Please check the examination details below before entering your candidate information

Candidate surname: StemUp Model Solution

Other names:

Centre Number | Candidate Number

Pearson Edexcel International Advanced Level

Time 1 hour 30 minutes

Paper reference **WPS03/01**

Psychology

International Advanced Level
PAPER 3: Applications of Psychology

Calculators may be used.

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.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

P71401A

©2023 Pearson Education Ltd.

J:1/1/1/

P 7 1 4 0 1 A 0 1 3 6

Pearson

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.

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

stemup.co.uk

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

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.

stemup.co.uk

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.

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

SECTION A

DEVELOPMENTAL PSYCHOLOGY

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

1 (a) Describe what is meant by Vygotsky's zone of proximal development (ZPD).

(2)

The zone of proximal development (ZPD) is the gap between what a child can achieve on their own and what they can achieve with help. This help comes from a more knowledgeable other (MKO), such as a teacher, parent or older peer, who has already mastered the skill and can guide the child to the next level.

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

(b) Explain **one** strength and **one** weakness of Vygotsky's zone of proximal development (ZPD).

(4)

Strength

The ZPD has practical application in the classroom, as teachers can scaffold tasks to match each student's ZPD. Students then learn at the level of their own understanding, so the theory is arguably more valid than Piaget's view that children can only do certain things at specific ages.

Weakness

The ZPD may not apply to all types of learning, as it focuses on learning skills through verbal guidance from an MKO. Some learning happens by observing how others complete a task rather than being talked through it, so the ZPD cannot explain all cognitive development.

(Total for Question 1 = 6 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

stemup.co.uk

2 Nicklaus conducted a content analysis to investigate the language development of children. He asked the teachers of two different classes in a local school to provide him with a piece of writing that the children had completed.

Nicklaus analysed the number of words the children in each class wrote in each sentence of their piece of writing.

- Group A: Children aged six years old.
- Group B: Children aged ten years old.

The data gathered by Nicklaus is shown in **Table 1**.

Group A: children aged six years old	Mean number of words written in a sentence	Group B: children aged ten years old	Mean number of words written in a sentence
A	3	**F**	8
B	4	**G**	6
C	4	**H**	4
D	5	**I**	7
E	3	**J**	6
Standard deviation = 0.84		Standard deviation = 1.48	

Table 1

(a) Explain what the two standard deviations in **Table 1** show about Nicklaus's data.

(2)

There is not much difference in the spread of the number of words written in a sentence, but the ten-year-olds (SD = 1.48) were slightly more spread out around their mean than the six-year-olds (SD = 0.84), as their standard deviation is 0.64 words higher. So the six-year-olds' sentence lengths were more consistent.

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

stemup.co.uk

(b) Explain **one** weakness of Nicklaus calculating the standard deviation for his data.

(2)

The standard deviation is more complicated to calculate than the range for the number of words written per sentence. With 10 children's scores to work through, there is a greater chance of Nicklaus making an error in his calculations than if he had calculated the range.

(c) Explain **one** improvement Nicklaus could make to his investigation in terms of validity.

(2)

Nicklaus could collect writing from children in a variety of different schools rather than two classes in one local school, to increase population validity. His results about the number of words six- and ten-year-olds write in a sentence would then be more representative of children in all schools.

(Total for Question 2 = 6 marks)

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

3 Sophie is a teacher. She has decided to investigate whether mindfulness will enhance the emotional development of the seven-year-old children in her school.

Sophie measured the emotional development of the children before she gave them mindfulness training. She did this by giving them scenarios and asking the children to explain the emotions that people in the scenarios might be feeling. She scored each child out of 10, with 10 being highly emotionally developed.

Sophie then gave the children mindfulness training. She taught them to focus on their breathing for three minutes a day. After a month of mindfulness training, she measured the emotional development of the children again.

(a) State a fully operationalised directional (one-tailed) hypothesis for Sophie's investigation.

(2)

Seven-year-old children will have a significantly higher emotional development score (out of 10, from explaining the emotions of people in scenarios) after a month of mindfulness training of focusing on their breathing for three minutes a day, compared to before the mindfulness training.

(b) Describe how Sophie may have gathered her participants using a random sampling technique.

