Write your name here

Surname: StemUp Model Solution | Other names:

Pearson Edexcel
International Advanced Level

Centre Number | Candidate Number

Psychology

International Advanced Level
Paper 3: Applications of Psychology

Monday 4 June 2018 – Afternoon
Time: 1 hour 30 minutes

Paper Reference
WPS03/01

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **ALL** questions in Section A, and **ALL** questions from **EITHER** Option 1 criminological psychology **OR** Option 2 health psychology.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*

Information

- The total mark for this paper is 64.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- The list of formulae and statistical tables are printed at the start of this paper.
- Candidates may use a calculator.

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ▶

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FORMULAE AND STATISTICAL TABLES

Standard deviation (sample estimate)

$$\sqrt{\left(\frac{\sum(x-\bar{x})^2}{n-1}\right)}$$

Spearman's rank correlation coefficient

$$1-\frac{6\sum d^2}{n(n^2-1)}$$

Critical values for Spearman's rank

	Level of significance for a one-tailed test				
	0.05	**0.025**	**0.01**	**0.005**	**0.0025**
	Level of significance for a two-tailed test				
N	**0.10**	**0.05**	**0.025**	**0.01**	**0.005**
5	0.900	1.000	1.000	1.000	1.000
6	0.829	0.886	0.943	1.000	1.000
7	0.714	0.786	0.893	0.929	0.964
8	0.643	0.738	0.833	0.881	0.905
9	0.600	0.700	0.783	0.833	0.867
10	0.564	0.648	0.745	0.794	0.830
11	0.536	0.618	0.709	0.755	0.800
12	0.503	0.587	0.678	0.727	0.769
13	0.484	0.560	0.648	0.703	0.747
14	0.464	0.538	0.626	0.679	0.723
15	0.446	0.521	0.604	0.654	0.700
16	0.429	0.503	0.582	0.635	0.679
17	0.414	0.485	0.566	0.615	0.662
18	0.401	0.472	0.550	0.600	0.643
19	0.391	0.460	0.535	0.584	0.628
20	0.380	0.447	0.520	0.570	0.612
21	0.370	0.435	0.508	0.556	0.599
22	0.361	0.425	0.496	0.544	0.586
23	0.353	0.415	0.486	0.532	0.573
24	0.344	0.406	0.476	0.521	0.562
25	0.337	0.398	0.466	0.511	0.551
26	0.331	0.390	0.457	0.501	0.541
27	0.324	0.382	0.448	0.491	0.531
28	0.317	0.375	0.440	0.483	0.522
29	0.312	0.368	0.433	0.475	0.513
30	0.306	0.362	0.425	0.467	0.504

The calculated value must be equal to or exceed the critical value in this table for significance to be shown.

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Chi-squared distribution formula

$$X^2 = \sum \frac{(O-E)^2}{E} \qquad df = (r-1)(c-1)$$

Critical values for chi-squared distribution

	Level of significance for a one-tailed test					
	0.10	**0.05**	**0.025**	**0.01**	**0.005**	**0.0005**
	Level of significance for a two-tailed test					
df	**0.20**	**0.10**	**0.05**	**0.025**	**0.01**	**0.001**
1	1.64	2.71	3.84	5.02	6.64	10.83
2	3.22	4.61	5.99	7.38	9.21	13.82
3	4.64	6.25	7.82	9.35	11.35	16.27
4	5.99	7.78	9.49	11.14	13.28	18.47
5	7.29	9.24	11.07	12.83	15.09	20.52
6	8.56	10.65	12.59	14.45	16.81	22.46
7	9.80	12.02	14.07	16.01	18.48	24.32
8	11.03	13.36	15.51	17.54	20.09	26.12
9	12.24	14.68	16.92	19.02	21.67	27.88
10	13.44	15.99	18.31	20.48	23.21	29.59
11	14.63	17.28	19.68	21.92	24.73	31.26
12	15.81	18.55	21.03	23.34	26.22	32.91
13	16.99	19.81	22.36	24.74	27.69	34.53
14	18.15	21.06	23.69	26.12	29.14	36.12
15	19.31	22.31	25.00	27.49	30.58	37.70
16	20.47	23.54	26.30	28.85	32.00	39.25
17	21.62	24.77	27.59	30.19	33.41	40.79
18	22.76	25.99	28.87	31.53	34.81	42.31
19	23.90	27.20	30.14	32.85	36.19	43.82
20	25.04	28.41	31.41	34.17	37.57	45.32
21	26.17	29.62	32.67	35.48	38.93	46.80
22	27.30	30.81	33.92	36.78	40.29	48.27
23	28.43	32.01	35.17	38.08	41.64	49.73
24	29.55	33.20	36.42	39.36	42.98	51.18
25	30.68	34.38	37.65	40.65	44.31	52.62
26	31.80	35.56	38.89	41.92	45.64	54.05
27	32.91	36.74	40.11	43.20	46.96	55.48
28	34.03	37.92	41.34	44.46	48.28	56.89
29	35.14	39.09	42.56	45.72	49.59	58.30
30	36.25	40.26	43.77	46.98	50.89	59.70
40	47.27	51.81	55.76	59.34	63.69	73.40
50	58.16	63.17	67.51	71.42	76.15	86.66
60	68.97	74.40	79.08	83.30	88.38	99.61
70	79.72	85.53	90.53	95.02	100.43	112.32

The calculated value must be equal to or exceed the critical value in this table for significance to be shown.

