Course Description

Research Methods in Clinical and Health Psychology

Leading Lecturer: Róbert Urbán

Aim of the course

Aim of the course: We aim to provide students with the fundamental knowledge on research methods and designs applied in clinical and health psychology. We aim to facilitate students understanding for how using valid scientific methods can improve and create knowledge in the field of psychology. The course covers every topic needed to complete their Master's Theses. We also aspire to train students with the foundations of scientist-practitioner model.

Learning outcome, competences

knowledge:

After successfully completing this course

- students will know the concepts of the most common research designs that are suitable to examine and interpret the variety of clinical and health psychology phenomena,
- they will understand the fundamental aspects of how to plan and implement scientific research within the field,
- they will know the strengths and limitations of the covered research methods and designs.

attitude:

- Openness to formulate research questions and to implement scientific research.
- Openness to the research questions of one's own field

skills:

After successfully completing this course, students will be able

- to develop a detailed research question and hypothesis,
- to analyze, critically interpret, and present clinical research data flexibly,
- to seek and find new associations,
- to plan and implement scientific research within the field of clinical and health psychology,
- to apply critical reading skills while evaluating scientific works.

Content of the course

Topics of the course

- Why are research methods important for clinicians?
- Research ethics – ethical issues in planning and conducting research
- Advanced literature searching
- Meta-analysis and systematic reviews: basic concepts
- Observational epidemiological methods: cohort study and case-control studies
- Confidence intervals: calculations and graphical displays and bootstrapping

- Survey methods, sampling techniques
- Statistical power analysis and sample size determination
- Correlational methods, analyzing moderator and mediator effects.
- The basics of structural equation modeling
- Scale development and construct validity
- Diagnostic accuracy in diagnostic tests
- Experimental epidemiological studies: clinical studies, effectiveness versus efficacy, clinical significance
- Planning a clinical study
- Single case studies
- The structure and the critical appraisal of scientific reports

Learning activities, learning methods

lecture, practical, practice tasks, students' presentations

Evaluation of outcomes

Learning requirements, mode of evaluation, criteria of evaluation:

requirements

The grade consists of four exams and the evaluation of research proposal:

> Two exams on research methods: 60% (30% each) all exams should be passed for the completion of the course.
>
> Research proposal including the presentation: 30%. **DEADLINE: the last week of the semester.**
>
> Student activities (optional): 10% Students can have a presentation (10-15 minutes) during the class based on a research method question or a research example.

The exams on research methods will cover the topics and materials discussed during the discussions of research methods and the required reading materials. These will be closed book exams. The exam can include multiple choice tests and short questions.

Research proposal:

Research proposal is a result of working **in pair (2 students)** therefore two students work together in developing one research proposal. Students can choose a research topic or the instructor can give a topic to work on.

Research proposals should be written according to the Publication Manual of the American Psychological Association.

Research proposal should include appendix containing any measures that are proposed to use, and also the application for ethical approval according to Institution Review Board of ELTE.

Guidelines for preparation of research proposal:

Proposals should be written in APA style, should include a bibliography, and should not exceed 20 double-spaced, typed pages. A HARD COPY of the paper must be given to the instructor, and the

instructor should be able to carry out the proposed study from what is written in the proposal (i.e., either citations for stimuli and/or measures, or the stimuli and/or measures themselves, as well as instructions for procedures where appropriate).

The proposal must specify an empirical study in health or clinical psychology, involving the collection of data. However, the study can involve any form of quantitative research methodology.

The format should be done in APA style and include:

- Title Page
- Abstract
- Introduction
    - Relevance of the research
    - A short summary of relevant previous research
    - Research questions and/or hypotheses
    - Conceptual map – if it is applicable.
- Method
    - Sampling
    - Measures
    - Procedure
    - Statistical analysis plan
- Discussion- Since there will be no data, include in this section a critical assessment of the proposed study (limitations).
- References (APA style should be used)
- Appendix - If using any measures.

mode of evaluation:

- 5-level grading, based on the achieved scores in percentages
- GRADING of each exams based on scores achieved:
  0-50 % = 1 (failed)

  51-65 % = 2 (passed)

  66-79 % = 3

  80-89 % = 4

  90-100 % = 5

- the final grade is the weighted average of the four tasks (it is rounded mathematically to the nearest integer)

criteria of evaluation:

