# ***Lecture 6:*** *Analyzing Data in SPSS Using Descriptive Statistics*

## ***Tasks***

1. Find the smallest, largest, and average values for **academic ability (aa**) and **parents education (pe)**.
2. Find the median and standard deviation for **academic ability (aa).**
3. Obtain a frequency distribution by referring the question, "what is breakdown for the percentage of **student motivation** (i.e. **sm**)?"
4. Are students from urban communities rated similarly to those from rural communities in terms of their advisor evaluation?

## Tips for Task 1

*Now, from the **Analyze** pull-down menu, select **Descriptive Statistics** and then **Descriptives** (see Fig 1). In the next step, you will see a dialog box (see Fig 2) and then select the desired variables (i.e., **aa** and **pe**) by highlighting them and sending them into the variables box by clicking on the arrow in the centre of the window. Then, click on **Options** and choose min., max. Std. deviation and mean. Finally, click the **OK** button to obtain the outcome (see Fig 3).*

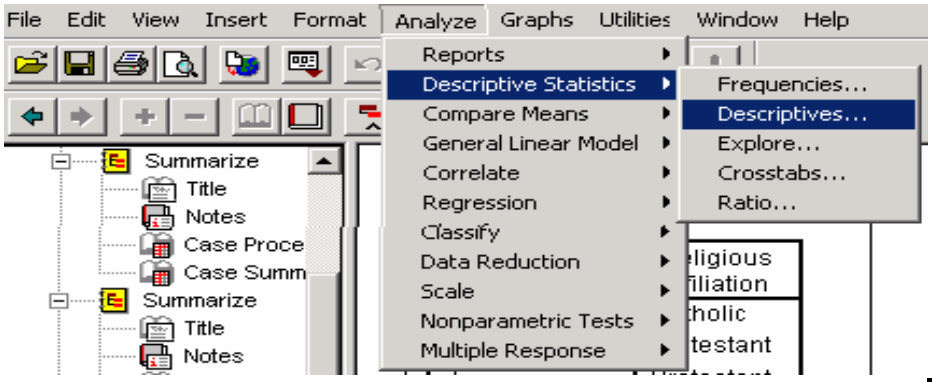


**FIG 1**

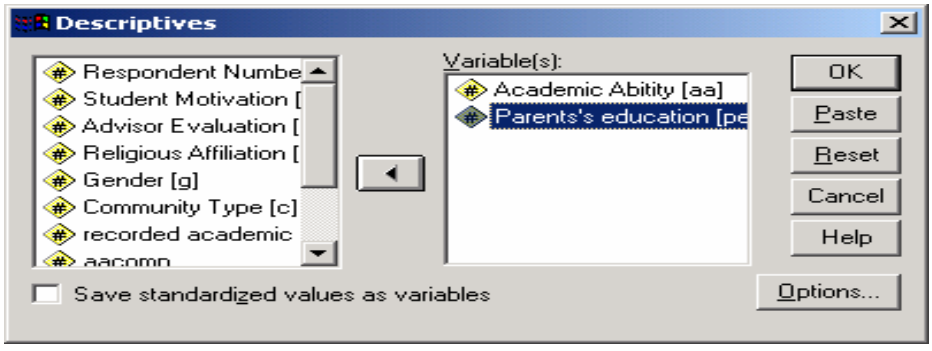


**FIG 2**

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**FIG 3**

## Tips for Task 2

*From the **Analyze** pull-down menu, select **Descriptive Statistics** and then **Explore** (see fig 4). In a dialog box, send academic ability (**aa**) to the **Dependent list** and click on **statistics** in the display box (see fig 5) and then select **Descriptives**, and enter 95% for the confidence interval for mean, then click continue and **OK** (see fig 6). Finally, verify your outputs by referring Fig 7.*

