The Hebrew University of Jerusalem

Syllabus

The Nature and Nurture of the Social Brain - 51631

Last update 29-09-2024

HU Credits: 2

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Psychology

Academic year: 0

Semester: 1st Semester

Teaching Languages: English

Campus: Mt. Scopus

Course/Module Coordinator: Prof. Salomon Israel

Coordinator Email: salomon.israel@mail.huji.ac.il

Coordinator Office Hours: by appointment

Teaching Staff:

Prof. Salomon Israel

Course/Module description:

People are not blank slates, nor are they determined by their genes. We will survey recent studies showing how nature and nurture interplay to influence our political, social, and economic behaviors.

Course/Module aims:

Provide an overview of different methods for examining genetic effects for complex behaviors, focusing on twin models and molecular genetic techniques.

Provide an overview of how genes and the environment interplay to influence social behaviors.

Highlight candidate biological systems involved in human social behavior.

Connect biological processes to relevant social domains e.g. politics, economics, criminal offending.

Learning outcomes - On successful completion of this module, students should be able to:

Describe methods for estimating the heritability of a behavioral trait

Categorize the different ways in which genetic and environmental factors may correlate or interact

Identify biological systems involved in social behavior, and describe how genetic variants associated with these systems contribute to individual differences in social behavior

Describe processes in which social experiences influence gene expression

Briefly summarize the main aspects of a behavioral genetics paper (method, results, implications on the field)

Attendance requirements(%):

Students are expected to attend lectures, although attendance is not a formal requirement

Teaching arrangement and method of instruction: Frontal lectures

Course/Module Content:
Topics covered in the course:
The twin method

Basics of molecular genetics

Gene environment interactions and correlations

biological contributions to human social behaviors such as altruism, aggression, and political attitudes

Biological embedding of experience (epigenetics and gene expression)

Telomeres, stress, and aging

Psychopathology

educational attainment

Genome-wide association studies (GWAS)

Required Reading:
Before most classes a preparative reading list will be assigned. Reading will be composed of journal articles and will be available for download on the course website. Students should read the article in advance and come prepared to class ready

Reading will be based on scientific articles, review papers, and occasionally articles from the popular press. This will be updated at the beginning of the semester.

Some example articles are shown below:
Caspi, A., McClay, J., Moffitt, T. E., Mill, J., Martin, J., Craig, I. W., ... & Poulton, R. (2002). Role of genotype in the cycle of violence in maltreated children. Science, 297(5582), 851-854.
Belsky, J., Bakermans-Kranenburg, M. J., & Van IJzendoorn, M. H. (2007). For better and for worse differential susceptibility to environmental influences.Current Directions in Psychological Science, 16(6), 300-304.
Kosfeld, M., Heinrichs, M., Zak, P. J., Fischbacher, U., & Fehr, E. (2005). Oxytocin increases trust in humans. Nature, 435(7042), 673-676.

Andari, E., Duhamel, J. R., Zalla, T., Herbrecht, E., Leboyer, M., & Sirigu, A. (2010). Promoting social behavior with oxytocin in high-functioning autism spectrum disorders. Proceedings of the National Academy of Sciences, 107(9), 4389-4394.
Eisenegger, C., Naef, M., Snozzi, R., Heinrichs, M., & Fehr, E. (2010). Prejudice and truth about the effect of testosterone on human bargaining behaviour. Nature, 463(7279), 356-359.
Oxley, D. R., Smith, K. B., Alford, J. R., Hibbing, M. V., Miller, J. L., Scalora, M., et al. (2008). Political attitudes vary with physiological traits. Science, 321(5896), 1667-1670.

Additional Reading Material:

Grading Scheme:
Written Exam % 50
Essay / Project / Final Assignment / Home Exam / Referat 30 %
Submission assignments during the semester: Exercises / Essays / Audits / Reports / Forum / Simulation / others 20 %

Additional information:
The course will combine a mixture of weekly quizzes (20% total), in addition to a written essay (30%), and end of year final exam (50%)