SPSS in Statistic Studies

Albici, Mihaela

University Constantin Brancoveanu Ramnicu Valcea

7 February 2010

SPSS in Statistic Studies

A case study in education

University Lecturer Mihaela Albici, Ph.D.

Constantin Brâncoveanu University, Piteşti, Romania,
mturmacu@yahoo.com

Abstract

SPSS customers combine predictive analysis with their business knowledge to get insight s critical customer acquisition and retention, up-selling and cross-selling, fraud detection and optimization services for patients.

Keywords: statistic, SPSS

JEL Classification: C40, C49

In 1968, Norman H. Nie, C. Hadlai (Tex) Hull and Dale H. Bent, three different young people have developed a software system based on the idea of using statistics to transform sequence data into information essential for decision making. These three innovators were pioneers in this field, visionaries who recognized early that the data and their mode of analysis is the power behind the wise decision[6].

The revolutionary statistical software was called SPSS, its purpose was Statistical Package for the Social Sciences (Statistical Package for Social Sciences). Nie, Hull and Bent SPSS have

developed more than the need to quickly analyze large volumes of social science data, obtained through various research methods. Initial work on SPSS was done at Stanford University with the intention to make it available only for local use, not for international distribution. Nie, a social sciences scholar and doctoral candidate at Stanford University designed the target audience and set requirements, Bent, and his doctoral candidate in operational research, analysis and expertise was designed SPSS system file structure, and Hull, as a graduate of an MBA program dealt [5].

Because it is a typical product of creation born of necessity, SPSS immediately caught the American universities and was asked everywhere. It became obvious to its creators that they had in hand more than one effective method, efficient data analysis - had a viable product. In addition to their academic work was needed to consider a price, distribution and other trade issues. They have ensured that all copies of the code, the source was sent to a small community, but enthusiastic users and continuously improved SPSS.

SPSS has become a leader in predictive analytic technologies required by the combination of innovation and commitment to customers. Throughout its history many people have produced predictive analytical software that enabled customers-companies, academic institutions, healthcare providers and government agencies to better targeted activities.

Introduction to SPSS

There is no question that business, education, and all fields of science have come to rely heavily on the computer. This dependence has become so great that it is no longer possible to understand social and health science research without substantial knowledge of statistics and without at least some rudimentary understanding of statistical software.

The number and types of statistical software packages that are available continue to grow each year. In this paper we have chosen to work with SPSS, or the **Statistical Package for the Social Sciences**. SPSS was chosen because of its popularity within both academic and

business circles[1], making it the most widely used package of its type. SPSS is also a versatile package that allows many different types of analyses, data transformations, and forms of output.

The SPSS software package is continually being updated and improved, and so with each major revision comes a new version of that package. In this book, we will describe and use the most recent version of SPSS, called **SPSS for Windows 14.0** Thus, in order to use this text for data analysis, your must have access to the SPSS for Windows 14.0 software package.

The capability of SPSS is truly astounding. The package enables you to obtain statistics ranging from simple descriptive numbers to complex analyses of multivariate matrices. You can plot the data in histograms, scatterplots, and other ways. You can combine files, split files, and sort files. You can modify existing variables and create new ones. In short, you can do just about anything you'd ever want with a set of data using this software package.

SPSS is a software package used for conducting statistical analyses, manipulating data, and generating tables and graphs that summarize data.

Statistical analyses range from basic descriptive statistics, such as averages and frequencies, to advanced inferential statistics, such as regression models, analysis of variance, and factor analysis. SPSS also contains several tools for manipulating data, including functions for recoding data and computing new variables, as well as for merging and aggregating datasets. SPSS also has a number of ways to summarize and display data in the form of tables and graphs.

A case study

Every teacher needs this soft in order to assess the results of his students.

The example below shows how in a matter of seconds each of us can obtain various data that might interest us or the students:

---

[1] Labar, A.V., *SPSS pentru stiintele educatiei. Metodologia analizei datelor in cercetarea pedagogica,* Ed. Polirom, 2009