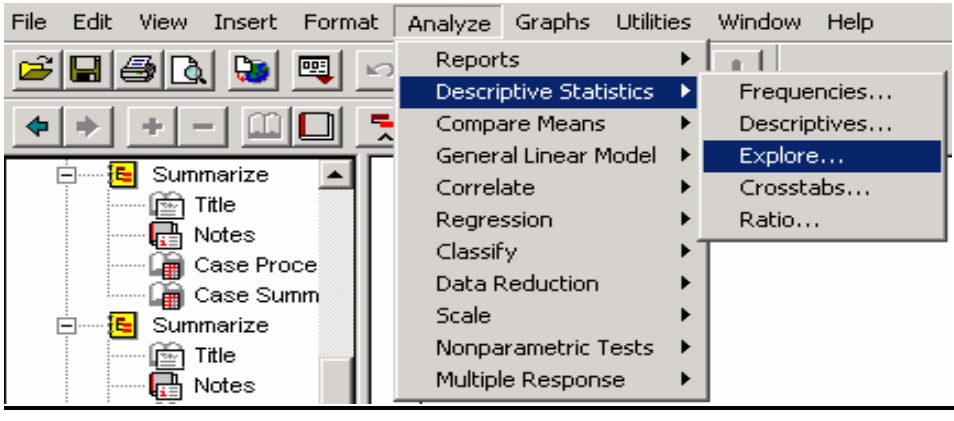


**FIG 4**

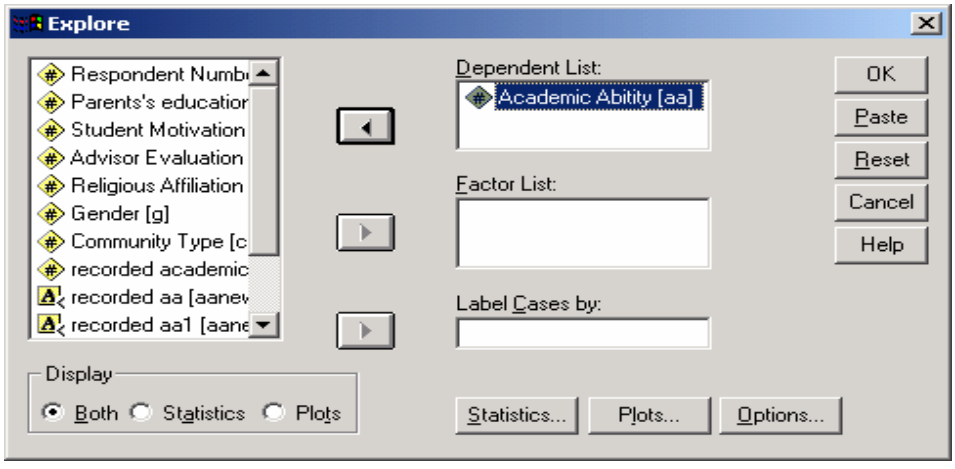


**FIG 5**

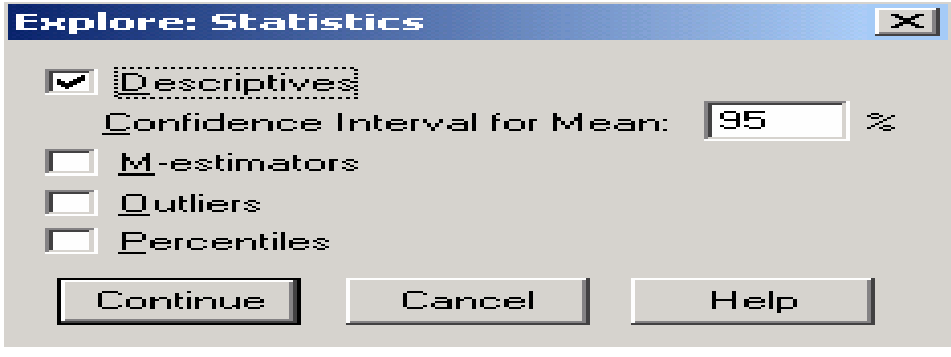


**FIG 6**

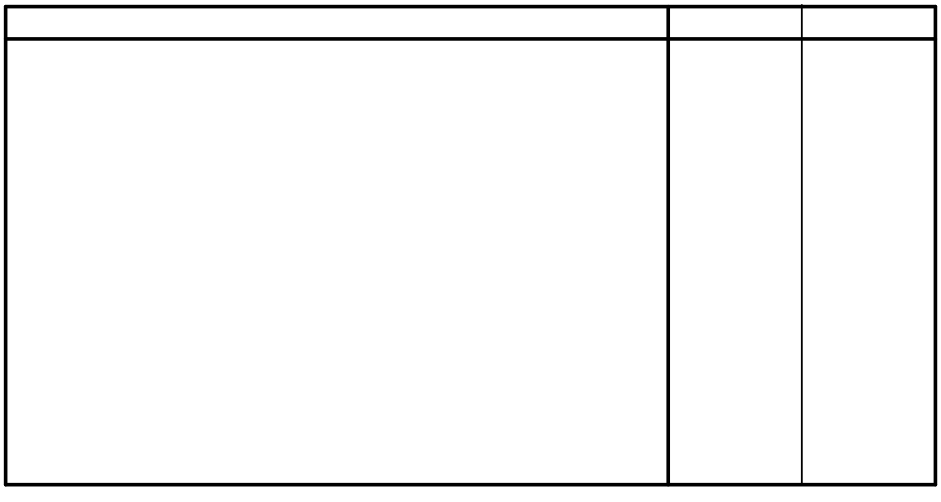

**FIG 7**

## Tips for Task 3

*From the **Analyze** pull-down menu, select **Descriptive Statistics** and then **Frequencies** dialog box (see fig 8). Send "student motivation (**sm**)" variables Into the variable box, then click on **OK** button (see Fig 9 and 10).*

