503/650 2016: Assignment 8 – MNLM Part 1 Points missed:

**Your name: Name of TA:**

Your dependent variable must have value labels where the first letter of the label differs for each outcome. To help graders match your results to your output, include in parentheses the first letter from the value label for each outcome when you refer to it. For example, “The odds of reporting poor health (p) compared to excellent health (e) are 1.4 times greater for men than women, holding all other variables constant.”

**Before you start Assignment 9 (MNLM Part 2), you must have your outline in question 7 below approved.**

The reason for this is that the large number of parameters and relationships in a MNLM makes it easy to get lost in the details and lose sight of the bigger picture. I encourage you to turn in Part 1 as soon as possible. After Assignment 8 is graded, ask your TA or the instructor if you have questions before proceeding to Assignment 9.

1. \_\_\_ of 10: Based on Assignment 3, demonstrate that your variables are clean and appropriately labeled. This should be short, clear, and convincing. The dependent variable must have at least four categories which have value labels assigned with the label def and label val commands. The first letter of the labels must NOT be the same (for reasons explained in class). For example, if the labels are SD, D, A, and SA the labels SD and SA have the same first letter. As an alternative, you could use 1SD, 2D, 3A, and 4SA. Your dependent variable will also be used for your ordinal assignments, you must choose a variable that could be considered ordinal. You need six to eight substantively reasonable independent variables. At least two independent variables (IV) must be continuous and at least two must be binary or categorical variables.

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1. \_\_\_ of 5: Present a professional table describing the variables. Include the distribution of the outcome variable showing percentages in each category, not the N’s. Include the variable labels and letters or numbers used for your graphs. Indicate the coding of binary variables and the metric for continuous variables.

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1. \_\_\_ of 5: Estimate the MNLM of Y on C, F, and X. Include the output from listcoef, help.

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1. \_\_\_ of 5: Use mlogtest to compute a LR test that the effect of C is zero; do the same for F. Write the results of the test for C as though it is part of an article. C and F **must** be statistically significant; if not, you must find new variables.

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1. \_\_\_ of 10: Use graph paper (available on Box) to create an odds ratio plot for C and F. Here and in later questions, use either standardized or unstandardized coefficients for C depending on which is most informative. Be consistent. Include this graph as the last page of what you turn in. Neatness counts. Include information on statistical significance **at the .10 level**. If you prefer, use Excel or some other package (not mlogitplot) to make this plot.

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1. \_\_\_ of 10: Use mlogitplot to create an odds ratio plot for variables C and F. Include lines for statistical significance at the .05 level. Set the range of the x-axis and the number of tics so that the tic labels are “nice” (e.g., numbers like 1.25, 1.75, rather than 1.22, 1.56). Show the plot. Use the note option to provide a key to the meaning of the symbols (e.g., note(1=SA 2=A 3=D 4=SD)). You should also include a title for your plot.

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1. \_\_\_ of 10: This is the hardest and most important question. In an outline, describe the pattern of effects of C and F in general, substantive terms. Each point of the outline might have a one or two sentence description. Use the graph from question 6 to help you uncover the overall pattern, but do NOT refer to the graph (i.e., describe the pattern to someone who will not see the graph). Discuss the pattern of effects, the relative magnitudes, and significance. Do not discuss specific numbers. Your answer must be in outline form with bulleted sub-points. An answer that is simply a paragraph will not be accepted and must be redone. Since you have not computed marginal effects, your final substantive conclusions might change later.

**You must use the feedback from your AI on this question when you complete Assignment 9**

Font for your answer

1. \_\_\_ of 5: My assessment of the overall effectiveness of your answers.

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