Observational Study Data Analysis Plan

I. Descriptive Analyses - Frequencies for Discrete Variables.

- Analyze -> Descriptive Statistics -> Frequencies
- Variable(s) = congen, grpsize, subgen, help, day, time, direct.
- Do not request any statistics or charts
- Paste to Syntax Sheet (Click on **Paste** and a new syntax window will open.
- You should obtain the following syntax:

```
FREQUENCIES
 VARIABLES=congen grpsize subgen help day time direct
  /ORDER=  ANALYSIS .
```

- Save this file as YOURNAME_Helping_Data_Syntax.
- To run this analysis, while in the syntax editor, highlight the desired block of syntax and click on the black arrow on the tool-bar or use the "Run" drop down menu.
- An output window will open with frequency tables for all of your variables.
- Save this file as YOURNAME_Helping_Data_Output.

In your paper, report the following: - These analyses should be reported in the Methods section. Some of this information should be presented in the *Participants* section. The rest will be reported in the *Procedures* section.
- *Participants* - Total number of Observations, Group Size (% Individuals, % Group of 2, % Group of 3 or more), Subject Gender (%Female Single, %Female Group, %Male Single, %Male Group, %Mixed Gender Group)
- *Procedures* - Day of Observation (% Day 1, % Day 2, % Day 3, etc.), Time (% morning, % noon, % afternoon), % Male Confederates, % Female Confederates, Helping Behavior (% Help, % No Help)

II. Preliminary Analysis - X^2 Goodness of Fit Tests for Discrete Variables

- Analyze -> Nonparametric Tests -> Chi Square
- Test Variable List = congen, grpsize, subgen, help, day, time, direct.
- Expected Values: All categories equal
- Expected Range: Get from data.
- Paste to Syntax Sheet.
- You should obtain the following syntax for the first chi square:

```
NPAR TEST
 /CHISQUARE=congen grpsize subgen help day time direct
 /EXPECTED=EQUAL
 /MISSING ANALYSIS.
```

-Run these analyses (Again, to run this analysis, while in the syntax editor, highlight the desired block of syntax and click on the black arrow on the tool-bar or use the "Run" drop down menu.

In your paper, report the following: - These results should be reported as the first sub-section of the Results section. Since the group frequencies for each variable are presented in the Methods section, it is not necessary to report them here. However, you do need to explain what the results were.
-For all significant analyses report the test results. For Example: It was found that significantly more participants stopped to help than was expected by chance alone, $X^2(1, n = 174) = 57.47, p = .001$. (or whatever sig. level given by SPSS).

III. Main Analyses - Pearson's Chi Square Test of Association Between Discrete Variables

- Each hypothesis will have to be tested separately.

1) Group Size x Help Hypothesis: Individuals are more likely to give help than groups of two or more.

- Analyze -> Descriptive Statistics -> Crosstabs
- Rows: Always put the variable with the most groups in the Rows (In this case, it is Group Size).
- Columns: Always put the variable with fewest groups in the Columns (in this case, it is Helping Behavior). This simply keeps the output a little more interpretable (unless you print your output in landscape, then you should reverse the above rules).
- Statistics: Chi-Square, Phi and Cramer V
- Cells: All Counts, All Percentages, and Unstandardized Residuals
- Paste to Syntax Sheet
- Syntax for this hypothesis:

```
CROSSTABS
/TABLES=grpsize BY help
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ PHI
/CELLS= COUNT EXPECTED ROW COLUMN TOTAL RESID .
```

2) Confederate Gender x Help Hypothesis: Female Confederates are more likely to receive help than Male Confederates.

- Once you get the syntax for one analysis you can copy and paste it and just change the variables in the syntax:

```
CROSSTABS
/TABLES=congen BY help
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ PHI
/CELLS= COUNT EXPECTED ROW COLUMN TOTAL RESID .
```

3) Subject Gender x Help Hypothesis: Male Subjects are more likely to give help than Female Subjects.

- You will notice that your data contains a new variable called "subgenmf," In order to simplify testing for subject gender, the Female Single and Female Group data has been combined, and the Male Single and Male Group data has been combined. If you look at the variable view, you can see how the new labels are applied.

- We can use this new variable to determine helping behavior of the two genders.
- Copy and paste the previous syntax and use the new variable subgenmf:

```
CROSSTABS
/TABLES=subgenmf BY help
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ PHI
/CELLS= COUNT EXPECTED ROW COLUMN TOTAL RESID .
```

4) Subject Sex x Confederate Sex Interaction Hypotheses:

For Female Confederates: Male Subjects will be more likely to help than females.
For Male Confederates: Female Subjects will be more likely to help than males.

- Essentially we will instruct SPSS to run the same Subject Gender x Help analysis once just for female confederates and once just for male confederates using the split file command:

- Split File & Crosstabs:
- Data -> Split File -> Organize output by groups
- Group Based on: -> congen -> Paste to syntax sheet.
- Run the crosstabs analysis again for subgenmf x help
- You should produce the following syntax:

```
SORT CASES BY congen.
SPLIT FILE
SEPARATE BY congen .
CROSSTABS
/TABLES=subgenmf BY help
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ PHI
/CELLS= COUNT EXPECTED ROW COLUMN TOTAL RESID .
```

- Turn OFF the Split File Command: Data -> Split File -> Analyze All cases -> OK

In your paper, report the following: - These Analyses will be reported in the second section of the Results Section

For each test, state the hypothesis, tell what type of analysis was used to test the hypothesis, state the results of the test (whether significant or non-significant), and present the observed frequencies in either the text or in a table.

Example:

It was hypothesized that male subjects would be more likely to help, compared to female participants. A Chi-Square goodness of fit analysis supports this hypothesis, $X^2(1, n= 174) = 4.99$, $p = .02$. Cramer's $V = .17$. See Table 1.1 for observed and expected frequencies.

Table 1 *Crosstabulation of Sex of Subject and Helping Behavior*

	Observed	Expected
Males	n = 31	n = 22.5
Females	n = 14	n = 22.5