



THE UNIVERSITY OF ADELAIDE

4702 -- HONOURS PSYCHOLOGY (PSYCHOL 4000A)

RESEARCH METHODS AND STATISTICS

SCHOOL OF PSYCHOLOGY

JUNE 2006

Time: 3 hours

(In addition, candidates are allowed ten minutes before the examination begins to read the paper.)

ANSWER THREE (3) QUESTIONS: INCLUDE ONE FROM EACH SECTION

ALL QUESTIONS ARE OF EQUAL VALUE

SECTION A

1. What advice would you give to Honours students concerning how to write their Honours thesis?
2. You are working as a psychology researcher in Sydney and are asked to find out what women think and know about mammography screening.
 1. How might you best sample to minimise bias?
 2. Describe and justify your data collection method
3. A number of common analytic problems have been identified in some qualitative research that uses talk and textual data as materials for analysis. Antaki et al. (2002), for example, have referred to "ways of writing that have the sheen of analysis without its substance". Describe and discuss the sorts of analytic inadequacies that fall short of the basic requirements for rigorous discourse analysis.

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SECTION B

1.
 - a) Describe a hypothetical study involving a small number of variables that would use Structural Equation Modeling as the method of analysis. Include a rough drawing of the model with appropriate labels.
 - b) Describe the main features of the output obtained by analysing the model using the AMOS software.
 - c) Imagine that the model did not fit the data very well but none-the-less converged to sensible parameter estimates. Describe some statistics that allowed you to conclude that the model lacked fit. Describe what other indicators that you might have which would allow the model to be altered and the fit improved.

2. Sometimes transforming data represents a compromise approach to problematic analyses when we are actually interested in phenomena that will have differences in means and variability. Take some imaginary situation with problematic data and describe how you would deal with the analysis using procedure MIXED. Often this will involve testing a sequence of models with different covariance structures. Briefly describe the assessment of two or three models.

3. Repeated Measures Analysis of Variance and Analysis of Covariance are two ways of attempting to make an experimental design more sensitive to some effects.
 - a) Briefly describe a hypothetical study that could be analysed by either repeated measures analysis of variance or analysis of covariance. Specify the variables and present the design in table form if this helps to display the relationship between the factors.
 - b) Indicate the general structure of the two analysis of variance tables and say which effects are likely to be tested more sensitively by being tested against smaller mean squares.
 - c) In the context of your hypothetical experiment, briefly discuss the advantages and disadvantages of each method.

4.
 - a) Describe a hypothetical study, different from examples in notes and statistics texts, that would use multivariate analysis of variance as the main method of analysis. Include relevant details of variables, the design of the study, and the advantages that might accrue from multivariate analysis rather than univariate analyses.
 - b) Describe the main features of the output obtained by analysing study using the SPSS software.
 - c) Imagine that one of the multivariate effects was significant. Briefly describe how you would interpret the significant effect and present that information to a reader.

END OF EXAMINATION