

**Research Methods for Clinical and Health  
Psychology**

Code: 43881  
ECTS Credits: 6

| Degree   | Type | Year | Semester |
|--|------|------|----------|
| 4316222 Research in Clinical Psychology and Health | OT   | 0    | 2        |

## Contact

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## Use of Languages

Principal working language: spanish (spa)

## Teachers

M. Dolors Riba Lloret  
Eva Penelo Werner

## Prerequisites

Knowledge of Module 1, especially those related to research methodology and research designs, for their direct link with statistical modeling, those related to descriptive and bivariate analysis, and about functioning of the software Stata.

## Objectives and Contextualisation

Provide the necessary skills (theoretical and instrumental) so that the student is able to:

- Analyze the psychometric properties of a questionnaire relative to internal structure and reliability.
- Analyze the data of a research using linear or logistic regression models, both in order to predict the response and to study the influence of an exposure on the response.
- Incorporate the phenomena of interaction and confusion into the statistical modeling process.
- Perform the diagnosis of the conditions of application of linear and logistic regression models.
- Distinguish a moderator variable from a mediator variable, and propose together with the estimation of models of structural equations for the analysis of mediation models.
- Interpret the results of the regression models and SEM, being able to select those most suitable to be included in the research report.

## Competences

- Analyze critically the most current theories, models and methods of psychological research in the field of clinical and health psychology.
- Analyze data and interpret results on research in clinical and health psychology.

- Apply the outstanding ethical principles and act accordingly to the deontological code for the profession in the scientific research practice.
- Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
- Continue the learning process, to a large extent autonomously.
- Discuss the results the results on clinical and health psychology research, and contrast them with existing scientific literature and draw conclusions and practical applications.
- Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
- Use scientific terminology to argue the results of research in the context of scientific production, to understand and interact effectively with other professionals.

## Learning Outcomes

1. Apply the outstanding ethical principles and act accordingly to the deontological code for the profession in the scientific research practice.
2. Choose the most appropriate statistical model according to the research question, the data collection design and the measurement scale for the variables involved.
3. Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
4. Continue the learning process, to a large extent autonomously.
5. Draw practical conclusions from the results and evaluate their implications.
6. Evaluate the adjustment indices obtained using the computer after carrying out a statistical or psychometric analysis to test the adequacy of the chosen model.
7. Interpret and discuss the results of the research in applied psychology focusing on the design, method and analyses carried out.
8. Interpret the statistical results and the effects of the magnitude of an effect taking into consideration the sample size and statistical potential.
9. Know the main techniques of single-stage sampling, know how to decide the most appropriate to the objectives of a research in a specific field, and know how to calculate the sample size needed to acquire a certain statistical power.
10. Recognize research designs that involve a data analysis using structural equation models for the analysis of mediator variables between exposure and response.
11. Recognize research designs that involve a data analysis with multivariate quantitative methods.
12. Select all the results produced by the computer after carrying out a statistical analysis, and the appropriate indices that should appear in a publication.
13. Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
14. To estimate the multivariate statistical models that the module contemplates using computer programs of statistical analysis.
15. Understand the general limitations of models of statistical analysis explained in the module: relevant research methods and types of analyzable response variables.
16. Understand the limitations of theoretical conclusions which may be derived from the numerical results obtained using the statistical analysis models explained in the module.
17. Use scientific terminology to argue the results of research in the context of scientific production, to understand and interact effectively with other professionals.

## Content

### Unit 1

- Internal structure of a questionnaire: principal components analysis and rotations.

- Reliability

### Unit 2

- Linear regression: predictive models and to evaluate effects.
- Statistical modeling in the presence of interaction and confusion.
- Diagnosis of the linear regression model.

### Unit 3

- Logistic regression: predictive models and to evaluate effects.
- Logistic regression and diagnostic tests.
- Diagnosis of the logistic regression model.

### Unit 4

- Moderation vs mediation.
- Structural equation models for the analysis of mediating variables.

