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| Candidate surname | | Other names | |
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| Advanced Level | | <input type="text"/> | <input type="text"/> |
| Monday 21 January 2019 | | | |
| Morning (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.



Chi-squared distribution formula

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

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

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.



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.



SECTION A
CLINICAL PSYCHOLOGY

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

- 1** In your studies of clinical psychology, you will have learned about the following contemporary study in detail:

- Suzuki et al. (2014)

(a) Describe the inpatient sample used by Suzuki et al. (2014).

(2)

(b) Describe how Suzuki et al. (2014) operationalised nutritional status.

(2)



(c) Give **one** conclusion from the study by Suzuki et al. (2014).

(2)

The results of Suzuki et al. (2014) for underweight participants are shown (to the nearest whole number) in **Table 1**.

| Measure | Inpatients with schizophrenia | Control group |
|--|-------------------------------|---------------|
| Underweight BMI <18.5 kg/m ² | 14% | 4% |

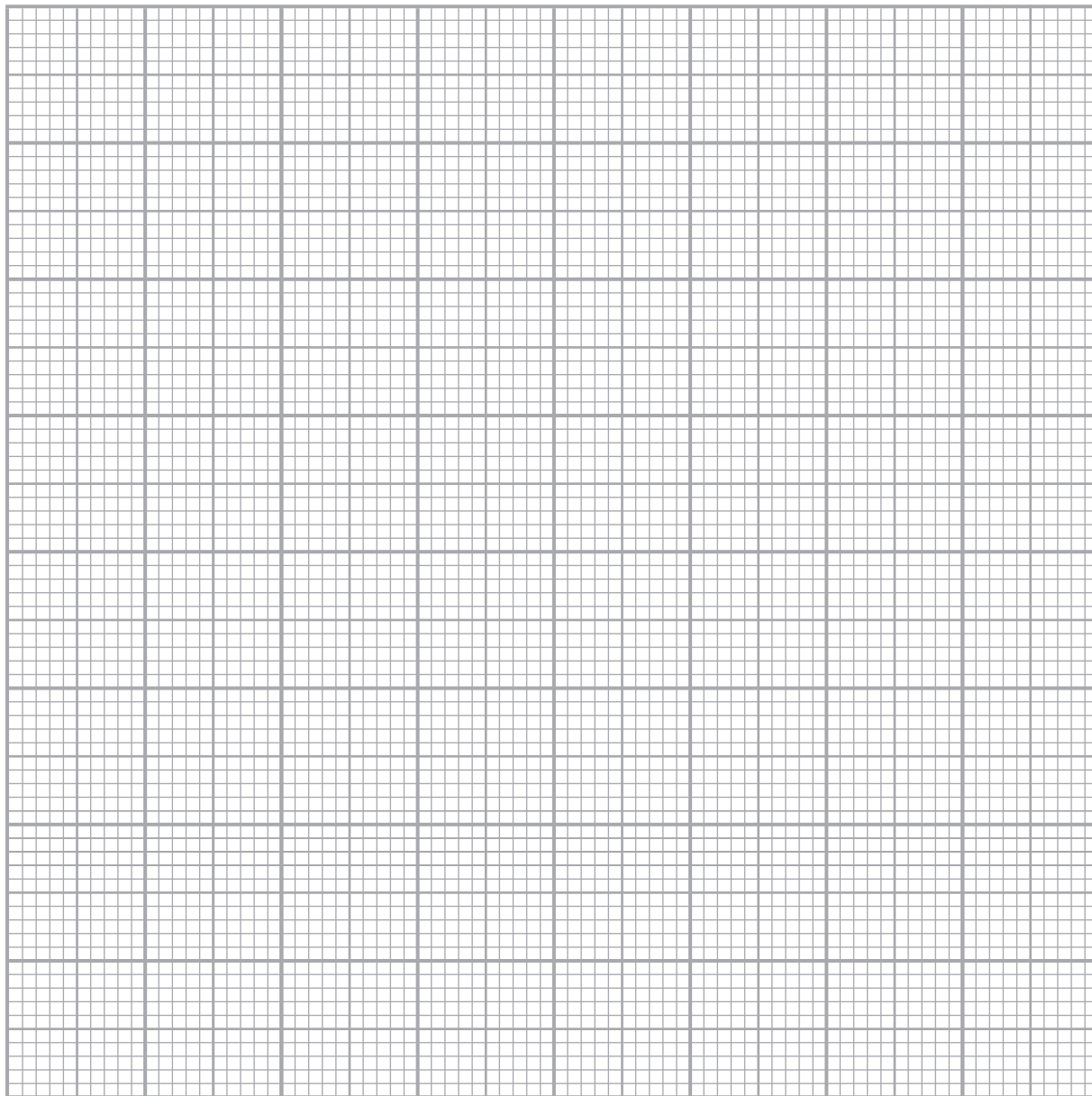
Table 1



(d) Draw a bar chart to represent the data shown in **Table 1**.

(3)

Title



(Total for Question 1 = 9 marks)



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- 3** 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)

Explain **two** strengths of your chosen study.

(4)

Chosen study

1

2

(Total for Question 3 = 4 marks)



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5 Mariana is planning to investigate the experiences of patients with mental health issues during inpatient stays at a mental health hospital. She plans to use a covert observational research method.

- (a) Explain **one** ethical issue Mariana may need to consider when conducting her covert observation in the mental health hospital.

(3)

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- (b) Explain **one** strength and **one** weakness, other than ethics, of using a covert observation to investigate the experiences of inpatients with mental health issues.

(4)

Strength

Weakness

(Total for Question 5 = 7 marks)

TOTAL FOR SECTION A = 32 MARKS



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(Total for Question 6 = 16 marks)

TOTAL FOR SECTION B = 16 MARKS



SECTION C

PSYCHOLOGICAL SKILLS

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

- 7** Louis investigated the effect of sleep disturbance on appetite. He conducted his investigation using nine rats. Louis set an alarm bell to ring at fixed one hour intervals over a ten-day period to disturb the rats.

Louis provided 25 grams of food to each rat at 09:00hrs each day. He recorded the amount of food remaining at 19:00hrs when he removed the food from the cage.

