

Course Code: APSY-366
Course Title: Quantitative Data Analysis

Credit Hours: 3
(Major Course)

Introduction

This course is basically quantitative data analysis through Statistical Package for Social Sciences (SPSS). This course aims to develop understanding of quantitative data analysis techniques commonly used and applicable to research hypotheses in the field of psychology, their applicability and how to run these analyses using SPSS. This will also cover basic features of SPSS and their step-by-step application and uses. This course will equip students with the ability to independently run the analysis appropriate for their research.

Course Objectives

1. The statistical analysis is an essential part of psychological research and students need to have a grasp over the concepts, theoretical rationale to use certain statistical analysis and also to learn the procedure to carry out these analyses.
2. This course is designed to enhance their competence in using SPSS for data processing, entry, analysis and interpretation of output files and also to select and report analysis in form of table and be able to interpret the findings.

Learning Outcomes

After completion of the course the student will be able to:

1. Process research data, prepare variable view file, enter data, and select appropriate analysis as per type of data and hypotheses been formulated.
2. Interpret analysis output file, report results in form of tables and graphic form and interpret results in qualitative form in their research report, thesis and research article.

Contents

Unit-I

1.1 Introduction to Statistical Package for Social Sciences (SPSS)

Unit-II

2.1 Basic features of SPSS: Preparing Data for entering in SPSS; Preparing variable view file Entering statistical data in data view file; Computing and recoding techniques

Unit-III

3.1 Calculating descriptive statistics (Including Mean, Median, Mode and Standard deviation)

Unit-IV

4.1 Computing differences between two Means by t-test (Independent and matched samples)

Unit-V

5.1 Computing differences between Multiple Group using F-test (One-Way ANOVA)

Unit-VI

6.1 Computing relationship between variables (Correlation)

Unit-VII

7.1 Regression Analysis

Unit-VIII

8.1 Non parametric statistics

Spearman's Rank Order Correlation, Chi Square Test (Contingency Table and Proportions)
Yates Correction, Wilcoxon test, Mann Whitney -U test, Sign Rank test, Krushkal Wallis

Unit-IX

9.1 The process and interpretation of SPSS output in form of table and graphical form per APA format.

Teaching Strategies

Lectures, tutorials and semester work

Semester Work will include Assignments, Quizzes, Presentation, Class Projects, Class participation

The learning goal through Sessional work would be to promote acquisition of factual information/ subject matter/ course content, Application of knowledge and enhancing the synthesizing and generalization capacity of the students.

Assessment and Examinations:

Sr. No.	Elements		Details
1.	Midterm Assessment		It takes place at the mid-point of the semester.
2.	Formative Assessment		It is continuous assessment. It includes: classroom participation, attendance, assignments and presentations, homework, attitude and behaviour, hands-on-activities, short tests, quizzes etc.
3.	Final Assessment		It takes place at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.

Suggested Readings:

• Books

- Bryman, A. (2011). *Quantitative data analysis with IBM SPSS 17, 18 and 19*. London: Routledge.
Coakes, S. J. (2010). *SPSS version 17.0 for windows*. Australia: John Wiley & Sons.
Field, A. (2009). *Discovering statistics using SPSS (3rd ed.)*. Los Angeles: Sage.
Gelfand, H. (2010). *Mastering APA style (6th ed.)*. Los Angeles: Sage.
Kinnear, P. R. (2010). *IBM SPSS statistics 18 made simple*. New York: Psychology press.

Maran, R. (1995). *Windows 95 simplified*. Foster City, C.A: IDG Books Worldwide, Inc.
Maran, R., & Wing, K. (1997). *Teach yourself word 97*. Foster City, C.A: IDG Books worldwide, Inc.
Nelson, K.Y. (1996). *Windows 95 is driving me crazy*. Berkeley, CA: Peach pit Press.
Person, R. (1993). *Using excel version 5 for windows*. Indianapolis: Que Corporation.
Rajathi, A., & Chandren, P. (2010). *SPSS for you*. India: MJM Publisher.

- **Journal Articles / Reports**

Durberry, R. (2017). Analysing quantitative data using SPSS. In *Research Methods for Tourism Students* (pp. 219-248). Routledge.
Kafle, S. C. (2019). Correlation and Regression Analysis Using SPSS. *Management, Technology & Social Sciences*, 126.
Ong, M. H. A., & Puteh, F. (2017). Quantitative data analysis: Choosing between SPSS, PLS, and AMOS in social science research. *International Interdisciplinary Journal of Scientific Research*, 3(1), 14-25.
Purwanto, A., Asbari, M., Santoso, T. I., Paramarta, V., & Sunarsi, D. (2020). Social and Management Research Quantitative Analysis for Medium Sample: Comparing of Lisrel, Tetrad, GSCA, Amos, SmartPLS, WarpPLS, and SPSS. *Jurnal Ilmiah Ilmu Administrasi Publik*, 10(2), 518-532.
Deng, S., Dull, J., Finn, J., & Khair, S. (2019). SPSS Data Curation Primer. *Data Curation Network*. Retrieved from <https://conservancy.umn.edu/handle/11299/202812>
Koshmak, V., Hvatcev, A., Astahova, I., & Zuev, A. (2019, May). SAMPLES DISTINCTION BY PARAMETRIC AND NONPARAMETRIC STATISTICS IN SPSS. In *SOCIETY. INTEGRATION. EDUCATION. Proceedings of the International Scientific Conference* (Vol. 5, pp. 374-382).