Research Methods for Clinical and Health Psychology

Code: 43881
ECTS Credits: 6

2024/2025

Degree	Type	Year
4316222 Research in Clinical Psychology and Health	OT	0

Contact

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Teachers

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Teaching groups languages

You can view this information at the end of this document.

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 statistical software used.

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 to estimate structural equation models (SEM) 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 practic.
- 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 practic.
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

Block A

- Internal structure: principal components analysis (A1) and confirmatory factor analysis and measurement invariance (A2)

- Reliability (A3)

Block B

- Linear regression: predictive models and to evaluate effects

- Statistical modeling in the presence of interaction and confusion

- Diagnosis of the linear regression model

Block C

- Logistic regression: predictive models and to evaluate effects

- Logistic regression and diagnostic tests

- Diagnosis of the logistic regression model

Block D

- Moderation vs mediation

- Structural equation models for the analysis of mediating variables

Note: the content schedule may be subject to change.

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Master class + practical sessions with statistical program (9 sessions of variable duration depending on the contents of each block)	30	1.2	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17
Type: Supervised			
In-person and/or virtual tutors	6	0.24	
Type: Autonomous			
Reading of texts, study and personal work, preparation of individual and/or group reports	110	4.4	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17

Directed sessions:

- Master classes. Using a material published by the teachers, explanation is made based on examples and matrices of real research data in psychology. Each master class is combined with a space dedicated to the

debate and practical exercise with students, who are expected to provide feedback on the understanding, usefulness and applicability of the presented concepts.

- Practical sessions. The results presented in the master class are replicated using statistical software. New exercises with a similar structure are also added.

Materials are in Spanish and English; statements of written learning outcomes or tests are in Spanish; statistical software user-interface can be in English.

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.

Assessment

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
EvA Practical report on internal structure and reliability (individual, written, on-line delivery, for CA: at the end of the 3 class sessions of this block A)	25	0	0	1, 3, 6, 10, 12, 16, 17
EvB Test on linear regression (individual, written, face-to-face, at the end of the 5 class sessions of blocks B and C)	35	2	0.08	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17
EvC Test on logistic regression (individual, written, face-to-face, at the end of the 5 class sessions of blocks B and C [week after evB])	25	2	0.08	1, 2, 3, 4, 5, 7, 8, 9, 11, 12, 14, 16, 17
EvD Summary-report on mediation (CA group or SA individual, written, on-line delivery, for CA: at the end of the class session of this block D)	15	0	0	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17

The evaluation process, whether continuous-assessment (CA) or single-assessment (SA), consists of 4 evaluative elements. For continuous assessment, see the table of assessment activities below (the detailed schedule will be provided before starting the subject). Single assessment will only differ in autor-ship and date of completion/delivery: individual the last day of face-to-face evaluation of the continuous assessment for the 4 learning evidence.

The final grade will be obtained as the weighted average of the 4 evaluation evidences. The module will be passed with grades equal to or greater than 5 points (on a scale of 0 to 10 points), with a minimum of 3 points on avergage in EvB and EvC; otherwise the maximum grade in the course will be 4.5.

The resit process will be the same for the continuous assessment and for the single assessment. Students who have obtained a final grade between 3.5 and less than 5 points and who have carried out evaluation evidence weighing at least 2/3 of the total grade, will be able to take resit (at the end of the subject), to carry

out again evidences B and/or C that have not been successfully passed. The maximum grade that can be obtained in each evidence recovered will be 6 points. The grade obtained in the evidence/s recovered will replace the respective original grade and the final grade will be recalculated.

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

No unique final synthesis test for students who enroll for the second time or more is anticipated.

The document with the evaluation guidelines of the faculty can be found at:
https://www.uab.cat/web/estudiar/graus/graus/avaluacions-1345722525858.html

Bibliography

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Kleinbaum, David G.; Kupper, Lawrence L.; Nizam, Azhar; Rosenberg, Eli S. (2014). *Applied regression analysis and other multivariable methods*. (5ª ed.). Brooks/Cole. [ISBN 1285051084]

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Shmueli, Galit. (2010). To explain or to predict? *Statistical Science, 25*, 289-310. https://dx.doi.org/10.1214/10-STS330

Software

Stata

Language list

Name	Group	Language	Semester	Turn
(TEm) Theory (master)	1	Spanish	second semester	afternoon