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Wilcoxon Signed Ranks test process

- Calculate the difference between two scores by taking one from the other
- Rank the differences giving the smallest difference Rank 1

  Note: do not rank any differences of 0 and when adding the number of scores, do not count those with a difference of 0, and ignore the signs when calculating the difference
- Add up the ranks for positive differences
- Add up the ranks for negative differences
- T is the figure that is the smallest when the ranks are totalled (may be positive or negative)
- N is the number of scores left, ignore those with 0 difference

Critical values for the Wilcoxon Signed Ranks test

	Level of significance for a one-tailed test		
	0.05	0.025	0.01
	Level of significance for a two-tailed test		
N	0.1	0.05	0.02
N=5	0	-	-
6	2	0	-
7	3	2	0
8	5	3	1
9	8	5	3
10	11	8	5
11	13	10	7
12	17	13	9

The calculated value must be equal to or less than the critical value in this table for significance to be shown.

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SECTION A

DEVELOPMENTAL PSYCHOLOGY

Answer ALL questions. Write your answers in the spaces provided.

1 Marianne conducted research into the stages of language development in children aged between 2 and 5 years old. She selected 7 participants from each of the following age groups: 2-year-olds, 3-year-olds, 4-year-olds and 5-year-olds.

Marianne visited each participant once and gathered data about the number of words the children spoke in sentences, and the level of grammatical accuracy in their sentence structure.

She compared her data across each age group to determine how language develops in children aged between 2 and 5 years old.

(a) Identify the research method Marianne used to determine how language developed across the age groups.

(1)

Marianne used a cross-sectional method, comparing different age groups (2, 3, 4 and 5-year-olds) at the same point in time.

(b) Suggest **one** reason why Marianne chose not to include children under the age of 12 months old in her research about the development of language.

(2)

Children under 12 months old are usually pre-linguistic (cooing and babbling), so they do not yet speak words or sentences. Marianne would therefore not be able to record the number of words spoken or the grammatical accuracy of their sentence structure.

(c) Marianne used an opportunity sample of children from a single village.

Justify how Marianne could improve the generalisability of her study.

(2)

Marianne could use a sample of children aged 2 to 5 from several different villages, towns and cities in other areas, rather than one village. This would give a more representative group of children, so her findings about language development could be generalised to the wider population.

(Total for Question 1 = 5 marks)

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2 Ling is using a clinical interview method to investigate the cognitive processes of 26 children aged 3 years old. She decides to study each child individually.

Ling presents each child with the same conservation of number task.

She shows each child two rows of buttons. One row appears longer than the other, as shown in **Figure 1**. Ling asks each child to explain which row has the most buttons and then asks further questions based on their responses.

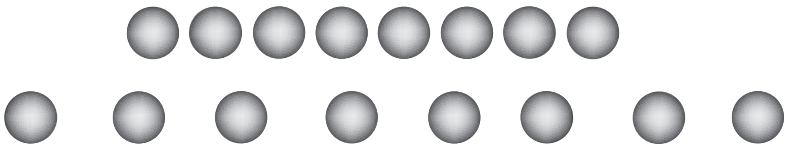


Figure 1

(a) Of the 26 children, 23 answered incorrectly, saying that there were more buttons in the second row.

Calculate the percentage of children who correctly answered that the number of buttons was the same for both rows in **Figure 1**.

You **must** give your answer to two decimal places.

(1)

Space for calculations

Correct answers = 26 − 23 = 3

3 ÷ 26 × 100 = 11.538...%

= 11.54% (2 d.p.)

Percentage of children giving correct answer 11.54%

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(b) Explain **one** strength and **one** weakness of Ling using a clinical interview method in this study with 3-year-olds.

(4)

Strength

Ling can standardise the initial question she asks every child about the two rows of buttons (eg "Which row has the most buttons?"). This means the same question can be replicated with all 26 three-year-olds, so their answers are comparable and the reliability of her data is increased.

Weakness

Ling may have preconceived ideas, eg from Piaget, that 3-year-olds cannot conserve number, so her follow-up questions may be biased or leading, eliciting the responses she expects to meet the aim of her study. The children's answers may then reflect her questioning rather than their real thinking, reducing validity.

(Total for Question 2 = 5 marks)

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3 David gathered data to find out whether there is a relationship between emotional recognition and the age of a child.

Children aged 7 to 11 years old were each given 12 picture cards showing facial expressions of different emotions. They were also given 12 cards that named the emotion for each facial expression card.

David asked the children to match the picture card to the correct named emotion card.

His results are shown in **Figure 2**.