## Methodology

### Directed:

- Master class. Using a material published by the teachers, explanation is made based on examples and matrices of real research data in psychology. Each master class ends with a space dedicated to the debate with students, who are expected to provide feedback on the understanding, usefulness and applicability of the presented concepts.
- Practical sessions with Stata. The results presented in the master class are replicated using Stata. New exercises with a similar structure are also added.

### Autonomous:

- As part of the assessment each student will make a report that responds to questions of investigation about a problem published in an indexed journal
- Personal study.

## Activities

| Title                         | Hours | ECTS | Learning Outcomes   |
|-------------------------------|-------|------|---|
| Type: Directed                |       |      |   |
| Master class                  | 16.5  | 0.66 | 1, 16, 15, 9, 2, 14, 5, 8, 7, 13, 3, 4, 10, 11, 12, 17, 6 |
| Practical sessions with Stata | 17    | 0.68 | 1, 16, 15, 9, 2, 14, 5, 8, 7, 13, 3, 4, 10, 11, 12, 17, 6 |
| Type: Autonomous              |       |      |   |
| Elaboration of reports        | 16    | 0.64 | 1, 16, 15, 9, 2, 14, 5, 8, 7, 13, 3, 4, 10, 11, 12, 17, 6 |
| Personal work                 | 96.5  | 3.86 | 1, 16, 15, 9, 2, 14, 5, 8, 7, 13, 3, 4, 10, 11, 12, 17, 6 |

## Assessment

The continuous evaluation process will integrate 4 evaluative elements:

Evidence 1 (40%): Online delivery of the results of individual self-analysis of a practical problem related to internal structure and reliability

Evidence 2 (40%): Computer examination on linear regression models.

Evidence 3 (25%): Computer examination of logistic regression models.

Evidence 4 (10%): Attendance and active participation in class.

The final qualification of the continuous evaluation will be obtained as the weighted average of the 4 evaluation evidences. The module will be passed with qualifications equal to or greater than 5 points (on a scale of 0 to 10 points). The students who have obtained a final qualification between 3.5 and 5 points and who have made evidence of evaluation with a minimum weight of 2/3 of the total, will be able to take the second-chance test, which will allow them to re-evaluate evidences 1, 2 and 3 that were not successfully passed. The maximum score that can be obtained on each retest evidence will be 6 points.

A student who has presented evidence that exceeds 40% of the total may not be qualified as "Not Evaluable" or "Not Submitted".

The document with the evaluation guidelines of the Faculty can be found at:

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

## Assessment Activities

| Title  | Weighting | Hours | ECTS | Learning Outcomes   |
|--|-----------|-------|------|---|
| Attendance-Participacion in class                      | 10        | 0     | 0    | 1, 16, 15, 9, 2, 14, 5, 8, 7, 13, 3, 4, 10, 11, 12, 17, 6 |
| Practical report on internal structure and reliability | 25        | 0     | 0    | 1, 16, 3, 10, 12, 17, 6                                   |
| Test about linear regression                           | 40        | 2     | 0.08 | 1, 16, 15, 9, 2, 14, 5, 8, 7, 13, 3, 4, 10, 11, 12, 17, 6 |
| Test about logistic regression                         | 25        | 2     | 0.08 | 1, 16, 9, 2, 14, 5, 8, 7, 3, 4, 11, 12, 17                |

## Bibliography

Abad, F., Olea, J., Ponsoda, V., García, C. (2011). *Medición en Ciencias Sociales y de la Salud*. Madrid: Síntesis.

American Educational Research Association, American Psychological Association i National Council on Measurement in Education (2014). *The standards for educational and psychological testing*. Washington: Autor.

Kleinbaum, D.G., Kupper, L.L., Nizam, A., Muller, K., Rosenberg, E.S. (2012). *Applied Regression Analysis and other Multivariable Methods*. (5ª ed.). Boston (MA): Cengage Learning, Inc

Kleinbaum, D.G., Klein, M. (2012). *Logistic regression. A Self-learning text*. 3rd ed. New York: Springer-Verlag

Ato, M. y Vallejo, G. (2011). Los efectos de terceras variables en la investigación psicológica. *Anales de Psicología*, 27, 550-561.

Shmueli, G. (2010). To Explain or to Predict?. *Statistical Science*, 25, 289-310.