

STOCKHOLMS UNIVERSITET

Psykologiska institutionen

Forskarutbildningen

Course Syllabus

(210910)

Reproducibility

(3-5 hp)

This course is a “reading course”:
Students can take it at their own pace

Coordinator:

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Reproducibility

In the last few decades, Psychology has experienced a replication crisis: Many apparently well-established textbook findings have been impossible to replicate. Reasons for this include a likely abundance of false-positive results in the psychology literature (via questionable research practices), and the fact that many studies do not contain sufficient information to know what was done. For example, if it is unclear how the original data were processed and analyzed, reanalyses of these data may provide results that differ from the original results. So, not knowing all the steps that researchers took to obtain their results makes it impossible to gauge the robustness of any effect in psychology. Because reproducible results are critical for scientific progress, researchers need to do their utmost to ensure reproducibility. Two practices are particularly promising: Preregistration and data sharing.

The goal of this course is to understand how to conduct reproducible science. This course will allow students to explore key concepts in reproducibility and to help them conduct reproducible research. As part of the course, students will write a preregistration (actual or hypothetical) and learn how to share data (actual or hypothetical) via the Stockholm University depository. This course is offered as part of the research education for doctoral students at the Department of Psychology, Stockholm University.

Students are expected to read the course literature independently. Topics include reproducibility, preregistration, and data sharing. However, to facilitate understanding, students will have the opportunity to participate in discussion seminars on selected papers (ReproducibiliTea headed by Stephen Pierzchajlo and Rasmus Eklund). To complete the exam, students will need to study the literature and to complete the practical requirements (preregistration and data sharing).

The course can be taken for between 3 and 5 hp. All students will have to complete the practical requirements. For 3 hp, the reading list of scientific articles is about 150 pages long, and for each additional point (up to 5 hp), the reading list of scientific articles is extended by about 100 pages. Although a reading list is available, students may suggest alternative articles if these are more relevant for their own studies.

Learning outcomes

After completing the course, students are able to:

1. Explain the importance of reproducibility for psychological research.
2. Describe landmark studies and concepts in reproducibility.
3. Write a preregistration (hypothetical or actual) according to current best practice (see OSF.org).
4. Share data openly via the Stockholm University depository (figshare).

Requirements for participation

Admission to postgraduate education at a university in the social sciences or a related field.

Forms of examination

Students participate in at least five discussion seminars (ReproducibiliTea) or write two-page summaries and discussions of five landmark studies in reproducibility. Students write a preregistration (hypothetical or actual) according to best practice (see OSF.org). Students share data (hypothetical or actual) according to best practice via the Stockholm University depository. The topic for the preregistration needs to be approved by the course leader.

Grade

Students will earn pass or fail for their work in the discussion seminars, in the preregistration, and in data sharing. To pass the course, students need to participate in at least five discussion seminars (in person or by writing summaries), to write a preregistration (hypothetical or actual) according to best practice (see OSF.org), and to share data (hypothetical or actual) according to best practice via the Stockholm University depository.

Course Literature

The list of scientific articles comprises between about 150 pages (for 3 hp) and 350 pages (5 hp).