and urgency mean that if a product is the last one, or the offer ends soon, people value it more and buy quickly. The other principles are commitment and consistency, liking and social proof, e.g. positive reviews. I chose three that could be clearly scripted and contrasted with a control.

Methodological evidence: a field experiment takes place in a real store with real customers spending their own money, so it has high ecological validity, more than asking people what would persuade them. The IV is manipulated, so cause and

Question number

effect can be established, and the control condition provides a baseline. Using a standardised script, the same computer and price, and rotating techniques by day controls extraneous variables, increasing internal validity. The DV, purchase or not, is objective quantitative data recorded by the till, so it is reliable and can be analysed with a chi-squared test as it is nominal data in independent groups. The short questions add qualitative insight. Customers are deceived, so a debrief and the right to return the product are needed to meet ethical guidelines.

Psychology and health

7(a) Aim: to investigate why patients prefer one style of practitioner dress to another.

Method: semi-structured face-to-face interviews, giving qualitative data, carried out in a private room in three doctors' surgeries after patients' appointments.

Sample: 30 adult patients chosen by stratified sampling so there are equal numbers of young (18 to 35), middle-aged (36 to 59) and older (60+) patients, and equal males and females.

Procedure: each patient is shown four photographs of the same doctor in different dress: a formal suit, a white coat, smart casual and casual jeans and T-shirt. Male and female doctor versions are used. They are asked to put the photos in order of preference and then asked open questions, e.g. "Why did you choose this doctor first?", "How does this style of dress make you feel about the doctor?", "What would you think if your doctor wore jeans?" Follow-up questions are used to explore their reasons further. Interviews last about 20 minutes and are audio recorded and transcribed.

Controls: the same doctor, pose and facial expression in every photo, and the order of photos is randomised.

Ethics: informed consent, right to withdraw, confidentiality (names removed from transcripts), and patients are debriefed.

Question number

Analysis: thematic analysis of transcripts, e.g. themes of trust, competence, approachability and hygiene, with two researchers coding independently to check inter-rater reliability.

7(b) Psychological evidence: McKinstry and Wang (1991) investigated whether a doctor's style of dress affects patient satisfaction and confidence. Patients in general practices in Scotland were shown photographs of male and female doctors dressed in a formal suit, a white coat, smart informal and casual clothes, and rated how happy they would be to see each doctor. Overall the formal suit and white coat were preferred, and older patients and those from lower social classes preferred more formal dress. However, as they mainly gathered quantitative ratings, they did not fully explain why patients held these preferences. This is why I used similar photographs of male and female doctors, stratified by age, but asked open questions to discover the reasons.

Methodological evidence: the question requires qualitative data, and semi-structured interviews let patients explain their reasons in their own words, giving rich, detailed and valid data; follow-up questions allow interesting answers to be explored, which a questionnaire cannot do. Photographs of the same doctor with the same pose control extraneous variables, so preferences are due to dress alone, and randomising the order avoids order effects. Stratified sampling makes the sample representative of age groups, which matters because McKinstry and Wang found age differences. Thematic analysis is a recognised method for qualitative data, and two coders increase reliability. A weakness is that patients may give socially desirable answers in a face-to-face interview, and the data are harder to compare than numbers.

Psychology and organisations

8(a) Aim: to find out the reason why the employee sabotaged the machine.

Question number

Method: a semi-structured, face-to-face interview with the person responsible, carried out in a private, neutral room away from the factory floor by an independent occupational psychologist, not a manager.

Sample: the one employee who sabotaged the machine, making it a case study. Their supervisor and two co-workers could also be interviewed for background information.

Questions: the interview starts with general, non-threatening questions, e.g. "How long have you worked here?", "How do you feel about your job?" It then moves to the event: "Can you tell me what happened with the machine?", "How were you feeling before it happened?", "Was there anything at work that was upsetting you?" A closed rating question is also included, giving a list of possible reasons, e.g. revenge on the company, release of frustration, protecting one's job, fun, and asking "How much did each of these influence what you did? Rate from 1 (not at all) to 5 (very much)."

The interview is audio recorded with consent and transcribed.

Ethics: the employee gives informed consent and is told the interview is for understanding, not discipline; what they say is confidential and will not be used against them, and they may stop at any time.

Analysis: the transcript is analysed by two researchers who code the reasons given into categories, checking inter-rater reliability; the ratings show the strongest reason.

8(b)

Psychological evidence: Giacalone and Rosenfeld (1987) studied reasons for sabotage. Employees at a manufacturing plant rated how justifiable different reasons for sabotage were, using questionnaires that were anonymous and not seen by management. Reasons included self-defence, protecting oneself from the boss or company, protecting one's job, revenge (the foreman or company deserved it or hurt me previously), release of frustration, no one was hurt, and just for fun.

Question number

Protective reasons were seen as most justifiable and fun least. Other possible reasons are slowing down the work process or trying to gain control. I used these reasons in my rating question, so that the reasons can be compared with their findings.

Methodological evidence: an interview allows the reasons to be explored in depth with follow-up questions, which is necessary as the reasons for sabotage may be complex and personal. A semi-structured format has set questions, so it is more reliable and replicable, but flexibility to explore the answers, giving valid qualitative data, and the rating question adds quantitative data. Starting with non-threatening questions builds rapport. An independent interviewer and confidentiality reduce social desirability: Giacalone and Rosenfeld made responses anonymous and kept them from management for this reason. However, the employee may still lie to protect their job, and as it is a case study of one person the findings cannot be generalised. Two coders increase reliability of the interpretation.

