Please check the examination details below before entering your candidate information

Candidate surname	Other names
StemUp Model Solution	

Pearson Edexcel
International Advanced Level

Centre Number | Candidate Number

Thursday 1 November 2018

Afternoon (Time: 2 hours) | Paper Reference **WPS04/01**

Psychology

International Advanced Level
Paper 4: Clinical Psychology and 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 96.
- 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

CLINICAL PSYCHOLOGY

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

1 Katie has reviewed the secondary data from 46 studies that investigated the effectiveness of drug treatments for individuals with schizophrenia.

(a) Describe what is meant by 'secondary data'.

(2)

Secondary data is data that has already been collected by other people, often for a different purpose, which the researcher then uses, such as published research studies, articles, official statistics or media sources. Katie did not collect the data from the 46 studies herself.

(b) Explain **two** strengths of using secondary data to research the effectiveness of drug treatments for individuals with schizophrenia.

(4)

1 *Katie does not need any direct involvement with individuals with schizophrenia, as the data from the 46 studies already exist. This means there are no ethical issues of causing distress or harm to vulnerable patients by testing drug treatments on them herself.*

2 *Data from 46 studies gives a large sample of evidence about drug treatments for schizophrenia from a range of sources, settings and patients. This increases the representativeness of her findings, so conclusions about how effective the drugs are can be generalised more confidently.*

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Katie decided to follow up her findings from the review of secondary data. She wanted to use interviews. Her research supervisor suggested that Katie should use randomised controlled trials (RCTs) instead.

(c) Describe **one** similarity and **one** difference between RCTs and interviews when used to research drug treatments for schizophrenia.

(4)

One similarity is that both RCTs and interviews can follow ethical guidelines well, because in both methods participants know they are taking part in research. Individuals with schizophrenia can give informed consent to take part in a drug trial or in an interview about their drug treatment, so they can also easily use their right to withdraw if they become distressed.

One difference is that RCTs use a baseline measure and a control group, so they give stronger evidence of cause and effect, whereas interviews are usually retrospective so no baseline measure can be taken. An RCT could compare symptoms of patients randomly allocated to an antipsychotic drug with a placebo group without the drug, rather than just asking patients whether they feel their drug treatment has helped compared with how they were before. RCTs therefore give quantitative data on symptom change, while interviews give qualitative data about patients' experiences.

(Total for Question 1 = 10 marks)

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2 In your studies of **either** unipolar depression **or** anorexia nervosa you will have learned about one of the following contemporary studies in detail.

Unipolar depression:
- Hans and Hiller (2013)
- Ma, Quinn and Liu (2014)

Anorexia nervosa:
- Becker et al. (2002)
- Reichel et al. (2014)

Analyse the implications of the findings from your chosen contemporary study for the understanding and/or treatment of the mental health disorder.

(6)

Chosen study

Becker et al. (2002)

Becker et al. found that after three years of exposure to television in Fiji, the percentage of girls using self-induced vomiting to control their weight rose from 0% in 1995 to 11.3% in 1998, and the proportion with high EAT-26 scores more than doubled. This implies that disordered eating is not only biological but can be triggered by environmental factors, so it improves our understanding of how media influence can contribute to anorexia nervosa.

83% of the girls said that television had influenced them or their friends to feel differently about their body shape or weight. This supports social learning theory, as the girls imitated the thin Western role models they saw, so it adds depth to existing knowledge of how TV affects body image. However, as this is self-report data, the girls may not accurately judge how much the media influenced them.

The girls reported a change in attitudes towards diet, weight loss and body ideals, which was linked to Western media. This implies that treatment for anorexia nervosa may need to include developing a person's critical understanding of media imagery, and prevention programmes for young people, not just targeting weight gain. However, the study did not diagnose anorexia

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nervosa itself, so the implications for treating the clinical disorder should be drawn with caution.

(Total for Question 2 = 6 marks)

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3 The DSM is a classification system used to diagnose mental health disorders.

(a) Explain, using research evidence, **one** way the DSM has been tested for validity.

(2)

The DSM has been tested for predictive validity, which is whether a diagnosis correctly predicts that the expected symptoms will continue in the future. Lahey et al. (2015) found that children diagnosed with ADHD using DSM-IV at 4 to 6 years old still had the symptoms and associated impairments in elementary school, supporting the validity of the diagnosis.

