Chapter 11 "Dealing With Data" SPSS Tutorial

1. **Visit** the student website at for this textbook at www.clowjames.net/students.

2. **Download** the following files:
   "Chapter 11 Dealing with Data" (SPSS data file)
   "Chapter 11 Dealing with Data Survey" (Word file)

3. Open SPSS 17.0.
   The program may appear as an icon on your computer desktop, or you may need to use the START > ALL PROGRAMS command in Windows to find the *"SPSS Inc."* folder. Once you have located this folder, open it, then open the *"Statistics 17.0"* folder.   Finally, launch the SPSS Statistics 17.0 program (designated by the red icon) by clicking on that item.
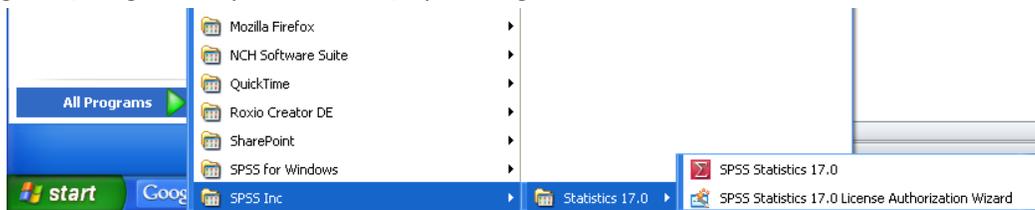

4. Select the *"Open an existing data source"* option from the resulting pop-up window to open the data file named, *"Chapter 11 Dealing with Data"*. If the file name does not appear in the window below this option, select the *"More Files"* option, then click the OK button, and browse to the location where your copy of the data file is saved. (If you have forgotten how to locate and open an SPSS data file, review the Dealing With Data instructions from chapter 2.)

5. This tutorial will show you how to recode the *Shopping Loyalty to Local Retail Stores* scale items into new variables, and how to use the TRANSFORM > COMPUTE command to create a new summated variable. Read the Chapter 11 "Statistics Review" before you do anything else.

Recoding Variables

6. A marketing research best practice is to recode all variables comprising a given scale into new variables. The reasoning behind this best practice was explained in the chapter 11 "Statistics Review". The first step is identify which variables need to be reverse-coded. Items 2, 7, and 10 need to be reverse-coded for the *Loyalty to Local Retail Stores* scale.

7. Select TRANSFORM > RECODE INTO DIFFERENT VARIABLES option. The dialogue box shown on the following page will appear. Select the variables that need to be reverse-coded one at a time, and click the arrow button to move the variable into the "Input Variable -> Output Variable" window.

8. The next step is NAME the new variables. Click the first variable that you want to recode, and enter a name for the new recoded version of the variable in the "Output Variable" portion of the dialogue box. Remember, no spaces can appear in the variable name. Then click the change button. The original and new recoded variable names will now be shown in the Numeric Value -> Output Variable window, similar to what you see at right for the first variable on the list.
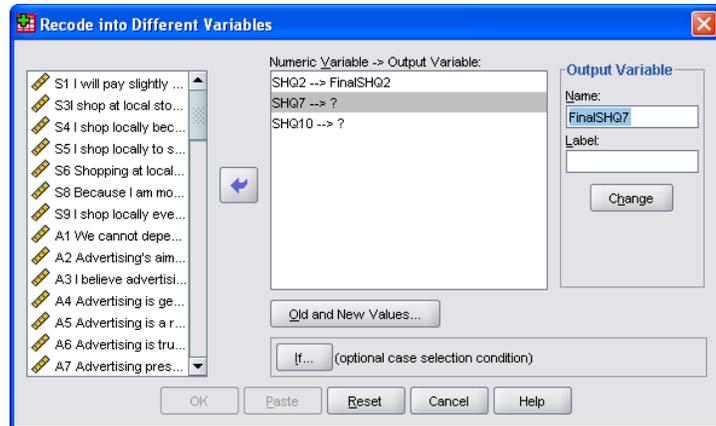
9. Repeat this process for each of the variables that will be reverse-coded. Don't bother filling in the "Label" portion of the "Output Variable" window. You'll learn how to deal with that later in a more efficient fashion.

