# Research Methods in Psychology 1

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***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

The course aims to provide students with basic knowledge of the scientific research process. In particular, consideration will be given to the critical points in the design of psychological research with a special focus on the research cycle, the topic of aims, and the validity of research and communication. Problems related to measurement in psychology and the use of psychological variables will also be illustrated, with some background to descriptive statistics.

At the end of the course, students will be able to:

– know and understand the basic concepts of the research methodology: research cycle, objectives, purpose, measurement, ethics, validity, communication;

– apply this knowledge, in particular by reading and critically analysing scientific articles;

– analyse data using descriptive statistics, and produce and interpret tables and graphs.

***COURSE CONTENT***

The course will specifically address the basic topics and concepts of psychology as a scientific discipline, starting with the scientific method as an instrument of knowledge. Particular attention will be paid to the phases of the research cycle, from the definition of objectives to the definition of constructs and variables, from data analysis to the communication of research results and ethical implications. An initial distinction between quantitative and qualitative approaches will be introduced and an examination made of the main tools for producing the data used in psychology.

*Unit 1: Science and psychology*

1.1. Research in psychology

1.2. Sources of knowledge

1.3. Empirical and non-empirical methods

1.4. The scientific method

Unit 2: The research cycle

2.1. Reading scientific research: the sections of a research article

2.2. The phases of scientific research

Unit 3: From the definition of the research goal to the formulation of objectives and hypotheses

3.1. Bibliographic research

3.2. Research questions

3.3. Research objectives and hypotheses

3.4. Types of hypotheses

Unit 4: Measurement in Psychology

4.1. Operationalisation: constructs, dimensions, indicators

4.2. Variables: classifications

4.3. The measurement scales for variables

Unit 5: Approaches to research

5.1. Quantitative approach

5.2. Qualitative approach

5.3. Mixed methods

Unit 6: Data collection and production tools

6.1. Questionnaires

6.2. Psychological tests and standardised scales

6.3. Physiological and neuropsychological measures

6.4. Interview and focus group

6.5. Observational tools

Unit 7: Data analysis 1 - Descriptive single-variant statistics

7.1. Data management and organisation

7.2. Frequencies and graphs

7.3. Central trend and variability indices

Unit 8: Data analysis 2 - Bivariate descriptive statistics

8.1. Construction of a contingency table

8.2. Interpretation of a contingency table

Unit 9: Ethics in research

9.1. Ethical codes

9.2. Ethics committees

9.3. Ethical issues

Unit 10: Research communication

10.1. Contexts and forms of research

10.2. Writing scientific research

10.3. Publishing a scientific article: peer-review

10.4. The APA standards for scientific writing

10.5. Open science

***READING LIST***

Students will prepare by studying the reference texts listed below, as well as their own lecture notes and materials that will be made available on the Blackboard platform, including materials on the remote online workshop. Any further reading references will be provided at the beginning of the course.

*Reference texts*

D. Howitt-D. Cramer,, *Metodologia della ricerca in psicologia,* (Italian edition by M. Lanz-S. Tagliabue), Pearson, Milan, 2020, chapters and paragraphs 1.1, 1.2, 2, 3, 5.1, 5.2, 5.4, 6, 13.1, 13.2, 16.2.

*Materiali per il corso di Metodologia della Ricerca Psicologica 1,* Educatt, 2023.

Workshop content remotely available online.

Course materials will be available online on the Blackboard platform.

*Recommended texts for descriptive statistics and the applications in excel*

C. Marabelli-V. Piroli-S. Tagliabue, *Psicologia ed excel*, EDUcatt, 2010.

***TEACHING METHOD***

Lectures and tutorials in the classroom; teaching workshops conducted at external venues that will allow students to put into practice the theory they have learnt in lectures by working through short examples of research and conducting analyses on quantitative data.

***ASSESSMENT METHOD AND CRITERIA***

The assessment takes place through a written exam and includes two parts: a theoretical part, with multiple choice questions, and a practical part. Multiple choice questions will assess students' knowledge of the basic concepts presented in the manual and during the lectures (maximum 14 marks, the minimum mark to access the second part must be 9); the practical part will assess students' skills developed in the remote workshop, their ability to integrate the knowledge acquired, to autonomously assess a research study, to analyse the data and to know how to interpret and reprocess the information contained in a research study (maximum 16 marks). Students who achieve full marks in both sections will receive a distinction. The final mark for the written exam must be a pass. The exam cannot be divided.

***NOTES AND PREREQUISITES***

Student must possess basic knowledge of the concepts of logic and mathematics (algebraic operations, unknowns, equivalences, equations).

Further information can be found on the lecturer's webpage at http://docenti.unicatt.it/web/searchByName.do?language=ENG or on the Faculty notice board.