A scatter diagram to show the correlation between the age of a child and the number of correctly matched cards

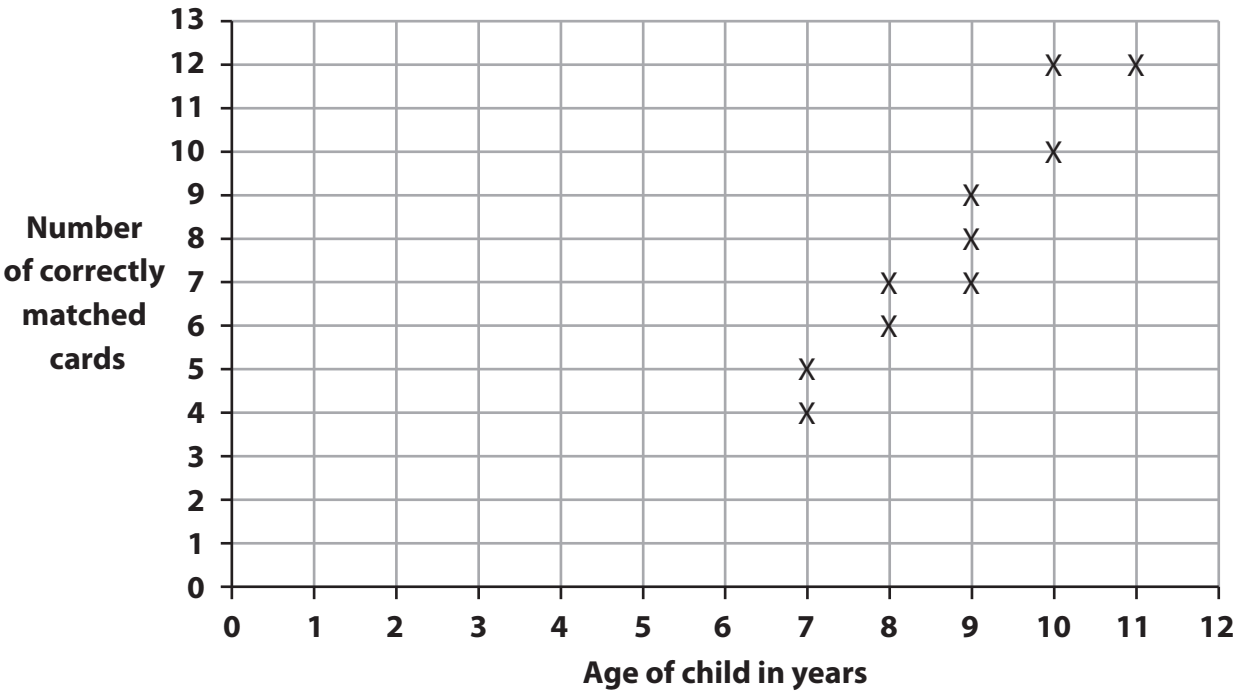


Figure 2

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(a) Identify the type of correlation shown in **Figure 2**.

(1)

A positive correlation: as the age of the child increases, the number of correctly matched cards increases.

(b) State an appropriate statistical test for the data gathered by David.

(1)

Spearman's rank correlation coefficient.

(Total for Question 3 = 2 marks)

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4 Explain whether mindfulness can enhance the development of children.

Mindfulness can enhance children's development. It trains children to pay attention to the present moment, through listening, breathing and attention exercises, which helps them to self-regulate their cognition and attention. Jha et al. found that mindfulness training enhanced cognitive skills such as working memory capacity, although they tested military personnel rather than children, so the findings may not generalise to child development.

Mindfulness meditation also helps children to suppress distractions from the environment so they can concentrate on tasks such as schoolwork. Moore and Malinowski (2009) found that meditators had a greater ability to pay attention and greater cognitive flexibility than non-meditators. However, young children may struggle to meditate this effectively or for long enough, so mindfulness may only enhance development in older children who can sustain the practice.

(Total for Question 4 = 4 marks)

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5 In developmental psychology, you will have learned about the following classic study in detail:

- Van iJzendoorn and Kroonenberg (1988).

Evaluate the study by Van iJzendoorn and Kroonenberg (1988).

(8)

Van IJzendoorn and Kroonenberg (1988) carried out a meta-analysis, using secondary data from studies of attachment that other researchers had conducted with Ainsworth's Strange Situation. They searched for suitable studies using strict criteria: for example, samples of children over 2 years old were excluded, as were very small samples and samples of children with special needs. This produced a large sample of 32 studies from 8 different countries, involving 1,990 Strange Situations in total. They planned to use Ainsworth et al. (1978) as a baseline distribution of secure, avoidant and resistant attachment to compare their findings against. They found secure attachment was the most common type in every country, avoidant attachment was relatively more common in West Germany, and resistant attachment was more common in Israel and Japan. Variation within cultures was about 1.5 times greater than variation between cultures.

A strength is the strict criteria, which increase the reliability of the data, as the researchers could be sure the studies were comparable, eg all used the same procedure with infants of a similar age. The sample is also very large and cross-cultural, which increases the generalisability of the findings and allows meaningful comparisons of attachment types across cultures. Using existing data was also quick, cheap and avoided the ethical issue of distressing more infants by separating them from their mothers.

However, using secondary data means they could not be certain the original studies were conducted reliably, eg that attachment types were classified consistently by the original observers, so the data may be flawed. The sample was also unbalanced: 18 of the 32 studies were from the USA but only one from China, so some cultures are under-represented. In

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addition, the overall distribution of attachment in the US studies did not match Ainsworth's, so there was no reliable baseline measure, which limits the cross-cultural comparisons. The Strange Situation itself was developed in the USA, so it may be an imposed etic: Japanese infants are rarely separated from their mothers, so their high distress may not mean they are insecurely attached.

