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Title: Statistical methods and techniques in the social sciences using SPSS

Other Titles: -

Language: Greek

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ISBN: 978-618-228-204-5

Subject: LAW AND SOCIAL SCIENCES, MATHEMATICS AND COMPUTER SCIENCE, HUMANITIES AND ARTS

Keywords: Data analysis / Educational research methodology / Parametric tests / Non-parametric tests / Factor analysis

Bibliographic Reference: Gialamas, V., Lavidas, K., & Manesis, D. (2024). Statistical methods and techniques in the social sciences using SPSS [Postgraduate textbook]. Kallipos, Open Academic Editions. <http://dx.doi.org/10.57713/kallipos-439>

Abstract

This book is a brief description of the most basic procedures for statistical analysis of quantitative and qualitative data. It is designed primarily for students and/or teachers taking courses in educational research methodology and for those who wish to design and implement their research. The presentation of statistical data analysis procedures is presented alongside the presentation of the SPSS data processing and statistical analysis environment. In each case, an introduction of the theoretical part of the statistical procedures is given first, and then, following specific examples mainly of educational research, the SPSS environment is used to present in detail the analysis of the data, the reading, and interpretation of the results, and the formulation

of the conclusions. First, a description is given of the basic statistical concepts needed for the analyses using SPSS, as well as the main stages of conducting a quantitative survey. Then a brief presentation of the basic statistics describing the distribution of a variable is given, and the research designs of independent and dependent samples and parametric and non-parametric hypothesis testing are presented. In addition, the multiple linear regression model and logistic regression are discussed, and an introduction to exploratory factor analysis is given, as well as the steps required to perform factor analysis. Finally, validity and reliability issues that should be considered when investigating the factor structure of a scale are presented.