Section C

Psychology and abnormality

9 I disagree that Rapoport's case study of Charles can be generalised to everyone, although some aspects can be generalised to other people with OCD.

Rapoport (1989) described Charles, a 14-year-old boy who spent around three hours a day washing his hands and carrying out rituals, e.g. he had a ritual for washing in the shower, and he avoided touching things he thought were contaminated. He was treated with the drug clomipramine, which improved his symptoms, but after about a year he developed tolerance and some symptoms returned.

There are reasons the findings can be generalised to others. Washing is one of the

Question number

most common types of OCD, so Charles's obsessions about germs and compulsive hand washing are typical of many sufferers, and the anxiety reduction that keeps the rituals going is shared by others with OCD. The comorbidity he showed, e.g. with depression, is also common in other people with OCD. The treatment he received, a drug that increases serotonin, works for many patients, supporting the biological explanation of OCD that applies to everyone. As a case study it gave rich, detailed data that helped clinicians recognise and diagnose OCD in other people. Other case studies, such as Lehmkuhl et al. (2008), show similar patterns of obsessions, compulsions and anxiety, which supports generalisation.

However, there are strong reasons the findings cannot be generalised to everyone. Charles was just one child, and people are different: his specific rituals will not be the same as other people's, as some people check, count or order rather than wash. As a child, his experiences, such as being taken out of school, differ from adults who have to work and support families. Individual differences in personality, family and culture affect how OCD develops and responds to treatment, e.g. drug tolerance will not occur in everyone. Case studies also rely on the researcher's interpretation, so may be biased, and cannot be replicated.

In conclusion, I disagree. Some general features of Charles's OCD, such as washing rituals driven by anxiety, can be generalised to other people with OCD, but not to "everyone", even with OCD, because one child's experiences cannot represent all individual differences.

Psychology and consumer behaviour

10 I disagree that eye-tracking experiments have no value, although they often do lack ecological validity.

Atalay et al. (2012) used eye-tracking to investigate shelf position. Participants viewed images of products arranged on a screen, e.g. energy bars and vitamin

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supplements, while an eye tracker recorded their fixations, and then chose a product. They found the central gaze cascade effect: people looked most at the brand in the horizontal centre, and were more likely to choose it, even without being aware of this.

There are reasons the findings have value. The eye tracker is scientific equipment, so it is reliable and objective: where a person looks is recorded clearly and cannot be distorted by social desirability, unlike self-reports. The data is quantitative, e.g. number and duration of fixations, so comparisons can be made between participants and between studies. It also measures processes people are not aware of, such as attention drifting to the centre, which they could not report. The findings have practical applications, as manufacturers can pay for central shelf positions and stores can use this to increase sales, and the findings can then be tested in real shops.

However, eye-tracking experiments do lack ecological validity. Participants look at images on a computer screen in a laboratory rather than walking along real supermarket shelves, with other shoppers, time pressure and noise. They know their eye movements are being tracked and could choose where to look, causing demand characteristics. Eye-tracking is reductionist, as purchases are not based only on vision; smell, touch and price matter for some products. It shows where people look but not why, and there may be cultural differences in scanning patterns, e.g. left to right readers, so findings may not generalise. Some people, such as those with contact lenses, cannot be tracked accurately.

In conclusion, I disagree. Lack of ecological validity is a real weakness, but it does not mean the findings have no value: eye-tracking gives objective data on attention that cannot be gathered in other ways, and its value is greatest when lab findings are tested in real stores, for example with mobile eye-trackers.

Psychology and health

Question number

11

I disagree that a practitioner should always decide that an ill person is healthy when in doubt, although there are some situations in which this is reasonable.

When diagnosing, a practitioner can make two types of error. A type 1 error is diagnosing a healthy person as ill, and a type 2 error is diagnosing an ill person as healthy (some textbooks reverse these labels). Scheff's medical decision rule suggests that doctors usually prefer to make the error of deciding a healthy person is ill, because it is safer than missing an illness.

There are arguments for the statement. Deciding a person is ill when they are healthy means they may be given unnecessary treatment, such as drugs with side effects or surgery with risks, which could harm them. It also labels them as ill, causing anxiety and stigma, as shown by Rosenhan (1973), where healthy people were labelled as having schizophrenia and the label stuck. Unnecessary treatment is costly to the health service. If the condition is minor, many illnesses get better on their own, so deciding the person is healthy and reviewing later may be acceptable.

However, there are stronger arguments against the statement. If a person is truly ill and is sent away as healthy, a serious condition such as cancer or a heart attack may go untreated and the patient could die. Patients already delay seeking help, e.g. Safer et al. (1979) found appraisal delay, illness delay and utilisation delay, so being told they are healthy may stop them returning until it is too late. The practitioner could also be sued for negligence. It is better to be safe than sorry: if there is doubt, further tests can confirm whether the person is ill, so saying they may be ill does not commit them to harmful treatment. Errors of either kind should be avoided, and modern diagnosis uses tests and second opinions to reduce doubt.

