

Answers to Application Activities for Manipulating Variables in SPSS

Application Activities with Calculations

1 BeautifulRose.sav

To calculate the gain score between the PRETESTCLOZE and POSTTESTCLOZE columns, open TRANSFORM > COMPUTE VARIABLE. Move the POSTTESTCLOZE variable into the “Numeric expression” box first, then add a minus sign, then the PRETESTCLOZE variable (we hope that the posttest column is larger than the pretest, and doing it this way will show us any gains). Type GAINCLOZE into the “Target Variable” box and click OK. There is one negative gainscore of -4. The largest gain is 15 points for the participant in row 3.

2 LarsonHall.Forbidden.sav

To calculate the percentage, open TRANSFORM > COMPUTE VARIABLE. Move the SENTENCEACCENT variable into the “Numeric expression” box first. There were 8 possible points, so divide by 8 (insert a slash “/” and then an 8 after the name of the variable) and then multiply by 100 (insert a star “*” and then 100; you can do this with your keyboard or the keypad in the “Compute Variable” dialogue box). Name the variable in the “Target Variable” box (the OK button won’t be visible until you do this). The highest percent is 84.4 for participant 38 (if you have the decimal point set to zero you won’t see the .4 part).

Application Activities with Recoding

1 BeautifulRose.sav

First I need to decide how to split the data. I follow the instructions in the question for what to do with my new variable but use the old AGE variable (in other words, ANALYZE > DESCRIPTIVE STATISTICS > FREQUENCIES) and see that out of 19 participants, 9 are between the ages of 18–25, while the rest are 45 or older. This is the point where I will split the data.

To create a new variable, pull down TRANSFORM > RECODE INTO DIFFERENT VARIABLES. Move the variable AGE over to the “Numeric Variable→Output Variable” box. Type in your new name in the “Output Variable” area (I named mine AGEGROUP) and click the CHANGE button. Click the OLD AND NEW VALUES button. Use the range here to make up your different ranges. I started with “Range, LOWEST through value:” and entered 25. Once you have this value in the left side of the dialogue box, put the new value in on the right side in the “New Value: Value:” box. I put in the number “1,” then pushed the Add button to add it to the “Old→New” box. Next, I used the “Range, value through HIGHEST:” and entered 26. I called this “2” and pressed the Add button, then Continue. Push OK. There should be a new column in your Data Editor with 1s and 2s.

There are 9 people in Group 1 and 10 people in Group 2.

To create values to define these two groups, click on the Variable View tab. For the row that says AGEGROUP, go to the column of “Values” and click on that cell (it says “None” before you do anything to it). A grey handle will appear, and click on that. The “Value Labels” dialogue box will come up. Enter the value “1” and the label “Younger,” then ADD. Enter the value “2” and the label “Older,” then ADD. Now click OK.

If you follow the instructions for counting the number of 1s and 2s, you'll see in the output there are nine 1s and ten 2s.

To save the SPSS file, go to FILE > SAVE AS and save your SPSS file with its new name.

2 LarsonHall.Forgotten.sav

To recode the variable, open TRANSFORM > RECODE INTO DIFFERENT VARIABLES. Move the variable ENGUSE to the right. Rename the variable USEGROUP in the "Output Variable" area and click CHANGE. Now click the OLD AND NEW VALUES button. For the old value, choose the button that says "Range, LOWEST through value:" and type in the value 10. Under "New Value" type 1, and click the ADD button. Going back to the old value area, choose "Range, value through HIGHEST:" and type in 11. Under "New Value" type 2, and click the ADD button. You're done, so click CONTINUE and then OK. There should be a new column in your Data Editor with 1s and 2s.

To create values to define these two groups, click on the Variable View tab. For the row that says USEGROUP, go to the column of "Values" and click on that cell (it says "None" before you do anything to it). A grey handle will appear, so click on that. The "Value Labels" dialogue box will come up. Enter the value "1" and the label "LoUse", then ADD. Enter the value "2" and the label "HiUse", then ADD. Now click OK.

If you follow the instructions for counting the number of 1s and 2s, you'll see in the output there are 21 1s and 23 2s.

Application Activities for Selecting Cases.

1 DeKeyser2000.sav

Open DATA > SELECT CASES. Click the "If condition is satisfied" radio button, then the IF button. Move the variable STATUS to the box on the right. Create the equation: STATUS = 1 (these are the cases you want to *keep*!). Click CONTINUE, then OK. In the Data Editor you should see that all rows where the STATUS is 2 have a line over them.

2 LarsonHall.Forgotten.sav

Open DATA > SELECT CASES. Click the "If condition is satisfied" radio button, then the IF button. Move the variable TRIP LENGTH IN WEEKS to the box on the right. Create the equation: TRIPTIME <= 4 (these are the cases you want to *keep*!). Click CONTINUE, then OK. In the Data Editor you should see that 16 rows have a line over them.

Application Activities for Manipulating Variables

1. DeKeyser2000.sav

To make a new AGEGROUP column, pull down TRANSFORM > RECODE INTO DIFFERENT VARIABLES. Move the variable AGE over to the "Numeric Variable→Output Variable" box. Type in your new name in the "Output Variable" area (I named mine AGEGROUP) and click the CHANGE button. Click the OLD AND NEW VALUES button. Use the range here to make up your different ranges. I started with "Lowest through 10," then used just the "Range" one for 11–20, etc. Once you have the values in the left side of the dialogue box, put the new value in on the

right side. For example, people with ages 0–10 I will call #1 on the right-hand side. Click on ADD to add it to the “Old→New” box. When you are finished, click CONTINUE, and OK. You’ll only need 4 groups for decades.

