Preparing Your Report

Soc 357
Fall 2006

Writing up your research

- You will write up your findings separately
- But you can discuss your results as a team as much as you want (you are encouraged to do so)
- You must write a group process report individually

Notes on Format & Writing

- Please make sure to include ***the same subject headings*** listed in the instructions
- Be as **detailed** as possible
- If you made a mistake in the execution of your project, you still get full credit if you identify
  a) What you did incorrectly, and what were the consequences
  b) What would have been the correct procedure

Testing Reliability

- You must observe the same subjects independently, without checking each other's work
- If you sampled by rule, calculate **sampling error** and locate those subjects you both observed
- Calculate the **coding error** – the percentage of disagreement in coding the dependent variable

Calculating Reliability –1: Compile Data

1. Compare two partners' data.
2. Mark all cases in which you saw the same person and gave the same variable code with "A" (Agree)
3. To measure **Sampling Error:** Put a * by a any case one partner saw that the other missed (did not code at all)
4. To measure **Coding Error:** Mark the cases in which you saw the same person but gave them a different variable code with "D" (Disagree)

Calculating Reliability – 2: Counts

***To calculate Sample Error, you need*:**
S1 = sample difference 1 = # of *'s on 1's data sheet. (number of times partner 1 saw a subject partner 2 did not see).
S2 = sample difference 2: # of *'s on 2's data sheet.

***To calculate Coding Error, you need*:**
A = number you agree on: The number of "A's" on one code sheet: same subject, same variable code. (1 and 2 should agree on # of A's)
C = Coding difference: Number of "D's" on one code sheet, number of times you observed the same subject but coded the variable differently, 1 and 2 should agree on # of D's

Calculating Reliability – 3: Computations

- N (total # people seen by either partner)
- N = A + C + S1 + S2
- **Sampling error**: SE = (S1 + S2)/N (proportion of total cases that one person saw but not the other).
- **Coding error**: CE = C/(A+C) (proportion you both saw that you disagree about in the variable).
- For 3-person teams, calculate 2-3 possible pairs; for 4-person teams, calculate 2 pairs – those that seem most alike, and those that seem most different

Evaluating Reliability

- Perfect reliability is the goal, zero errors
- But for this assignment, need to do a variable that is complex enough that this is not "easy"
- Even 10% error is fairly high for reliability
- Try to understand the source of all errors and how they could be avoided
- If error is low, discuss what you did well in the procedures to produce low error

Preparing data for hypothesis testing

You have 4 choices:

a) Each partner analyzes the data s/he collected
b) Use the data from the partner you believe was most accurate
c) Create a composite data set using the good data from each partner
d) Do the analysis for each data set

**** You must explain what you did in the report**

The Logic of Hypothesis Testing

- You have a hypothesis about the relationship between two variables in your study
- You examine the data to see if it **confirms** or **disconfirms** your hypothesized relationship, or if the data are **inconclusive**

Conditional Percentages

1. Dependent variable is qualitative
2. Cross-tabulate the data
3. Calculate percentages for the dependent variable separately within each category of the independent variable.
4. Compare the percentages across categories of the independent variable

Cross-tabulate the Data

Independent

Dependent	Male	Female	Total
Bite	11111111	1111	
Lick	11111	1111111111	
Other	11	111	
Total			

Calculate Cell, Row, Column Totals

	Male	Female	Total
Bite	8 11111111	4 1111	12
Lick	5 11111	10 1111111111	15
Other	2 11	3 111	5
Total	15	17	32

Check the row and column totals against the data before proceeding

Calculate Conditional Percentages

Independent

Dependent	Male	Female	Total
Bite	8/15=.533	4/17=.235	12
Lick	5/15=.333	10/17=.588	15
Other	2/15=.133	3/17=.176	5
Total	15	17	32

Divide each cell total by the total for that category of the independent variable

Final Table

	Male	Female
Bite	53%	24%
Lick	33%	59%
Other	13%	18%
Total	99%*	101%*
(N)	(15)	(17)

* Rounding error

It is OK to use the original proportions or to turn them into percents.

Final Table

	Male	Female
Bite	53%	24%
Lick	33%	59%
Other	13%	18%
Total	99%*	101%*
(N)	(15)	(17)

Interpretation:
- **Males bit 53% of the time compared to 24% of the women (a percentage difference of 29%)**
- **Females licked 59% of the time compared to 33% for males (a percentage difference of 26%)**
- **"Other" was only slightly different for men and women.**

* Rounding error

Conditional Means

1. Dependent variable is quantitative
2. List the values for the dependent variable separately for each category of the independent variable
3. Calculate the mean for the dependent variable separately for each category of the independent variable.
4. Compare the means across categories of the independent variable

List Dependent Variable Scores by Independent Variable

Males

13 17
22 23
26 44
34 10
10 29
19 55
39 31
33 27
30 16
22
42

Dependent variable is number of seconds it took to complete sales transaction.

Females

47 42 56
25 17 79
36 23 82
24 74 23
31 49 57
69 29 14
39 55 33
33 31
30 47
22 26

$N_m = 20$ (number of males)
$\sum x_m = 542$ (sum of scores)

$N_f = 27$ (number of females)
$\sum x_f = 1093$ (sum of scores)

Calculate Means Separately for Each Group: Females

N_f = 27 (number of females)

$\sum x_f$ = 1093 (sum of scores for females)

$Mean_f = \sum x_f / N_f$ = 1093/27 = 40.48

Females

47	42	56
25	17	79
36	23	82
24	74	23
31	49	57
69	29	14
39	55	33
33	31	
30	47	
22	26	

Calculate Means Separately for Each Group: Males

N_m = 20 (number of males)

$\sum x_m$ = 542 (sum of scores for males)

$Mean_m = \sum x_m / N_m$ = 542/20 = 27.10

Males

13	17
22	23
26	44
34	10
10	29
19	55
39	31
33	27
30	16
22	
42	

Final Table

	Men	Women
Mean Seconds for Transaction	27.1	40.5
(N)	(20)	(27)

Interpretation: Women took 13.4 seconds longer than men, on average, to complete their transactions.

Hypothesis Testing

- CONFIRMS: statistical association in the direction predicted which is fairly strong (or statistically significant, if you are doing a significance test)
- DISCONFIRMS: opposite direction from prediction OR zero association when you predicted a non-zero statistical association
- INDETERMINATE: statistical association is in the direction you predicted, but is weak (or not statistically significant)

Testing Prediction of Zero Association

- This is harder to falsify
- Only an exactly zero association confirms
- A large association disconfirms
- A weak association is indeterminate

Goals for today:

- Discuss findings from preliminary observations
- Finalize your plan -- to hand in at the end of class!
  1. How you will sample
  2. What variables you will observe
  3. How you will classify your observations: List the total set of all possible classifications/outcomes for each variable of interest What will you do if you are unsure about how to classify?
  4. How will you minimize observer effects? What will you do if this becomes an issue?
  5. Do you know how to construct a table to record your observations?