Universitat Autònoma de Barcelona

2022/2023

Research Methods, Design and Techniques

Code: 102566
ECTS Credits: 9

Degree	Type	Year	Semester
2502443 Psychology	FB	1	2

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Other comments on languages

Catalan: Base material, complementary material. English: Complementary material and part of evidence number 4. Spanish: Base material, complementary material and material of evidences 1, 2a, 2b and 5.

Teachers

Albert Fornieles Deu
Mariona Portell Vidal
Montse Vall-llovera Llovet
Lídia Ordeix Cordón
Rocio Zamora Sole
Rosario Granero Perez
Jaume Vives Brosa
Alfredo Pardo Garrido
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Prerequisites

There is no prerequisite regarding mathematical content, except for the basics of data analysis already included in the different syllabuses of the University Access Course and/or Secondary Education.

Objectives and Contextualisation

"Methods, Designs and Research Techniques" is the first methodological subject of the Psychology syllabus, and it belongs to the area of "Statistics". It is scheduled for the second semester of the first year of the syllabus, in order to facilitate transfer of the methodological competences to the other subjects. Likewise, it should provide the essential basis for correctly applying the content of the remaining methodological subjects.

The main objectives of the subject are to do the following:

- Enable students to understand the logic of psychological research and the basic elements underlying the validity of a scientific study.
- Introduce students to literature searching and to the critical reading of research articles, assessing the suitability of different methods, designs and techniques to the characteristics of the research problems.
- Introduce and present the ideas and fundamental concepts of data analysis, with specific examples, both from research and from applied psychology.

It is expected that at the end of the course the student will be able to do the following:

- Understand the assumptions on which the logic of scientific research is based.
- Know the ethical principles of psychological research.
- Identify the elements and phases involved in carrying out scientific research.
- Differentiate between the methodological perspectives used in psychological research.
- Know the characteristics of the designs commonly used in Psychology.
- Evaluate the research process through the quality criteria developed within each tradition (reliability, validity, triangulation, relevance, etc.).
- Apply basic procedures related to literature searching and organize and systematize the scientific sources reviewed.
- Distinguish the level of measurement for the data obtained and analyzed, as an indispensable requirement for properly selecting the appropriate graphical procedures and the statisticalindices/methods.
- Manage descriptive statistical indices in order to summarize the data and correctly interpret the results obtained.
- Know the basic methodological vocabulary in Catalan, Spanish and English languages.
- Know the standards of publication of research works of the American Psychological Association.
- Know the basic elements of the management of statistical analysis programs.

Competences

- Demonstrate a critical approach using constructive scepticism, creativity and an orientative attitude to research in professional activities.
- Distinguish between the design of research, procedures and techniques to evaluate hypotheses, contrast them and interpret the results.
- Maintain a favourable attitude towards the permanent updating through critical evaluation of scientific documentation, taking into account its origin, situating it in an epistemological framework and identifying and contrasting its contributions in relation to the available disciplinary knowledge.
- Recognise the epistemological foundations of the different research methods in psychology, their functions, characteristics and limitations.
- Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
- Take decisions in a critical manner about the different research methods in psychology, their application and the interpretation of the results deriving from them.
- Use different ICTs for different purposes.

Learning Outcomes

1. Assess, contrast and make decisions about choosing the most appropriate methods and techniques in each research context.
2. Classify applied studies based on the research methods and techniques used to obtain evidence.
3. Critically evaluate and reflect on features, advantages and limitations of the research methods used in the field of psychology.
4. Decide which research methods are more appropriate to respond to a research hypothesis formulated in different applied fields of psychology.

5. Describe how the scientific method for obtaining and accumulating evidence in the different fields of application of applied psychology.
6. Develop proposals on the implementation of data collection techniques to study the behaviour of individuals, groups or organizations.
7. Draw reasoned conclusions on the advantages and limitations of different methodological approaches to address problems of applied psychology.
8. Formulate and plan the contrast of hypotheses about the demands and needs of recipients and research.
9. Identify research designs used for hypothesis testing applied in various fields of discipline.
10. Identify the characteristics of the main techniques of descriptive statistics.
11. Identify the specific characteristics of the different directions in psychological research.
12. Interpret the content and scope of a claim of scientific evidence and the best type of study to be analysed to respond.
13. Maintain a favourable attitude towards the permanent updating through critical evaluation of scientific documentation, taking into account its origin, situating it in an epistemological framework and identifying and contrasting its contributions in relation to the available disciplinary knowledge.
14. Make a critical and reflexive analysis of the scientific literature and place it within an epistemological framework.
15. Make adequate use of document search tools.
16. Make reasoned proposals on methods of acquiring new evidence in psychology.
17. Produce proper reasoning within the framework of statistical thinking.
18. Properly identify key components involved and participate in the process of scientific research.
19. Properly interpret the results derived from the implementation of various strategies descriptive analysis and obtain epidemiological indices.
20. Solve practical problems that use strategies of the scientific method in the search for evidence in psychology.
21. Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
22. Use different ICTs for different purposes.

