UNIVERSITÀ DI PISA

WORKSHOP ON QUANTITATIVE DATA ANALYSIS 2

ANDREA SALVINI

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CdS	SOCIOLOGY AND MANAGEMENT OF SOCIAL SERVICES
Codice	176QQ
CFU	3

Moduli	Settore/i	Tipo	Ore	Docente/i
LABORATORIO DI ANALISI QUANTITATIVA DEI DATI 2	SPS/07	LABORATORI	21	ANDREA SALVINI

Learning outcomes

Knowledge
The Data Analysis Laboratory 2 has the specific objective of allowing the student to acquire specific competences in the analysis of relational data, according to the tradition of Social Network Analysis - SNA - which plays a very important role in the contemporary theoretical and methodological sociological perspectives. While constituting an independent learning and experimentation pathway, the Data Analysis Laboratory 2 coordinates with the Course in Methodology of Social Research (Class LM87-88) and with the Data Analysis Laboratory 1, of which it constitutes the natural continuation.
The objective of the Laboratory is to introduce students to SNA (Social Network Analysis) as both a theoretical and methodological perspective, obviously focusing attention on the collection and, above all, on the analysis of data. For the specific purpose of processing and analyzing relational data, the Statnet package will be introduced which works within the "R" framework. Attention will be given to the experimentation of a research course aimed at collecting relational data on a particular phenomenon of interest to the students, and an inferential analysis of relational data will be deepened.
The Laboratory will be carried out by adopting an interactive and participatory learning dynamic, and will be coordinated with the teaching of Social Research Methodology and the Data Analysis Laboratory 1. Differently from what was done in Laboratory 1, Laboratory 2 is dedicated to data analysis using more sophisticated models of analysis, but more appropriate to the study of the mechanisms that govern the relational functioning of phenomena, in particular those of social influence and selection.

Assessment criteria of knowledge
The knowledge will be verified through the preparation, by the students, of a report on the completed path within the Laboratory, in particular on the empirical experience carried out and on the knowledge acquired in terms of data analysis. The report will be presented in collective form during a specific occasion to verify the acquired knowledge.

Skills
At the end of the Laboratory the student will have acquired: a) the ability to plan and carry out a simple survey that adopts the perspective of the Social Network Analysis; b) the ability to manage data collection through appropriate tools; c) analysis of relational data and networks (in particular the application of the Network Autocorrelation Model and the ERGM Models. d) the ability to use R and the Statnet package for the analysis of relational data

Assessment criteria of skills
During the Laboratory an interactive modality will be used with the purpose of operating the fullest involvement of the students and verifying the progress in the acquisition of skills

Behaviors
Students will be able to perform inferential data analysis according to the SNA perspective, using Statnet software.

Assessment criteria of behaviors
Through the adoption of an active learning modality and through the continuous reference to concrete examples and empirical situations, the students will be called to account, through their own direct experiences in the collection and analysis of relational data and in the use of the Statnet software, of what was acquired during the lessons.

Prerequisites

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General Sociology; Methodology of social research; Data Analysis Laboratory 1

Teaching methods

The lectures will be partly frontal (for the presentation of the contents) and partly interactive and based on the involvement of students in simulations, empirical experiments and personal use of the PC for data analysis. Through engaging teaching and aimed at promoting student participation, the acquisition of specific skills for analyzing relational data through SNA and Software Statnet will be facilitated.

Syllabus

The Laboratory Program includes the following contents: planning and research design of a simple empirical experience on a topic of interest to students; data collection and computerization of data; inferential analysis of relational data using the Statnet software.
A simple empirical research will be carried out, the object of which may be of specific interest to the students and in any case to the understanding of relevant aspects of contemporary social life.
These activities can be coordinated with the activities carried out in the Data Analysis Laboratory 1 and with the course in Social Research Methodology.

Bibliography

During the workshop materials will be made available which will also be published on the "moodle" platform for non-attending students.
For further details, the text can be consulted:
Douglas Luke, A User's Guide to Network Analysis in R, Springer, 2015
IMPORTANT: A HANDOUT IN ITALIAN WILL BE MADE AVAILABLE ON MOODLE - FOR THE USE OF NON ATTENDING STUDENTS - WITH THE MAIN CONTENTS OF THE BOOK IN PROGRAM.

Non-attending students info

Non-attending students will be able to benefit from the study of the aforementioned text by D. Lukes, however a contact and a preliminary interview with the professor is recommended
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Assessment methods

The exam will consist in the elaboration and presentation, in the final test, of an individual or collective relationship, on the part of the students, relative to the experience conducted in empirical research, with specific reference to the methods of analysis of the adopted data and their interpretation .

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