Frequency Table

age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21	3	10.0	11.1	11.1
	23	3	10.0	11.1	22.2
	25	3	10.0	11.1	33.3
	33	3	10.0	11.1	44.4
	40	3	10.0	11.1	55.6
	48	3	10.0	11.1	66.7
	60	6	20.0	22.2	88.9
	65	3	10.0	11.1	100.0
	Total	27	90.0	100.0	
Missing	System	3	10.0		
Total		30	100.0		

grade

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	6	20.0	22.2	22.2
	4	3	10.0	11.1	33.3
	5	9	30.0	33.3	66.7
	6	9	30.0	33.3	100.0
	Total	27	90.0	100.0	
Missing	System	3	10.0		
Total		30	100.0		

grade

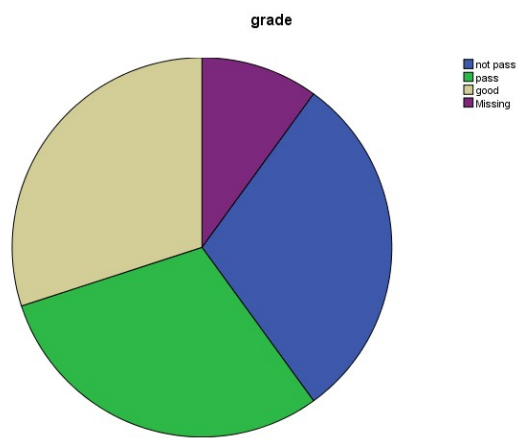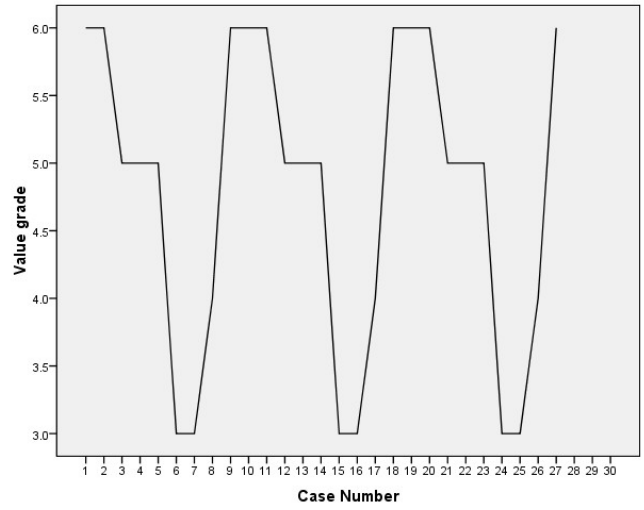|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not pass	9	30.0	33.3	33.3
	pass	9	30.0	33.3	66.7
	good	9	30.0	33.3	100.0
	Total	27	90.0	100.0	
Missing	System	3	10.0		
Total		30	100.0		

Pie Chart
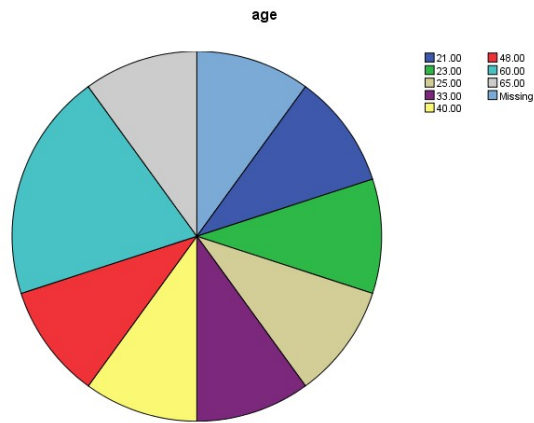
Figure 1: Age of students
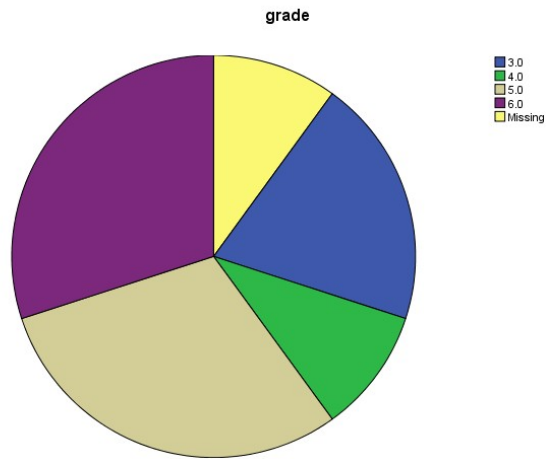
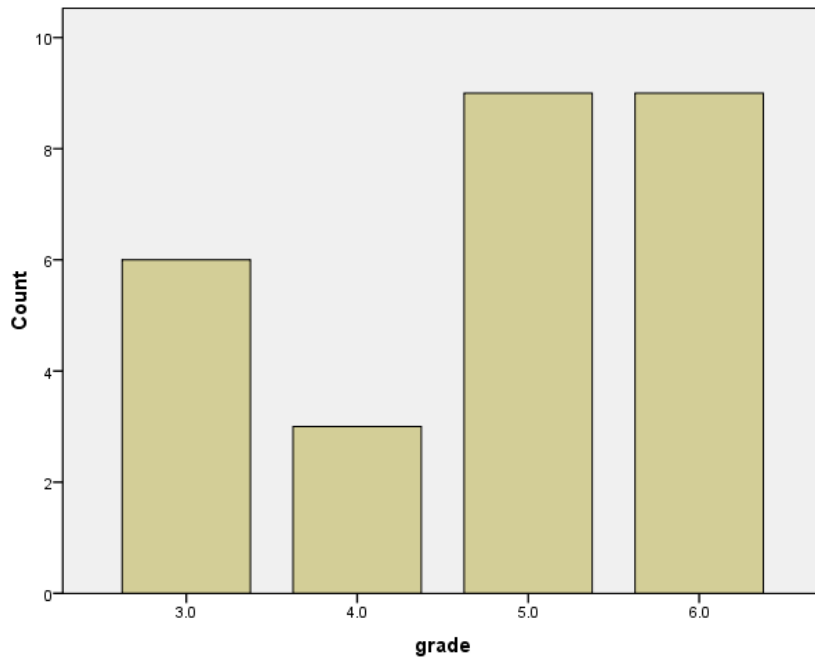*Figure 2: The grades of students*

