

Please check the examination details below before entering your candidate information

Candidate surname <i>StemUp Model Solution</i>		Other names	
Pearson Edexcel		Centre Number	Candidate Number
Level 3 GCE			
Time 2 hours	Paper reference	9PS0/03	
Psychology Advanced PAPER 3: Psychological skills			
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.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 80.
- 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.
- Good luck with your examination.

Turn over ►



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.



Chi-squared distribution formula

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

$$df = (r - 1)(c - 1)$$

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.



Mann-Whitney U test formulae

$$U_a = n_a n_b + \frac{n_a(n_a+1)}{2} - \sum R_a$$

$$U_b = n_a n_b + \frac{n_b(n_b+1)}{2} - \sum R_b$$

(U is the smaller of U_a and U_b)

Critical values for the Mann-Whitney U test

N_a	N_b															
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.05$ (one-tailed), $p \leq 0.10$ (two-tailed)																
5	4	5	6	8	9	11	12	13	15	16	18	19	20	22	23	25
6	5	7	8	10	12	14	16	17	19	21	23	25	26	28	30	32
7	6	8	11	13	15	17	19	21	24	26	28	30	33	35	37	39
8	8	10	13	15	18	20	23	26	28	31	33	36	39	41	44	47
9	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54
10	11	14	17	20	24	27	31	34	37	41	44	48	51	55	58	62
11	12	16	19	23	27	31	34	38	42	46	50	54	57	61	65	69
12	13	17	21	26	30	34	38	42	47	51	55	60	64	68	72	77
13	15	19	24	28	33	37	42	47	51	56	61	65	70	75	80	84
14	16	21	26	31	36	41	46	51	56	61	66	71	77	82	87	92
15	18	23	28	33	39	44	50	55	61	66	72	77	83	88	94	100
16	19	25	30	36	42	48	54	60	65	71	77	83	89	95	101	107
17	20	26	33	39	45	51	57	64	70	77	83	89	96	102	109	115
18	22	28	35	41	48	55	61	68	75	82	88	95	102	109	116	123
19	23	30	37	44	51	58	65	72	80	87	94	101	109	116	123	130
20	25	32	39	47	54	62	69	77	84	92	100	107	115	123	130	138



N_a	N_b															
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.01$ (one-tailed), $p \leq 0.02$ (two-tailed)																
5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	2	3	4	6	7	8	9	11	12	13	15	16	18	19	20	22
7	3	4	6	7	9	11	12	14	16	17	19	21	23	24	26	28
8	4	6	7	9	11	13	15	17	20	22	24	26	28	30	32	34
9	5	7	9	11	14	16	18	21	23	26	28	31	33	36	38	40
10	6	8	11	13	16	19	22	24	27	30	33	36	38	41	44	47
11	7	9	12	15	18	22	25	28	31	34	37	41	44	47	50	53
12	8	11	14	17	21	24	28	31	35	38	42	46	49	53	56	60
13	9	12	16	20	23	27	31	35	39	43	47	51	55	59	63	67
14	10	13	17	22	26	30	34	38	43	47	51	56	60	65	69	73
15	11	15	19	24	28	33	37	42	47	51	56	61	66	70	75	80
16	12	16	21	26	31	36	41	46	51	56	61	66	71	76	82	87
17	13	18	23	28	33	38	44	49	55	60	66	71	77	82	88	93
18	14	19	24	30	36	41	47	53	59	65	70	76	82	88	94	100
19	15	20	26	32	38	44	50	56	63	69	75	82	88	94	101	107
20	16	22	28	34	40	47	53	60	67	73	80	87	93	100	107	114