(2)

Sophie would get a list of the names of all the seven-year-old children in her school and put them into a computer program that randomises names. The program would then pick names at random until she has enough participants, so every seven-year-old has an equal chance of being chosen for her mindfulness study.

(Total for Question 3 = 4 marks)

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

4 Vanessa has an eight-month-old son called Julius. She decided to stop working when Julius was born to look after him full time. Vanessa is the parent who feeds Julius. She also spends a lot of time playing with him and singing to him, which he seems to enjoy.

Over the past 8 months Vanessa has learnt that Julius has different cries for when he is hungry, tired, wants his nappy changing or wants to be picked up. She has noticed that Julius has developed an attachment to her.

Discuss **one** learning theory of attachment as an explanation of Vanessa and Julius's behaviour.

You must make reference to the context in your answer.

(8)

Learning theory (Dollard and Miller, 1950) explains attachment through classical and operant conditioning, sometimes called the 'cupboard love' theory. In operant conditioning, attachment develops through positive and negative reinforcement. Positive reinforcement is receiving something pleasant, which makes the baby more likely to attach to the adult who provides it. Primary reinforcers satisfy a basic need such as food, while a secondary reinforcer is something that gives access to the primary reinforcer, such as the person who feeds the baby. Negative reinforcement is the removal of something unpleasant, which also strengthens the attachment.

Vanessa is the parent who feeds Julius, so food is the primary reinforcer and Vanessa becomes a secondary reinforcer because she gives him access to it. Through classical conditioning, food (unconditioned stimulus) produces pleasure (unconditioned response); Vanessa is repeatedly paired with the food, so she becomes a conditioned stimulus and her presence alone produces pleasure, which is the attachment.

Vanessa also positively reinforces Julius when she plays with him and sings to him, which he enjoys, so he is more likely to seek her out. Vanessa has learnt his different cries, so when he cries in the way that means he wants to be picked up and she picks him up, he is positively reinforced. When she changes his dirty nappy or feeds him when he is hungry,

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

she removes his discomfort, which is negative reinforcement. Vanessa is also reinforced, as Julius stops crying, so she keeps responding and the attachment grows in both directions.

However, Harlow (1959) found that infant rhesus monkeys spent most of their time with a cloth-covered surrogate mother that gave comfort, rather than a wire mother that gave milk. This suggests attachment is about contact comfort, not food, so Julius may be attached because of the warmth of being picked up and played with rather than because Vanessa feeds him. Schaffer and Emerson (1964) also found that babies attached most strongly to the adult who was most responsive to them, and in 39% of cases the main attachment figure was not the person who usually fed the baby. Vanessa's sensitivity in learning Julius's cries may therefore matter more than feeding.

Learning theory is also reductionist, as it ignores Bowlby's view that attachment is innate and adaptive, with babies using social releasers such as crying to keep the caregiver close. Overall, learning theory can explain some of Julius's attachment to Vanessa, especially the reinforcement from her responses, but responsiveness and comfort are probably more important than food alone.

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

(Total for Question 4 = 8 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

stemup.co.uk

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

BLANK PAGE

stemup.co.uk

5 Assess whether the strange situation procedure could be considered ethical.

(8)

The strange situation procedure (Ainsworth and Bell, 1970) is a controlled observation of a 12 to 18 month old infant's attachment type, carried out in a playroom over eight episodes of about three minutes each. At the start the mother plays with the infant, then a stranger enters the room. At various points the mother leaves the infant with the stranger or alone and then returns. Observers record separation anxiety, stranger anxiety, willingness to explore and the infant's reaction at reunion. If the infant becomes upset when left with the stranger, the stranger can try to comfort it while the mother watches.

The procedure could be considered ethical. If the mother is told about all eight episodes and how her infant may react, she can give fully informed consent for herself and on behalf of her infant. Episodes could be cut short if the infant became very distressed, and the separations are brief, similar to everyday experiences such as being left with a babysitter, so the distress is no greater than in daily life. There are also benefits: if an infant is found to be insecurely attached, strategies can be put in place to help the mother develop a secure attachment, which meets the UNCRC rights of the child to develop and not be neglected.

However, protection from harm may be broken, as the infant may become very upset when left alone or with a stranger, and watching this can be stressful for the mother too. The infant cannot consent or withdraw, so it relies on the mother. Although mothers have the right to stop the procedure at any point, they may feel they cannot stop it when their child becomes upset in case it ruins the results, especially after agreeing to take part, so the right to withdraw may not be fully real. A mother may also be distressed to learn her infant is insecurely attached, and she may feel judged as a parent.