Figure 3: The grades of students

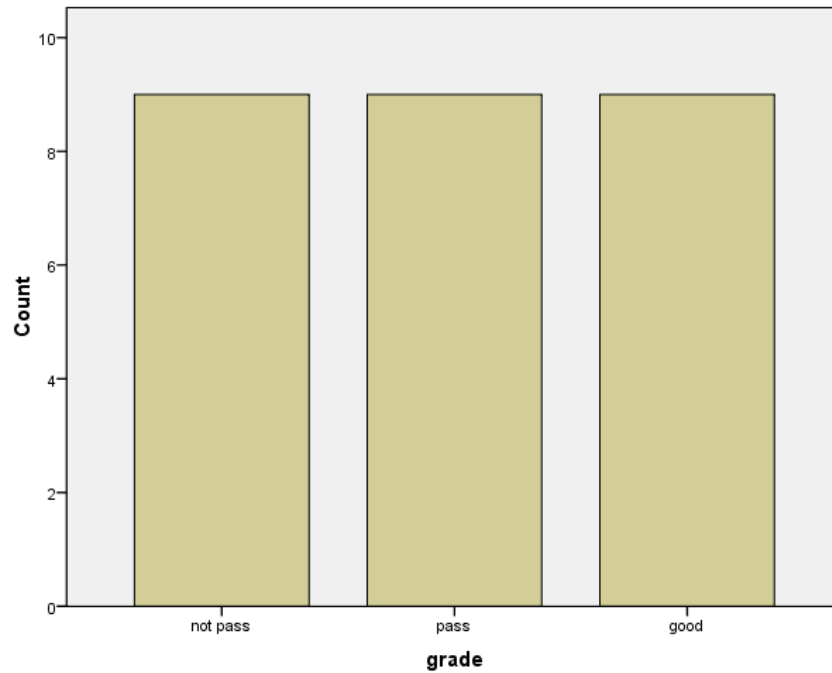We can achieve graphics of the grades for individual cases:

Chart 1: The grades for individual cases

Chart 2: The grades for individual cases

Chart 3: The percentages of the students that passed the exams

Conclusion

In our opinion, the institutions should start using this soft due to its capacity to work fast and bring out results that every teacher should take advantage. It is our duty to encourage and train our colleagues to learn and use this reliable tool and we must promote the benefits of it in conferences and workshops.

To explore further topics in SPSS, you may wish to consult the following resources:

PSS FAQs http://ssc.utexas.edu/consulting/answers/faqs.html:

SPSS tutorials http://ssc.utexas.edu/consulting/tutorials/index.html:

The SPSS website http://www.spss.com: The SPSS site contains a variety of useful information, including the SPSS Answer Net (which you can search for technical FAQs) and listings of SPSS macros and algorithms.

References:

Labar, A.V., *SPSS pentru stiintele educatiei. Metodologia analizei datelor in cercetarea pedagogica,* Ed. Polirom, 2009.

King R.F., *Strategia Cercetarii. Treisprezece cursuri despre elementele stiintelor sociale,* Ed. Polirom, Iasi, 2005.

Rotariu T., *Ancheta sociologica si sondajul de opinie*, Ed. Polirom, Iasi, 1997.

King G., Keohane R., Verba S., *Fundamentele Cercetarii Sociale,* Ed. Polirom, Iasi, 2000.

www.spss.ro

www.spss.com