10. Once all variables in the window show a numeric variable and output variable name, click the "Old and New Values" button. The following window will appear.
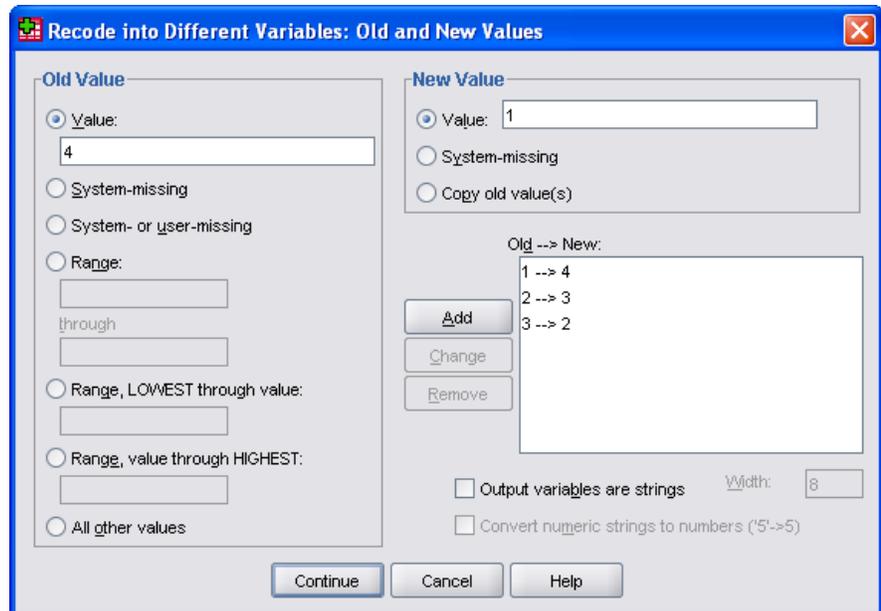
11. As the variables you have chosen need to be reverse coded, the process you are about to undertake will convert "old values" (those entered for the original variable) of 1 to 4, 2 to 3, 3 to 2, and 4 to 1 for the new output variable.

    NOTE: There are only four categories for the variable used in the example. CHECK the value labels of your variables BEFORE YOU RECODE. If there are five categories, your recoding scheme would be different: 1 to 5, 2 to 4, 3 stays the same, 4 to 2, and 5 to 1.

12. Begin by entering "1" in the blank under "Value" on the "Old Value" side of the window. Next, enter "4" in the "Value" entry blank under the "New Value" portion of the window, then click the ADD button. You should see "1 --> 4" on the first row of the "Old --> New:" box.

13. Repeat this process for 2 --> 3, 3 --> 2, and 4 --> 1. Once all values to be recoded have been ADDED and appear in the "Old --> New:" box, click the continue button.

14. Doing so will return you to the "Recode into Different Variables" window. Click the "OK" button.
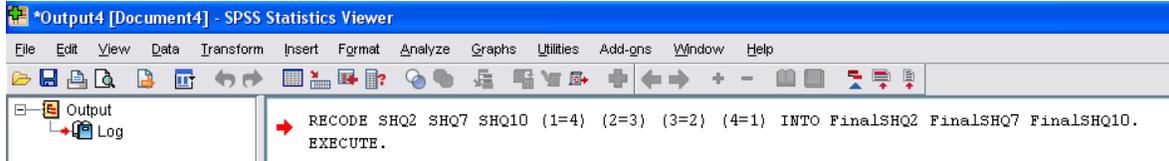
15. The SPSS Output window will verify that your recoding has been executed.

16. Use the TRANSFORM > RECODE INTO DIFFERENT VARIABLES sequence to return to the "Recode into Different Variables" window.