In conclusion, the study is a well-controlled and highly influential meta-analysis that shows there is more variation within cultures than between them, but its reliance on secondary data, an unbalanced sample of countries and a culture-bound procedure mean its cross-cultural conclusions should be treated with some caution.

(Total for Question 5 = 8 marks)

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6 Watson and Rayner (1920) conducted their study on 'Little Albert' before the United Nations Convention on the Rights of the Child (UNCRC) (1989) was developed. The UNCRC has established a set of rights for children.

Evaluate, using the UNCRC, how far Watson and Rayner's (1920) study promotes the rights of the child.

(8)

Watson and Rayner (1920) classically conditioned a fear response in Little Albert, who was around 11 months old. Each time he touched a white rat, a steel bar was struck loudly with a hammer behind him, intentionally causing distress through the startle and fear response. Albert learned to fear the rat, and the fear generalised to similar objects such as a rabbit, a dog and a fur coat. When the fear response began to fade, it was renewed with the noise, so harm was continued deliberately. Consent was gained from Albert's mother because of his age, and the identities of Albert and his mother were kept confidential. Albert left before his fear could be removed.

The UNCRC states that the best interests of the child must be a top priority in all actions concerning children (Article 3). Watson and Rayner prioritised their research aims, deliberately frightening Albert and renewing his fear, so the study does not promote this right. Article 19 also gives children the right to be protected from harm, yet Albert was left with a conditioned fear that was never removed, which could have affected him long term.

Every child also has the right to express their feelings and views and for these to be taken seriously (Article 12). Albert's crying and attempts to crawl away clearly showed his feelings, so it could be argued the research should have been stopped, which did not happen.

However, some aspects do fit the UNCRC. Under Article 18 parents have the main responsibility for their child, and Albert's mother gave consent, so she would have considered what was best for him and believed the study was safe. Under Article 16 children have the right to privacy, and

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Albert's real identity was not made public at the time, so in this way his rights were protected. The study was also carried out long before the UNCRC existed, so judging it by modern standards may be unfair.

In conclusion, although parental consent and confidentiality partly respect the rights of the child, the deliberate and continued distress caused to Albert means the study largely fails to promote the rights of the child set out in the UNCRC.

(Total for Question 6 = 8 marks)

TOTAL FOR SECTION A = 32 MARKS

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SECTION B

Answer ALL questions from EITHER OPTION 1: CRIMINOLOGICAL PSYCHOLOGY or OPTION 2: HEALTH PSYCHOLOGY.

Indicate which option you are answering by marking a cross in the box ☒. If you change your mind, put a line through the box ☒ and then indicate your new option with a cross ☒.

If you answer the questions in Option 1 put a cross in the box ☒ .

OPTION 1: CRIMINOLOGICAL PSYCHOLOGY

7 State what is meant by 'pre-trial publicity'.

Media coverage, eg news or social media reports, about the crime, defendant or victim that is published before the trial and may bias jurors.

(Total for Question 7 = 1 mark)

8 Francesco witnessed a robbery in his local shop. Three men entered the shop and held two employees at gun point. They stole money and valuables from the shop and then ran towards a parked car that drove them away.

Francesco was interviewed by the police at the scene. He could not recall much about what the three men looked like, but he could recall their weapons.

(a) Describe why Francesco may have been unable to remember what the three men looked like.

(2)

This is due to weapon focus. Because the three men were holding guns, Francesco's attention was drawn to the weapons, which were a threat to him and the employees. This narrowed and diverted his attention away from the robbers' faces and features, so these details were not encoded and he could not recall what they looked like.

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(b) Describe how the police would use a cognitive interview with Francesco when interviewing him as a witness to the robbery.

(4)

The police would first ask Francesco to mentally reinstate the context, picturing the layout of the shop, what he was doing when the men came in and how he felt, to give retrieval cues for the robbery. They would ask him to report everything, even details that seem trivial, such as the colour of the parked car or what the men were wearing, as these may trigger other memories.

They would then ask him to recall the robbery in a different order, eg backwards, starting from when the car drove the men away. This may reduce the influence of Francesco's schema or prior knowledge of robberies on his memory of the sequence of events. Finally, they could ask him to change perspective and describe what the two employees held at gunpoint might have seen from where they stood. Throughout, the police would use open questions and avoid interrupting him or asking leading questions.

(Total for Question 8 = 6 marks)

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9 Mollie is a psychologist in a local prison. She is developing a psychological (case) formulation to help understand the offending behaviour of one of the prisoners.

The prisoner was charged with committing a violent act towards a stranger. He was in care as a baby, being separated from his mother at 6 months old, and has a history of drug and alcohol misuse. This is his second aggressive criminal offence.

Explain **two** reasons why Mollie would develop a psychological (case) formulation of the prisoner.