N_a	N_b															
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.025$ (one-tailed), $p \leq 0.05$ (two-tailed)																
5	2	3	5	6	7	8	9	11	12	13	14	15	17	18	19	20
6	3	5	6	8	10	11	13	14	16	17	19	21	22	24	25	27
7	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
8	6	8	10	13	15	17	19	22	24	26	29	31	34	36	38	41
9	7	10	12	15	17	20	23	26	28	31	34	37	39	42	45	48
10	8	11	14	17	20	23	26	29	33	36	39	42	45	48	52	55
11	9	13	16	19	23	26	30	33	37	40	44	47	51	55	58	62
12	11	14	18	22	26	29	33	37	41	45	49	53	57	61	65	69
13	12	16	20	24	28	33	37	41	45	50	54	59	63	67	72	76
14	13	17	22	26	31	36	40	45	50	55	59	64	67	74	78	83
15	14	19	24	29	34	39	44	49	54	59	64	70	75	80	85	90
16	15	21	26	31	37	42	47	53	59	64	70	75	81	86	92	98
17	17	22	28	34	39	45	51	57	63	67	75	81	87	93	99	105
18	18	24	30	36	42	48	55	61	67	74	80	86	93	99	106	112
19	19	25	32	38	45	52	58	65	72	78	85	92	99	106	113	119
20	20	27	34	41	48	55	62	69	76	83	90	98	105	112	119	127



N_a	N_b															
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.005$ (one-tailed), $p \leq 0.01$ (two-tailed)																
5	0	1	1	2	3	4	5	6	7	7	8	9	10	11	12	13
6	1	2	3	4	5	6	7	9	10	11	12	13	15	16	17	18
7	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24
8	2	4	6	7	9	11	13	15	17	18	20	22	24	26	28	30
9	3	5	7	9	11	13	16	18	20	22	24	27	29	31	33	36
10	4	6	9	11	13	16	18	21	24	26	29	31	34	37	39	42
11	5	7	10	13	16	18	21	24	27	30	33	36	39	42	45	48
12	6	9	12	15	18	21	24	27	31	34	37	41	44	47	51	54
13	7	10	13	17	20	24	27	31	34	38	42	45	49	53	56	60
14	7	11	15	18	22	26	30	34	38	42	46	50	54	58	63	67
15	8	12	16	20	24	29	33	37	42	46	51	55	60	64	69	73
16	9	13	18	22	27	31	36	41	45	50	55	60	65	70	74	79
17	10	15	19	24	29	34	39	44	49	54	60	65	70	75	81	86
18	11	16	21	26	31	37	42	47	53	58	64	70	75	81	87	92
19	12	17	22	28	33	39	45	51	56	63	69	74	81	87	93	99
20	13	18	24	30	36	42	48	54	60	67	73	79	86	92	99	105

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



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

<i>n</i>	Level of significance for a one-tailed test		
	0.05	0.025	0.01
	Level of significance for a two-tailed test		
	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.



Answer ALL questions.

SECTION A

Research Methods

1 Instagram study

Researchers investigated whether there was a difference in how an Instagram user perceived their own personality compared to how others would perceive their personality. Four Instagram users (group 1) and 65 observers (group 2), who did not know the Instagram users, were recruited for the study.

Instagram users (group 1) had to complete a self-report personality test that measured a number of personality traits, including extraversion and openness.

- Extraversion (categorised by sociable traits) included statements such as 'I see myself as enthusiastic'.
- Openness (a curiosity for artistic pursuits and appreciation for alternative viewpoints) included statements such as 'I see myself as open to new experiences'.

Each participant rated themselves on a scale from 1 (strongly disagree) to 7 (strongly agree), as shown in **Figure 1**.

Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree
1	2	3	4	5	6	7

Figure 1

The observers (group 2) viewed screenshots of the Instagram users' profiles. They were then asked to complete an adapted form of the same personality test to measure their perception of each of the four Instagram users (group 1).

The researchers compared the mean self-report scores of the Instagram users (group 1) to the mean scores as rated by the observers (group 2) on the different personality measures.

The results of the Instagram study are shown in **Table 1**.



Rater	Extraversion (1–7)	Openness (1–7)
Instagram user 1 self-rating	3.00	7.00
Observers' mean rating for Instagram user 1's profile	4.61	5.20
Instagram user 2 self-rating	3.50	6.00
Observers' mean rating for Instagram user 2's profile	5.12	5.91
Instagram user 3 self-rating	5.00	5.50
Observers' mean rating for Instagram user 3's profile	5.14	5.13
Instagram user 4 self-rating	3.50	6.50
Observers' mean rating for Instagram user 4's profile	3.61	5.60

(Source: adapted from Harris and Bardey (2019))

Table 1

- (a) Explain **one** conclusion you can make regarding 'extraversion' using the data in **Table 1**.