17. Click the RESET button to remove the previous variables and values that you recoded.

18. The next step is to create new variables for the rest of the scale items. However, the values contained in these items will merely be copied from the old variable to the new variable.
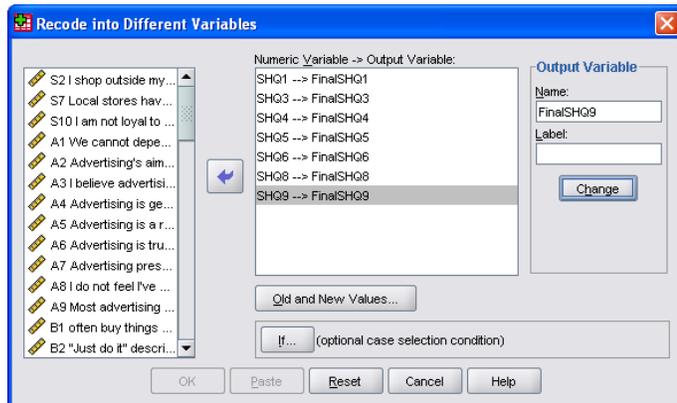
19. Select the remaining scale items. In the example, variables SHQ1, SHQ3 through SHQ6, SHQa8 and SHQ9 are selected. For each variable, create a new output variable name using similar phrasing to that used before.
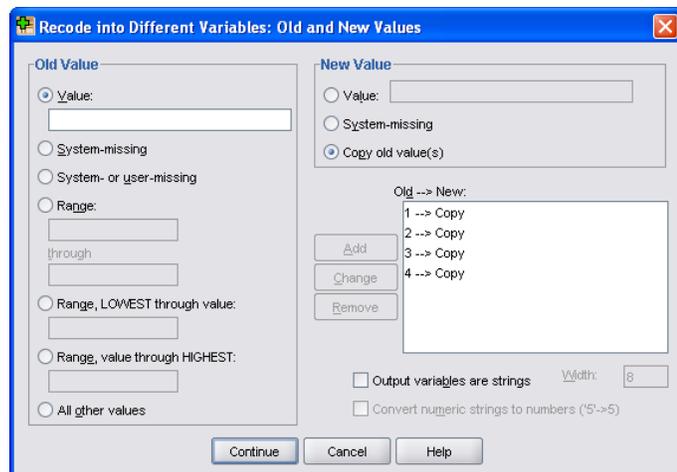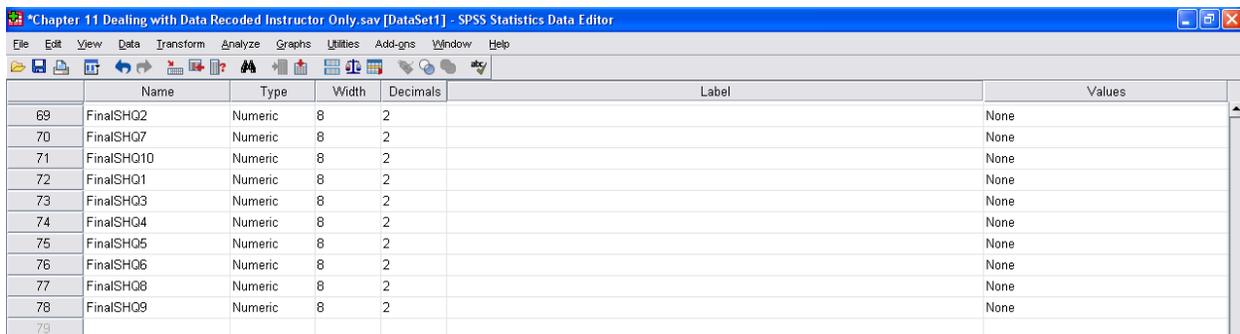
20. Click the "Old and New Values" button.

21. There are two methods you can use to create the values for the new variables. The first and easiest method is to enter a value in the "Old Value" section, and then select the "Copy old value(s)" option from the "New Value" section.

Don't forget to click the "Add" button. Repeat this process for each value, in this case, values 1 through 4.

22. The second way to accomplish this task is simply to enter "1" under old value, and "1" under new value, click the "Add" button, then continuing entering identical numbers under the "Old" and "New" value portion of the window.

