How (not) to do science - A theoretical perspective on research in cognitive science

Hauptseminar Semester Winter 2021/2022

In the early 2010s, the scientific community became aware of a fundamental flaw in their work: Many cognitive and psychological phenomena could not be replicated. Today, this is known as the (still ongoing) replication crisis. During the course we will explore pitfalls which led to the replication crisis and how to avoid them in future research. For this, we will use and evaluate selected papers/talks on the issues of philosophy of science, experimental designs, (false) use of statistics, open science and others. While the replication crisis is usually attributed to the social and cognitive sciences, many of its pitfalls and solutions are important considerations for other fields as well. Among these are concepts like data management & sharing, researcher degrees of freedom and publication bias.

Material
This course will be based on selected articles, video-lectures and book chapters.

Evaluation
Students will be evaluated based on participation during the course. Further, they will prepare questions on the reading material for each session, and one group will summarize the reading in 1-2 slides and provide a discussion on the raised questions. Lastly, all students will write a short essay on a prespecified essay question. We will offer feedback on a first draft before the final submission.

The grade consists of 50% Essay, 15% active participation in seminar, 20% preparation of session, 15% weekly question. Preparation of session will be graded group-wise.

Evaluation by: Benedikt Ehinger, René Skukies, Judith Schepers