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

stemup.co.uk

Overall, the strange situation can be considered ethical if fully informed consent is gained, distress is monitored and episodes are stopped when needed, and the benefits of identifying insecure attachment can outweigh the brief, everyday-level distress. However, it is only ethical if these safeguards are carefully applied, because the procedure is designed to cause mild stress to a child who cannot consent.

(Total for Question 5 = 8 marks)

TOTAL FOR SECTION A = 32 MARKS

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

stemup.co.uk

SECTION B

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

Indicate which question 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 question with a cross ☒.

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

OPTION 1: CRIMINOLOGICAL PSYCHOLOGY

6 In your studies of criminological psychology, you will have learned about factors that influence jury decision-making.

Describe how attractiveness may influence jury decision-making.

The more attractive the jurors judge a defendant to be, the less likely they are to find them guilty or the more lenient the sentence. This may be because unattractive people are often portrayed in the media as bad and more likely to commit undesirable behaviour such as crime (halo effect).

(Total for Question 6 = 2 marks)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

stemup.co.uk

7 Marcellus carried out an experiment to see if the cognitive interview was effective in gaining accurate information about a car accident. He used an independent groups experimental research design, with each group of participants watching a different video of a car accident.

- Condition A: he conducted a standard interview after the participants had watched a video of a car accident.
- Condition B: he conducted a cognitive interview after the participants had watched a video of a car accident.

Once the interviews had been completed, Marcellus used the number of correct details recalled by each participant to then categorise his data into accurate and inaccurate recall.

(a) Justify why Marcellus used an independent groups experimental research design.

(2)

An independent groups design makes demand characteristics less likely, as each participant only had either the standard interview or the cognitive interview. This means they are less likely to guess the aim was to see if the cognitive interview gives more correct details of the car accident, improving the validity of the study.

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

Marcellus conducted a chi squared test on his data. The data is shown in **Table 2**.

		Observed	Expected	O–E	$(O–E)^2$	$(O–E)^2/E$
Condition A: Standard interview	**Accurate recall**	5	9.92	−4.92	24.21	2.44
	Inaccurate recall	12	7.08	4.92	24.21	3.42
Condition B: Cognitive interview	**Accurate recall**	16	11.08	4.92	24.21	2.19
	Inaccurate recall	3	7.92	−4.92	24.21	3.06
					Chi squared =	11.11

Table 2

(b) Calculate the chi squared for the data gathered by Marcellus by completing **Table 2**.

Your answers should **all** be correct to **two** decimal places.

(4)

Space for calculations

O − E: 5 − 9.92 = −4.92, 12 − 7.08 = 4.92, 16 − 11.08 = 4.92, 3 − 7.92 = −4.92

$(O - E)^2 = 4.92^2 = 24.2064 = 24.21$ for every cell

24.21 ÷ 9.92 = 2.44, 24.21 ÷ 7.08 = 3.42, 24.21 ÷ 11.08 = 2.19, 24.21 ÷ 7.92 = 3.06

$\chi^2 = 2.44 + 3.42 + 2.19 + 3.06 = 11.11$

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

stemup.co.uk

(c) Explain **one** way that Marcellus could improve the reliability of his experiment.

(2)

Marcellus should make sure both groups watch the same video of the car accident, rather than different videos. This standardises the procedure, so the number of correct details recalled is not affected by the extraneous variable of one video being easier to remember, making the study replicable and more reliable.

(Total for Question 7 = 8 marks)

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

8 Mina lives in an area that has a high rate of crime. Her sister is in prison for armed robbery from a local shop. Mina has noticed that people treat her differently to her friends who live in another area of the town.

She has seen a necklace that she likes in a shop, but has not got enough money to buy it. The next time Mina is in the shop she steals the necklace.

Explain **two** ways Mina's behaviour could be accounted for by the self-fulfilling prophecy.

