



## Seminar „Advanced Empirical Analysis in Marketing: Research Reproducibility“

### I. Type of seminar

The last years have seen a strong debate regarding the extent to which empirical research findings in social sciences can be replicated and reproduced in later independent analyses. This debate has been called the “replication crisis”, and this replication crisis is particularly pronounced in social psychology. It is therefore the goal of this seminar to familiarize students with the problem of research reproducibility. To this end, this seminar will deal with selected research findings that have been criticized for a lack of reproducibility. Each group of students will study the theory of one of these research findings and analyze the data of the original studies (where available) and the replication attempts. The analysis will focus on an application of state-of-the art methods.

While most of the replication has been focusing on social psychology, the problem is by no means exclusive to social psychology, but other disciplines face similar issues. On top of that, theories from social psychology are highly relevant for marketing, and researchers can learn a lot about best research practices by studying these cases.

This seminar is designed to enhance our knowledge of theory, methodology and practices in the empirical methods of marketing with the aim of producing reproducible research results. Further, students will acquire relevant tools to be prepared for writing a research based master thesis. This will be supported by an obligatory workshop on academic research as well as an obligatory workshop on presentation skills, which includes a short presentation of each student’s current state of the thesis (“research plan presentation”). On top of that, we expect and encourage active participation and interaction between students.



## II. Topics and introductory reading material

### Topic 1 Amy Cuddy's Power Pose Study

With her 2012 TED talk, to date, American social psychologist Amy Cuddy has reached almost 45 million viewers online, and her book was a New York Times bestseller. One of the reasons for her success was that she was basing her recommendations on her research, which was published in the leading psychology journal. However, her findings on the so-called “power posing” were soon questioned by several other researchers who failed to replicate Cuddy’s results. Amy Cuddy henceforth became the public face of the replication crisis in social psychology. It is the goal of this thesis to study the theory that is underlying the original research, to analyze the original dataset and the dataset from the replication. Further, the thesis will explore reasons why the replications of the original experiments failed.

**Literature** Carney, D. R., Cuddy, A. J. C., & Yap, A. J. (2010). Power Posing: Brief Nonverbal Displays Affect Neuroendocrine Levels and Risk Tolerance. *Psychological Science*, 21(10), 1363-1368. (<https://doi.org/10.1177/0956797610383437>)

Crédé, M. & Phillips, L. A. (2017). Revisiting the Power Pose Effect: How Robust Are the Results Reported by Carney, Cuddy, and Yap (2010) to Data Analytic Decisions? *Social Psychological and Personality Science*, 8(5), 493 - 499. (<https://doi.org/10.1177%2F1948550617714584>)

**Data** <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/FMEGS6>

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### Topic 2 Fritz Strack's Facial Feedback Experiment

“Smile – and you feel better.” In a nutshell, this is the take-away from Fritz Strack’s influential study on facial feedback from 1988. Within the context of a registered replication report, decades later, 17 independent labs tried to recreate Strack’s original procedure and found basically no effect. Facial feedback, thus, is another example underlining the importance of reproducibility in scientific work. It is the goal of this thesis to study the theory that is underlying the original research and to analyze the dataset from the replication. Further, the thesis will explore reasons why the replications of the original experiments failed.

**Literature** Strack, F., Martin, L. L., & Stepper, S. (1988). Inhibiting and facilitating conditions of the human smile: A nonobtrusive test of the facial feedback hypothesis. *Journal of Personality and Social Psychology*, 54(5), 768-777. (<http://dx.doi.org/10.1037/0022-3514.54.5.768>)

Wagenmakers, E.-J. et al. (2016). Registered Replication Report: Strack, Martin, & Stepper (1988). *Perspectives on Psychological Science*, 11(6), 917-928. (<https://doi.org/10.1177/1745691616674458>)

**Data** <https://osf.io/hgi2y>

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**Topic 3                      Crowdstorming Research: Many Analysts, one Dataset**

In scientific work, typically one analyst or a team presents one analysis of a dataset. However, researchers often have many degrees of freedom in deciding on the method that best suits their purpose. Thus, different researchers might come up with very different results depending on small decisions they take during the research process. To illustrate this diversity in analysis methods, a group of analysts invited fellow researchers to independently work on the identical dataset and answer the same research question, namely: “Are soccer referees more likely to give red cards to dark skin toned players than light skin toned players?” It is the goal of this thesis to work on the data set and explore, which decisions in the data analysis process lead to which result and whether it is possible to reconcile the different findings.