(2)

The Instagram users saw themselves as less extraverted than the observers perceived them to be from their profiles.

This is because the observers' mean extraversion rating was higher than the self-rating for all four users, for example user 2 rated themselves 3.50 but the observers gave a mean of 5.12, which is 1.62 higher.



- (b) Explain **one** conclusion you can make regarding 'openness' using the data in **Table 1**.

(2)

The observers saw the Instagram users as less open to new experiences than the users saw themselves.

This is shown by the observers giving lower mean openness ratings than the self-ratings for all four users, for example 5.20 for user 1 compared with a self-rating of 7.00, which is 1.80 lower.

- (c) Explain **one** strength of the researchers collecting quantitative data in the Instagram study.

(2)

The ratings of extraversion and openness on the 1 to 7 scale are more objective and less biased than qualitative data, because a number rating cannot be interpreted differently by different researchers, unlike the reasons for the ratings, which would be analysed more subjectively. It also allows the mean self-ratings and observer ratings to be compared easily.



- (d) The researchers in the Instagram study decided to carry out follow-up unstructured interviews with the observers (group 2).

Explain **two** strengths of using an unstructured interview with the observers (group 2) in the Instagram study.

(4)

1 *One strength is that qualitative data about the reasons for the observers' personality ratings would be gathered, which is more valid than numbers alone, because the greater detail allows the researchers to understand why the observers rated the Instagram users as more extraverted or less open, giving a better insight into how the judgements were made from the profiles.*

2 *A second strength is that the qualitative interview data can be compared with the quantitative ratings, which increases the internal validity of the Instagram study, because the researchers can check whether the observers' verbal opinions about each Instagram user are consistent with the numerical ratings they gave on the personality test.*

(Total for Question 1 = 10 marks)



2 Navigation study

Researchers wanted to investigate whether there were sex differences in navigation strategy and efficiency.

The researchers created a virtual reality (VR) maze and placed five objects in various parts of the maze, such as a chair or a rubber duck. Participants were required to orientate themselves around the maze until they had seen all five objects, as indicated by black dots in **Figure 2**.

Figure 2 shows an aerial view of the maze and **Figure 3** shows the view a participant would have seen.

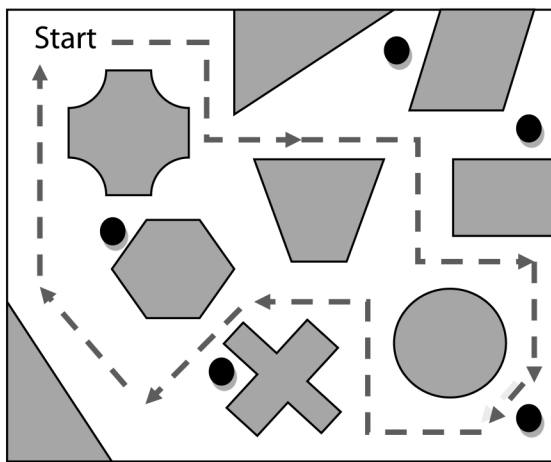


Figure 2

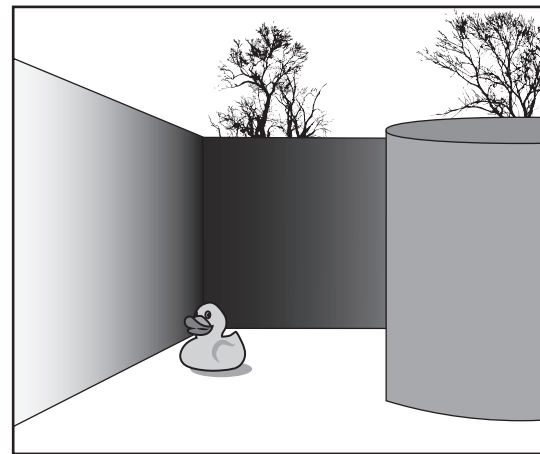


Figure 3

The researchers wanted to assess the strategy used by males and females after they had completed the maze.