In conclusion, I disagree with the word "always". Missing a real illness can be fatal, so when in doubt practitioners should usually treat the person as possibly ill and

Question number

carry out further tests, deciding a person is healthy only when the possible illness is minor.

Psychology and organisations

12 I disagree that organisational commitment can be measured simply by looking at attendance and absenteeism, although they do provide useful information.

There are reasons to agree. High attendance can be an indicator of commitment, as a committed employee wants to be at work and contribute, while frequent absence suggests a lack of commitment. Blau and Boal (1987) linked absenteeism to commitment, classifying employees by job involvement and organisational commitment into institutionalised stars (high on both), lone wolves (high job involvement, low commitment), corporate citizens (low job involvement, high commitment) and apathetic employees (low on both), who are absent most. Some types of absence, such as calculative absenteeism, where a worker takes the maximum number of days off before sanctions apply, or a predictable pattern such as Mondays off, indicate low commitment. Attendance records are objective, quantitative, already collected by organisations and cheap to use, so they are not affected by social desirability.

However, there are strong reasons to disagree. Absence may be for reasons unrelated to commitment, such as genuine illness, family responsibilities or transport problems, and attendance records do not give the reason for an absence. A worker who attends every day may do so only because they need the money or fear losing their job, i.e. continuance rather than affective commitment, a distinction attendance cannot show. Commitment involves much more than attending, such as unpaid overtime, willingness to help colleagues and belief in the organisation's goals. Mowday et al. (1979) developed the Organisational Commitment Questionnaire, 15 items rated on a 7-point scale, to measure

Question number

acceptance of the organisation's values, willingness to exert effort and desire to stay, showing commitment is a complex psychological attitude that needs a self-report measure.

In conclusion, I disagree. Attendance and absenteeism are useful objective indicators, but on their own they are reductionist; commitment is best measured by combining them with a psychometric measure such as the OCQ.

Cambridge Assessment International Education

Cambridge International AS & A Level

PSYCHOLOGY **9990/43**

Paper 4 Specialist Options: Application **May/June 2021**

1 hour 30 minutes

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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 Griffiths (2005) refers to a case of a person addicted to gambling who says:
'If I wasn't actually gambling I was spending the rest of my time working out clever little schemes to obtain money to feed my habit. These two activities literally took up all my time.'
This quote is typical of gambling and many other types of addictive behaviours, including pyromania and kleptomania.

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

(b) Give **two** components of any addiction outlined by Griffiths (2005). [4]

(c) Suggest **two** ways to measure a person's addiction to gambling, other than using a questionnaire. [4]

(d) Discuss the strengths and weaknesses of using questionnaires to measure kleptomania. You should include a conclusion in your answer. [5]

Psychology and consumer behaviour

2 Porublev et al. (2009) gathered qualitative data to investigate whether a gift should be wrapped or not, because of the expectations surrounding the use of gift-wrapping.

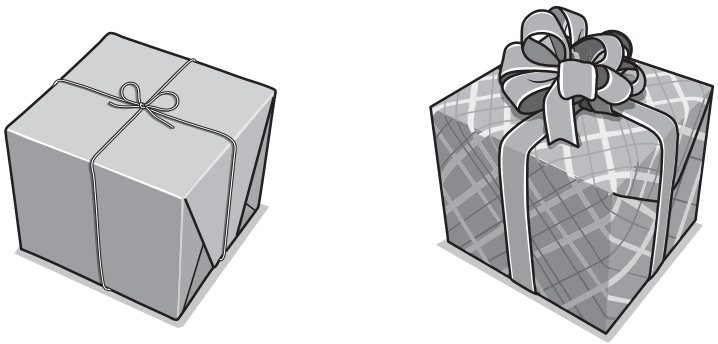


Fig. 2.1 Examples of wrapped gifts

(a) Explain the **two** key expectations surrounding the use of gift-wrapping. [2]

(b) Porublev et al. only collected qualitative data.

Give **two** ways in which qualitative data was gathered in this study. [4]

(c) **(i)** Explain what is meant by the term 'reliability'. [2]

(ii) Suggest how the reliability of the qualitative data gathered in this study could be assessed. [2]

(d) Discuss the advantages and disadvantages of using qualitative data to assess gift-wrapping preference. You should include a conclusion in your answer. [5]

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Psychology and health

3 Newspaper headline: Doctors with a directing style give more satisfaction.
Savage and Armstrong (1990) studied patient satisfaction with different consultation styles. Patients who received a directing style consultation reported significantly higher levels of satisfaction on almost all measures, compared with those who received a sharing style consultation.

(a) Explain what method was used to assess patient satisfaction in the study by Savage and Armstrong (1990). [2]

(b) Explain **two** reasons why the number of participants used in the analysis of results was lower than the original number of participants. [4]

(c) **(i)** Participants were randomly selected to participate in the study.

Explain why this was important. [2]

(ii) Participants were randomly allocated to a directing or a sharing style.

Explain why this was important. [2]

(d) Discuss the advantages and disadvantages of using postal questionnaires to gather data about health preferences. You should include a conclusion in your answer. [5]

Psychology and organisations

4 In the 1920s, scientific management studies were conducted at the Hawthorne Plant of the Western Electric Company in the United States, which were known as the 'Hawthorne studies'. The aim was to investigate which physical variables could be manipulated to increase production. The findings were not as expected, leading to a conclusion called the 'Hawthorne effect'.

