



HOW TO USE SPSS SOFTWARE TO HELP STUDENTS IN SCIENTIFIC RESEARCH

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1. The role of SPSS software in social science research

Currently, SPSS software is being used and selected by many researchers as a popular tool in quantitative data analysis for all fields of the humanities and social sciences, as well as the natural sciences. course.

Regardless of the research field, whether it is academic or applied, there is a stage of data collection. The data here, if based on the origin, can be divided into 2 types: secondary data and primary data. Secondary data types are usually available data types, which are reports, implementation documents of previous terms, left by previous keys and have been aggregated and processed, and then aggregated by users for their research purposes. This type of data/ has the advantage of being cost-effective and quick to collect for researchers. However, secondary data is often very outdated, slow to update, sometimes the data source is not accurate, and the reliability is not high. Therefore, we should use both qualitative and quantitative research methods in research work to have high persuasiveness of arguments and arguments in science.

In the quantitative method, one of the data collection tools is the questionnaire. After collecting the questions by questionnaire, the researcher will put them all to run in the SPSS software to turn these raw data into talking data to serve as a support basis for policymakers in the public sector management and forecasting, solving problems in society.

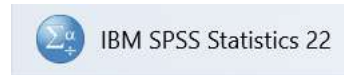
Stemming from the above fact, to meet the actual needs and help students and staffs of the Thanh Hoa University of Culture, Sports and Tourism who are and are preparing to make scientific research reports to grasp theoretical knowledge. and practice SPSS software to be able to process the data in their current and future scientific research projects.

At the same time, to innovate and improve the quality and quality of scientific research, to encourage scientific research among students, young lecturers, graduate students and doctoral students who have practical and effective research works in the field of science and technology applied to science meet the standards of a scientific research project. Within the scope of this article, I would like to give the most basic features of how to use SPSS software, how to enter and analyze data, as well as how to draw graphs and read and analyze results from data. just processed.

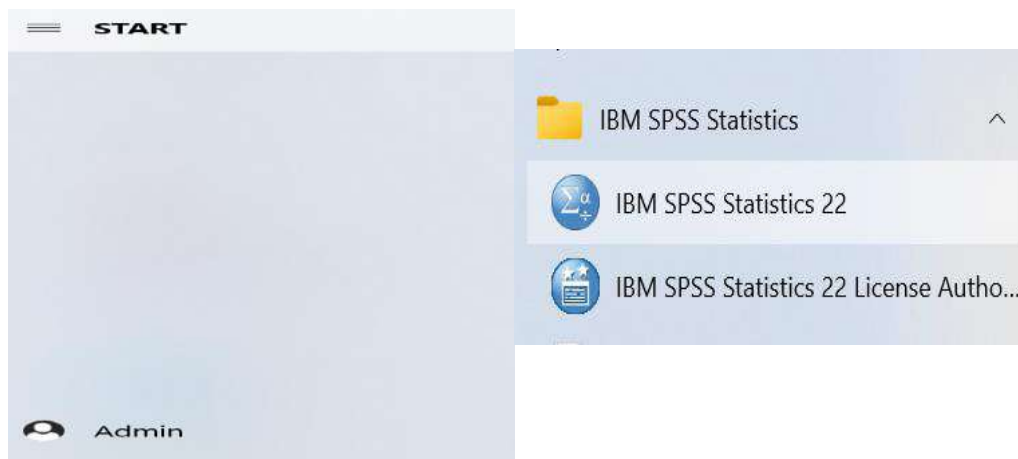
2. How to use

2.1. Start SPSS

On the Windows desktop click the icon



Or open the Start key, All programs, SPSS for WINDOWS, SPSS 22.0 for Windows



The SPSS Data Editor window will appear and a dialog box as follows:

- Run the tutorial**
- Type in data**
- Run an existing query**
- Create new query using Database Wizard**
- Open an existing data source**

(Note: This dialog box appears only once when you start SPSS)

Mở một file

If a data file already exists, you can open it by selecting **Open an existing data source** and click More Files;

If you are in the SPSS Data Editor window:

From the menu bar select

File

Open

Data...

- ▶ In the Open File dialog box, select the file you want to open
- ▶ Click Open

Besides files saved in SPSS format, you can open Excell, Lotus, dBASE, tab-delimited files without having to convert them to an intermediate format or enter formatting information data meaning.

