

Syllabus

Infant Cognition

PhD Research Course
Department of Cognitive Science
Central European University
Fall 2023, 2 credits

Class: Tuesdays 1:30pm to 3:10pm, in Room C503, Quellenstrasse 51, Vienna.

Introductory session (Zero week): 1:30pm on Tuesday, Sep 12

Instructors:

Gergely Csibra
Ernő Téglás
with guest tutors

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: January 2, 2024).

Date	Tutor	Topic	Literature
Sep 12	Csibra + Téglás	Intro Session	
Sep 19	Téglás	Infant research methods	Paulus, M. (2022). Should infant psychology rely on the violation-of-expectation method? Not anymore. <i>Infant and Child Development</i> , 31(1). Stahl, A. E., & Kibbe, M. M. (2022). Great expectations: The construct validity of the violation-of-expectation method for studying infant cognition. <i>Infant and Child Development</i> , 31(6), e2359.
Sep 26	Csibra	Object tracking, object individuation	Wynn, K. & Chiang, W-C. (1998). Limits to infants' knowledge of objects: The case of magical appearance. <i>Psychological Science</i> , 9(6), 448-455.
Oct 3	Téglás	Probability understanding	Téglás, E., Vul, E. Girotto, V., Gonzalez, M., Tenenbaum, J.B. & Bonatti, L. L. (2011). Pure reasoning in 12-month-olds as probabilistic inference. <i>Science</i> , 332, 1054– 1059.
Oct 10	Téglás	Infant logic	Cesana-Arlotti, N., Kovács, Á.M., & Téglás, E. (2020). Infants recruit logic to learn about the social world. <i>Nature Communications</i> , 11, 5999. Cesana-Arlotti, N., Varga, B., & Téglás, E. (2022). The pupillometry of the possible: an investigation of infants' representation of alternative possibilities. <i>Philosophical Transactions of the Royal Society B</i> , 377(1866), 20210343.
Oct 17	Kominsky	Causality	Kominsky, J., Li, Y., & Carey, S. (2022). Infants' attributions of insides and animacy in causal interactions. <i>Cognitive Science</i> , 46, e13087. Muentener, P. & Bonawitz, E. (2017). The development of causal reasoning. In M. R. Waldmann (Ed.), <i>The Oxford Handbook of Causal Reasoning</i> (pp. 677–698). Oxford University Press.
Oct 24	Téglás + Csibra	Tools, artefacts	Hernik, M. & Csibra, G. (2015). Infants learn enduring functions of novel tools from action demonstrations. <i>Journal of Experimental Child Psychology</i> , 130, 176-192.
Oct 31	Gergely + Téglás	Contingency perception	Deligianni, F., Senju, A., Gergely, G., & Csibra, G. (2011). Automated gaze-contingent objects elicit orientation following in 8-month-old infants. <i>Developmental Psychology</i> , 47(6), 1499-1503. Tauzin, T. & Gergely, G. (2019). Variability of signal sequences in turn-taking exchanges induces agency attribution in 10.5-month-olds. <i>PNAS</i> , 116(31), 15441-15446.
Nov 7	Csibra	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. <i>Science</i> , 358, 1038-1041.
Nov 14	Csibra	Representing social interactions	Mascaro, O. & Csibra, G. (2012). Representation of stable dominance relations by human infants. <i>PNAS</i> , 109(18), 6862-6867.
Nov 21	Csibra	Receptive communication	Forgács, B., Parise, E., Csibra, G., Gergely, G., Jacquey, L., & Gervain, J. (2019). Fourteen-month-old infants track the language comprehension of communicative partners. <i>Developmental Science</i> , 22(2), e12751.
Nov 28	Kovács	Early ToM competencies	Kovács, Á. M., Téglás, E. & Csibra, G. (2021). Can infants adopt underspecified contents into attributed beliefs? Representational prerequisites of theory of mind. <i>Cognition</i> , 213, 104640. Király, I., Oláh, K., & Kovács, Á.M. (2023). Can 18-month-olds revise attributed beliefs? <i>Open Mind</i> , 7, 435–444.
Dec 5	Csibra	Symbolic relations	Revcu, B. & Csibra, G. (2021). For 19-month-olds, what happens on-screen stays on-screen. <i>Open Mind</i> , 5, 71-90.