- (a) The researchers of the navigation study decided to recruit a sample of participants from the local town.

Describe how the researchers could have used a random sampling technique to recruit the participants for the navigation study from the local town.

(2)

The researchers could put the names of all of the males and females living in the local town, for example from the electoral register, into a computer database and give each one a number.

They could then use a random number generator to select the first 45 local people to take part in the VR maze task, so everyone in the town has an equal chance of being chosen.



- (b) Explain **one** weakness of using a random sampling technique for the navigation study.

(2)

The local people chosen by chance may all have excellent memory or spatial ability (or lots of experience of VR gaming), so the sample may lack generalisability to the local town, as they may do very well at the maze task whereas the town's population is likely to have varied navigation ability, so the findings would not be representative.

Figure 4 shows the strategies used by males and females in the navigation study.

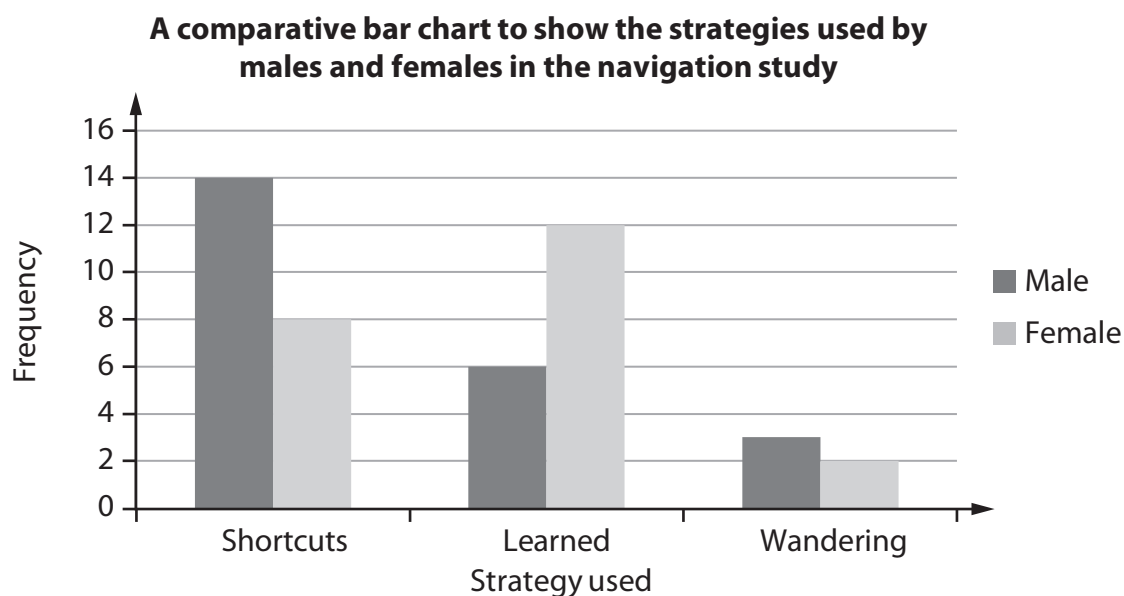


Figure 4

- (c) Explain **one** conclusion the researchers of the navigation study could make using the data in **Figure 4**.

(2)

Males were more likely to use shortcuts when completing the maze than females. This is shown by 14 males using shortcuts compared with only 8 females, which is six more males, whereas more females (12) than males (6) used the learned route strategy.

- (d) The researchers of the navigation study also collected the time taken for males and females to complete the maze task.

They summarised their data using categories, which is displayed in **Table 2**.

	Less than 1 minute to complete the maze task	More than 1 minute to complete the maze task
Males	14	9
Females	10	12

Table 2

Using their summarised data, the researchers decided to carry out a chi-squared test to see if there was a difference in the time taken by males and females to complete the maze task.