1 *People may have a schema of people from Mina's high-crime area and so label her as a criminal, treating her differently from her friends. Mina responds to this label and their expectations, so she behaves in line with it by committing a criminal act such as stealing the necklace.*

2 *Because her sister is in prison for armed robbery, people may expect Mina to be a criminal too. If Mina has low self-esteem she may believe they are right, internalise the label of criminal and so behave like her sister by stealing from a local shop, fulfilling the prophecy.*

(Total for Question 8 = 4 marks)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

stemup.co.uk

9 Abraham is concerned about the influence of violent cartoons on the behaviour of the children at the nursery he works at. He has noticed the children becoming more aggressive towards each other since a new cartoon was released on the television. He recently had to stop two children playing when one punched the other as part of the game.

Explain **one** strength of social learning from the media as an explanation of the behaviour of the children at the nursery.

There is supporting evidence from Bandura, Ross and Ross (1963), who found that children who watched an aggressive cartoon model imitated it, with 24 imitative acts in the cartoon condition. This gives credibility to the idea that the nursery children are imitating the new cartoon, eg one child punching another.

(Total for Question 9 = 2 marks)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

stemup.co.uk

10 In your studies of criminological psychology you will have learnt about the contemporary study by Bradbury and Williams (2013).

Assess how far Bradbury and Williams (2013) has furthered our understanding about the effects of race on juror decision-making.

(8)

Bradbury and Williams (2013) used archival data on real jury trials from a variety of areas in the USA, such as California, the Bronx and Washington DC, where the defendant was black. The independent variable was the percentage of black, white and Hispanic jurors on the jury and the dependent variable was whether the black defendant was convicted. They compared conviction rates for violent and property crimes with those for drug crimes. They found that juries with more black members were less likely to convict a black defendant, whereas juries with more white or Hispanic members were more likely to convict, suggesting race affects jury decisions.

The study has furthered our understanding because the data on conviction rates is objective, so the researchers did not have to make subjective judgements about the effect of race, giving more confidence in the finding. As it used verdicts from real trials, it has high ecological validity, unlike mock jury studies, and the jurors could not show demand characteristics. It also supports Pfeifer and Ogloff (1991), who found white mock jurors rated black defendants as more guilty than white defendants, so the effect of race is shown in both lab and real settings. As conviction rates for a variety of crimes were studied, race appears to affect decisions across different types of crime rather than just one.

However, all the data came from trials in the USA, which has its own history of racial attitudes, so the results may not generalise to other countries and cultures. As the defendants were all black, the study does not tell us how majority white or Hispanic juries decide about white or Hispanic defendants. The data is also correlational, so other

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

variables, such as the strength of the evidence or the area where the trial took place, cannot be controlled and might explain the conviction rates rather than the racial make-up of the jury. Archival data also cannot explain why jurors decided as they did, eg in-group favouritism or prejudice.

Overall, Bradbury and Williams (2013) has furthered our understanding to a large extent by showing with real trial data that the racial make-up of a jury is linked to conviction of black defendants, but only within the USA and only for black defendants, so further research is needed to explain the reasons for the effect.

(Total for Question 10 = 8 marks)

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

11 Evaluate post-event information as a factor influencing the reliability of eye-witness memory.

(8)

Post-event information is information a witness receives after the crime that can be absorbed into the memory and distort it, known as the misinformation effect. It can come from leading questions, where the wording suggests an answer, such as 'the' implying an object was present. Discussion between co-witnesses can reinforce shared errors, so if two witnesses agree on a detail it becomes stronger even if it did not happen. New details from the media can also be incorporated, especially if they fit the witness's schema of the crime, as memory is reconstructive.

There is strong lab evidence for the effect. Loftus and Palmer (1974) found participants estimated a speed of 40.5 mph when asked how fast the cars 'smashed' into each other, compared with 31.8 mph for 'contacted', showing leading questions alter recall. Gabbert et al. (2003) found that 71% of witnesses who discussed an event with a co-witness reported details they had not seen themselves. LaPaglia and Chan (2019) found that witnesses to a filmed robbery became more suggestible to misinformation when it reinstated contextual information of the robbery.

However, much of this research comes from laboratory studies with films, where participants know no real crime happened and there are no consequences, so post-event information may have a smaller effect in real crimes, where recall matters for real people. Yuille and Cutshall (1986) studied witnesses to a real shooting and asked leading questions, eg about the colour of a panel on a car, and found these did not affect the accuracy of recall, even months later. Loftus and Palmer's questions may also have created demand characteristics rather than changing memory. Misinformation also seems to affect peripheral details more than central ones.

