



LUND
UNIVERSITY

Faculty of Social Sciences

PSPR12, Course 12: Scientific Theory, Research Methods and Statistics, 15 credits

Kurs 12: Vetenskapsteori, forskningsmetod och statistik, 15 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by the board of the Department of Psychology on 2014-11-11 to be valid from 2015-08-31, autumn semester 2015.

General Information

The course is a compulsory component of semester 8 and 9 of the Master of Science programme in Psychology.

Language of instruction: Swedish
Some components may be in English.

Learning outcomes

On completion of the course, the students shall be able to

Knowledge and understanding

- demonstrate broadened and specialised knowledge of theory of science perspectives
- demonstrate specialised understanding of the difference between correlation and causation
- demonstrate specialised knowledge of different types of investigation designs
- demonstrate specialised knowledge of different types of validity and threats to validity in research
- demonstrate knowledge of variance and regression analysis, and other key methods such as factor, cluster, meta and path analysis with regard to their implications and application
- demonstrate broadened and specialised knowledge of various types of qualitative methodology with regard to the basic epistemological assumptions and possible applications in studies of relevance to psychological research
- demonstrate an understanding of which types of issues and data collection techniques are suited to qualitative approaches
- demonstrate specialised understanding of the basic principles of thematic analysis,

and insight into the difference between thematic analyses depending of the method adopted

Competence and skills

- demonstrate the ability to take a critical position on science as such and use their own critical approach to apply theory of science arguments to both psychological research and the future profession as a psychologist
- demonstrate the ability to critically discuss similarities and differences between different types of scientific knowledge formation from a theory of science perspective and provide informed arguments in favour of the dynamic nature of scientific knowledge
- demonstrate the ability to reflect on how scientific theories are dependent on the social context in which they emerged, and interrogate the role of science in society based on the perspectives of different agents
- demonstrate the ability to reflect on how different types of methodology are related from an epistemological perspective and demonstrate critical insight into the possibilities and limitations of quantitative and qualitative methods for psychological research in this respect
- demonstrate the ability to critically discuss what is required to establish different types of connection in psychological research
- demonstrate the ability to discuss different types of validity in research in relation to different types of threat to the conclusions that can be drawn based on the results of a study
- demonstrate the ability to provide an informed discussion of how a design can be strengthened by different design elements
- demonstrate the ability to independently analyse statistical data by means of variance and regression analysis, and report the results of the analyses
- demonstrate the ability to apply qualitative methodology by formulating issues and analysing data in accordance with hermeneutic-phenomenological or discourse-analytical approaches
- demonstrate the ability to independently plan investigations, formulate research issues and hypotheses for these, choose an appropriate design and methods based on the issue

Judgement and approach

- demonstrate specialised ability to reflect on ethical issues in psychological research by taking into account principles of research ethics, the role of the researcher, the context, and the importance of the individual perspective in such investigations
- demonstrate the ability to critically evaluate psychological research with regard to method, design and the theory of science
- demonstrate the ability to reflect on the conditions and implications of scientific knowledge formation based on relevant social factors such as gender, class and ethnicity

Course content

The course is based on the knowledge and skills in the theory of science, research methodology and statistics that have been acquired previously on the programme. Using theoretical studies and practical exercises, the course provides students with knowledge about methods for psychological research, including its relevance for psychological practice. Issues of validity in the research process are of key importance. A further important aim is to provide students with knowledge of the research

process and the conditions that govern the researcher's work from planning and problem formulation to final report.

The course is divided into two modules:

Module 12:1. Research Methods, Part 1, 9 credits.

Through continued specialisation in the theory of science, research ethics and methodological issues, the future psychologist is trained to critically review previous research, and prepared for performing their own research. Causation and validity are key concepts addressed. The module examines different types of research design in relation to issues of the possibilities to draw conclusions about causation based on the results, and to generalise from these conclusions, as well as various types of threat to validity of the conclusions that can be related to the type of design. The teaching of statistics enables students to practise their ability to perform statistical analyses, taking into account the issue and the properties of the underlying data. The methods addressed include different types of variance and regression analysis, and certain methods of multivariate analysis.

Module 12:2. Research Methods, Part 2, 6 credits.

Following the specialisation in relevant parts of the theory of science, this module deals with both the theory and practice of qualitative methodology connected to psychological research. The module presents the basic theoretical principles of several established approaches of qualitative research, e.g. grounded theory, ethnography, hermeneutics, phenomenology and discourse analysis. The study of practical applications of a qualitative research approach considers data collection methods such as interviews, observations and journal writing, and the future psychologist is trained in processing qualitative data using both hermeneutic-phenomenological analysis and discourse analysis. Informed by leading edge research as it is reflected in research journals, the future psychologist is trained to discuss, critically and with insight, the scientific quality of research in relation to the methods used.

Course design

The teaching consists of classes, seminars and exercises. Participation in seminars and exercises is compulsory. Students who are unable to participate in one of the compulsory components due to special reasons, such as accidents, sudden illness or similar, will be asked to execute a complementary assignment. This also applies to students who have been absent because of duties as an elected student representative. An exemption applies to the exercise in research ethics, which students, in case of absence, must complete the next time the course is offered. The content and scope of the complementary assignment is to be decided in consultation with the lecturer in charge of the relevant component. If a student is absent from more than two compulsory components during the course, he or she will not be allowed to submit additional complementary assignments the same semester. Instead, the student will make up for the missed components the next time the course is offered.

Assessment

The assessment is based on a written exam in conjunction with the course, and on active participation in compulsory components.

Three opportunities for examination are offered for written tests: a first examination and two re-examinations. Two further re-examinations on the same course content are offered within a year of a major change of the the course (e.g. change of the required reading). After this, further re-examination opportunities are offered but in accordance with the current course syllabus.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass.

The grades awarded are Pass or Fail. For a grade of Pass, the student must have attained the learning outcomes stated for the course.

At the start of the course students are informed about the learning outcomes stated in the syllabus and about the grading scale and how it is applied in the course.

Entry requirements

To be admitted to the course, students must be admitted to the Master of Science programme in Psychology and meet the requirements for progression described in the current programme syllabus.

Subcourses in PSPR12, Course 12: Scientific Theory, Research Methods and Statistics

Applies from H15

- 1401 Research Methods, Part 1, 9,0 hp
Grading scale: Fail, Pass
- 1402 Research Methods, Part 2, 6,0 hp
Grading scale: Fail, Pass