To label these new groups for AGEGROUP, go the “Variable View” tab and go to the “Values” column. Go to the cell that lines up with the AGEGROUP row, and click on it. A grey box should appear on the right-hand side of the cell. Click it, and a “Value Labels” box will appear. Put in your value (such as 1), and a description for it (such as 0–10).

To save the SPSS file, go to FILE > SAVE AS and save this SPSS file as DeKeyser.Altered.sav.

2 LarsonHall.Forgotten.sav

To move the RLWTEST variable to the beginning of the “Data Editor” spreadsheet, right click on the grey part of the column (where the name is) and then choose CUT. After the ID column (where the SEX variable is), right click and choose INSERT VARIABLE. Then you can right click again and now choose PASTE. You should have the RLWTEST column after the ID variable, but it may not have a name. Rename it by going to the “Variable View” tab and typing in the name.

To reduce the RLWTEST variable from many points to just two groups, go to TRANSFORM > RECODE INTO DIFFERENT VARIABLES. Move the variable RLWTEST over to the “Numeric Variable→Output Variable” box. Type in your new name in the “Output Variable” area and click the CHANGE button. Click the OLD AND NEW VALUES button. I clicked the box “Range, Lowest through value” and put in 48 since that is the midpoint of 96. To the right, under “New Value” I

typed in the number 1 and clicked the ADD button. I then went back to the left under “Old Value” and used the radio button that said “Range, value through highest” and put in 49. Under “New Value” I put 2 and clicked ADD. I then pressed CONTINUE and OK. To remember that 1 = low group and 2 = high group, you may want to go to the Variable View under “Values” and define your new values.

To save the SPSS file, go to FILE > SAVE AS and save the SPSS file as LarsonHallAltered.

(Advanced Topic) If you are using Visual Binning to form two groups from the RLWTEST variable, use the menu choice TRANSFORM > VISUAL BINNING. Put the Score on the R/L/W Test into the “Variables to Bin” and click CONTINUE. In the “Visual Binning” box, click on the RLW variable and a histogram appears. Scores appear to be spread fairly evenly across a wide range of variables. Click on the “Make Cutpoints” button and then choose the “Cutpoints at mean . . .” choice. Do not tick any of the SD choices; this way, the cut will be at the median point, with those who fall below it assumed to be worse and those who fall above it assumed to be better. Click the APPLY button. The values are now those that reach from 0–72.4 and those who are higher than this. Make sure to give the variable a name (I called it RLWGROUP in the “Binned variable”/ “Name” box, the second row from the top of the dialogue box). Then press OK two times, and you’ll see a new variable appear at the end of the “Data Editor.”

3 LarsonHall.Altered.sav

Open the file you saved as LarsonHall.Altered.sav (or just kept open from the previous exercise).

To create your new variable, go to TRANSFORM > RECODE INTO DIFFERENT VARIABLES. Move the

ENGUSE variable into the “Numeric Variable→Output Variable” box. Name the new variable TALKTIME in the “Output Variable” line labeled “Name.” Hit the CHANGE button and you’ll see the variable is now named in the “Numeric Variable→Output Variable” box. Click the OLD AND NEW VALUES button. Enter the values in the “Old Value” area (I started with “Range, LOWEST through value: 8”, and gave it the “New Value” 1. Then I clicked the ADD button). Click CONTINUE when all of the values are entered, then OK.

To filter out cases where the RETURNAGE column does not have data, go to DATA > SELECT CASES. Select the “If condition is satisfied” choice, and press the IF button. Move the variable “Age early learners returned to Japan [ReturnAge]” to the right. We only need this column to have data, so add a “greater or equal” sign and put 1. Click CONTINUE. Leave the default choice for “Output” as “Filter out unselected cases.” Click OK. You should see a slash over the first 30 cases in the file.

To sort by AGE, choose DATA > SORT cases. Move the AGE variable to the right, leave the default of ascending order, and press OK. There are five cases where participants were 18, but only 4 of these had a young return age. Notice that because I have participant ID numbers I can still identify which data belongs to whom even though I have sorted the data.

4 BEQ.swear.sav

Move the AGESEC variable to the first column from the left by cutting and pasting it or by copying and pasting it, then deleting the original column. Rename it in the “Variable View” tab if needed. Filter out participants who began learning their second language at birth by going to

DATA > SELECT CASES. Select the “If condition is satisfied” choice, and click the IF button.

Move the variable AGESEC to the right, then add the “does not equal” sign (this is “~=”), then zero. Remember this means you are going to keep any cases where the variable is not equal to zero. Click CONTINUE. Leave the default choice for “Output” and press OK. You should see some slashes over a few cases at the beginning of the file. There are 868 cases still left (wow!).

5 BeautifulRose.sav

To calculate percentages for the adjective test, open the TRANSFORM > COMPUTE VARIABLE menu. We want to figure out the number for each participant that fits in the calculation

$\text{CorrectAdj}/\text{TotalAdjPossible} = x/100$; if we solve for x , $x = (\text{CorrectAdj} * 100) / \text{TotalAdjPossible}$

To put this equation into the “Compute Variable” box, you can either use the keypad in the box to type in the symbols such as parentheses, a star (*) meaning multiplication, and a slash (/) meaning division, or you can just type them in directly from your keyboard. Add a variable name (ADJPERCENT) and click OK, and you should see the column of percentages appear. The highest percentage is row 11 with 97.5% (you may have to change your decimals from 0 to 1 or 2 in the Variable View tab to be able to see the “.5”).