(b) Explain, using research evidence, **one** way the DSM has been tested for reliability.

(2)

The DSM has been tested for inter-rater reliability, which is whether different clinicians independently assessing the same patient give the same diagnosis. Brown et al. (2001) tested DSM-IV for mood and anxiety disorders and found that independent interviewers came to the same diagnosis, showing the DSM is reliable.

(Total for Question 3 = 4 marks)

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4 Compare the function of neurotransmitters with **one** other biological explanation of schizophrenia.

(6)

The dopamine hypothesis claims that schizophrenia is caused by too much dopamine activity, for example excess D2 receptors in the mesolimbic pathway, whereas the genetic explanation suggests that inherited genes only increase a person's risk of schizophrenia rather than directly causing it. Gottesman and Shields (1966) found a higher concordance rate for schizophrenia in MZ twins than in DZ twins, but not 100%, so genes give a predisposition rather than a direct cause.

The dopamine hypothesis has better application to treatment, as it explains why antipsychotic drugs that block dopamine receptors reduce positive symptoms, and these drugs are practical and easily administered. In contrast, genetic explanations would need gene therapy treatments, which are not as easily administered, so the genetic explanation is less useful for treatment.

However, genetic explanations can more easily predict who is at risk of developing schizophrenia, as family members share genes and family medical histories are often known, so relatives can be identified and monitored early. An imbalance of dopamine is much less practical to test for in individuals before onset, so the neurotransmitter explanation is less useful for predicting schizophrenia.

A similarity is that both are biological, reductionist explanations that are not conclusive, as neither accounts for social factors affecting the onset of schizophrenia, such as stress. Krystal et al. (2005) found that amphetamine drugs increased dopamine concentration but produced just positive symptoms, not negative ones, and Gottesman and Shields (1966) did not find a 100% concordance rate between twins, so neither explanation can fully explain schizophrenia on its own.

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(Total for Question 4 = 6 marks)

5 Jagdeep investigated the success rates of combined therapies for the treatment of mental health disorders.

- Group A contained 25 individuals receiving family therapy combined with drug treatments.
- Group B contained 16 individuals receiving drug treatments alone.

Jagdeep recorded the total number of individuals in each group who had relapsed.

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

	Group A Individuals receiving family therapy and drug treatments	**Group B Individuals receiving drug treatments alone**
Total number of individuals who had relapsed by **one** month	4	2
Total number of individuals who had relapsed by **two** months	5	6
Total number of individuals who had relapsed by **three** months	12	12
Total number of individuals who had relapsed by **four** months	16	14

Table 1

(a) Calculate, using the data in **Table 1,** the ratio for participants in **Group B** who had relapsed by four months compared to those who had not relapsed.

You **must** express your answer in the lowest form.

(1)

Space for calculations

Relapsed by four months = 14

Not relapsed = 16 − 14 = 2

14 : 2 = 7 : 1

Ratio of relapse for Group B ..... *7 : 1* .....

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Jagdeep concluded that individuals undertaking a combined therapy programme should be given additional support within the first two months.

(b) Justify, using the data in **Table 1**, whether the conclusion Jagdeep reached is accurate.

(2)

Jagdeep's conclusion is not accurate. In the combined therapy group, 5 individuals had relapsed by two months but 12 had relapsed by three months, so 7 of the 12 relapsed between two and three months. This shows the risk of relapse is higher between two and three months than in the first two months, so extra support is needed for at least the first three months.

(c) Determine, using the data in **Table 1**, whether combined therapy is more effective than drug treatments alone.

(3)

By four months, 14 out of 16 individuals on drug treatments alone had relapsed (14 ÷ 16 × 100 = 87.5%), compared with 16 out of 25 individuals having combined therapy (16 ÷ 25 × 100 = 64%). Combined therapy therefore had a 23.5% lower relapse rate, so it is more effective than drug treatments alone. However, the groups were different sizes and only followed up for four months, so this should be treated with some caution.

(Total for Question 5 = 6 marks)

TOTAL FOR SECTION A = 32 MARKS

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SECTION B

Answer the question. Write your answer in the space provided.

