

The psychology of adaptation

Aim of the course

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This is a course based on lectures as well as critical group discussions on specific topics of *adaptation*, defined in its broadest sense as a suitable reaction to change, beneficiary for the specie. We invite students to explore theories of adaptation as well as its relevance in various applied psychological fields (such as the pursue of happiness and stress management). The range of topics include perspectives from evolutionary psychology, genetics, clinical and personality psychology, social psychology, cognitive and affective psychology, and developmental psychology. Students are encouraged to formulate their own views through group-discussion of selected topics accumulating knowledge from lectures and readings. Relevant results from empirical research will be presented in detail, including live demonstrations of adaptive mechanisms using data from wearable sensors detecting real-time changes of certain physiological markers.

Our journey will start with Darwin's theory of selection and inclusive fitness theories, and the role of specific gene variations coding adaptive behavioral patterns. Specific questions to be answered could include: What is the role of adaptation forming individual differences in temperament and character? What does the "Magnificent 7-repeat allele" has to do with seeking adventures? We will continue the journey with discussion of the Adaptation-Level theory, relevant to color vision, social process, economics, and research on happiness. Developmental aspects of adaptation are highly relevant, discussed through the concept of resilience. Current insights of the field will also be addressed (e.g. human-AI interaction and affective regulatory behavior of robots).

Tanulási eredmények, kompetenciák

knowledge:

- Acquired knowledge of theories of adaptation and applied fields of psychology
- Acquired English terminology in the covered field

attitude:

- Fluency in formulating research ideas, summarizing and expression of own opinion in English
- Cooperation and fluency in group discussion roles: moderator/specialist/referee
- (optional) Practice in the examiner's role: empathetic attitude while objective assessment

skills:

- Ability to integrate the ideas learnt
- Fluency in expressing ideas using adequate terminology of the fields covered

Content of the course

Topics of the course

Participants of the course will be asked to form study groups and choose their topics of interest. Introductory lectures of each topic will be followed by *classes with round-table discussion of chosen topics*. Active participation on these classes is mandatory. Main topics and planned structure of the course:

- Introduction, course requirements
- *Demonstrations and allocating topics to the groups*
- Evolutionary psychology perspective
- Genetics perspective
- *Demonstrations and/or round table group discussions*
- Clinical psychology perspective
- Personality psychology perspective
- *Demonstrations and/or round table group discussions*

- Social psychology perspective
- Cognitive perspective
- *Demonstrations and/or round table group discussions*
- Affective psychology perspective
- Developmental psychology perspective
- *Demonstrations and/or round table group discussions*

Learning activities, learning methods

Lectures, group discussion, demonstration with active participation of the students.

Evaluation of outcomes

Learning requirements, mode of evaluation, criteria of evaluation:

Requirements:

- Course activity, including:
 - Accomplishment of readings for each class in a timely fashion, demonstrated by raising adequate questions during round table discussions
 - Active participation as moderator/expert/referee on a specific topic of own group's choice
- Oral exam in groups (in the examination period)

An optional task to earn extra credits for the exam grade: serving as examiner on a specific topic

mode of evaluation: kollokvium

The course grade will be based on course activity (50%) and exam (50%), based on:

- Ability to integrate acquired knowledge and to formulate opinion and research ideas
- Ability to work efficiently in a group involving preparation and accomplishment of round table discussions
- Knowledge of the material of the course based on readings and discussion summaries
- Proficient use of terms learnt
- Demonstrating an empathetic attitude while objective assessment

Reading list

Compulsory an recommended reading list

Mandatory and recommended readings for the course will be specified and provided electronically in each semester. See handbooks and articles below as examples:

- Buss DM. (2015) *Evolutionary psychology: The new science of the mind*. ISBN 978-0-205-99212-6
- Martin I. (1964) Adaptation. *Psychological Bulletin* 61(1), 35–44. <https://doi.org/10.1037/h0048237>
- Bevan W. (1965) The Concept of Adaptation in Modern Psychology. *The Journal of Psychology* 59:1, 73–93, <https://doi.org/10.1080/00223980.1965.9916779>
- Lukaszewski A, Lewis DMG, Durkee P, Sell A, Sznycer D, Buss D. (2020) An Adaptationist Framework for Personality Science. *European Journal of Personality* 34(4). <https://doi.org/10.1002/per.2292>
- West SA, Gardner A. (2013) Adaptation and Inclusive Fitness. *Current Biology*, 23(13). <https://doi.org/10.1016/j.cub.2013.05.031>
- Pappa I, Mileva-Seitz VR, Bakermans-Kranenburg MJ, Tiemeier H, van IJzendoorn MH. (2015) The magnificent seven: A quantitative review of dopamine receptor d4 and its association with child behavior. *Neurosci Biobehav Rev* 57(175–86). <https://doi.org/10.1016/j.neubiorev.2015.08.009>
- Helson H. (1948) Adaptation-Level as a Basis for a Quantitative Theory of Frames of Reference. *Psychological Review* 55 (6): 297–313.

- Edwards J. (2018) Harry helson's adaptation-level theory, happiness treadmills, and behavioral economics. *Journal of the History of Economic Thought* 40(1), 1-22. <https://doi.org/10.1017/S1053837216001140>
- Prince-Embury S. (2013) *Translating Resilience Theory for Assessment and Application with Children, Adolescents, and Adults: Conceptual Issues*. In: Prince-Embury S., Saklofske D. (eds) *Resilience in Children, Adolescents, and Adults*. The Springer Series on Human Exceptionality. Springer, New York, NY. https://doi.org/10.1007/978-1-4614-4939-3_2
- Masten AS & Barnes AJ. (2018) Resilience in Children: Developmental Perspectives. *Children* (Basel, Switzerland), 5(7), 98. <https://doi.org/10.3390/children5070098>
- Hiolle A, Lewis M, Cañamero L. (2014) Arousal regulation and affective adaptation to human responsiveness by a robot that explores and learns a novel environment. *Frontiers in Neurobotics* (8):1-17. <https://doi.org/10.3389/fnbot.2014.00017>