1 *Mollie can specify the factors most likely to increase the prisoner's risk of further violent assaults, such as drug and alcohol withdrawal in prison. She can then plan how to manage these triggers, so escalations of violence are prevented and the safety of prison staff and other prisoners is maintained.*

2 *A formulation helps Mollie understand the prisoner's specific problems, such as being separated from his mother at 6 months and being in care, which may explain his aggression and possible risk behaviours. Moore and Drennan (2013) found formulation helps anticipate and manage adverse outcomes in offenders, so his treatment can be tailored to reduce reoffending.*

(Total for Question 9 = 4 marks)

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10 Charlie investigated the success rates of cognitive behavioural therapy (CBT) with offenders convicted of theft. He gave a self-report questionnaire to 25 offenders awaiting cognitive behavioural therapy. The self-report questionnaire used 15 closed questions about positive thinking and 15 closed questions about negative thinking.

Charlie also gave the offenders the same questionnaire at the end of a six-week cognitive behavioural therapy programme.

The results of his investigation are shown in **Table 1**.

	Mean self-report scores (out of 15) Positive thinking	**Mean self-report scores (out of 15) Negative thinking**
Before cognitive behavioural therapy	3	12
After cognitive behavioural therapy	9	6

Table 1

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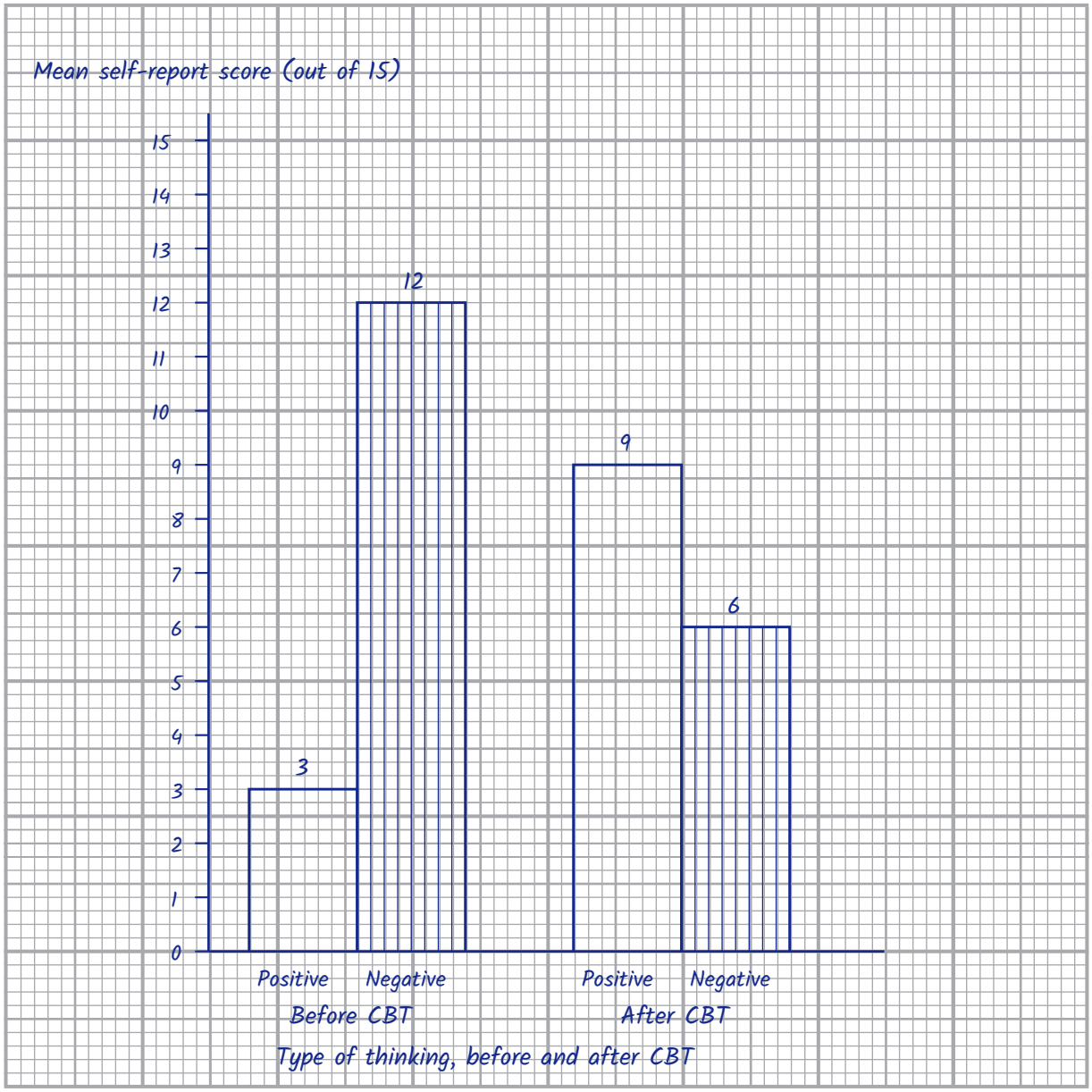
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(a) Draw a bar chart to illustrate the data in **Table 1**.

(3)

Title

A bar chart to show the mean scores (out of 15) for positive and negative thinking before and after CBT



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(b) Justify **one** improvement that Charlie could make to his investigation into the success rates of cognitive behavioural therapy for offenders.

(2)

Charlie could add open-ended questions to the questionnaire so the offenders can explain, in their own words, the changes they have experienced in their thinking. This would increase validity, as he would gather rich, personal, real-life accounts of how well the offenders felt the CBT programme worked, rather than just scores.