Complete **Table 3** to calculate the chi-squared test for the navigation study.

You must give all your answers to **two** decimal places.

(4)

		Observed	Expected	O-E	(O-E) ²	(O-E) ² / E
Males	Less than 1 minute to complete the maze task	14	12.27	1.73	2.99	0.24
	More than 1 minute to complete the maze task	9	10.73	-1.73	2.99	0.28
Females	Less than 1 minute to complete the maze task	10	11.73	-1.73	2.99	0.25
	More than 1 minute to complete the maze task	12	10.27	1.73	2.99	0.29
Chi-squared =						1.06

Table 3



(e) Explain **two** improvements that the researchers could make to the navigation study.

(4)

1 *The researchers could use a real maze in a real-life setting rather than a virtual reality (VR) maze, which would increase the ecological validity of the study, because males and females may behave differently and use a different navigation strategy in a real maze where they can physically walk around and use other cues.*

2 *They could recruit males and females from a number of different towns and cities rather than a single local town, so that the results of the maze task would be more representative of the navigation strategy and efficiency of all people rather than just those from that one town.*

(Total for Question 2 = 14 marks)

TOTAL FOR SECTION A = 24 MARKS



P 6 5 4 5 1 A 0 1 5 3 2

SECTION B

Review of Studies

3 Scary and nasty beasts study

With animal phobias being one of the most prevalent mental health disorders researchers wanted to investigate the creatures people found most scary and revolting.

Researchers asked 1,798 participants to complete an online survey about 10 creatures, such as a spider or snail. They were shown each creature in a photograph in a random order. Participants had to rate their fear and disgust for each of the creatures on a scale from 1 (no fear/disgust) to 7 (extreme fear/disgust). A red panda was used as one of the 10 creatures shown to participants, as a control stimulus.

The results of the scary and nasty beasts study are shown in **Table 4**.

Creature	Mean fear (1–7)	Mean disgust (1–7)
Bull	3.84	1.62
Cockroach	3.10	4.16
Pigeon	1.48	2.01
Red panda	1.57	1.17
Snail	1.15	1.69
Snake	4.34	2.83
Spider	4.39	4.47
Tapeworm	3.60	4.83

(Source: adapted from Polák et al. (2019))

Table 4

(a) Explain **one** weakness of the scary and nasty beasts study in terms of validity.

(2)

The participants rated their own fear and disgust, which may not reflect their true feelings, so the study lacks validity, because they may have been embarrassed to admit being afraid of creatures such as a snail or pigeon (or exaggerated their fear of a spider), so the ratings may not accurately reflect their real fear response.



(b) Using research evidence, explain how far evolution and natural selection could account for the findings of the scary and nasty beasts study.

(6)

Evolution and natural selection suggest that people who were afraid of dangerous animals were more likely to avoid them, survive and reproduce, passing on genes for fear. This could explain why the bull, a large animal that could injure or kill, received a much higher mean fear rating (3.84) than the harmless pigeon (1.48) and the red panda control (1.57).

Some spiders and snakes are venomous, so humans may have evolved to be fearful of them, which explains why they had the highest fear ratings (4.39 and 4.34). Spiders also have a very different anatomy to humans, which may explain why they caused both fear and disgust (4.47).

Disgust may have evolved to protect us from disease and parasites, so the tapeworm, which invades the body, had the highest disgust rating (4.83), about 2 points higher than the snake (2.83), which is an external threat, and the cockroach, which carries disease, was also rated as disgusting (4.16).

Cook and Mineka (1989) found that laboratory-reared monkeys watching videos learned fear of snakes and crocodiles but not of flowers or rabbits, supporting the idea that we have an evolved preparedness to fear creatures that threatened our ancestors. Chester et al. (2015) found that a low functioning MAOA genotype was linked to greater aggression in 277 participants, suggesting that behavioural traits can be inherited, so fear responses to animals such as bulls may also be inherited.