(a) Explain what is meant by the 'Hawthorne effect'. [2]

(b) **(i)** Describe the main independent variable (IV). [2]

(ii) Describe the dependent variable (DV). [2]

(c) Suggest **two** alternative interpretations of the results of the study, other than the Hawthorne effect. [4]

(d) Discuss the advantages and disadvantages of controlling variables when conducting field experiments on physical working conditions. 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 longitudinal study to investigate whether cognitive-behavioural therapy (CBT) manages schizophrenia effectively. [10]

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

Psychology and consumer behaviour

6 People often experience discomfort when their personal space is invaded.

(a) Design a study using a questionnaire to investigate which theory of personal space **best** explains people's discomfort in a crowded shop. [10]

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

Psychology and health

7 Prochaska et al. (1997) proposed the stages of change (transtheoretical) model.

(a) Design a longitudinal study to investigate whether a person wishing to change their health behaviour follows the stages in this model. [10]

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

Psychology and organisations

8 Accidents at work may be caused by human errors or errors in operator-machine systems.

(a) Design a study to investigate which errors result in the **most** risk of accidents for 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 *'Psychometric measures, such as the Kleptomania Symptom Assessment Scale (K-SAS), provide therapists with no useful information.'*

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 *'Studies like 'defending a place in a queue' (Milgram et al., 1986) should never be conducted because they are unethical.'*

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 *'Promoting healthy eating to children in schools is irrelevant; it is more important to promote healthy eating to parents in the home.'*

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 *'Group conflict can always be managed successfully.'*

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) Pyromania is an impulse control disorder in which a person deliberately and intentionally sets fires on more than one occasion. They feel tension or arousal before the act and a fascination with fire, and they feel pleasure, gratification or relief when setting the fire or watching its aftermath. The fire setting is not done for money, revenge or to hide a crime.

1(b) Salience: the activity becomes the most important thing in the person's life and dominates their thinking, feelings and behaviour. In the quote, the gambler spends all the time not gambling planning schemes to get money to gamble, so gambling dominates his thoughts.

Withdrawal symptoms: unpleasant feelings and/or physical effects, such as irritability, moodiness or shaking, that occur when the activity is stopped or suddenly reduced, e.g. a gambler who cannot get to a betting shop becomes restless and bad tempered.

1(c) Observation: a structured, covert non-participant observation in a casino or betting shop, recording the gambler's behaviour on a tally chart, e.g. how many times they place a bet, how much money they stake each time, and whether they chase losses by betting again immediately after losing.

Question number	
	Physiological measure: measuring the gambler's heart rate or galvanic skin response while they gamble, e.g. on a slot machine, compared with a baseline at rest. A large rise in arousal (the buzz) when betting, and when they are prevented from betting, would indicate a higher level of addiction.
1(d)	One strength is that a questionnaire asks the person directly, so people with kleptomania can explain their urges to steal and their feelings before and after stealing, rather than the researcher guessing the reasons from their behaviour. A second strength is that questionnaires can be given to large numbers of people quickly and are easy to replicate, and closed questions such as those on the K-SAS give quantitative scores that allow severity to be compared between patients or before and after treatment. One weakness is social desirability: stealing is illegal and embarrassing, so people may under-report how often they steal or how strong their urges are, which lowers validity. A second weakness is that closed, fixed-choice questions may force people to choose answers that do not reflect their true experience, and leading questions could bias the answers, again lowering validity. In conclusion, questionnaires are a useful first measure of kleptomania because they are quick and give comparable scores, but because honesty about stealing cannot be guaranteed they should be used alongside an interview with a therapist, where trust can be built, rather than on their own.
	Psychology and consumer behaviour
2(a)	The first key expectation is that receivers prefer gifts to be wrapped. The second is that the gift (its wrapping) meets individual and social expectations of what a gift should look like, so it is recognisable as a gift.

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2(b)	Observation: the researchers observed customers at a Christmas gift-wrapping stall, noting how people chose to have their gifts wrapped and what they said about it. Interviews: twenty in-depth interviews were carried out in which participants reflected on their experiences of and feelings about gift-wrapping. (Projective workshops were also used, where pairs of participants wrapped two gifts, one for someone close and one for an acquaintance, and discussed gift-wrapping while doing so.)
2(c)(i)	Reliability means consistency. It is the extent to which a procedure or measure produces the same results on different occasions, e.g. the same participant gives the same answers when tested again, or two observers give the same score to the same behaviour.
2(c)(ii)	Inter-rater reliability could be assessed. Two or more independent researchers would each read the transcripts of the twenty in-depth interviews and code what was said into predefined categories, e.g. "wrapping shows effort" or "wrapping is wasteful". The extent of agreement between them would be calculated; a high correlation would show the qualitative data is reliable.
2(d)	An advantage is that qualitative data lets people express their feelings in their own words, so they can explain why they prefer a gift to be wrapped in a particular way, e.g. that it shows effort or care, rather than the researcher guessing the reasons. Another advantage is that it is rich and detailed: people can say as much or as little as they wish, so unexpected reasons for gift-wrapping preferences can emerge. A disadvantage is that participants may give socially desirable answers, e.g. claiming they always wrap gifts carefully, or respond to demand characteristics, which lowers validity. Another disadvantage is that qualitative data cannot easily