23. When finished, click the "Continue" button. Then click the "Ok" button. The new variables will be created with the same values as the old variables.
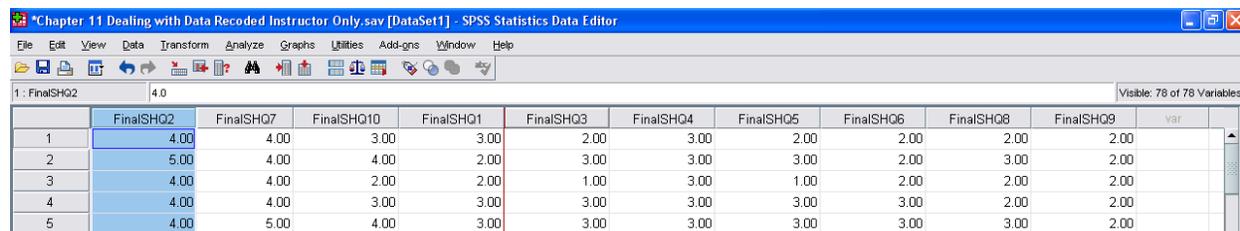
24. Return to the VARIABLE VIEW window by clicking the correct tab in the lower left-hand corner of your screen.

25. Your new variables will appear similar to those shown above. Notice that the variables are now out of numeric order, and that they lack both variable labels and value labels. The first thing you should do is reorder the variables so that they appear in the same order as the original variables. This will make it faster and easier to add variable labels and value labels, and reduce the likelihood that you will either mislabel a variable, or assign the wrong value labels to a variable.

26. Go to the DATA VIEW window. Scroll to the right until you find the new variables you created.

27. In this example, the variable "FinalSHQ2" is going to be repositioned between "FinalSHQ1" and "FinalSHQ3".

28. Left-click on the variable name at the top of the column and hold down the mouse button. Carefully drag your mouse horizontally **across the names of the other variables** (do not let your mouse

wander above the variable names, or below into the data area). You will see a red line move with your mouse (similar to that shown). The red line indicates the location where the variable will be inserted once you release the mouse button.

29. Reposition your variables so they are back in numerical order. Then return to the VARIABLE VIEW.

30. The next step will be to add variable labels to the new variables. Find the original items corresponding to the new variables. For example, the new variable "FinalSHq1" corresponds to "SHQ1".

31. Highlight the existing variable label for the original item (e.g., "SHQ1"). Right clicking on the label will provide an option to COPY the label. Select that option and click.
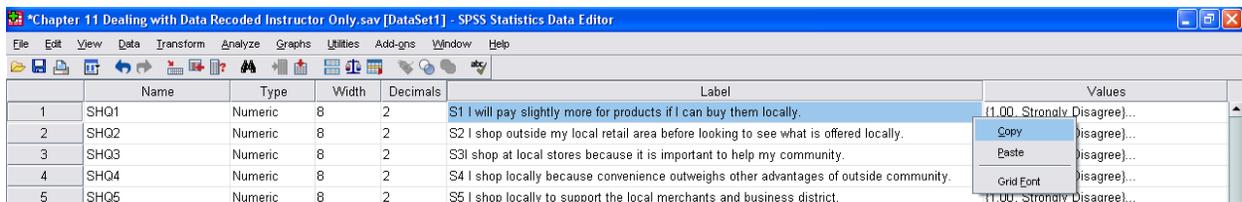
32. Now return to the NEW variable (in this example, "FinalSHQ1") that corresponds with the variable from which you just copied a label. Right-click on the empty label cell, and select the PASTE option. The copied label should now appear in the cell.

