

Syllabus

Infant Cognition

PhD Research Course
Department of Cognitive Science
Central European University
Fall 2020, 2 credits

Class: Wednesdays 11:00am to 12:40pm, in Room 103 (or 226), Október 6. utca 7.

Introductory session: (including lab visit): 11:00am on Wednesday, Sep 23

Instructors:

Gergely Csibra
György Gergely
Ágnes Melinda Kovács
Ernő Téglás

Office hours: by appointment

Description:

This course introduces students to the ongoing research at the Cognitive Development Center. It provides an overview of contemporary theories and research techniques of cognitive development of human infants below 2 years of age, focusing on the domain of social cognition. The course also involves laboratory practice to familiarize students with research techniques including behavioral, eye-tracking and neuroimaging methods.

Learning Outcomes

By the end of the course, students should

- be familiar with recent findings in the research of infant social cognition,
- understand the difficulties of research with human infants,
- have a basic grasp of the methods used with infants, and
- be able to choose appropriate methods for research questions.

Evaluation:

Students will have to

- attend classes and lab practice,
- read the assigned papers for each class,
- present selected papers to the class, and
- write detailed Methods sections for two studies running in the CDC labs (submission deadline: Dec 30).

Schedule and literature:

Sep 30

Object tracking, object individuation

Wynn, K. & Chiang, W.-C. (1998). Limits to infants' knowledge of objects: The case of magical appearance. *Psychological Science*, 9(6), 448-455.

Oct 7

Action understanding

Liu, S., Ullman, T. D., Tenenbaum, J. B., & Spelke, E. S. (2017). Ten-month-old infants infer the value of goals from the costs of actions. *Science*, 358, 1038-1041.

Oct 14

Representing social interactions

Tatone, D., Hernik, M., & Csibra, G. (2019). Minimal cues of possession transfer compel infants to ascribe the goal of giving. *Open Mind*, 2019, 31-40.

Oct 21

Recognizing communicative and referential intentions

Farroni, T., Csibra, G., Simion, F., & Johnson, M. H. (2002). Eye contact detection in humans from birth. *PNAS*, 99, 9602-9605.

Oct 28

Interpreting object labels and other referential signals

Parise, E. & Csibra, G. (2012). Electrophysiological evidence for the understanding of maternal speech by 9-month-old infants. *Psychological Science*, 23, 728-733.

Nov 4

Understanding artefacts

Futó, J., Téglás, E., Csibra, G., & Gergely, G. (2010). Communicative function demonstration induces kind-based artifact representation in preverbal infants. *Cognition*, 117, 1-8.

Nov 11

Bilingual language acquisition

Lieberman, Z., Woodward, A. L., Keysar, B., & Kinzler, K. D. (2017). Exposure to multiple languages enhances communication skills in infancy. *Developmental Science*, 20, e12420.

Nov 18

Acquiring linguistic structure

Marcus, G. F., Fernandes, K. J., & Johnson, S. P. (2007). Infant rule learning facilitated by speech. *Psychological Science*, 18(5), 387-391.

Nov 25

Infant logic

Cesana-Arlotti, N., Martín, A., Téglás, E., Vorobyova, L., Cetnarski, R., & Bonatti, L.L. (2018). Precursors of logical reasoning in preverbal human infants. *Science*, 359(6351), 1263-1266.

Dec 2

Perspective taking

Kampis, D., Parise, E., Csibra, G., & Kovács, Á.M. (2015). Neural signatures for sustaining object representations attributed to others in preverbal human infants. *Proceedings of the Royal Society, London B* 282: 20151683.

Dec 9

Early ToM competencies

Király, I., Oláh, K., Csibra, G., & Kovács, Á.M. (2018). Retrospective attribution of false beliefs in 3-year-old children. *Proceedings of the National Academy of Sciences of the United States of America*, 115(45), 11477-11482.

Dec 16

Turn-taking contingent reactivity and ostensive communication

Tauzin, T. & Gergely, G. (2018). Communicative mind-reading in preverbal infants. *Scientific Reports*, 8, 9534.