Question number	
	be turned into statistics, so preferences cannot be easily compared between groups, and the interpretation of the data may be subjective and open to researcher bias. In conclusion, because gift-wrapping is about personal and social meaning, qualitative data is the most appropriate way to discover why people hold their preferences, but adding some quantitative ratings would allow those preferences to be compared more objectively.
	Psychology and health
3(a)	A questionnaire completed by the patients was used. Patients filled in the first questionnaire, about the quality of communication in the consultation, in the waiting room straight after the consultation was over, and a second questionnaire with a stamped addressed envelope was posted back one week later.
3(b)	First, some patients failed to complete the follow-up assessment. Of the 359 patients invited, about 120 did not complete and return the postal questionnaire a week later, so their data could not be analysed. Second, some patients were excluded from the study. Five were excluded for clinical reasons, such as having schizophrenia or manic depression, and about 30 failed to complete the initial questionnaire in the waiting room. (In addition, four patients declined to take part, as they did not give consent.)
3(c)(i)	Random selection gives every member of the target population an equal chance of taking part, so there is no selection bias by the doctor. In this study a random number generator was used to select four patients in advance from each of the doctor's surgeries over four months, so the doctor could not pick patients he thought would be easy or satisfied.

Question number	
3(c)(ii)	Random allocation means every patient had an equal chance of receiving either the directing or the sharing style, so there was no allocation bias. A card, kept face down on the doctor's desk, was only turned over once the patient had described their problem, so the doctor could not choose a style to suit a particular patient and differences in satisfaction could be put down to the consultation style.
3(d)	An advantage of postal questionnaires is that people can complete them at their own leisure in their own home, so they can think carefully about their health preferences without any pressure from a doctor. Another advantage is that people may prefer to write about personal health matters rather than tell someone face-to-face, so answers may be more honest and full. A disadvantage is that people may never receive the questionnaire, or receive it but not read or return it, giving a low response rate: in Savage and Armstrong about 120 patients did not return the postal questionnaire. This may bias the sample, as only the most motivated people reply. Another disadvantage is that no researcher is present to explain questions that are misunderstood, which lowers validity. In conclusion, postal questionnaires are a convenient and private way to gather health preferences, but because of low and biased response rates they are only worth using if steps are taken to boost returns, such as reminders and a stamped addressed envelope.
	Psychology and organisations
4(a)	The Hawthorne effect is when people change their behaviour, e.g. working harder, because they know they are being watched and are receiving special attention, rather than because of the independent variable being manipulated.

Question number	
4(b)(i)	The main IV was the level of illumination (lighting). For the experimental group the illumination was decreased step by step, while the control group worked under constant illumination.
4(b)(ii)	The DV was productivity, i.e. the workers' performance, measured as their output in inspecting parts, assembling relays or winding coils.
4(c)	First, relief from harsh supervision: in the test room the workers were supervised by a friendly observer rather than a strict foreman, so they may have felt more relaxed and worked harder. Second, higher income: the workers in the test room were paid on an incentive system based on the output of their small group, so they could earn more by producing more, which would explain the increase in productivity. (The threat of losing one's job in the economic depression may also have motivated them to work harder.)
4(d)	An advantage of controlling variables is that it reduces the effect of extraneous variables, such as noise or temperature, so any change in productivity is more likely to be caused by the IV, e.g. lighting, increasing internal validity. Another advantage is that using a control group, as at Hawthorne, provides a baseline for what normal productivity is, so the effect of changing physical conditions can be compared against it. A disadvantage is that in a field experiment there will always be uncontrolled variables, e.g. the attention workers received at Hawthorne, which can confound the results. Another disadvantage is that too many controls make the workplace artificial and reductionist, as physical conditions never act in isolation from social factors such as relationships with supervisors, so the findings may not apply to normal working conditions.

Question number	
	In conclusion, controlling variables is necessary to establish cause and effect, but the Hawthorne studies show that complete control is impossible in a real workplace, so researchers should control the key variables while also measuring social factors that could explain the results.
	Section B
	Psychology and abnormality
5(a)	Aim: to investigate whether CBT manages schizophrenia effectively over time. Method: a longitudinal field experiment with an independent measures design, carried out in outpatient psychiatric clinics. Sample: 80 patients aged 18 to 60 with a diagnosis of schizophrenia who are stable on antipsychotic medication, recruited by volunteer sampling through posters in clinics, with consent from the patient and their psychiatrist. Participants would be randomly allocated to two conditions, using a random number generator. IV: the type of therapy. The experimental group receives CBT: 20 one-hour weekly sessions with a trained therapist who engages with the patient, discusses the disorder and challenges their beliefs about voices and delusions. The control group receives 20 weekly befriending sessions of the same length, so both groups get the same amount of attention. Both groups continue their usual medication (a controlled variable). DV: severity of symptoms, measured by a psychiatrist using a standardised rating scale for positive and negative symptoms, giving quantitative scores, plus a short semi-structured interview, e.g. "How much do the voices you hear bother you now?", giving qualitative data. Measurements are taken before therapy, at the end of therapy (5 months) and at follow-ups of 9 and 18 months, so the study is longitudinal.