33. Once the label has been pasted, edit the beginning portion of the label. For example, as shown below, the "S1" which originally prefaced the statement, "I will pay slightly more for products if I can buy them locally" has been changed to read "FinS1". This is a very important step because SPSS displays the LABELS rather than variable names whenever you attempt to run analyses. Designating the variable with a "Fin" in front of the rest of the name will help you to identify the correct variables which should be used during the data analysis stage.
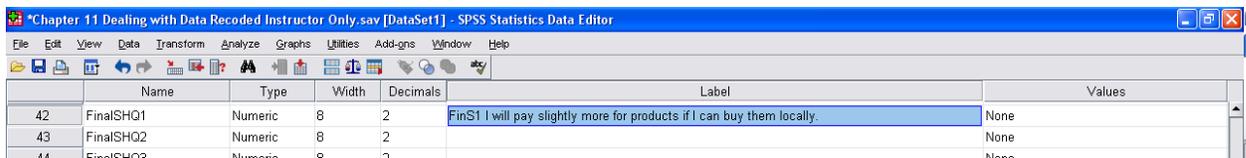


34. Repeat this process for all variables. Having the variables in numeric order will speed up the copy and paste process and make it much less likely that you will paste the WRONG label to a given variable.

35. The final step in finishing the new variables to add value labels. Recall that some of the variables were recoded to make reversed items consistent with the other items in the scale.

36. Go to one of the original variables (e.g., "SHQ1") and using the procedure discussed before, COPY and PASTE the value labels into all of the new variables.

37. Find the first NEW variable that was reverse coded (e.g, 1=4, 2=3, 3=2, 4=1). In this example, that variable is "FinalSHQ2". In the VALUES column, click on the little grey box with the three dots (located on the right-hand side of the cell) to access the value labels.

38. CHANGE the labels to reflect the fact that these items were reverse coded. For example, click once on the first line, 1.00 = "Strongly Disagree" and then select the CHANGE button. This will allow you to edit the existing value labels.

    In this example, since the labels were reversed as part of the coding process, 1 NOW equals "Strongly Agree", 2 = "Agree", 3 = "Disagree" and 4 = "Strongly Disagree". Simply change the label for the value of 1 to read "Strongly Agree", then click the change button. This process would be repeated until the value labels have been reversed, as shown below. Click the "OK" button once all of the values have been altered appropriately.
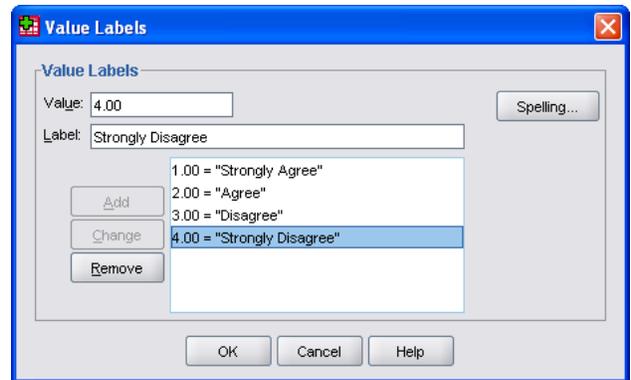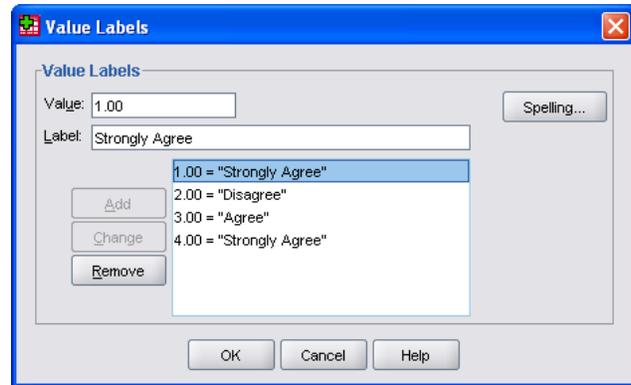
39. The first variable that was reverse-coded now has value labels that correctly identify what the numbers mean FOR THAT VARIABLE after recoding.

