Bouma, Soc 286: Sociology of Health

Handout 3: Exploring Control Variables

We have found that a number of factors seem to affect disability status. For example, we have found that higher proportions of women than men have difficulty in basic self-care activities and limitations in living independently. What are some of the reasons you think women might have higher levels of disability? Make a list of potential reasons:

As you noted, there may be a number of reasons – poorer health care when younger, different income levels, different biological factors, higher levels of stress, etc. One problem in comparing all men to all women is that many different factors may be at play, not just their sex. One way to try to account for this is to control for some of the potential differences. So, rather than comparing all women 65 and above to all men 65 and above, we can compare more specific groups of men and women. For example, we know that women generally live longer than men. Thus it may be that the women in our sample are older than the men, and that's why more women have disabilities. We can investigate this possibility by controlling for age. What this means is that we will split the sample of men and women into their different age groups. In this data set, age is split into three categories: 65-74, 75-84, 85+. We can now compare men and women in each of these age groups. Do men and women aged 65-74 have similar proportions who are disabled? What about those aged 75-84 or 85 and above? To do this, follow the steps below:

1) Run your original bivariate relationship (cross-tab) between gender and one of the forms of disability (either selfcare of IndLivLt). For this exercise, let's examine the effect of sex (gender) on selfcare. Below, write out in one-two sentences the main findings:

2) Now make a hypothesis about what you are going to find. When you control for age, you will create three new tables. You will have one table for all men and women aged 65-74. Do you think you will find the same relationship between sex and self-care that you found for the entire sample? In other words, do you think that for this younger group of men and women, we will still find that a higher proportion of women will have disabilities? Do you think the pattern will be weaker? Stronger? Will change? Guess for the other two age groups as well. Do you think the pattern will stay the same, weaken, strengthen, or change?

2) To test a control variable, you must first run your original cross-table (like you did in step 1 above), and then follow up by clicking on **Table** and then clicking on **Control**.
3) Choose AgeEldr as your control variable.
4) Click again on Table and select "percentage down"

Interpreting your output:
a) Your output will include three sets of tables, one for each age level. The first table will show all men and women aged 65-74. You can now compare the percentages of "young elderly" men and women who have difficulty bathing or dressing. What do you find? How does this compare to what you saw in the first cross-tab you ran for all women and men?

b) The next table shows the disability levels of all men and women aged 75-84. Are there still differences across men and women? Describe what you find:

c) Finally, compare difficulties in self care for the oldest men and women, those aged 85 and above:

d) Overall, what have you found? When controlling for age, do you still see that higher proportions of women than men are unable to care for themselves?

e) When you have finished this, repeat the exercise, this time controlling for income/poverty level. What do you find?

Tips and useful language when describing controls.
1) Remember what your original bivariate relationship (cross-tab) is – this is **always** the central focus of your analysis. In the example above, the original relationship is the effect of sex on disability status. Start by describing what you find.
2) After you have described the original relationship, then consider what might happen when you add your control. Do you think the same relationship you found above (that higher proportions of women are disabled than men) will be true for each age group? There are three basic possibilities:
a) When you control for age, the relationship may stay the same (at every age level, we still see that a higher proportion of women than men are disabled).
b) When you control for age, the original relationship changes, or only partially holds. Perhaps you see that at younger ages more women than men are disabled, but at older ages, more men than women are disabled.
c) When you control for age, the original relationship no longer holds. Once you control, you may no longer see strong differences between men and women. Instead, the differences may now be across the age levels.

To describe what you found when controlling, follow this basic set of rules:
1) Describe the original bivariate. ALWAYS start with this.
2) Describe what happens to the original relationship overall across the new tables (the relationship holds, no longer holds, partially holds, changes, etc.). Then you can discuss some of the findings within in the new tables, in reference to your original relationship.
3) After discussing what has happened to the original relationship, discuss whether you see an additional effect of the control variable.

For WEDNESDAY: Please choose a bivariate relationship of interest and test one (or more) control variable. On Wednesday, please prepare a brief presentation of what you found. You may use my computer to run the data and project it or hook up your own computer to show more properly created tables. The main point is for you to properly describe first the bivariate relationship, and then tell us what you found when you ran a control. If you'd like, you may do this in pairs.