- Clarity of statement of the problem and variables
- Adequacy of literature review
- Clarity of the methods of the study including the sample, hypotheses, measures and procedures.
- Appropriateness of proposed data analysis.
- Appropriateness of discussion of strengths and weaknesses of the study design

- Use of APA style

Reading list

Compulsory reading list

- Baumeister, R. F., & Leary, M. R. (1997). Writing narrative literature reviews. *Review of General Psychology*, *1*(3), 311–320.
- Bornhöft et al. (2006). Checklist for the qualitative evaluation of clinical studies with particular focus on external validity and model validity. *BMC Medical Research Methodology,* 6:56 doi:10.1186/1471-2288-6-56; http://www.biomedcentral.com/1471-2288/6/56
- Case-control study: http://w2.iarc.fr/en/publications/pdfs-online/epi/cancerepi/CancerEpi-9.pdf
- Choi BCK, Pak AWP. A catalog of biases in questionnaires. Preventing Chronic Diseases [serial online] 2005 Jan. http://www.cdc.gov/pcd/issues/2005/jan/04_0050.htm.
- Clark, L. A. and Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7, 309-319. http://www.personal.kent.edu/~dfresco/CRM_Readings/Clark_and_Watson_1995.pdf
- Clark-Carter, D. & Marks, D.F. (2004). Intervention studies: design and analysis. *In* Marks, D.F. & Yardley, L. (Eds.. *Research methods for clinical and health psychology*. London: Sage. pp. 166-184.
- Cohort study: http://w2.iarc.fr/en/publications/pdfs-online/epi/cancerepi/CancerEpi-8.pdf
- Cumming, G., & Finch, S. (2005). Inference by eye: confidence intervals and how to read pictures of data. *The American Psychologist*, *60*(2), 170–180. http://doi.org/10.1037/0003-066X.60.2.170. http://www.apastyle.org/manual/related/cumming-and-finch.pdf
- Durlak, J. A. et al (2003). Meta-analysis. In: Thomas, J. C., & Hersen, M. (Eds.). *Understanding Research in Clinical and Counseling Psychology*. London: Lawrence Erlbaum. pp. 243-270.
- Eysenbach, G. (2004). Improving the Quality of Web Surveys: The Checklist for Reporting Results of Internet E-Surveys (CHERRIES). *Journal of Medical Internet Research*, *6*(3). http://doi.org/10.2196/jmir.6.3.e34. Fulltext: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1550605/
- Eysenbach, G., & Wyatt, J. (2002). Using the Internet for Surveys and Health Research. *Journal of Medical Internet Research*, *4*(2). http://doi.org/10.2196/jmir.4.2.e13 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1761932/
- Falzon L, Davidson KW, Bruns D. (2010). Evidence searching for evidence-based psychology practice Professional Psychology: Research and Practice, 41, 550-557. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3077562/pdf/nihms251038.pdf
- Glaros, A. G., & Kline, R. B. (1988). Understanding the accuracy of tests with cutting scores: the sensitivity, specificity, and predictive value model. *Journal of Clinical Psychology*, 44, 113e123.
- Haaga, D., and Stiles, W.B. (2000). Randomized clinical trials in psychotherapy research: Methodology, design, and evaluation In: Snyder, C. R., & Ingram, R. E. (Eds.). *Handbook of psychological change: psychotherapy processes & practices for the 21st century*. New York: Wiley.
- Holmbeck, G. N. (1997). Toward Terminological, Conceptual, and Statistical Clarity in the Study of Mediators and Moderators: Examples From the Child-Clinical and Pediatric Psychology Literatures. *Journal of Consulting and Clinical Psychology*, 65(4), 599-610. http://www.unt.edu/rss/class/mike/Articles/Holmbeck_1997.pdf
- Hoyle, R. H., & Smith, G. T. (1994). Formulating clinical research hypotheses as structural equation models: a conceptual overview. *Journal of Consulting and Clinical Psychology*, *62*(3), 429–440.
- http://www.healthparc.com/documents/kazdin,%202008.pdf