- Literature**
- Silberzahn, R. et al. (2017). Many analysts, one dataset: Making transparent how variations in analytical choices affect results. *Advances in Methods and Practices in Psychological Science*. (<https://osf.io/j5v8f>)
- Silberzahn, R. et al. (2014) Background on the Project and Details on the Research Question.
- Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2011). False-Positive Psychology Undisclosed Flexibility in Data Collection and Analysis Allows Presenting Anything as Significant. *Psychological Science*, 22(11), 1359–1366. (<https://doi.org/10.1177/0956797611417632>)

**Data**                      <https://osf.io/j5v8f>

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**III. General recommended literature:**

- Open Science Collaboration (2015). Estimating the reproducibility of psychological science. *Science*, 349(6251), aac4716. (<https://doi.org/10.1126/science.aac4716>)
- <http://andrewgelman.com/2016/09/21/what-has-happened-down-here-is-the-winds-have-changed/>
- Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2011). False-Positive Psychology Undisclosed Flexibility in Data Collection and Analysis Allows Presenting Anything as Significant. *Psychological Science*, 22(11), 1359–1366. (<https://doi.org/10.1177/0956797611417632>)
- [http://www.stat.columbia.edu/~gelman/research/unpublished/p\\_hacking.pdf](http://www.stat.columbia.edu/~gelman/research/unpublished/p_hacking.pdf)
- [http://www.slate.com/articles/health\\_and\\_science/science/2017/10/did\\_power\\_posing\\_guru\\_amy\\_cuddy\\_deserve\\_her\\_public\\_shaming.html](http://www.slate.com/articles/health_and_science/science/2017/10/did_power_posing_guru_amy_cuddy_deserve_her_public_shaming.html)



#### IV. Dates

February, 5 – March, 1, 2018 (8 pm s.t.)	Online Application – please see our website for further information.
11 <sup>th</sup> April 2018	noon (12) s.t. – 3 pm Kick-off, Topic assignment and Workshop „Academic Writing”, room room HS 5 Neue Aula following Introduction to data analysis, PC Lab, Nauklerstr. 47 from 3 pm – 8 pm
7 <sup>th</sup> May 2018	9 am s.t. – 1 pm Workshop “Presentation Skills”, room 236 Neue Aula
18 <sup>th</sup> May 2018	1.30 pm s.t. – 4.30 pm Research Plan Presentation, room 236 Neue Aula
20 <sup>th</sup> June 2018	12 noon s.t. Seminar thesis is due (Chair of Marketing Office, Nauklerstr. 47) Containing 2 versions of the seminar paper with adhesive strips ( <a href="https://de.wikipedia.org/wiki/Heftstreifen">https://de.wikipedia.org/wiki/Heftstreifen</a> ) and one electronic version of the seminar paper incl. analyses and files.
2 <sup>nd</sup> July 2018	All day (dates will be coordinated individually) Feedback Session (Nauklerstr. 47)
12 <sup>th</sup> July 2018	6 pm s.t. Upload Presentation in ILIAS
13 <sup>th</sup> July 2018	Seminar (all day), room Gästehaus Uni Tübingen, Lessingweg 3 in 72076 Tübingen



#### IV. Course credits

Students can obtain course credit (9 ECTS). To obtain course credit students must meet the following criteria:

- Students participate in all meetings listed above
- Students submit their 12 page thesis on time
- Students present their thesis during the seminar
- Students actively participate during the seminar

Tübingen, January 2018