Sociology 405/805

Winter 2004

Problem Set 3

Due February 26, 2004

Problems on analysis of variance (ANOVA)

1. *V4* by *VALUES*

a. Redo the anova in the January 27 example (*V4* by *VALUES*) for the whole *ssae98.sav* data set. Obtain the means and standard deviations of *V4* for each category of *VALUES*, test for homogeneity of variances, and obtain the plot of means. (Optional: use one or more tests for post-hoc comparisons). Describe the findings, comparing results with the small sample of the January 27 handout.

b. With the same data set and variables, use *Analyze-Compare Means-Independent Samples T-Test*, to conduct a test for a difference of means of *V4* – divide the sample into two groups to show maximal difference between the two groups. Describe the findings. (In order to identify the maximal difference, examine the differences in means or use the post-hoc comparisons).

2. Explanation of *V* variable. Use one of the *V1-V9* variables you used in question 3 of problem set 2 to obtain two one-way anovas of this variable with variables that you consider might help explain the variation in the *V* variable (e.g. demographic, income, sex, etc., but not just another opinion variable as independent variable). Explain the rationale for selecting the independent variables you choose and describe the findings.

3. Two-way anovas

a. Conduct a two-way anova with *V4* as dependent variable, *VALUES* as one independent variable and priority for use of anticipated federal government budget surplus as another independent variable. Use *Analyze-General Linear Model-Univariate* with *V4* as the dependent variable and *VALUES* and *PRIORITY* as fixed factors. Also obtain the descriptive statistics, plot of means, and the test for equality of variances. Describe the findings, including interaction effects.

b. Conduct a two-way anova with the dependent and independent variables used in question 2. Test for the main and interaction effects. Describe the results.

4. Multiple classification analysis (MCA) using a syntax file

(Example: anova emp1 by future(1,3) pv(1,3)/method=hierarchical/statistics=all.)

For one of the above two-way anovas, obtain a multiple classification analysis using the *anova* procedure. Describe the results.

Last edited February 16, 2004