6 Evaluate the classic study by Rosenhan (1973).

(16)

Rosenhan (1973) investigated whether psychiatrists could tell the sane from the insane. A volunteer sample of eight sane people, three women and five men, including a psychology graduate student, three psychologists, a paediatrician, a psychiatrist, a painter and a housewife, sought admission to 12 state and private hospitals in five states of the USA. They claimed to hear voices saying 'empty', 'hollow' and 'thud', but behaved normally once admitted. Apart from when Rosenhan himself was a pseudo-patient, the hospitals and staff did not know about the study. All were admitted, 11 diagnosed with schizophrenia, and were discharged with 'schizophrenia in remission' after 7 to 52 days. The pseudo-patients kept written records and diaries, which showed depersonalisation, powerlessness and a lack of privacy; for example, their note-taking was recorded as 'writing behaviour'.

A strength is that the study has high ecological validity. The pseudo-patients were in real psychiatric hospitals where staff were doing their normal work with real patients, so the findings show how diagnosis and psychiatric care really took place at the time, rather than in an artificial setting.

The study is also generalisable to other psychiatric hospitals of that era, as 12 different hospitals were used, old and new, state and private, in several states, so it represents a variety of psychiatric care in the USA in the 1970s. However, the pseudo-patients did not have mental health conditions, so their experiences may not generalise to the wider population of real patients in psychiatric institutions, who may have been treated differently. The volunteers may also have had their own reasons for taking part, such as wanting to criticise psychiatry, which decreases the objectivity of their data.

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There was a lack of informed consent from the hospital staff, who did not know they were being observed and were deceived, so they could not withdraw and may have felt embarrassed when the results were published. On the other hand, the deception was necessary, because if staff had known, demand characteristics would have changed their behaviour, so the deception made the data more valid.

A strength is that the pseudo-patients made detailed notes about how they were treated and how they felt, which gives rich data with validity about patient experiences. Every pseudo-patient also reported the same symptoms, so the procedure was standardised across hospitals. However, the reports could have been affected by their own emotions, such as fear or frustration, so the data may be subjective and unreliable.

The findings were important as they highlighted the role of context in the diagnosis of schizophrenia, as normal behaviour was interpreted as part of the disorder in a hospital setting. They could be applied to hospital procedures in the 1970s to improve the treatment of patients, such as maintaining their dignity and privacy. However, Spitzer (1975) argued that psychiatrists acted reasonably, as people rarely lie about hearing voices, so the study may not show that diagnosis itself is invalid.

Overall, Rosenhan's study is valuable, because its real-life setting across a range of hospitals gave convincing evidence that patients were depersonalised and that diagnosis was affected by context. Although the lack of consent and the subjective data are weaknesses, the deception was needed for valid findings, and the practical impact on patient care outweighs these limitations, although the findings may now be dated and less relevant to modern psychiatric care.

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(Total for Question 6 = 16 marks)

TOTAL FOR SECTION B = 16 MARKS



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SECTION C

PSYCHOLOGICAL SKILLS

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

7 Ferdinand is investigating whether there is a gender bias in how sportsmen and sportswomen are portrayed in the media.

He first conducts a thematic analysis on five newspaper reports about the sporting achievements of men and women in a recent international sports competition.

He finds four main themes in the reports. The number of occurrences of each theme by gender is shown in **Table 2**.

Theme	Number of occurrences in reports about men	Number of occurrences in reports about women
Strength	𝍸 𝍸 𝍸 𝍸	–
Commitment	𝍸 𝍸	𝍸 𝍸
Pride	𝍸 𝍸 𝍸	𝍸
Kindness	𝍸	𝍸 𝍸 𝍸

Table 2

(a) Calculate the occurrence of kindness for women as a percentage of all occurrences of kindness.

(1)

Space for calculations

Kindness: men = 5, women = 15, total = 20

15 ÷ 20 × 100 = 75%

Percentage occurrence of kindness for women *75%*

(b) Calculate the occurrence of pride for women as a fraction of all occurrences of pride.

You **must** express your answer in the lowest form.