2.2. Insert information

- You can import data directly from the Data View table in the Data Editor window. You can enter data in any order. You can enter data by an object or by variable, or by selected area, or by cell.
- Active cell (pointer cell) is always highlighted
- The variable name and row number of the active cell are shown in the upper left corner of the Data Editor window.
- When you select a cell and enter a value, it will be displayed in the data editing space above the Data Editor.
- Values are not written until you press Enter or select another cell
- To enter anything other than numeric data, the data type must first be defined.

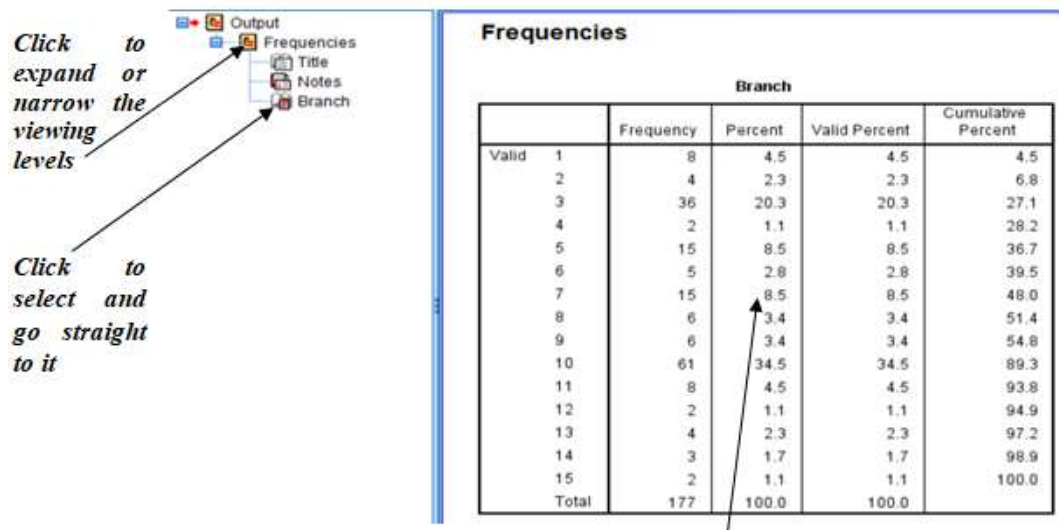
To enter numeric data

- ▶ Select a cell in the DataView table
- ▶ Enter a numeric value. This value is shown in the data editing compartment at the top of the Editor
- ▶ Press Enter or select another cell to write this value.
- ▶ *To enter non-numeric data*
- ▶ Double-click a variable name at the top of a column in the Data View table or click the Variable View table
- ▶ Click the knob in the Type box for this variable
- ▶ Select the data type in the Variable Type dialog box
- ▶ Click OK
- ▶ Double click the row number or click the Data View table
- ▶ Enter data in rows for the newly defined variable

2.3. Analyze the results

When you run a procedure, the results are displayed in a window called the Viewer. In this window, you can easily jump to any part of the outputs that you want to see. You can also manipulate the results and create a document file containing the results you want, organized and formatted appropriately.

Figure 1: Viewer window



Double-click a table to rotate or edit it

The results are displayed in the Viewer. You can use the Viewer to:

- Browse the results
- Display or hide selected tables and graphs
- Change the presentation order of the results by moving selected details

2.4. Frequency analysis, frequency and plotting

The Frequencies procedure provides useful statistics and graphs for describing a wide variety of variables. For a first look at the data, the Frequencies procedure is a very good place to start.

For a frequency report and a bar graph, you can arrange the different values in descending order or ascending the groups according to their frequency. Frequency reporting can hang when a variable has too many different values. You can title the graphs with frequencies (default values) or percentages.

Statistics and graphs: frequencies, cumulative percentages, mean, median, mode, standard deviation, variance, range, min, max, standard error of the mean, standard deviation and kurtosis, user-defined percentiles, bar graphs, pie charts, and histograms.

Data: Use numeric or short string codes for qualitative variables (identifier scale or format).

Assumptions: Tables and percentages provide a useful description for data from all distributions, especially for variables with hierarchical or non-hierarchical groups. Most of the optional aggregate statistics, such as mean and standard deviation, are selected on standard theory and are appropriate for quantitative variables with symmetric distributions. Autonomous statistics, such as the median, percentiles, and quartiles, are appropriate for quantitative variables that may or may not satisfy the assumption of a normal distribution.