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Controls: the psychiatrist rating symptoms does not know which group the patient is in (single blind), and two raters score a sample of interviews to check inter-rater reliability.

Ethics: informed consent is checked at each stage because capacity may change, patients may withdraw at any time without losing treatment, data are confidential, and the control group is offered CBT at the end.

Analysis: mean symptom scores for each group are compared at each time point and a statistical test used to see if any difference is significant. If CBT is effective, the CBT group should improve more and keep improving at follow-up.

5(b) Psychological evidence: my study is based on Sensky et al. (2000), who compared CBT with befriending for patients with schizophrenia who were still having symptoms despite medication. About 90 patients were randomly allocated and received an average of 19 sessions over nine months. Both groups improved by the end of treatment, but at the 9-month follow-up only the CBT group continued to improve, so they concluded that CBT is effective. This is why I used a befriending control group, kept medication constant and included long follow-ups, so I can see whether the benefits of CBT last. CBT is based on the cognitive approach: faulty, irrational beliefs about hallucinations maintain distress, so challenging them should reduce symptoms.

Methodological evidence: a longitudinal design measures the same people repeatedly, so change over time can be tracked and lasting effects shown, unlike a snapshot study. Random allocation removes allocation bias, so any difference is due to the therapy rather than participant variables, and the befriending condition controls for the effect of attention, as at Hawthorne. Single-blind rating reduces researcher bias, and inter-rater checks show the scores are reliable. Standardised rating scales give quantitative data that can be statistically compared, while the interview adds qualitative detail about how patients experience their symptoms,

Question number

increasing validity. The main weakness is attrition: patients may drop out over 18 months, so the final sample may be biased towards those who improved. Ethical guidelines are especially important because patients with schizophrenia are a vulnerable group.

Psychology and consumer behaviour

6(a) Aim: to find which theory of personal space (overload, arousal or behaviour constraint) best explains discomfort in a crowded shop. Method: a questionnaire given to shoppers as they leave a busy department store on Saturday afternoons, when it is crowded.

Sample: 200 adult shoppers chosen by opportunity sampling at the exit, with equal numbers of males and females so that gender can be compared.

Questionnaire: first, a closed question: "Did you feel uncomfortable because of the crowding today? Yes / No". Then statements rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree), with five statements for each theory, mixed up in order. Overload: "There was too much noise and too many people to take in." Arousal: "I felt tense and my heart was racing when people came close." Behaviour constraint: "I could not move around the shop freely to get what I wanted." Some items are reversed to avoid response bias. Finally, an open question: "Describe what made you feel uncomfortable in the shop", giving qualitative data.

Scoring: the scores for the five statements on each theory are added, giving a score from 5 to 25 per theory. The theory with the highest mean score is the one that best explains discomfort.

Ethics: shoppers are told the purpose, give informed consent, are told they can withdraw, and answers are anonymous. Reliability: test-retest on a small group a week later. Validity: a pilot study checks the questions are clear and not leading.

Analysis: mean scores for each theory are compared using a bar chart and a

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statistical test, and open answers are put into categories by two researchers using content analysis.

6(b) Psychological evidence: there are three theories of personal space and crowding. Overload theory says that when many people are close we receive too much sensory stimulation, more than we can process, so we feel stressed; this is why I asked about noise and too many people. Arousal theory says invasion of personal space raises physiological arousal; whether we feel it as pleasant or unpleasant depends on how we label it, and if negative we may move away; this is why I asked about tension and a racing heart. Behaviour constraint theory says crowding is unpleasant because it limits our freedom to move and act as we wish, so I asked about moving freely around the shop. Fisher and Byrne (1975) showed people do react to invasions of personal space, as in their library study males disliked face-to-face invasion and females side-by-side invasion, which is why I included equal numbers of males and females.
Methodological evidence: a questionnaire allows a large sample to be collected quickly, and opportunity sampling is practical at a shop exit, although it may not be representative. Likert scales give quantitative data, so the three theories can be compared directly with mean scores and a statistical test. Mixing the order of items and including reversed items reduces response bias. The open question gives qualitative data, allowing shoppers to explain discomfort in their own words, increasing validity. Asking straight after shopping, in a real crowded store, gives high ecological validity and means the experience is fresh in memory. Ethical guidelines of consent, right to withdraw and confidentiality are followed.

Psychology and health

7(a) Aim: to investigate whether people wishing to change a health behaviour, giving up

Question number

smoking, move through the stages of the transtheoretical model in order.

Method: a longitudinal study using a self-report questionnaire and a short interview, repeated every three months for two years.

Sample: 100 adult smokers who say they want to quit, recruited by volunteer sampling through advertisements in doctors' surgeries and stop-smoking clinics.

Procedure: at each three-month point participants complete a stage-of-change questionnaire. Example closed question: "Which statement best describes you? (a) I have no intention of stopping smoking in the next six months (precontemplation); (b) I am thinking of stopping in the next six months (contemplation); (c) I plan to stop in the next month and have taken steps (preparation); (d) I have stopped in the last six months (action); (e) I stopped more than six months ago (maintenance)." They also rate statements on a 5-point scale, e.g. "I am confident I could resist a cigarette when stressed". A short semi-structured interview asks open questions such as "What has changed since we last spoke?", giving qualitative data.