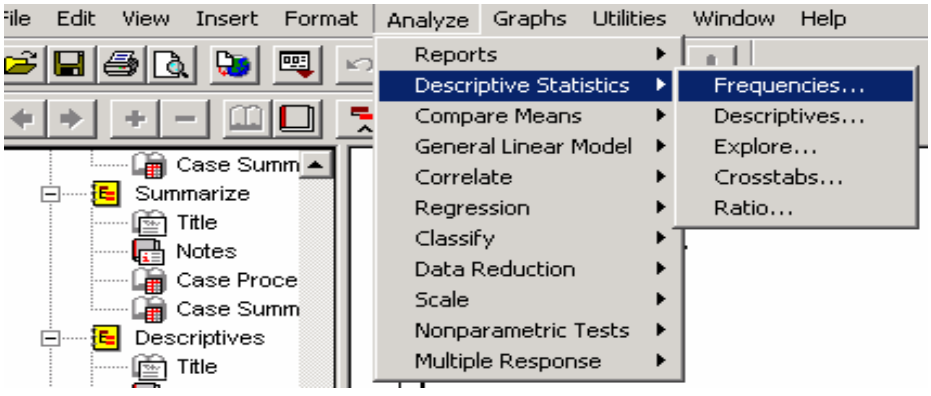


**FIG 8**

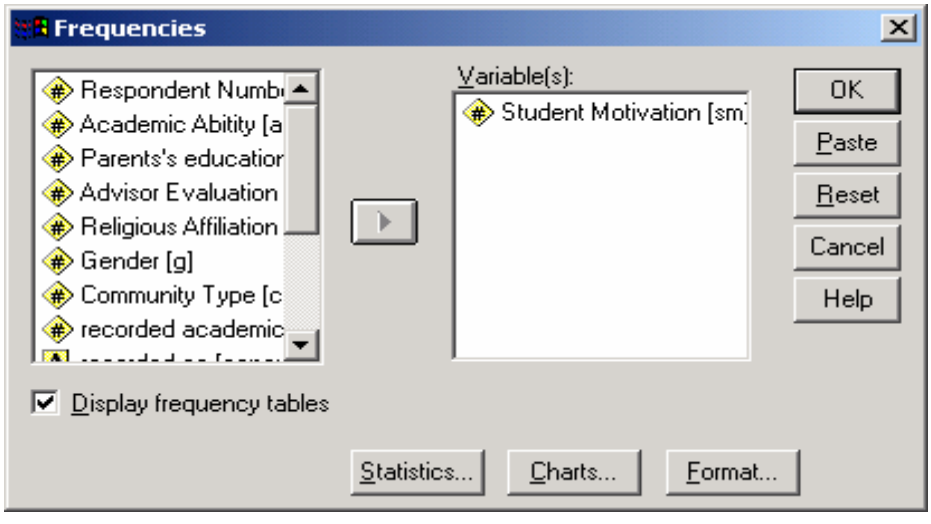


**FIG 9**

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**FIG 10**

## Tips for task 4

*One of the most common ways of looking at the association between two categorical variables is to use the* ***chi-square statistic****.*

- *To answer this question, we need to* ***cross-tabulate*** *the two variables and look at the percentage of students from each community type who were evaluated into each of the three categories of likelihood to succeed. We would then test the similarity of the two distributions using the chi-square statistic.*

- *To create the cross-tabulation, from the **Analyze** pull-down menu, select **Descriptive Statistics** then choose **Crosstab** (see fig 11). Then, select community type "**c**" for the row variable and advisor evaluation "**ae**" for the column variable (see fig 12) and click the **Statistics** button. In the next dialog box, click the box next to **chi-square**, then press the **Continue** button (see fig 13). Next, click both on the **Cells** button and the **Observed count** box, as you will be interested in the number of cases in each cell of the table. Next, click the **Row percentages** box (see fig 14). Click the **Continue** button, then click the **OK** button (see figs 15a and 15b).*