(Total for Question 10 = 5 marks)

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11 In criminological psychology, you will have learned about the following classic study in detail:

- Loftus and Palmer (1974) Reconstruction of an auto mobile destruction: An example of the interaction between language and memory.

Assess whether this study can be applied to eyewitness memory in real-life situations.

(8)

In experiment 1, 45 students were shown seven film clips of traffic accidents in succession, lasting 5 to 30 seconds. After each film they completed a questionnaire about what they had seen, including the critical question "About how fast were the cars going when they ___ each other?". The verb was smashed, collided, bumped, hit or contacted. Leading questions elicited higher speed estimates: 'smashed' gave a mean estimate of 40.5 mph compared with 34.0 mph for 'hit' and 31.8 mph for 'contacted'. In experiment 2, 150 students saw one film of a multiple car crash and were asked the speed question with 'smashed', 'hit' or no question. A week later, 16 of the 50 'smashed' participants reported seeing broken glass that was not in the film, compared with 7 in the 'hit' group, suggesting post-event information alters the memory itself.

The results can be applied to real life because they show that the wording of questions can alter recall. This has been applied to police interviewing, eg the cognitive interview avoids leading questions, which should improve the accuracy of eyewitness testimony. The large total sample (195 participants) and the standardised procedure also make the findings reliable and give some generalisability to witnesses in general.

However, the study lacks ecological validity. Participants watched films in a laboratory, so they did not experience the shock, stress or emotional involvement of witnessing a real accident, and knew no one was hurt. Eyewitnesses to crimes are also not usually questioned with pre-prepared questionnaires, so the task lacks validity. Showing seven similar films in a row may have created demand characteristics, as participants could guess the aim, whereas in real life a crime is seen only once. The participants were students, who may be poor at estimating speed and less

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invested than real witnesses.

Real-life evidence also contradicts the findings. Yuille and Cutshall (1986) found that witnesses to a real shooting gave accurate accounts months later and were not misled by leading questions. Foster et al. (1994) found people were more accurate when they believed a robbery was real and their identification would affect a trial.

Overall, the study shows clearly that leading questions can distort memory, which is useful for police interviewing, but because of its artificial laboratory task and lack of real consequences it can only be applied to real-life eyewitness memory with caution.

(Total for Question 11 = 8 marks)

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12 Evaluate the impact of stress and trauma on the reliability of eyewitness memory.

(8)

When witnessing a real-life crime, the stress response raises arousal and cortisol production. Moderate arousal may increase the reliability of memory by focusing selective attention on the main event, so specific central details of a traumatic event may be recalled well. However, if the crime is particularly stressful, arousal may be too high to focus on the details, so reliability is reduced. Emotions can also cause fixation on one feature, such as a weapon, so peripheral details are less well recalled.

The Yerkes-Dodson law (1908) supports this, as it states there is an optimal level of arousal at which attention and performance peak, with very low or very high arousal reducing performance. Al'Absi et al. (2002) measured cortisol levels at times of stress and concluded that cortisol disrupts working memory but enhances selective attention, which explains why witnesses may recall central details but not others. Christianson (1992) claimed that when the main event is emotional, witnesses fixate on it faster, more often and for longer, supporting the idea that trauma narrows attention.

Kramer et al. (1991) exposed participants to images of murder victims as a traumatic stimulus and found overall memory was poorer, suggesting elevated stress reduces recall accuracy. Loftus et al. (1987) also found that participants who saw a man holding a weapon were less accurate at identifying him, supporting weapon focus.

However, much of this evidence comes from laboratory studies using images or films, so participants did not experience the real fear of a crime, which lowers ecological validity. In contrast, Yuille and Cutshall (1986) found real witnesses to a shooting gave highly accurate accounts months later. The effect of stress may also depend on individual differences, such as

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how threatening the person perceives the event to be, and it is unethical to create truly traumatic events in research to test this directly.

In conclusion, stress and trauma appear to improve the reliability of memory for central details but reduce it for peripheral details such as faces, so their impact depends on the level of arousal and the type of detail being recalled.

(Total for Question 12 = 8 marks)

TOTAL FOR SECTION B OPTION 1 = 32 MARKS

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SECTION B

If you answer the questions in Option 2 put a cross in the box ☒.

OPTION 2: HEALTH PSYCHOLOGY

13 State what is meant by a 'focus group'.

A small group of people who are brought together to discuss their thoughts and opinions about a health-related topic, guided by a facilitator.

(Total for Question 13 = 1 mark)

14 Francesco is worried about problems he is having at work. This has continued for several months and he is showing signs of stress. He has started to have trouble recalling information and has had several days off work due to illness. He often finds it difficult to go to sleep and to wake up. Francesco does not visit friends or family as much as he used to.

Francesco visits the doctor who diagnoses him with high blood pressure, poor circulation and high blood sugar levels.

(a) Describe how cortisol may have affected Francesco's physical health.

(2)

Prolonged high cortisol from Francesco's long-term work stress suppresses the immune system, eg by reducing lymphocytes, which is why he has had several days off work due to illness. Cortisol is also involved in glucose metabolism and insulin regulation, raising blood glucose, which could cause his high blood sugar levels.

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(b) Describe how regions of the brain associated with stress may contribute to the signs and symptoms of stress that Francesco is experiencing.