However, evolution cannot fully account for the findings. Bandura, Ross and Ross (1961) found that children imitated aggression towards a Bobo doll from role models, so people may have learned fear of spiders by observing a parent's fearful reaction. Also, the bull was rated as feared but not disgusting, and spider fear is common in the UK where few spiders are dangerous, so learning and culture must also play a part.

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Evolution therefore explains the findings only partly.

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- 4 Evaluate the classic studies by Raine et al. (1997) and Watson and Rayner (1920) in terms of the role of nature and nurture.

(16)

Nature refers to internal, inherited influences on behaviour, such as genes and brain structure and function, whereas nurture refers to external influences from the environment, such as people, places and experiences, which shape behaviour through learning.

Raine et al. (1997) used PET scans to compare the brain activity of 41 murderers pleading not guilty by reason of insanity (NGRI) with 41 matched controls while they completed a continuous performance task. The murderers showed reduced glucose metabolism in the prefrontal cortex, the superior parietal gyrus, the left angular gyrus and the corpus callosum, and abnormal asymmetries in the amygdala, hippocampus and thalamus, as well as more activity in the occipital areas. Raine et al. concluded that violence could not be attributed to a single brain region and that brain dysfunction does not directly cause violence but may predispose a person to it.

Raine et al.'s findings support the nature side of the debate, as the clear differences in brain functioning, such as in the prefrontal cortex which controls impulsive behaviour, suggest that traits such as aggression could be at least partly internally caused. This is strengthened by later research by Raine, which found an 11% reduction in grey matter volume in the prefrontal cortex of people with antisocial personality disorder. Montoya et al. (2011) also linked aggression to imbalances of testosterone and cortisol near the amygdala and low serotonin in the prefrontal cortex, further supporting a biological basis for aggression.

However, Raine et al.'s study also supports nurture. They stated that brain function only predisposed the individual to violence and that social, psychological and environmental factors were needed to trigger violent behaviour. The brain differences themselves could have been caused by environmental factors, such as head injuries or childhood abuse, so



the study cannot show that the differences are innate. In addition, PET scanning takes place in an artificial laboratory setting with a simple task, so brain activity in real-life violent situations may differ, which limits the validity of the findings for the nature-nurture debate. Research on hormones and neurotransmitters is also often correlational, so other factors, such as imitation of aggressive role models, could explain the aggression.

Watson and Rayner (1920) studied Little Albert, a healthy baby, who at nine months showed no fear of a white rat, a rabbit, cotton wool or human masks, but did show fear when a long steel bar was unexpectedly struck with a claw hammer behind his head. At 11 months the rat was presented and paired with the loud noise repeatedly. Albert soon cried and crawled away from the rat when it was presented alone, and this fear generalised to similar objects such as a rabbit, a dog, a fur coat and a Santa Claus mask, and was still present a month later.

Watson and Rayner's findings strongly support nurture, as Little Albert learned to fear the rat through classical conditioning, associating it with the loud noise. The clear change in his behaviour, from no fear of the rat at the start to strong fear after conditioning, shows how environmental experiences can cause phobic reactions. This is supported by Pavlov's (1927) research, in which dogs learned to salivate to a bell through association with food.

However, the study also shows a role for nature. Albert's fear of the loud noise was an unconditioned, innate response that did not need to be learned, which may be an evolved trait as sudden loud noises could signal a threat to survival. Classical conditioning itself depends on inborn reflexes, so learning builds on biological responses. Seligman's idea of preparedness also suggests that we more easily learn fears of animals such as rats that were dangerous in our evolutionary past.

There are also problems with the evidence. It was a case study of one child, so the



findings cannot be generalised. Beck et al. (2009) and later researchers suggested Albert may have been developmentally delayed and had hydrocephalus, rather than being healthy, which could have caused his behaviour and questioned the findings. Watson and Rayner also intended to remove the conditioned responses through reconditioning, which would have further supported the nurture argument, but Albert was removed before this could happen.

In conclusion, Raine et al. (1997) mainly supports nature and Watson and Rayner (1920) mainly supports nurture, but both studies show that the two interact. Raine et al. argued that brain dysfunction only predisposes a person to violence, and Little Albert's learned fear was built on an innate fear response. Therefore, an interactionist view, where biological predispositions are triggered or shaped by the environment, is the most balanced explanation of behaviour.