Content

The subject is organized into three blocks identified with the acronyms FDI, DOCU and AD:

Block FDI. Methodological foundations and introduction to research designs.

1. Principles of research methodology.

2. Experimental designs.

3. Quasi-experimental designs.

4. Single-case experiments.

5. "Ex post facto" designs.

6. Survey methodology.

7. Observational methodology.

8. Qualitative methodology and mixed methods.

Block DOCU. Documentation and literature search.

1. Literature search: PsycINFO, Pubmed and Web of Science.

2. Reference management with Mendeley.

Block AD. Data analysis: descriptive statistics.

1. Description of quantitative data.

2. Description of categorical data.

3. Basic concepts of probability and description of screening/diagnostic assessment tools.

Methodology

In this course we propose different activities based on active, student-centred learning methodologies. A mixed approach is adopted in which we combine traditional didactic techniques with other resources aimed at encouraging significant learning.

N.B. The proposed teaching and assessment methodologies may experience some modifications as a result of the restrictions on face-to-face learning imposed by the health authorities. The teaching staff will use the Moodle classroom or the usual communication channel to specify whether the different directed and assessment activities are to be carried out on site or online, as instructed by the Faculty.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Practice season in group 1/2	18	0.72	5, 4, 6, 16, 8, 18, 9, 10, 19, 12, 17, 20, 15, 22, 3, 1
Practice season in small group (1/4)	4	0.16	5, 4, 6, 16, 8, 18, 9, 10, 19, 12, 17, 20, 15, 22, 3, 1
Theoretical season in group 1/1	55.5	2.22	5, 4, 6, 16, 8, 18, 9, 10, 19, 12, 13, 17, 20, 15, 3, 1
Type: Supervised			
Face-to-face tutorials	5	0.2	5, 4, 6, 16, 8, 18, 9, 10, 19, 12, 17, 20, 15, 3, 1
Review of integrated problems	4	0.16	22
Type: Autonomous			
Application of statistical descriptive procedures and interpretation of the results of data analysis systems	12	0.48	5, 4, 7, 6, 16, 10, 19, 20, 3, 1
Critical reading activities	30	1.2	5, 4, 6, 16, 8, 18, 9, 10, 19, 12, 17, 20, 15, 3, 1
Execution of tutorials for documentation	26	1.04	5, 4, 16, 8, 18, 9, 12, 13, 17, 20, 15, 22, 3
Reading of documents for practical seasons	30	1.2	5, 4, 6, 16, 8, 18, 9, 10, 19, 12, 17, 20, 15, 3, 1
Study and creation (individual or groups) of summaries, schemes and	37.2	1.49	5, 4, 6, 16, 8, 18, 9, 10, 19,

conceptual maps	12, 17, 20, 15, 3, 1

Assessment

The continuous assessment process includes the following evaluative activities, distributed throughout the course (we use the acronyms FDI, DOCU and AD introduced in the section "Content" to indicate the part of the subject related to each evidence):

Type 1 activities

- Evidence 1 (in-person). Individual, written, theoretical-practical examination.This test evaluates the acquisition of contents of the DOCU block and the first part of the FDI block. This evidence will be carried out during the first evaluative period.

- Evidence 2 (in-person). Individual, written, theoretical-practical examination organized in two parts to be carried out in a single day during the second evaluative period:

- Evidence 2a. This section of the examination evaluates the acquisition of the contents of the second part of the FDI block.
- Evidence 2b. This section of the examination evaluates the acquisiton of the contents of the AD block.

Exceptionally, students who do not attend one of these examinations (Evidence 1 or Evidence 2) due to compelling circumstances may be allowed to provide the missing evidence during the reassessment week. They must provide documentary proof of the circumstances that justify their absence, and the decision on whether they are allowed to resit the examination will be taken by the teaching team.

Type 2 or type 3 activities

- Evidence 3 (in-person). Quality participation in the practice sessions of the FDI block. Individual or pair authorship. Oral presentation format. To be carried out during practice sessions, approximately from week 4 to week 13.

- Evidence 4 (virtual). Practical exercise of the FDI block.Individual authorship. Written presentation format. To be handed in approximately in week 11.