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

stemup.co.uk

In conclusion, post-event information can reduce the reliability of eye-witness memory, as shown by well controlled lab studies, but real-life evidence suggests its effect may be weaker, especially for central details of a stressful real crime, so it is one important factor rather than always distorting memory.

(Total for Question 11 = 8 marks)

TOTAL FOR SECTION B OPTION 1 = 32 MARKS

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

stemup.co.uk

SECTION B

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

OPTION 2: HEALTH PSYCHOLOGY

12 In your studies of health psychology, you will have learned about the physiology of stress.

Describe the influence of stress on the hippocampus.

When someone is stressed, more cortisol reaches the hippocampus, which reduces its function and can even shrink it with prolonged stress. When glucocorticoid receptors in the hippocampus are activated during stressful situations, the formation of new long-term memories is suppressed.

(Total for Question 12 = 2 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

stemup.co.uk

13 Marcellus carried out an experiment to see if cognitive behavioural therapy (CBT) was an effective treatment for anxiety disorders. He used an independent groups experimental research design with each group seeing a different clinician.

- Condition A: patients received drug treatment for their anxiety.
- Condition B: patients received cognitive behavioural therapy (CBT) for their anxiety.

Once the treatments had been completed, Marcellus categorised whether the patients stated that they felt their anxiety was reduced, or whether they stated that they felt their anxiety was not reduced.

(a) Justify why Marcellus used an independent groups experimental research design.

(2)

An independent groups design reduces demand characteristics, as each patient only had either the drug treatment or CBT. This means they are less likely to guess the aim was to see if CBT is a more effective treatment for anxiety, so their reports of reduced anxiety are more valid.

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

stemup.co.uk

Marcellus conducted a chi squared test. The data gathered by Marcellus is shown in **Table 3**.

		Observed	Expected	O–E	$(O–E)^2$	$(O–E)^2/E$
Condition A: Drug treatment	**Anxiety reduced**	5	9.92	−4.92	24.21	2.44
	Anxiety not reduced	12	7.08	4.92	24.21	3.42
Condition B: Cognitive behavioural therapy	**Anxiety reduced**	16	11.08	4.92	24.21	2.19
	Anxiety not reduced	3	7.92	−4.92	24.21	3.06
					Chi squared =	11.11

Table 3

(b) Calculate the chi squared for the data gathered by Marcellus by completing **Table 3**.

Your answers should **all** be correct to **two** decimal places.

(4)

Space for calculations

$O - E$: $5 - 9.92 = -4.92$, $12 - 7.08 = 4.92$, $16 - 11.08 = 4.92$, $3 - 7.92 = -4.92$

$(O - E)^2 = 4.92^2 = 24.2064 = 24.21$ for every cell

$24.21 \div 9.92 = 2.44$, $24.21 \div 7.08 = 3.42$, $24.21 \div 11.08 = 2.19$, $24.21 \div 7.92 = 3.06$

$\chi^2 = 2.44 + 3.42 + 2.19 + 3.06 = 11.11$

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

stemup.co.uk

(c) Explain **one** way that Marcellus could improve the reliability of his experiment.

(2)

Marcellus could select patients who all saw the same clinician in each condition, rather than different clinicians. This would standardise the treatment, so whether anxiety was reduced is not affected by the extraneous variable of different clinicians' skills, making the experiment replicable and more reliable.

(Total for Question 13 = 8 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

14 Mina has recently felt more stress in her life. She has got a new job, which means she has moved a long distance away from her family and friends.

Mina used to see her family at least once a week but now she can only see them once a month. Due to the long hours she works, Mina does not know any of her neighbours, and finds it hard to join in any community activities.

Explain **two** ways that a lack of social support may affect Mina's stress.

1 *As Mina now only sees her family once a month, they cannot give her the emotional support she needs to settle into her new job. This may increase her stress, as she has no one close to talk to about the pressures of her new job and home, so the stress is not buffered.*

2 *As Mina does not know her neighbours and finds it hard to join community activities, she lacks practical and network support and may feel isolated. Not feeling she belongs where she now lives, with no one nearby to help, is likely to increase her stress levels.*

(Total for Question 14 = 4 marks)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

stemup.co.uk

15 Abraham is concerned about the stress levels of his students. He has noticed that over the past year his students have become more stressed and this is affecting their learning. Some students are finding it difficult to revise for class tests. Other students have a lack of motivation. Abraham decides to use problem focusing to help the students cope with their stress.