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SECTION C

Issues and Debates

- 5 During the college summer holiday, Rhianna went to a large music festival where she saw musicians and bands who played various genres of music. These included rock, dance, hip hop, grime, and pop music genres. Rhianna enjoyed dancing and singing with her three best friends when listening to all of the music genres at the festival. They all joined in when the artists encouraged certain behaviours such as clapping hands or singing lyrics.

When listening to music on her iPhone, Rhianna really enjoys listening to rock and pop music genres but does not really like grime or hip hop.

Evaluate how far social psychology can account for human behaviour, such as that of listening to music.

You must make reference to the context in your answer.

(12)

Social psychology explains behaviour in terms of the influence of other people and groups. Conformity is when an individual changes their behaviour to go along with the majority in a group. Social impact theory (Latané, 1981) suggests that the number, strength and immediacy of the people acting on a target influence how likely a behaviour is to be carried out, with each additional person having less impact. Agency theory (Milgram) states that people are more likely to obey those they see as legitimate authority figures when in an agentic state, seeing themselves as acting for the authority. Social identity theory (Tajfel and Turner) states that through social identification people adopt the behaviours of their in-group.

Social psychology can explain Rhianna's behaviour at the festival well. Rhianna enjoyed dancing and singing to all the genres, including grime and hip hop, which she does not like when she listens alone on her iPhone, suggesting she conformed to the behaviour of her friends and the crowd. Asch (1951) supports this, as real participants conformed to an obviously wrong answer on 33% of critical trials, showing how strongly people are influenced by a majority. Her conformity may be normative, to fit in with her three best friends and enjoy the shared experience.

Social impact theory can also explain this, as Rhianna was with her three best friends,



who are high in strength and immediacy, and surrounded by thousands of other festival-goers, so the number of sources was very large, although each additional person would have had a proportionally smaller influence. Milgram, Bickman and Berkowitz (1969) found that as the number of confederates looking up at a window increased from 1 to 15, the percentage of passers-by who copied them increased, but with less impact for each additional confederate, which supports this.

Agency theory can explain why Rhianna and her friends clapped their hands and sang lyrics when the artists encouraged them, as on stage the artists may be seen as legitimate authority figures, so the crowd shifted into an agentic state and obeyed.

Milgram (1963) found that 65% of participants gave what they believed was a lethal 450V shock when instructed by an experimenter in a lab coat, showing the power of authority. However, artists have no real power to punish the crowd, so this may be better explained as conformity than obedience.

Social identity theory suggests that Rhianna and her friends saw the other people at the festival as an in-group of music lovers, compared with an out-group of people who do not go to festivals, so they behaved as they felt their in-group would, by dancing and singing along.

However, social psychology cannot fully account for Rhianna's behaviour. Her individual preference for rock and pop over grime and hip hop when alone suggests that personality and individual differences also matter. Learning theories offer another explanation: Bandura showed that children imitate role models, so Rhianna may have observed and imitated her friends or the artists, and her music taste may have been shaped by being reinforced through enjoyment. Biological factors such as dopamine release when listening to enjoyable music may also explain why she likes certain genres.

In conclusion, social psychology can explain a large part of Rhianna's behaviour at the festival in terms of conformity, social impact, obedience to the artists and social



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identity, but it cannot fully explain her personal music preferences when alone, so
learning and biological explanations are needed for a complete account.



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6 Assess the cultural and gender issues in psychological research.

(20)

Cultural issues arise when research findings are taken from one culture and generalised to others. Ethnocentrism is judging other cultures by the standards of one's own, so findings that only apply to one culture are assumed to be universal, and Eurocentrism is where European or Western concepts are applied to all people. Cross-cultural research can take an emic approach, studying a culture from within using its own concepts, or an etic approach, studying from outside to find universal behaviours. An imposed etic occurs when a measure developed in one culture is applied to another as if it were universal.

