

# „Designing Experimental Studies“

February 15<sup>th</sup> –17<sup>th</sup>, 2016

## Program

The following topics will be discovered:

1. After a brief introduction into the **relevance** of experimental research, some **basic terminology of experimental research** will be discussed. A special emphasis will be put on **advanced conceptual models** that include mediating variables. Consequently, mediation analysis including moderated mediation analysis and mediated moderation analysis will be explained.
2. Conceptualizing experimental studies:
  - a. **“How to select an appropriate research setting?”**  
Students will learn about issues related to the conceptualization of an experiment. As a first step, advantages and disadvantages of running an experiment in a laboratory or in the field will be discussed. In addition, hands-on advice on when and how to run online experiments will be provided.
  - b. **“How to specify a parsimonious and valid experimental design?”**  
The issue of how to select and manipulate independent variables will be addressed. Students will learn to specify a suitable experimental design and how to derive the corresponding statistical method to analyze the results.
  - c. **“Which and how many participants should be included?”**  
Here, students will learn how to gauge the appropriate sample size for their experimental study. In addition, common criticism on running experiments solely based on student samples as well as the issue of self-selection and nonresponse will be addressed.
3. Performing experimental studies:
  - a. **“How to vary the independent variables and how to measure the dependent variables?”**  
Focus will lie on how to realize a concrete experimental procedure. This issue includes the specific strategy to manipulate the independent variable(s) in an experiment and how and when to check whether the manipulation worked. Also, the selection of appropriate measures of the dependent variable(s) as well as how to control for extraneous influences will be addressed.
  - b. **“How to provide incentives for participation and information about the experiment?”**  
The purpose and potential pitfalls of incentivizing participants in an experiment will be discussed. Further, students will learn about ethical guidelines for experiments and when and how to use deception.
4. Practical application of an experimental study  
For further training, students will apply the key issues of the workshop in a case study. Specifically, students will design an experimental approach to a research question (which can either be one's own project or a research question provided by the instructor) and present it in class. Thereby, students will gain valuable feedback on their ideas.

## Preliminary Time Schedule

Date	Content
February 15 <sup>th</sup> 1:00 pm – 6:00 pm	<p>Introduction The Basics of Experimental Research</p> <ul style="list-style-type: none"><li>- The Basic Conceptual Model</li><li>- Advanced Conceptual Models: Models including Mediators</li></ul> <p>Central Decisions in Designing Experimental Studies, Part 1:</p> <ul style="list-style-type: none"><li>- How to determine the research setting?</li><li>- How to specify the experimental design (Which independent variables should be included and how to manipulate them? Which experimental design should be chosen and how to derive the statistical method for data analysis from the experimental design?)</li></ul>
February 16 <sup>th</sup> 9:00 am – 5:00 pm	Central Decisions in Designing Experimental Studies, Part 2: <ul style="list-style-type: none"><li>- Which and how many participants should be included?</li><li>- How to vary the independent variables and how to measure the dependent variables?</li><li>- How to provide incentives for participation and information on the experiment?</li></ul>
February 17 <sup>th</sup> 9:00 am – 5:00 pm	<p>Central Decisions in Designing Experimental Studies, Part 3:</p> <ul style="list-style-type: none"><li>- Summary &amp; Discussion</li></ul> <p>Practical Application of an Experimental Study</p> <ul style="list-style-type: none"><li>- Case Study &amp; Presentation</li><li>- Feedback</li></ul>

## Prerequisites

The course requires basic skills in statistics and a basic understanding of experiments. Ideally you conducted already some experiments and would like to further deepen your knowledge and address specific questions when conducting and analyzing an experiment.

## Suggested Readings

- (1) Koschate-Fischer, N., & Schandlmeier, S. (2014). A guideline for designing experimental studies in marketing research and a critical discussion of selected problem areas. *Journal of Business Economics*, 84(6), 793-826 and 913.
- (2) Christensen, L. B., Johnson, R. B., & Turner, L. A. (2014). *Research methods, design, and analysis*. Allyn & Bacon, Boston.
- (3) Shadish, W. R., Cook, T. D. & Campbell, T. D. (2002) *Experimental and quasi-experimental designs for generalized causal inference*. Houghton Mifflin, Boston.