(1)

Space for calculations

Pride: men = 15, women = 5, total = 20

5/20 = 1/4

Pride for women as a fraction *1/4*

P 5 5 4 5 8 A 0 1 8 3 2

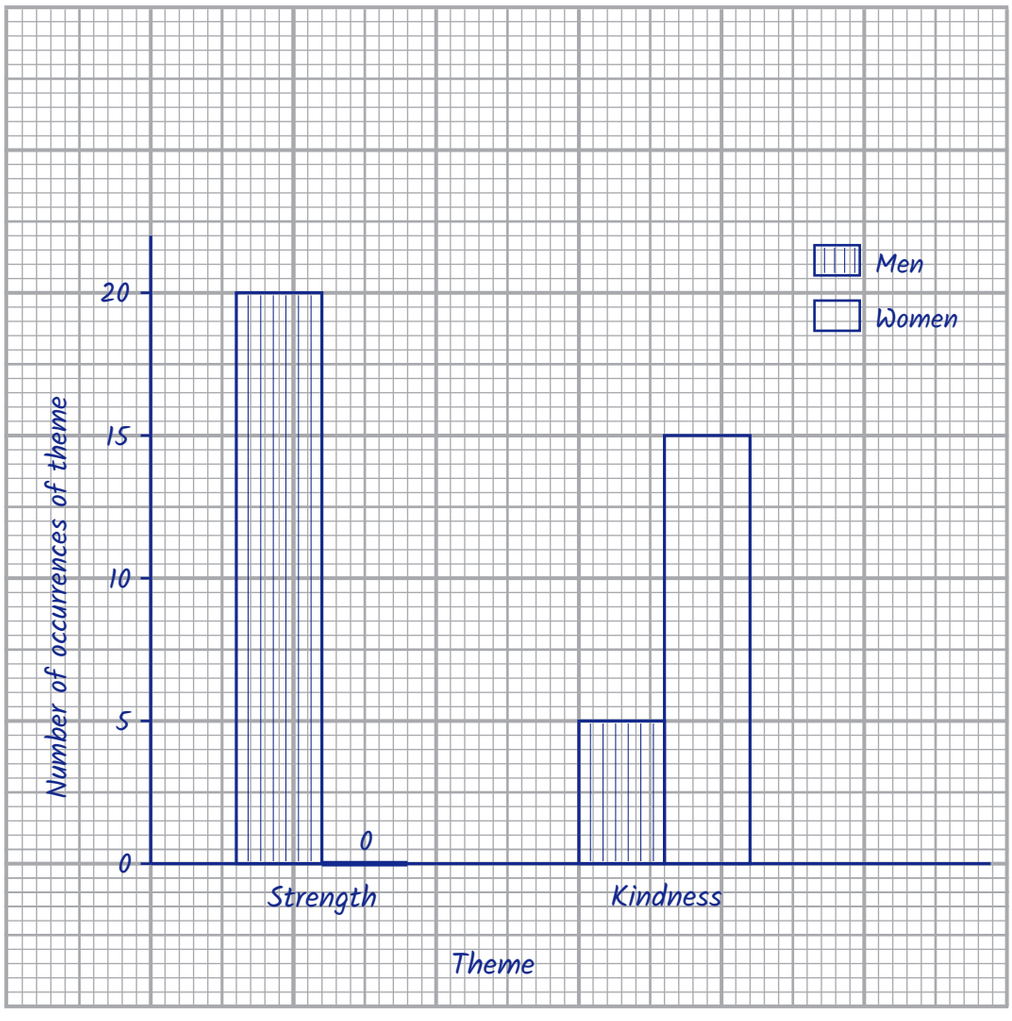
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(c) Draw a bar chart to show the data for the themes of strength and kindness for men and women shown in **Table 2**.

(3)

Title *A bar chart to show the number of occurrences of the themes of strength and kindness for men and women in the newspaper reports*



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(d) Explain **two** strengths of Ferdinand using a thematic analysis to investigate gender bias in how sportsmen and sportswomen are portrayed in the media.

(4)

1 *Ferdinand uses real newspaper reports that have been written about sportsmen and sportswomen. This means the themes he finds will have high generalisability to how men and women are actually represented, and to gender bias in media sports reports.*

2 *The sports reporters did not know their articles would be used in a thematic analysis, so they wrote about men and women in their usual way. This means the data analysed have not been confounded by social desirability of the writers, so any gender bias found is genuine.*

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(e) Describe **two** ways Ferdinand could have made his thematic analysis about gender bias reliable.