Gender issues include alpha bias, which exaggerates differences between men and women and can reinforce stereotypes, and beta bias, which minimises differences and applies findings from males to females. Androcentrism is treating male behaviour as the norm and regarding female behaviour as abnormal when it differs. Gender bias can occur at every stage of research, from the topic studied and sample used through to the conclusions drawn.

Ainsworth's Strange Situation procedure (SSP) was developed in Baltimore, USA, and used in Uganda and other cultures. It could be seen as an imposed etic, as attachment types in other cultures were compared to the 'normal' secure type most common in Baltimore. Van IJzendoorn and Kroonenberg (1988) found more insecure-resistant attachments in Japan and more insecure-avoidant attachments in Germany, which may reflect different childrearing practices rather than poorer attachment, so judging these children against American norms is ethnocentric.

Similarly, Rosenhan's (1973) choice of hospitals would have been representative of American psychiatric hospitals in the 1970s but may be very different to those in collectivist cultures, so the conclusions about diagnosis could be ethnocentric. In the same way, viewing hearing voices as abnormal in the USA or UK and imposing this on



cultures where it is seen as normal is ethnocentric. Measuring intelligence can also be an imposed etic, as not all cultures see quick thinking as intelligent, such as the Baganda people of Uganda, who value slow, careful, deliberate thought. Even within Europe there are differences, as Sebastián and Hernández-Gil (2012) found that Spanish children had shorter digit spans than Anglo-Saxon children, suggesting that differences beyond Europe are likely to be even greater.

However, cultural issues can be reduced. Milgram's obedience procedure has been replicated across many countries, giving an etic approach that suggests obedience to authority may be a universal trait, although obedience rates varied between cultures.

Sherif experienced both Turkish and American cultures, so he may have interpreted his findings with a more varied understanding of cultural differences. Cross-cultural research therefore allows psychologists to test whether a theory is universal, but only if researchers use culturally appropriate measures.

Gender bias is also a significant issue. Sherif's (1954/1961) Robbers Cave study used only boys at an American summer camp, yet he made general claims about prejudice, competition and cooperation, which is a form of beta bias, as findings from males were applied to females without validation. Milgram's original 1963 study also used a male-only sample. However, when Milgram tested women he found the same 65% went to 450V, suggesting similar levels of obedience, which could justify his original sample and shows that testing for differences can reduce bias.

Alpha bias can be seen in evolutionary psychology such as the work of David Buss, where male and female roles are clearly defined, with women said to focus on children and prefer males who can provide resources, with limited scientific evidence, which can reinforce gender stereotypes in society. Research emphasising sex differences in aggression due to testosterone (Dolan et al., 1991) can exaggerate stereotypical differences, yet Dabbs and Hargrove (1997) found testosterone is related to aggression



in females too. Rippon (2019) and Fine (2010) highlight how neuroscientists are keen to report sex differences, such as Ingallhalikar et al. (2014), while ignoring or minimising similarities, which is a clear example of alpha bias.

Bandura's 1960s research found that boys showed more imitative physical aggression towards the Bobo doll than girls. This could be seen as alpha bias, but Bandura did account for the cultural context, as girls were socialised to be less physically aggressive at the time, which reduces the bias. In addition, the focus of research such as Bandura, Ross and Ross (1961), Huesmann et al. (2003) and Bastian et al. (2011) on TV and video game violence may be more relevant to white males than to females or marginalised communities.

The significance of these issues is that biased research can lead to unfair treatment, such as the misdiagnosis of people from other cultures or stereotyped views of women, so they have important practical as well as scientific consequences. However, awareness of these issues has grown, and modern researchers increasingly use mixed and cross-cultural samples, emic methods and reflexivity to reduce bias.

In conclusion, cultural and gender issues are serious problems in psychological research, as many key studies used narrow Western or male-only samples and imposed their norms on others. However, some researchers, such as Milgram and Bandura, did test or account for cultural and gender differences, and cross-cultural replications can show which behaviours are universal. Overall, the issues limit the generalisability of much classic research, but they can be reduced if researchers are aware of them and design research carefully.



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TOTAL FOR SECTION C = 32 MARKS

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