A control group of four rats that were not deprived of sleep were used as a comparison for his results.

- (a) State a fully operationalised non-directional (two-tailed) hypothesis for this investigation.

(2)

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(b) Describe **three** ethical considerations Louis should have considered when he used animals during his investigation.

(6)

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- (c) Explain **two** improvements that Louis could make to his investigation about the effects of sleep disturbance on appetite in rats.

(4)

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(Total for Question 7 = 12 marks)

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- 8 When analysing data gathered in psychological research, statistical tests can be used to determine the significance of the results.

The choice of statistical test will depend on the level of measurement.

Complete **Table 2** to show the level of measurement required for each statistical test.

(2)

| Statistical Test | Level of measurement |
|----------------------------|----------------------|
| Spearman's Rank test | |
| Wilcoxon Signed Ranks test | |

Table 2

(Total for Question 8 = 2 marks)

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- 9 Data was gathered during an investigation into gender and drink choice. The results are shown in **Table 3**.

| | Drink choice Water | Drink choice Fizzy soda |
|-------|-----------------------|----------------------------|
| Boys | 8 | 14 |
| Girls | 9 | 21 |

Table 3

- (a) Calculate chi-squared for this data by completing **Table 4** below.

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

(4)

| | | Observed | Expected | O-E | (O-E) ² | (O-E) ² /E |
|-------|------------|----------|----------|---------------|--------------------|-----------------------|
| Boys | Water | 8 | 7.19 | | | |
| | Fizzy soda | 14 | 14.81 | | | |
| Girls | Water | 9 | 9.81 | | | |
| | Fizzy soda | 21 | 20.19 | | | |
| | | | | Chi-squared = | | |

Table 4

Space for calculations



- (b) Describe whether the results of this study are significant or not, with $df=1$ at $p=0.05$ for a two-tailed test.

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

(2)

(Total for Question 9 = 6 marks)

TOTAL FOR SECTION C = 20 MARKS



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(Total for Question 10 = 8 marks)

TOTAL FOR SECTION D = 8 MARKS



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SECTION E**Answer the question. Write your answer in the space provided.****11** Assess whether cultural issues impact on psychological research.**(20)**

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(Total for Question 11 = 20 marks)

TOTAL FOR SECTION E = 20 MARKS

TOTAL FOR PAPER = 96 MARKS



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