(4)

1 *Ferdinand could use inter-coder reliability by asking another researcher to code the same five newspaper reports independently. They could then compare the gender bias themes each found in the content, such as strength and kindness, and high agreement would show the analysis is reliable.*

2 *Ferdinand could use a single-blind technique for selecting the articles, asking other researchers to select the sports reports for him to code. This means he could not choose reports that fit his own expectations about gender bias, so the analysis would be more consistent and objective.*

(Total for Question 7 = 13 marks)

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8 Alejandro investigated whether positive reinforcement was effective in encouraging 15-year-old students to complete homework tasks on time. He used a repeated measures design and had a sample of eight students.

In Condition A, no positive reinforcement was used and the number of homework tasks completed on time was counted during a two-week period.

For Condition B, positive reinforcement was used over the next two weeks and the number of homework tasks completed on time was counted.

The results of his investigation are shown in **Table 3**.

Participant	Condition A	Condition B
A	5	8
B	9	11
C	11	10
D	6	10
E	4	9
F	11	11
G	8	10
H	6	9

Table 3

(a) Calculate, using the data in **Table 3**, the difference in the total number of homework tasks completed on time between Condition A and Condition B.

(1)

Space for calculations

A total = 5 + 9 + 11 + 6 + 4 + 11 + 8 + 6 = 60

B total = 8 + 11 + 10 + 10 + 9 + 11 + 10 + 9 = 78

78 − 60 = 18

Difference in the total number of homework tasks completed on time ..... 18 .....

(b) Determine, using the data in **Table 3**, how many students showed no improvement in homework tasks completed on time.

(1)

C went down (11 to 10), F stayed the same (11)

Number of students showing no improvement ..... 2 .....

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Alejandro used a Wilcoxon Signed Ranks test to find out if his data showed significant results.

(c) (i) Calculate the T value for the data gathered by Alejandro by completing **Table 4**.

The formulae and statistical tables can be found at the front of the paper.

You **must** show your working out.

(4)

Participant	Condition A	Condition B	Difference	Ranked Difference
A	5	8	−3	4.5
B	9	11	−2	2.5
C	11	10	+1	1
D	6	10	−4	6
E	4	9	−5	7
F	11	11	0	–
G	8	10	−2	2.5
H	6	9	−3	4.5

Table 4

Space for calculations

F has a difference of 0 so is not ranked, so N = 7

Sum of positive ranks = 1 (C)

Sum of negative ranks = 4.5 + 2.5 + 6 + 7 + 2.5 + 4.5 = 27

T = the smaller total = 1

T value = ... 1 .....

(ii) Determine whether this result is significant for a one-tailed directional test at P0.05 where N=7.

(1)

T = 1 is less than the critical value of 3 (N = 7, one-tailed, p ≤ 0.05), so the result is significant.

(Total for Question 8 = 7 marks)

TOTAL FOR SECTION C = 20 MARKS

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SECTION D

Answer the question. Write your answer in the space provided.

9 One key question for society is whether aggressive behaviour in football crowds can be reduced.

Sherif et al. (1954/1961) found that conflict could occur between two groups where there was a form of competition for material resources. They discovered that participants would form in-group and out-group prejudices and negative stereotypes. This could provide an explanation for how fans of opposing football teams can become aggressive towards each other.

However, biological approaches to aggression argue that such behaviour may be because of high testosterone levels in the individuals due to heightened arousal from the competitive nature of the sport. Others suggest it is more likely a brain abnormality within an individual that draws them into crowds where their innate aggressive tendencies can be satisfied.

Discuss the key question of whether aggressive behaviour in football crowds can be reduced. You should use concepts, theories and/or research studied in your psychology course.

You must make reference to the context in your answer.

(8)

Sherif et al. (1954/1961) showed that competition for material resources creates in-groups and out-groups, prejudice and negative stereotypes. Football matches are competitions for material gain, such as trophies and league points, so each team's fans form a prejudiced in-group and see opposing fans as the out-group, leading to aggression. However, Sherif et al. also found that conflict was reduced when the boys worked towards superordinate goals, so aggression could be reduced by giving rival fans shared goals, such as supporting the national team together, although competition is central to football so it cannot be removed completely.