- Kazdin, A. E. (1995). Preparing and evaluationg research reports, *Psychological Assessment*, 7, 228-237. http://www.personal.kent.edu/~dfresco/CRM_Readings/Kazdin_1995.pdf
- Kazdin, A.E. (2008). Evidence-based treatment and practice: new opportunities to bridge clinical research and practice, enhance the knowledge base, and improve patient care. *American Psychologist*, 63, 146-159.
- Kelley, K., Clark, B., Brown, V., & Sitzia, J. (2003). Good practice in the conduct and reporting of survey research. *International Journal for Quality in Health Care*, *15*(3), 261–266. http://doi.org/10.1093/intqhc/mzg031 http://intqhc.oxfordjournals.org/content/intqhc/15/3/261.full.pdf
- Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: a practical primer for t-tests and ANOVAs. *Frontiers in Psychology*, *4*. http://doi.org/10.3389/fpsyg.2013.00863
- Lau, C.-C., & Kuk, F. (2011). Enough is enough: A primer on power analysis in study designs: *The Hearing Journal*, *64*(4), 30.
- Miller, C. (2003). Ethical Guidelines in Research. In: Thomas, J. C., & Hersen, M. (Eds.). *Understanding Research in Clinical and Counseling Psychology*. London: Lawrence Erlbaum. pp. 271-293.
- Roberts, M.C. et al. (2003). The scientific process and publishing research. In: Roberts, M.C. & Ilardi, S.S. (Eds.). *Handbook of research methods in clinical psychology*. Malden: Blackwell Publishing Ltd. pp. 31-51.
- Smith, J. D. (2012). Single-Case Experimental Designs: A Systematic Review of Published Research and Current Standards. *Psychological Methods*, *17*(4). http://doi.org/10.1037/a0029312. Fulltext available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3652808/
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- Thomas, J. C. & Rosqvist, J. (2003). Introduction: Science in the Service of Practice In: Thomas, J. C., & Hersen, M. (Eds.). *Understanding Research in Clinical and Counseling Psychology*. London: Lawrence Erlbaum. pp 3- 26.

Recommended reading list

- Aboraya, A., Rankin, E., France, C., El-Missiry, A., & John, C. (2006). The Reliability of Psychiatric Diagnosis Revisited. *Psychiatry*, *3*(1), 41–50. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2990547/pdf/PE_3_1_41.pdf
- Altman, D. G., & Bland, J. M. (1994a). Statistic notes: diagnostic tests 1: sensitivity and specificity. *British Medical Journal*, 308, 1552.
- Altman, D. G., & Bland, J. M. (1994b). Statistic notes: diagnostic tests 2: predictive values. *British Medical Journal*, 309, 102.
- Aveyard, H., & Sharp, P. (2009). *A Beginner's Guide to Evidence Based Practice in Health and Social Care Professions*. New York: Open University Press.
- Babyak, M. A., & Green, S. B. (2010). Confirmatory factor analysis: an introduction for psychosomatic medicine researchers. *Psychosomatic Medicine*, *72*(6), 587–597. http://doi.org/10.1097/PSY.0b013e3181de3f8a
- Dallery, J., Cassidy, R. N., & Raiff, B. R. (2013). Single-Case Experimental Designs to Evaluate Novel Technology-Based Health Interventions. *Journal of Medical Internet Research*, *15*(2), e22. http://doi.org/10.2196/jmir.2227

- Fabrigar, L. R., Maccallum, R. C., Wegener, D. T., Strahan, E. J., Fabrigar, R. R., Strahan, E. J., & Of, D. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 272–299.
- Hunsley, J. & Meyer, G.J. (2003).The Incremental Validity of Psychological Testing and Assessment: Conceptual, Methodological, and Statistical Issues. *Psychological Assessment*, 15, 446–455.
- Joiner, T.E. & Pettit, J.W. (2003). Adult clinical assessment and diagnosis research: Current status and future directions. In: Roberts, M.C. & Ilardi, S.S. (Eds.). *Handbook of research methods in clinical psychology*. Malden: Blackwell Publishing Ltd. pp. 284-304.
- Lancaster, G. A. et al. (2004). Design and analysis of pilot studies: recommendations for good practice. *Journal of Evaluation in Clinical Practice*, 10, 307–312
- Norcross, J. C., & Koocher, G. P. (2008). *Clinician's Guide to Evidence Based Practices : Mental Health and the Addictions: Mental Health and the Addictions*. Oxford University Press, USA.
- Ogles, B. M. et al: (2001). Clinical significance: History, application, and current practice. *Clinical Psychology Review*. 21 (3), 421-446.
- Strauss, M. E., & Smith, G. T. (2009). Construct Validity: Advances in Theory and Methodology. *Annual Review of Clinical Psychology*, *5*, 1–25. http://doi.org/10.1146/annurev.clinpsy.032408.153639
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