40. COPY and PASTE the revised value labels ONLY to new variables that were REVERSE CODED! In this example, that would be variables "FinalSHQ2", "FinalSHQ7" and "FinalSHQ10". Notice that you can easily see the recoded values when look down the list of value labels, as shown below.

|	Name	Type	Width	Decimals	Label	Values
42	FinalSHQ1	Numeric	8	2	S1 I will pay slightly more for products if I can buy them locally.	{1.00, Strongly Disagree}...
43	FinalSHQ2	Numeric	8	2	S2 I shop outside my local retail area before looking to see what is offered locally.	{1.00, Strongly Disagree}...
44	FinalSHQ3	Numeric	8	2	S3I shop at local stores because it is important to help my community.	{1.00, Strongly Agree}...
45	FinalSHQ4	Numeric	8	2	S4 I shop locally because convenience outweighs other advantages of outside community.	{1.00, Strongly Disagree}...
46	FinalSHQ5	Numeric	8	2	S5 I shop locally to support the local merchants and business district.	{1.00, Strongly Disagree}...
47	FinalSHQ6	Numeric	8	2	S6 Shopping at local stores in an enjoyable experience.	{1.00, Strongly Disagree}...
48	FinalSHQ7	Numeric	8	2	S7 Local stores have inferior products/services so I prefer shopping out of town.	{1.00, Strongly Agree}...
49	FinalSHQ8	Numeric	8	2	S8 Because I am more familar with local stores, I prefer shopping locally.	{1.00, Strongly Disagree}...
50	FinalSHQ9	Numeric	8	2	S9 I shop locally even when the selection/variety of goods is poor.	{1.00, Strongly Disagree}...
51	FinalSHQ10	Numeric	8	2	S10 I am not loyal to my local shopping area.	{1.00, Strongly Agree}...

Creating Summated and Averaged Variables for Multi-item Scales

41. Suppose the researcher was interested in learning whether women were more loyal to local retail stores than men. Before this question could be answered, a new variable would need to be created which summarizes the overall loyalty that consumers have towards local stores. One method of doing so is create a summated variable, which simply adds all the individual item scores together and saves them to a new variable.

42. From the TRANSFORM menu, select the COMPUTE VARIABLE option.

43. Enter a name for the variable in the box underneath the "Target Variable:" heading.   In this example, the variable is named "LoyaltyLocRetSum".

44. Highlight the first item in this scale using the RECODED variables that you just created, click the arrow pointing towards the "Numeric Expression" box, click the "+" sign, then click the second variable and so on until all variables comprising the scale are shown in the numeric expression box. Then click the OK button.
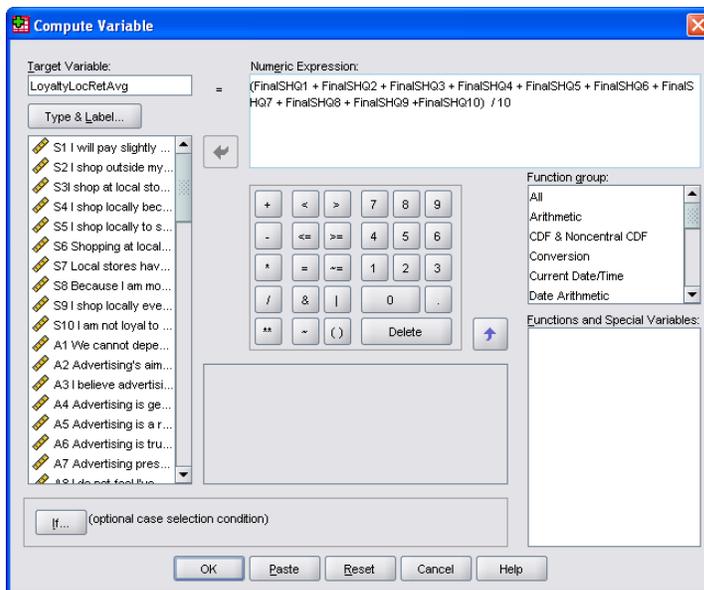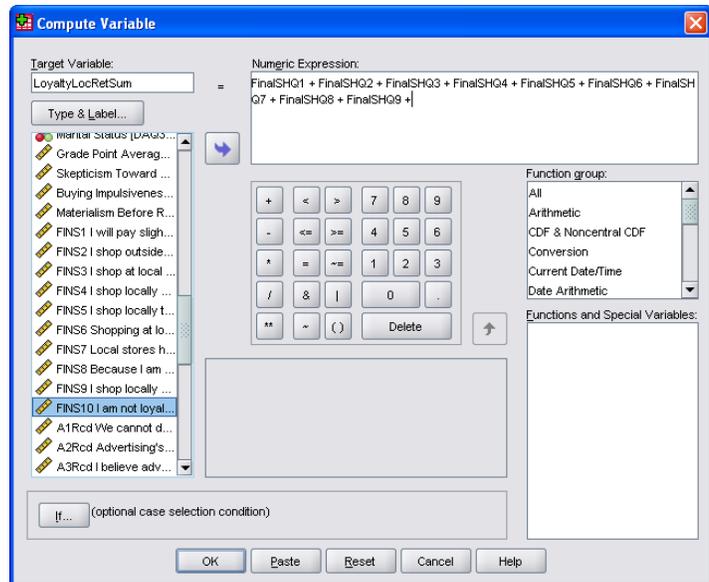
45. When creating a new variable to represent a scale in which all of the scale items are averaged rather than summated, the COMPUTE VARIABLE window would look something like the one shown at left.