(4)

The hippocampus has many cortisol receptors and becomes overwhelmed by stress hormones during long-term stress, which can damage its functioning and result in Francesco's problems recalling information.

His difficulty going to sleep and waking up could increase his stress, as circadian disruption affects the prefrontal cortex, disrupting executive functioning and cognitive flexibility, so he may cope less well with his problems at work.

Francesco's high blood pressure could be a result of increased amygdala activity, as the amygdala detects threat and triggers the hypothalamus to activate the sympathetic nervous system, raising heart rate and blood pressure. Increased amygdala activity is also related to the production of white blood cells, which can cause inflammation and plaques in the arteries, reducing blood circulation and explaining his poor circulation.

(Total for Question 14 = 6 marks)

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15 Mollie is a psychologist in a local medical centre. She has been asked to provide treatment for a patient.

The patient has been having anxiety attacks for three months which are increasing in severity. He began to stay at home instead of going to work, saying he is nervous around people. The patient was recently diagnosed with anxiety and has not had any form of therapy or treatment yet.

Explain **two** benefits for the patient if Mollie provides treatment using selective serotonin reuptake inhibitors (SSRIs).

1 *As the patient is nervous around people, SSRIs can reduce his symptoms without him needing to attend therapy sessions, because they are tablets taken at home. This makes SSRIs a practical treatment he can begin immediately, reducing his anxiety around people before he attends any further therapy.*

2 *SSRIs block the reuptake of serotonin so more remains in the synapse, which can reduce the severity of his increasingly severe anxiety attacks so he can return to his job. Soomro (2009) found that SSRIs reduce the severity of anxiety symptoms, so they should help with his worsening anxiety.*

(Total for Question 15 = 4 marks)

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16 Charlie investigated the success rates of cognitive behavioural therapy (CBT) for anxiety disorders. He gave a self-report questionnaire to 25 patients awaiting cognitive behavioural therapy. The self-report questionnaire used 15 closed questions about positive thinking and 15 closed questions about negative thinking.

Charlie also gave the patients the same questionnaire at the end of a six-week cognitive behavioural therapy programme.

The results of his investigation are shown in **Table 2**.

	Mean self-report scores (out of 15) Positive thinking	**Mean self-report scores (out of 15) Negative thinking**
Before cognitive behavioural therapy	3	12
After cognitive behavioural therapy	9	6

Table 2

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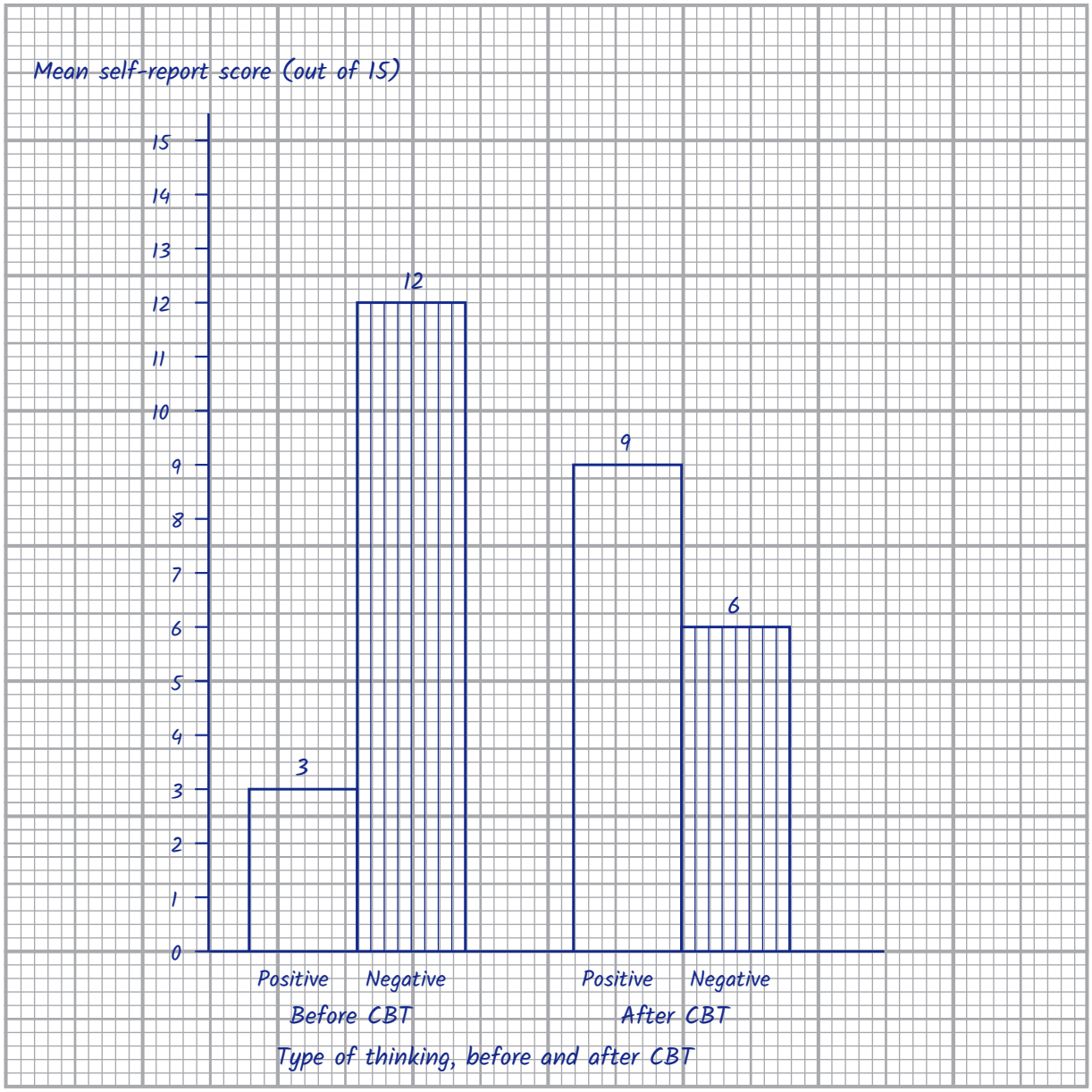
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(a) Draw a bar chart to illustrate the data in **Table 2**.