- Evidence 5 (virtual). Practical exercise of the AD block. Individual authorship. Written presentation format. To be handed in approximately in week 15. To earn the right to be evaluated for this evidence, students must have attended a minimum of two practice sessions of the AD block (programmed at the end of the semester).

In tune with the notion of student-centered learning, we propose a type of assessment that makes the way in which the highest score can be achieved more flexible. Thus, type 2 and 3 activities allow combinations in different evaluation itineraries.

Definition of "evaluable student"

A student is considered evaluable when he/she has submitted learning evidence with a weight equal to or greater than 4 marks (range 0-10).

Requirements for a passing grade

A student has passed the subject when he/she simultaneously meets the following two criteria:

a) Achieving at least 5 marks (range 0-10) in the continuous evaluation system.

b) Achieving at least 3 marks (range 0-10) in all of Activity Type 1 (Evidence 1 and Evidences 2).Not meeting these criteria means that a maximum grade of 4.5 marks (range 0-10) can be recorded on the student's academic transcript.

Right to reassessment

Learning Evidences 1, 2a and 2b may be re-submitted on the date set by the Faculty by means of an individual written theoretical-practical test.

To be eligible for reassessment, the following two requirements must be met:

a) Not passing the subject, but achieving a final grade of at least 3.5 marks (range 0-10).

b) Submitted learning evidence with a weight equal to or greater than 2/3 of the total grade.

Grades in the resit exams will substitute previously obtained results, being 7 (out of 10) the highest attainable grade. Once the reparatory exam hasbeen done, the final grade will be recalculated maintaining the original weightings for every recovered evidence and applying the same global criteria as during the continuous assessment. The highest grade to be stated in the academic record of those students who fail to meet these criteria will be 4.5 (out of 10).

* This subject does not provide any synthesis test for students in second or more enrollments.

* Link to the assessment guidelines of the faculty:

https://www.uab.cat/web/estudiar/graus/graus/avaluacions-1345722525858.html

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Evidence 1. Written examination (FDI-DOCU)	30%	1.5	0.06	14, 2, 5, 4, 7, 6, 16, 18, 9, 11, 12, 13, 21, 17, 20, 15, 22, 3, 1
Evidence 2a. Written examination (FDI)	20%	0.5	0.02	14, 2, 5, 4, 7, 6, 16, 8, 18, 9, 10, 11, 19, 12, 13, 21, 17, 20, 15, 22, 3, 1
Evidence 2b. Written examination (AD)	30%	1.3	0.05	5, 16, 8, 9, 10, 19, 21, 17, 20, 3
Evidence 3. Face-to-face classroom participation (FDI)	10%	0	0	5, 4, 6, 16, 18, 20, 15, 3, 1
Evidence 4. Practical exercice (FDI)	10%	0	0	5, 4, 6, 16, 8, 18, 9, 12, 13, 20, 15, 22, 3, 1
Evidence 5. Practical exercice (AD)	10%	0	0	8, 18, 10, 19, 17, 20, 1

Bibliography

Basic bibliography:

Pardo, A., Ruiz, M.A., & San Martín, R. (2009). *Análisis de datos (I) en ciencias sociales y de la salud*. (2ª ed.). Síntesis.

Portell, M., & Vives, J. (2019). *Investigación en psicología y logopedia: introducción a los diseños experimentales, cuasi-experimentales y ex post facto*. Servei de publicacions de la UAB.

Complementari bibliography:

Babbie, E. (2000). *Fundamentos de la investigación social*. Thomson.

Cumming, G., & Calin-Jageman, R. (2016). *Introduction to the new statistics.* Routledge-Taylor & Francis.

Gambara, H. (2002). *Métodos de investigación en Psicología y Educación. Cuaderno de prácticas* (3ª ed.). Madrid: McGraw Hill.

Grissom, R.J., & Kim, J.J. (2005). *Effect sizes for Research: a broad practical approach*. Lawrence Erlbaum Associates, Publishers.

Kline, R.B. (2009). *Becoming a behavioral science researcher*. The Guilford Press.

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León, O.G., & Montero, I. (2015). *Métodos de investigación en psicología y educación: las tradiciones cuantitativa y cualitativa* (4ª ed.). McGrawHill.

Peña, D. (2001). *Fundamentos de estadística*. Alianza Editorial.

Sahughnessy, J.J., Zechmeister, E.B., & Zechmesiter, J.S. (2007). *Métodos de investigación en Psicología* (7ª ed.). McGraw Hill.

Software

Mendeley