

**M. Phil Clinical Psychology Part I Regular/Supplementary
Examinations December 2023**

Paper II: Statistics and Research Methodology

Time: 3 hrs

Max. Marks: 70

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers*
 - *Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Long Essays

(4x14=56)

1. Explain the difference between reliability and validity in the context of psychological testing. Provide explanations on different methods of testing the reliability and validity.
2. Quin et al. (2022) conducted a cohort-controlled trial in a sample of 194 young people (mean age: 27.40) to examine whether the 12-session Grit Well-being and Self-regulation Program (GWSP) was effective in enhancing the treatment outcomes of young people accessing residential alcohol and other drug (AOD) treatment. Participants received standard treatment or standard treatment plus GWSP (two sessions per week for six weeks). The primary outcome measures included measurements of global substance use and AOD. The secondary outcome measures included measurements of well-being, depression, anxiety, and vocational engagement. The secondary outcome assessment occurred at baseline and after six weeks. Primary outcome assessment occurred at baseline, after three months, six months, and 12 months. As per the results, both groups significantly improved in all outcomes at three months. The improvements were maintained at six and 12 months. The GWSP group significantly reduced AOD use involvement compared to the control group.

Imagine that you have a proposal to replicate the study by Quinn et al.

- a) Briefly review the design of the study. Present the changes you may implement in the method while you design your study.
- b) List the independent and dependent variables of the study.
- c) Make a plan for how the study will be done, including any ethical concerns that you can add to the study's research proposal. (4+4+2+4)

3. A scholar prepared a probability curve of the data she collected. In the curve, she noticed that the mean of the data is shifted towards the right of the median. Determine and explain the issue in the data. Comment on the other possible issues related to the central limit theorem that may commonly occur in any data.

(4+10)

(PTO)

4. Two groups of children are observed for the number of times they make a generous response during one day. The researcher wishes to conduct a parametric test for differences between the two groups and their 'generosity response score.' A rough grouping of the data shows this distribution scores

Number of generous responses							
Group	0-3	4-6	7-9	10-12	13-15	16-19	20-22
A	2	16	24	8	3	0	1
B	5	18	19	10	5	1	3

- a) State the null and alternative hypotheses.
- b) Use a parametric approach to test your null hypotheses.
- c) Interpret your finding

Short Essays:

(2+8+4)
(2x7=14)

5. Prospective vs. retrospective studies
6. Sample size estimation.
