

Project I Data Analysis Plan

I. Obtain data file (Study 1 Data: file name: cell phone data.sav) from the course web page and save it to your H: drive

II. Descriptive Analyses

- 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.

A. Select all cases for analysis-

- before conducting any analysis we should instruct SPSS to use all of the subjects in our study, normally you would not need to do this, but later on we will exclude some people from certain analyses, and adding this statement here can keep us from getting hopelessly confused later. In short, it is just good practice.

- Data ----> Select Cases

- All Cases

- Paste to Syntax Sheet (Click on **Paste** and a new syntax window will open. Save this file as YOURNAME_Cellphone_Data_Syntax)

- You should obtain the following syntax.

```
USE ALL.  
EXECUTE .
```

B. Frequencies for Discrete Variables.

- Analyze —> Descriptive Statistics—>Frequencies...

- Variable(s) =sexsub, group, and phoneuse.

- Do not request any statistics or charts

- Paste to Syntax Sheet (Click on **Paste**).

- You should obtain the following syntax.

```
FREQUENCIES
```

```
VARIABLES= sexsub group phoneuse
```

```
/ORDER= ANALYSIS .
```

- To run this analysis, while in the syntax editor, highlight the desired block of syntax and click on the tool-bar-button with the black arrow pointing to the right (it looks like a play button on VCR, DVD, or CD player)

Report =

- *Participants* = Total number of Observations. Gender = % Male Subjects, % Female Subjects

- *Procedures* = sexsub (% male, % female, % unsure), group (% alone, % pairs, % group, % unsure), and phone use (% for each category). Note that we originally included 5 categories of phone use, but due to the low frequency of headset wearing, we collapsed the data into 3 groups.

III. Preliminary Analysis

- Should be reported as the first sub-section of the Results section.

- X^2 Goodness of Fit Tests for Discrete Variables

- Analyze—> Nonparametric Tests—> Chi Square

- Test Variable List = sexsub, group, phoneuse.

- 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

NPART TEST

```

/CHISQUARE=sexsub group phoneuse
/EXPECTED=EQUAL
/MISSING ANALYSIS.

```

- we should also test gender of subjects using the 60/40 (female/male) ratio. Since male = 1 enter 40 first (click add), then 60 (click add). When you run this, only run it for gsub (remove all other variables from the Test Variable List).
- If you conduct the sexsub analysis with the 60/40 ratio you will have the following syntax.

NPART TEST

```

/CHISQUARE=sexsub
/EXPECTED=60 40
/MISSING ANALYSIS.

```

- Run these analyses

Report = For all significant analyses report the test results

E.g.

If $p < .05$, then $X^2(?, N = ?) = ?.??, p = .05$. (or whatever sig level given by spss).

- 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 Example: It was found that significantly more females were observed, compared to males, $X^2(1, N = 174) = 57.47, p = .001$.

IV. Main Analyses

- These Analyses will be reported in the second section of the Results Section
- Pearson’s Chi Square Test of Association Between Discrete Variables
- Each hypothesis will have to be tested separately, but once you get the syntax for one analysis you can copy and paste it and just change the variables in the syntax.
 - Analyze —> Descriptive Statistics —> Crosstabs...
 - Rows : Always put the variable with the most groups in the Rows.
 - Columns: Always put the variable with fewest groups in the Columns.
 - 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: Observed Counts, Expected Counts, Total Percentages, Adjusted Standardized Residuals.
- Paste to Syntax Sheet

Analysis

Hypotheses

Gender x Phone Use:

Female Participants are more likely to be using the cell phone than Male Participants

Group x Phone Use:

Participants who are walking in pairs will be less likely to use the cell phone than participants walking in groups or

alone.

Subject Sex x Group Interaction for Phone Use:

- For Participants who are Alone: Females will be more likely to be using the phone
- For Participants who are in Pairs: Gender difference in phone use will be small
- For Participants who are in Groups: Male participants will be less likely to use the phone than females.

This analysis will require the use of the Split File Command. Essentially we will instruct spss to run the same Sex of Subject x Help analyses once just for female confederates and once just for male confederates.

Split File = Data —> Split File

- Organize output by groups
- Group Based on: ----> group
- Paste, you should produce the following syntax.

```
SORT CASES BY group .  
SPLIT FILE  
SEPARATE BY group .
```

- Then, copy the Phoneuse x sexsub syntax you generated earlier, which is illustrated bellow, underneath the split file syntax separated by at least one line.
- Below this past the syntax that will turn off the split file option, by selecting the first button in the split file dialogue box (Analyze all case, do not create groups). if you don't do this all future analyses that you run will use split file and it generates quite confusing output.

```
SPLIT FILE  
OFF.
```

- Complete Syntax for Main analysis:

```
CROSSTABS  
/TABLES=sexsub BY phoneuse  
/FORMAT= AVALUE TABLES  
/STATISTIC=CHISQ PHI  
/CELLS= COUNT EXPECTED TOTAL RESID ASRESID  
/COUNT ROUND CELL .
```

```
CROSSTABS  
/TABLES= group BY phoneuse  
/FORMAT= AVALUE TABLES  
/STATISTIC=CHISQ PHI  
/CELLS= COUNT EXPECTED TOTAL RESID ASRESID  
/COUNT ROUND CELL .
```

```
SORT CASES BY group .  
SPLIT FILE  
SEPARATE BY group .
```

```
CROSSTABS  
/TABLES=sexsub BY phoneuse  
/FORMAT= AVALUE TABLES  
/STATISTIC=CHISQ PHI
```

/CELLS= COUNT EXPECTED TOTAL RESID ASRESID
/COUNT ROUND CELL .

SPLIT FILE
OFF.

Report:

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. You must also describe in words what the pattern of data indicates. Who is overrepresented and who is underrepresented.

Example:

It was hypothesized that female subjects would be more likely to help, compared to male participants. Chi-Square goodness of fit analysis support this hypothesis, $\chi^2(1, N = 120) = 4.99, p = .02$. Cramer's $V = .17$. See Table 1.1 for observed and expected frequencies. Males were over represented among those who demonstrated no cellular phone use, while females were overrepresented among those who were using a cellular telephone.

Table 1

Crosstabulation of Sex of Subject and Phone Use

	Phone Use	
	No Use	Use
Males	26% (3.3)	4% (-2.1)
Females	12% (-3.3)	58% (2.2)

Note. $n = 120$. Percentages represent percent of total sample. Standardized Residuals appear in parentheses below percentages.