

Notes on writing an abstract for the supervision agreement

The abstract should be addressed to a scientifically knowledgeable but non-specialist audience and contain information describing the background to the work and a research question to be derived from it. The scientific novelty should be clearly recognizable from these introductory sentences. In most cases, a hypothesis can also be formulated on the basis of literature data, which is then addressed in the practical part of the paper. Overall, the abstract should be no more than 1 ½ pages long. To help you prepare the abstract, here are some tips that can be used as a checklist.

Title of the paper

The title should be formulated as concisely as possible, but can still leave room for modification and specification. Changes during a research project are quite common and do not have to be reported to the doctoral committee. If you agree on a completely new topic, you should inform the doctoral committee of this.

Introductory part

At the beginning of the abstract, you should briefly introduce the topic so that the background to the work becomes clear to the reader.

Objectives and hypotheses

At the end of the introductory section, the objective of the work must be clearly formulated. Based on literature data, it is usually possible to make assumptions about the result. These hypotheses should then also be formulated.

Patients, material and methods

The methods to be used should then be described. It is important to emphasize whether sufficient samples/materials/data/patients are available or can be generated (see also "Case numbers" below). It should be plausibly demonstrated why valid results can be assumed based on the data provided. This is often justified with the power analysis, but can also be based on empirical values. Patient data must often be divided into different groups (e.g. age, gender, subtyping of diseases). Possible subgroups should be named. In addition, specific analysis/examination parameters should be named as far as possible and appropriate methods for measuring the parameters should be given. It is important to emphasize which expertise is available in the working group and where new shares need to be developed. Statistical analysis is often an important aspect of data evaluation. Please name the statistical methods you intend to use and possible

collaborations. If several theses are to be submitted on a similar topic, please describe as precisely as possible which parts will be worked on together and which are fundamentally different. Please note that dissertations are published and that jointly produced data may only be listed once.

Number of cases

Please state and justify the number of cases. If applicable, the result of a power analysis should be documented. How plausible is it that the case numbers can be achieved? Can it be justified that valid results can be achieved with the existing case numbers? If a case number calculation is not possible, an experience-based estimate can also be made.

Ethics vote

Is an ethics vote available or necessary? Please check **BEFORE** starting the work whether the work can be started without an ethics vote. The ethics committee will be happy to give you an assessment. Animal experiment application Scientific work with animals is regulated by the Animal Welfare Act. According to this, both regulated, as well as experiments on animals, which must be applied for and approved by the NRW State Ministry. Please inquire with your supervisor whether a corresponding application has been submitted and whether you are named in this application. The application can take several months to be approved.

Status of the student

Please state your status as a student or research assistant. If you are already a licensed physician when you submit your abstract, you must complete a two-semester doctoral program in accordance with the applicable University Act. Attendance of the course "Scientific work" is compulsory for all doctoral students.

Bibliography

A bibliography is not absolutely necessary, but you are welcome to provide meaningful references to support your hypotheses. Please limit yourself to a maximum of five references.

Timetable

In the timetable, the qualification phase should be divided into individual time periods in which in which certain parts of the dissertation are to be worked on. The further course of medical studies is not relevant. This schedule is checked for plausibility by the doctoral committee. This procedure has also become established for many funding instruments in order to assess expertise to be able to assess expertise in a field of research.