Explain **one** strength of Abraham using problem focusing to help his students cope with their stress.

Problem focusing tackles the cause of the stress, eg teaching students to plan a revision timetable for class tests, rather than just reducing their feelings. This removes the reasons they find it hard to revise, giving a long-term solution that improves their learning now and in the future.

(Total for Question 15 = 2 marks)

DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA DO NOT WRITE IN THIS AREA

16 In your studies of health psychology, you will have learnt about the contemporary study by Nakonz and Shik (2009).

Assess how far Nakonz and Shik (2009) has furthered our understanding of the effect of religious coping strategies.

(8)

Nakonz and Shik (2009) investigated how religion helps migrants cope with stress. They studied mainly female Filipino domestic workers in Hong Kong who attended a religious gathering every Sunday. Data was collected through participant observation over three months at Sunday services and after-church activities, in-depth interviews with 10 female migrants using open questions, and four focus groups. They found religion was used to cope in several ways: many migrants believed the hardships and tragedies in their lives were part of God's plan, showing an external locus of control, and prayer and the church community gave them emotional and social support.

The study has furthered our understanding because the data was gathered over three months by a participant observer, so a lot of rich, detailed qualitative information was collected about how religion helped the women cope, increasing the validity of the different religious coping strategies identified. The data from observations, interviews and focus groups could also be triangulated, so the researchers can be more confident that religion really did help the migrants cope, increasing reliability. It shows that religious coping can be both emotion-focused, such as reappraising problems as God's will, and a source of social support.

However, as most of the data came from female Filipino migrants who attended church every Sunday, the results cannot be generalised to male migrants, migrants from other cultures or people who are less religious, so it cannot explain religious coping for everyone. The participants may have seen the researcher as an outsider and so not answered interview questions openly, or given socially desirable answers about their faith, reducing

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

validity. Qualitative data also needs interpretation, so researcher bias may have affected the themes found, and the study did not measure stress levels objectively, so it cannot show religious coping actually reduced stress.

Overall, Nakonz and Shik (2009) has furthered our understanding to a fair extent by giving detailed, valid insight into how religion helps a stressed migrant group cope, but its narrow sample and lack of objective stress measures limit how far the findings apply to religious coping in general.

(Total for Question 16 = 8 marks)

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

17 Evaluate life events and daily hassles as an explanation of stress.

(8)

Life events are major changes in a person's life that require significant readjustment, such as being made redundant, divorce or the death of a spouse. Positive life events, such as marriage or a holiday, can also cause stress because they still require readjustment. Holmes and Rahe (1967) developed the Social Readjustment Rating Scale, giving 43 life events a score in life change units (LCUs). Daily hassles are the irritating, frustrating minor events that make up daily life, such as losing things or traffic. The more daily hassles someone has in a short space of time, the more stressed they become, and being stressed makes people more vulnerable to further hassles, so hassles that would not cause stress on their own add up.

There is evidence that life events affect stress. Holmes and Rahe (1967) found that people who scored over 300 LCUs in a year were more likely to develop a stress-related illness, showing life events are correlated with stress. However, people respond to life events in different ways, as stress depends on how an event is appraised, so the fixed scores may not be valid for all people; a divorce could even reduce stress for some. The data is also correlational and relies on people recalling events over a year, which may be unreliable.

Daily hassles may be a better explanation. Kanner et al. (1981) found a positive relationship between the number of daily hassles and symptoms of poor mental health, and hassles predicted symptoms better than life events. DeLongis et al. (1982) also found that hassles were linked to health. However, Tavousi (2014) found hardiness and self-esteem are moderating factors for stress, so daily hassles on their own may not cause stress and other factors are involved. Life events and hassles also interact, as a divorce can create many new daily hassles.

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

stemup.co.uk

In conclusion, both life events and daily hassles help explain stress, with daily hassles seeming to be the stronger predictor, but neither is a complete explanation, as individual differences such as appraisal, hardiness and self-esteem determine how stressful they are.

(Total for Question 17 = 8 marks)

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

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

stemup.co.uk

BLANK PAGE

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

stemup.co.uk