Validity check: self-reports of not smoking are checked with a carbon monoxide breath test.

Ethics: informed consent, right to withdraw, confidentiality using participant numbers, and participants are given information on stop-smoking services.

Analysis: each person's stage is plotted over the eight time points to see whether they move through the stages in order, skip stages, or relapse to earlier stages. The percentage following the predicted sequence is calculated, and interview answers are analysed by theme.

7(b)

Psychological evidence: Prochaska et al. (1997) proposed that health behaviour change happens through a series of stages: precontemplation (not intending to change in the next six months), contemplation (intending to change in the next six months), preparation (intending to act within the next month), action

Question number

(changed behaviour within the last six months), maintenance (sustained change for more than six months) and termination (no temptation to relapse). People can relapse and move back to earlier stages, so change is seen as a cycle rather than a single event. The model also includes self-efficacy, confidence in resisting temptation, which increases through the stages. This is why my questionnaire puts each person in a stage using the time periods from the model, measures their confidence, and why I track relapse. Smoking was chosen because the model was originally developed with smokers.

Methodological evidence: a longitudinal design follows the same people over two years, so movement between stages can be seen directly; a cross-sectional design would only show different people in different stages at one time. Repeated measures remove participant variables. Closed questions give quantitative data so the percentage following the sequence can be calculated, while the interview gives qualitative reasons for moving forwards or relapsing, increasing validity. The breath test checks self-reports against an objective physiological measure, reducing the effect of social desirability. Volunteer sampling ensures participants want to quit, but they may be more motivated than typical smokers, and attrition over two years may bias the sample.

Psychology and organisations

8(a) Aim: to investigate which type of error (omission, commission, sequence or timing) results in the most risk of accidents for workers.

Method: a covert, structured non-participant observation in a large factory where workers operate machinery, followed by an analysis of the factory accident records.

Sample: 60 machine operators from day and night shifts, chosen by stratified sampling so each shift is represented in proportion.

Procedure: two trained observers watch the workers from the control room and

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through existing CCTV, using time sampling (each operator observed for 10 minutes every hour for four weeks). Behavioural categories recorded on a tally chart are: omission error, e.g. forgetting to switch on a safety guard; commission error, e.g. pressing the wrong button; sequence error, e.g. loading material before locking the machine; timing error, e.g. feeding material too fast. For each error they also rate the risk on a scale of 1 (no danger) to 5 (could cause serious injury), and record whether a near miss or accident followed.

Reliability: the two observers code independently and inter-observer reliability is checked by correlating their tallies.

Ethics: because the observation is covert, permission is gained from management and unions, workers are debriefed afterwards and given the right to withdraw their data, and no names are recorded. Any dangerous error is stopped immediately.

Analysis: the frequency and mean risk rating of each error type, and the number of near misses and accidents following each, are compared, and day and night shifts compared.

8(b)

Psychological evidence: Riggio (1990) classified the errors made in operator-machine systems. Errors of omission are failing to do something, such as forgetting to turn something off. Errors of commission are performing an act incorrectly. Sequence errors are doing something out of order, and timing errors are doing something too quickly or too slowly. These four types became my behavioural categories. Errors are more likely when workers are tired or affected by alcohol or drugs, and more errors happen on the night (graveyard) shift between about 8 pm and 6 am, which is why I sampled both day and night shifts. Some workers may also be more accident prone, which is why each worker is observed many times.

Methodological evidence: a covert observation means workers do not know they are being watched, so they behave naturally and there is no Hawthorne effect, giving high ecological validity; self-reports would be affected by social desirability, as

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workers may not admit errors. Behavioural categories and time sampling make the observation structured and replicable and give quantitative data, so error types can be compared. Using two observers allows inter-observer reliability to be checked. Accident records add an objective measure of actual harm. Stratified sampling makes the sample representative of both shifts. However, covert observation raises ethical issues of consent and privacy, so permission and a full debrief are essential.

Section C

Psychology and abnormality

9 I disagree with the statement, as psychometric measures such as the K-SAS provide therapists with a lot of useful information, although they do have limitations.

The K-SAS is an 11-item self-report questionnaire that measures the severity of kleptomania symptoms over the past week, such as the strength and frequency of urges to steal, thoughts about stealing, the tension before and pleasure after the act, and actual stealing behaviour. Each item is scored 0 to 4, giving a total out of 44. This tells a therapist how severe the disorder is, which helps to decide on treatment, and it highlights which specific features, e.g. urges or behaviour, are the biggest problem. Because it gives quantitative data, the score can be compared before, during and after treatment, so the therapist can see whether a drug such as naltrexone or a therapy is working. It can also compare the patient with others who have the same disorder. As a standardised psychometric test it is reliable and objective, so different therapists would obtain the same score, and it is quick and cheap to administer. Similar measures, such as the Y-BOCS for OCD, are widely used by therapists for exactly these reasons.

However, there are limitations. The K-SAS uses rating scales which may allow a

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person to give a neutral answer and so opt out of revealing the truth. As stealing is illegal and shameful, patients may give socially desirable answers and under-report symptoms. The scale is general, so it does not take individual differences into account: there may be aspects of a person's problem, such as a trauma or depression linked to the stealing, that the items do not cover. A patient may also want to talk to the therapist about their problem, not just fill in a questionnaire. In the case study by Kohn and Antonuccio (2002), the patient's thoughts and feelings were explored in detail in therapy, and this was used to design covert sensitisation treatment individually suited to her, which a score alone could not reveal. Interviews can therefore uncover far more about the individual problem and its causes.