    Notice that the items being summed are enclosed in parentheses, and are then divided by the number of items comprising the scale.

46. Once the variable of your choice is created, return to the VARIABLE VIEW and create a label for the overall scale. An example is shown below. Shorter names may be preferred however.

	Name	Type	Width	Decimals	Label	Values
75	MAQ6Recode	Numeric	8	2	M6Rcd I think others judge me as a person by the kinds of products and brands I use.	{1.00, Strongly Disagree}...
76	LoyaltyLocRetSum	Numeric	8	2	Summated Attitude Score of Loyalty Toward Local Retails after Recoding	None
77	LoyaltyLocRetAvg	Numeric	8	2	Averaged Attitude Score of Loyalty Toward Local Retails after Recoding	None

47. The final step is to enter information into the value label section that will help the researcher to recall what low and high numbers mean for the scale. For example, there are ten items in the summated *Loyalty Toward Local Retailers* scale. Each item has a potential rating of 1 through 4. Thus the lowest score on the summated scale would be 1 * 10, or 10. The highest score on this scale would be 4 * 10, or 40. These two values can be entered in as extreme upper and lower attitude value boundaries, and will help the researcher interpret the results when the summated variable is used later in future analyses. (NOTE: When creating your own summated values, make certain that you first check to see what the lowest and highest rating scores are for items that make-up the overall attitude scale.)
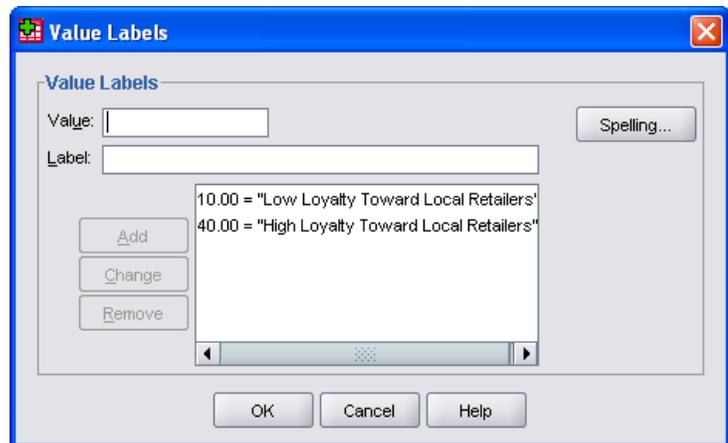
48. Once the high and low values and labels have been entered, click OK.

49. A similar process would be followed in defining the high and low values for the averaged version of the scale. In this example, a value of 1 would represent low loyalty while a value of 4 would represent high loyalty.

50. Mean scores of individual items or summated variables can be calculated using the DESCRIPTIVES command and selecting MEANS from the OPTION menu.