Biological approaches argue that aggression is linked to the male hormone testosterone, which is why aggression occurs more often in males than females. Football crowds are mostly male and the competitive arousal of a match may raise testosterone, which helps explain the behaviour but does not prevent it. If aggression is due to hormones or a brain abnormality in certain individuals, as the context suggests, it is hard to reduce through social changes, apart from identifying and banning those individuals from grounds.

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Social learning theory suggests aggression is learned by observing and imitating role models. Fans may see other aggressive fans or players as role models and join in for vicarious reinforcement, such as status or respect in the group. So aggression can be reduced by increasing positive role models at football matches, such as players and clubs condemning violence, and by punishing aggressive fans so it is not rewarded.

Social power theory suggests that leaders of groups may have coercive or referent power. Fans may see one fan as having authority and behave aggressively because of that leader's status, so a visible police presence is likely to be seen as more authoritative and reduce aggression in crowds.

Overall, aggressive behaviour in football crowds can be reduced to some extent, mainly through social approaches such as superordinate goals, positive role models and authority figures. Biological factors may make some fans more prone to aggression and are harder to change, so aggression is unlikely to be removed completely.

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(Total for Question 9 = 8 marks)

TOTAL FOR SECTION D = 8 MARKS

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SECTION E

Answer the question. Write your answer in the space provided.

10 Assess the use of psychological knowledge in social control.

(20)

Social control is regulating other people's behaviour so that they comply with social norms, values, beliefs and rules. It can be a conscious decision by those in power, such as governments, prisons and clinicians, to use psychological knowledge to produce behaviours they feel are desirable. Whether this is a good use of psychology depends on who holds the power and whether it benefits the individual or only society.

Skinner claimed that operant conditioning increases desirable behaviour through rewards and decreases undesirable behaviour through punishment. This is used in token economy programmes in prisons and psychiatric hospitals, where tokens are exchanged for privileges. This is a strength, as it can reduce aggression and make institutions safer. However, it gives control to those who know how to use rewards and punishments, which can be abused, and the behaviour often stops once the rewards are removed, so the control is not long lasting.

Milgram (1963) showed that authority figures can control others, as 65% of participants obeyed orders to give what they believed were 450-volt shocks, actions they would not normally do. Understanding factors affecting obedience can help reduce atrocities like genocide, for example by teaching people to question destructive orders. However, the same knowledge gives insight into how to control others, as those in power could deliberately use uniforms and status so people follow their orders. Similarly, Zimbardo's prison study found that guards became aggressive and prisoners became withdrawn and damaged, so role conformity can explain how those in positions of power exert social control over powerless groups.

However, psychology also shows the limits of social control. Moscovici (1969) showed that a

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consistent minority could influence a majority, so those in power may not have full control over individuals where there is dissent from a consistent few. Holism also suggests that behaviour results from many factors, and not all of these can be socially controlled.

Diagnosis of mental health disorders has been used for control. Drapetomania was a 'disorder' diagnosed in slaves who wished to escape, legitimising control over a vulnerable group. Rosenhan (1973) found that a diagnosis of schizophrenia led pseudo-patients to lose basic rights and be controlled in psychiatric institutions. On the other hand, understanding the effect of neurotransmitters such as dopamine has reduced misunderstandings of mental health, so patients can be treated with drugs and lead better lives instead of being locked away or mistreated, which gives control to the person rather than the clinician.

Knowledge of media influence can also be used for positive control. Bastian et al. (2011) found that playing violent video games reduced players' sense of their own humanity, which supports censorship and age ratings such as PEGI to reduce aggression in society. Social learning theory also suggests that positive role models in the media showing helping behaviour could encourage pro-social behaviour, which uses knowledge for positive outcomes rather than control. However, censorship limits individual freedom.

Overall, psychological knowledge is a powerful tool for social control. It is beneficial when used to protect society and individuals, such as through token economies, age ratings and better mental health treatment, but history shows it can be misused by those in power, as with drapetomania and the patients in Rosenhan's study. Moscovici's research also shows control is never complete. Therefore, its use is only justified when it is ethical, open to scrutiny and benefits the people being controlled, not just those in power.

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(Total for Question 10 = 20 marks)

TOTAL FOR SECTION E = 20 MARKS
TOTAL FOR PAPER = 96 MARKS

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