Figure 1: Frequencies

		Nganh			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	8	4.5	4.5	4.5
	2	4	2.3	2.3	6.8
	3	36	20.3	20.3	27.1
	4	2	1.1	1.1	28.2
	5	15	8.5	8.5	36.7
	6	5	2.8	2.8	39.5
	7	15	8.5	8.5	48.0
	8	6	3.4	3.4	51.4
	9	6	3.4	3.4	54.8
	10	61	34.5	34.5	89.3
	11	8	4.5	4.5	93.8
	12	2	1.1	1.1	94.9
	13	4	2.3	2.3	97.2
	14	3	1.7	1.7	98.9
	15	2	1.1	1.1	100.0
Total		177	100.0	100.0	

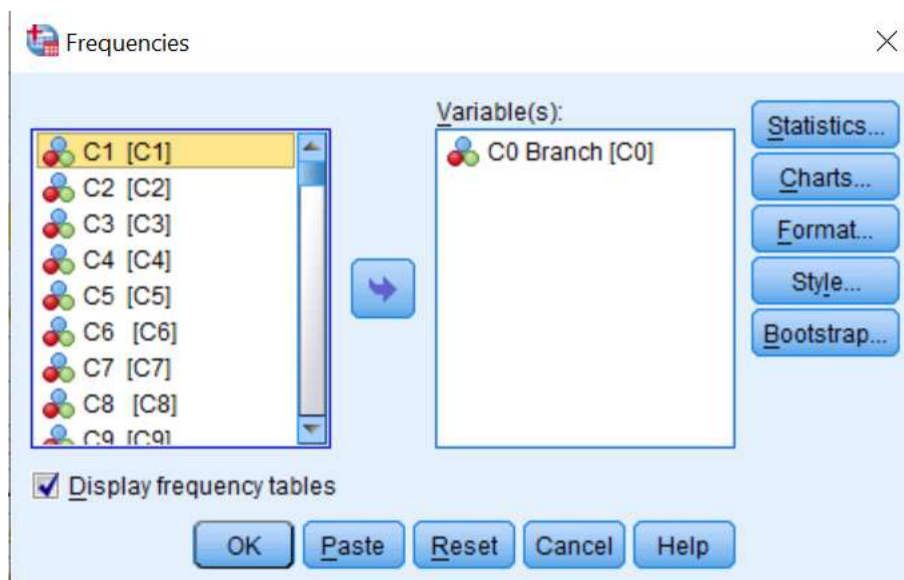
- ▶ From the standard menu bar:

Analyze

Descriptive Statistics

Frequencies...

Figure 3: The Frequencies dialog box



- ▶ Choose one or several quantitative or qualitative variables

Optionally, you can

- Click Statistics to get descriptive statistics with quantitative variables
- Click Charts for bar graphs, pie charts and histograms
- Click Format for the order in which the results are displayed

2.5. How to read and analyze the results

Reading and analyzing the processed results on SPSS software depends on the user's exploitation purpose to be able to grasp information from the data for interpretation. However, the basic thing to understand is that the percentage expressed from the selected sample is the basis for analyzing the results from the survey.

Example: Investigate students' perceptions of pre-marital cohabitation. With a survey sample of 1000 students (500 male students and 500 female students). The analysis results show that, out of 500 male students selected for the survey, 450 of the samples said that cohabiting before marriage should be, and 50 said that cohabitation should not be done before marriage. With 500 female students selected, 100 statements were agreeing that cohabitation before marriage and the remaining 400 said that they do not accept cohabitation before marriage. With comments from the survey as above, the investigator can read and draw from the data the following contents:

- The percentage of male students who tend to prefer cohabiting before marriage accounts for a high rate of 450/500 (equivalent to 90%).
- The percentage of female students who tend to prefer cohabiting before marriage accounts for a low rate of 100/500 (equivalent to 20%).

Explanation: The percentage of male students who prefer to cohabit before marriage is due to many factors such as: preferring to show masculinity, psychological comfort because it is not affected much to health. On the contrary, the number of female students who are afraid because of social barriers, affected health or unwanted pregnancy, affects their psychology and happy family life in the future, etc.)

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