(3)

Title

A bar chart to show the mean scores (out of 15) for positive and negative thinking before and after CBT



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(b) Justify **one** improvement that Charlie could make to his investigation into the success rates of cognitive behavioural therapy for patients with anxiety.

(2)

Charlie could add open-ended questions to the questionnaire so the patients can explain, in their own words, the changes they have experienced in their thinking. This would increase validity, as he would gather rich, personal, real-life accounts of how well the patients felt the CBT programme reduced their anxiety.

(Total for Question 16 = 5 marks)

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17 In health psychology, you will have learned about the following classic study in detail:

- Brady (1958) Ulcers in executive monkeys.

Assess whether this study can be applied to the effects of stress in humans.

(8)

Brady (1958) tested 8 rhesus monkeys in pairs, restrained in chairs, and subjected them to electric shocks. In each pair the 'executive' monkey was responsible for pressing a lever to postpone the shocks for both monkeys, and was shocked if this was not completed in time, while the yoked control monkey's lever had no effect. This created the psychological stress of decision-making responsibility in the executive monkey. Sessions ran on a schedule of 6 hours on and 6 hours off. The executive monkeys from all four pairs died between 9 and 48 days into the experiment from developing gastric ulcers due to the stress, while the control monkeys did not.

The study can be applied to humans to some extent. Michie (2002) found that human stress at work can result from having responsibility and high demands, so Brady's findings about responsibility may generalise to people such as managers. Selye's General Adaptation Syndrome also identified stomach ulcers as an effect of prolonged stress in humans, so Brady's study is supporting evidence for the effects of stress on human health. Rhesus monkeys also share many physiological features with humans, so the stress response is broadly similar.

However, rhesus monkeys may not represent people, as their physiology and brain functioning differ, especially in cognitive appraisal of stressors, so the results may not generalise. Humans do not usually receive electric shocks for failing to complete tasks, which lowers the task validity for human experiences of stress. The monkeys were also not randomly allocated: executives were chosen because they learned to press the lever faster, so they may have been more emotional or prone to ulcers. Weiss (1972) found that rats with no control over shocks developed more ulcers, contradicting the idea that responsibility is the main cause. It is now also known that many human ulcers are caused by the bacterium H. pylori, not stress alone.

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Overall, Brady's study suggests a link between psychological stress and illness that fits some human research, but because of species differences, an unrealistic task and confounded allocation it can only be applied cautiously to the effects of stress in humans.

(Total for Question 17 = 8 marks)

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18 Evaluate the impact of social support on the ability to cope with stress.

(8)

Stress is a physiological response to a stressor, which can involve arousal of the HPA axis and an increase in hormones such as cortisol. Social support is help from friends, family and the community, such as a religious group or church. It can be emotional (venting feelings to someone who listens), instrumental (practical help) or informational (advice and planning strategies). The buffering hypothesis suggests social support acts as a buffer that moderates the impact of stressful life events on mental and physical health.

Some evidence suggests social support improves coping. Fleming et al. (1982) studied residents living near the Three Mile Island nuclear accident and found those with more social support showed a reduction in the psychological and behavioural effects of stress, suggesting social support helps people cope with some effects of stress. Nakonz and Shik (2009) found that religious coping strategies, such as support from a faith community, helped emotional adjustment to stressful situations.

However, Fleming et al. (1982) also found social support did little to limit the physiological arousal caused by stress, so it may be more useful for preventing stress than for managing the physical stress response. Carver et al. (1989) found that venting emotions was a dysfunctional tendency, so seeking emotional support may lead to negative coping, eg dwelling on the problem rather than solving it. Social support can also be a source of stress itself, for example if family members are critical or the person feels they are a burden.

Much of the research is correlational, so people who cope well may simply find it easier to attract support. There are also individual and gender differences, as women may be more likely to seek support from others, so social support may not help everyone equally.

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In conclusion, social support appears to improve the psychological and emotional ability to cope with stress, but it has a limited effect on physiological arousal and can be unhelpful if it encourages venting, so its impact depends on the type of support and the person.

(Total for Question 18 = 8 marks)

TOTAL FOR SECTION B OPTION 2 = 32 MARKS
TOTAL FOR PAPER = 64 MARKS

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