In conclusion, I largely disagree. The K-SAS gives therapists valuable, reliable information about the severity of kleptomania and whether treatment is working, which cannot easily be obtained in other ways. It does not explain why the person steals, so it is most useful when combined with a clinical interview rather than used on its own.

Psychology and consumer behaviour

10

I partly agree that the queue study was unethical, but I disagree that such studies should never be conducted.

Milgram et al. (1986) carried out a field experiment in 129 queues in New York City, such as at railway ticket counters. Confederates intruded into the queue, saying "Excuse me, I'd like to get in here", with one or two intruders and zero, one or two passive confederate buffers. Reactions of the people in the queue, such as verbal objections or physical action, were recorded. They found objections were more common with two intruders, that buffers reduced objections, and that people behind the point of intrusion objected most.

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The study can be seen as unethical. The people in the queue did not give informed consent, as they did not know they were in a study, and they were deceived into thinking the intruder was real. They could not withdraw, and they were not debriefed. Someone pushing in can cause stress, anger and the psychological harm of feeling unfairly treated, and some people may have lost their place or been delayed, e.g. missing a train. Even if they had been debriefed, many would argue that a debrief does not justify unethical procedures.

However, there are strong arguments that such studies should be conducted. The ethical issues were minimal: no one was physically hurt, the intrusion lasted only a moment, and queue-jumping is something people experience in everyday life, so the risk of harm was no greater than normal. Deception was necessary, because if people knew they were in a study their behaviour would not be natural, so the study would lack validity. The ends can justify the means, as the research tells us how people defend queues as social systems, which has practical value for designing queues in shops, banks and airports. Many important field experiments in consumer behaviour, such as studies of shoppers in real stores, also rely on people not knowing they are being studied.

In conclusion, I disagree with the statement. Although the study broke ethical guidelines on consent and deception, the harm was small and brief and the findings were valuable and could not have been gained in any other way. Such studies should be conducted, but only with ethical approval and, where possible, a debrief.

Psychology and health

11 I disagree that promoting healthy eating to children in schools is irrelevant, although I agree that parents at home are very important.

There is evidence that school programmes work. Tapper et al. (2003) evaluated

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the Food Dudes programme, in which children watched videos of heroic Food Dude characters who eat fruit and vegetables and received small rewards for tasting them. This uses modelling (social learning) and positive reinforcement from operant conditioning. Consumption of fruit and vegetables increased significantly, both at school and, importantly, at home, and the effect lasted months later. This shows that what children learn in school can transfer to the home. Schools also reach almost all children, including those whose parents do not have the time or knowledge to promote healthy eating, so a school programme can reduce inequalities. Children spend a large part of the day at school and eat school meals, so the school environment directly shapes what they eat. Children can even influence their parents, a back route to changing the family's diet.

On the other hand, there are reasons to agree that parents matter more. Lau et al. (1990) proposed the enduring family socialisation model: health beliefs and behaviours are learned from parents and stay stable into adulthood, and in their longitudinal study of students, parents were the main influence on health behaviours, with peers having only a limited effect. Parents buy and cook most of the food children eat, so if parents do not provide healthy food, whatever the school teaches cannot be put into practice. Some argue it is also ethically questionable to try to change children's behaviour in school without parents' consent, as children are easily influenced.

In conclusion, I disagree with the statement. Lau et al. show parents are a key influence, but Tapper et al. show school programmes are effective and even change eating at home. School promotion is therefore highly relevant, and the best approach combines both, involving parents in school programmes.

Psychology and organisations

12 I disagree that group conflict can always be managed successfully, although it

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often can be.

Thomas (1976) described five conflict-handling styles based on two dimensions, assertiveness (satisfying your own concerns) and cooperativeness (satisfying the other person's concerns): competing, collaborating, compromising, avoiding and accommodating. This suggests managers can choose the most suitable style for the situation; for example, collaborating can produce a win-win solution where both sides' needs are met, which can turn conflict into a positive force, generating new ideas. Forsyth also describes ways to manage conflict, such as negotiation and compromise by both sides. Tuckman's model shows that conflict at the storming stage is a normal part of group development and is usually resolved as a team moves on to norming and performing. If all else fails, a manager can use radical solutions, such as moving a person to another department or dismissing them, so the conflict is removed for the benefit of the organisation.

However, managing conflict does not always mean it is successfully resolved. Using avoiding or competing may end the open conflict, but one side is left feeling they have lost, and resentment may lead to further conflict, low morale or even sabotage. People may say a conflict is resolved and be professional at work, yet privately keep their grudge or distrust. Some people never believe they are wrong or hold strong principles, and would rather leave the organisation than compromise. Radical solutions such as dismissal remove the conflict but not by managing it, and losing a skilled worker may harm the organisation. The success of conflict management also depends on individual differences in the skill of the manager.

In conclusion, I disagree with the word "always". Thomas's styles show that many group conflicts can be managed successfully, especially through collaboration, but some conflicts based on personality or deeply held principles cannot be fully resolved, only contained.