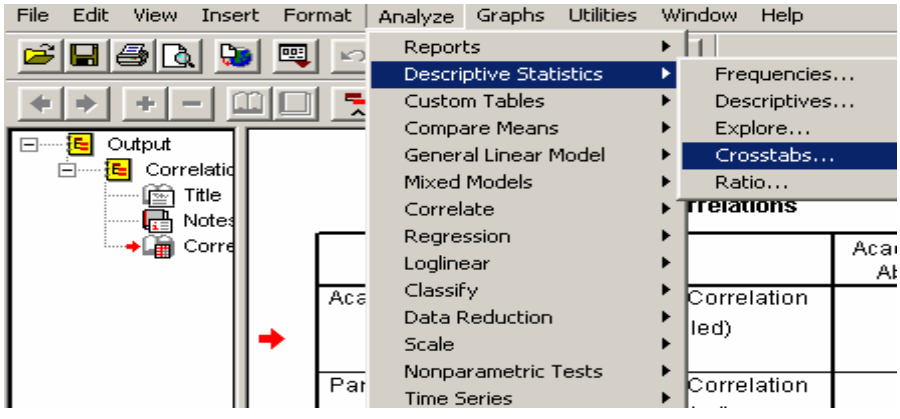


**FIG 11**

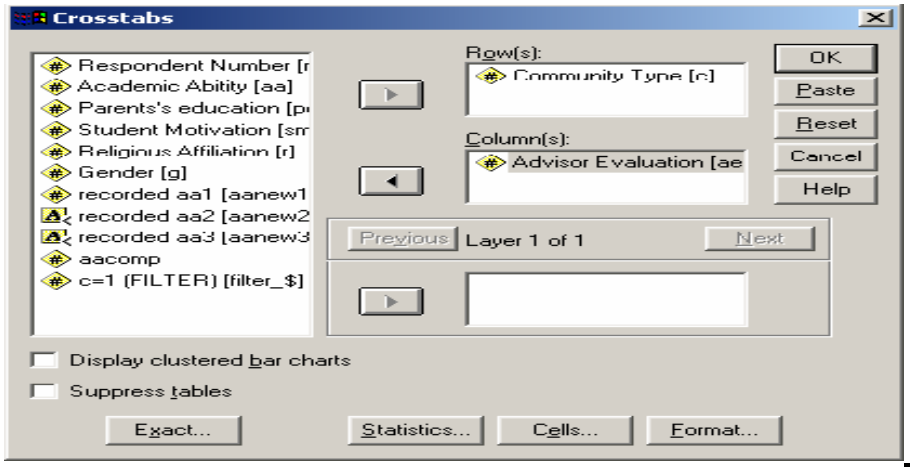


**FIG 12**

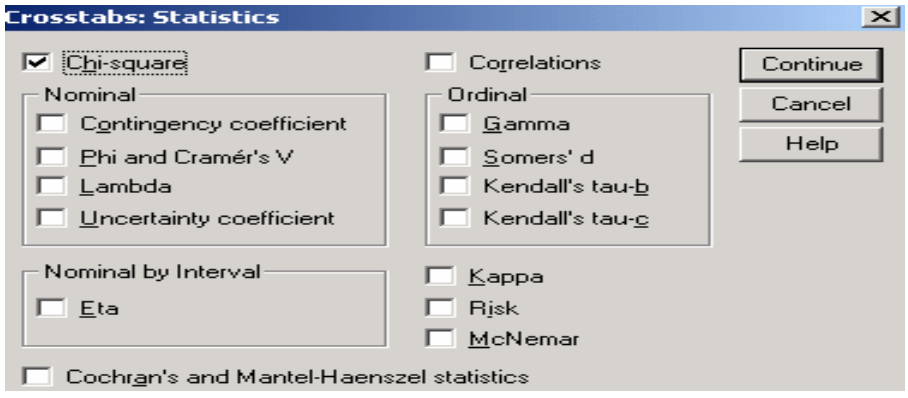


**FIG 13**

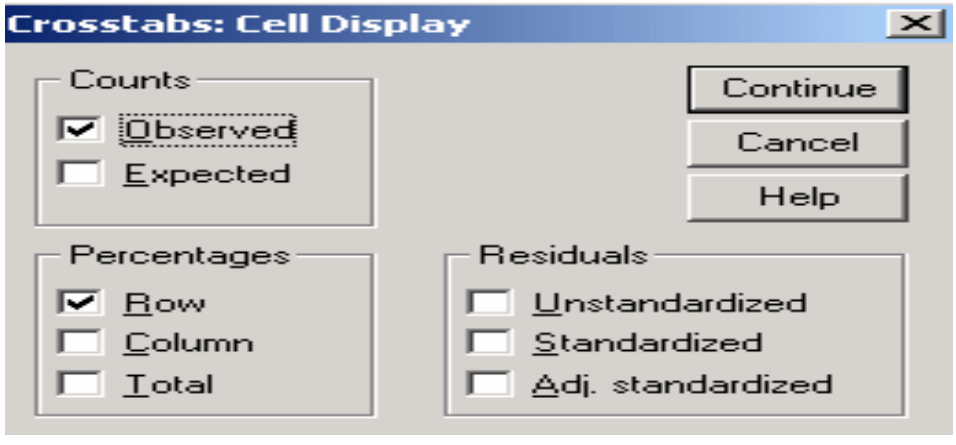


**FIG 14**

**Community Type * Advisor Evaluation Crosstabulation**

| | | | Advisor Evaluation | | | |
|---|---|---|---|---|---|---|
| | | | Fail | Succeed or Fail | Succeed | Total |
| Community Type | Urban | Count | 9 | 14 | 7 | 30 |
| | | % within Community Type | 30.0% | 46.7% | 23.3% | 100.0% |
| | Rural | Count | 4 | 11 | 5 | 20 |
| | | % within Community Type | 20.0% | 55.0% | 25.0% | 100.0% |
| Total | | Count | 13 | 25 | 12 | 50 |
| | | % within Community Type | 26.0% | 50.0% | 24.0% | 100.0% |

**FIG 15**

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**FIG 16**