GOOD (AND NOT SO GOOD) STATISTICAL PRACTICE
COMMON ERRORS IN QUANTITATIVE RESEARCH AND HOW TO AVOID THEM

Workshop, February 15-16

Peter Pütz and Bruno de Sousa

The course will cover basic (but often misunderstood) statistical concepts from a rather practical and less mathematical perspective. Questions such as "What can we learn from data?" and "How much can we trust our results and the results of other researchers?" will be addressed. Also planned for this course are the more specific topics of random variables, properties of statistical estimators, statistical inference (confidence intervals, p-values, power), publication bias, pre-registration, p-hacking and Bayesian thinking. Although discussion of these topics may seem unnecessary for more or less experienced researchers, there have indeed been recent and rather intensive debates in the literature about such issues. Thus, the course is intended to provide very relevant recommendations for empirical research. An introduction to the software R as well as hands-on exercises in R will also be an integral part of the course. No prior knowledge in R is expected. The course will be given in English.

Who can attend?
Anyone with an interest in the subject is welcome to attend the workshop.

Participants are encouraged to bring an empirical paper they are working on, either their own work or a paper they are currently interested in. If the participants bring their own laptop they are asked to install the following prior to the workshop:

- R (https://cran.dcc.fc.up.pt/)
- RStudio (https://www.rstudio.com/products/rstudio/download/).

PhD students from the Doctoral Program in Psychology at FPCEUC may receive 1 ECTS credit in their Methodology course work.

Course timetable:
The course will be 8 hours in duration, distributed according to the following schedule:

15.02.2018, 2 pm - 6:30 pm:
Welcome, introduction to / definition of statistical inference, tasks of statistical inference, point estimators
Introduction to R

Break (30 minutes)
Visualizations with R
Frequentist inference: Confidence intervals and significance tests, positive predicted value
16.02.2018, 2 pm - 6:30 pm:
Interpretation of p-values, meta-analysis
Publication bias, p-hacking
Break (30 minutes)
Bayesian thinking
Conclusions

Where:
Sala de Informática (4.9) at FPCE-UC (Building 1).
Rua do Colégio Novo,
3000-115 Coimbra

Cost:
There is NO CHARGE for attending the workshop, but the number of places is limited to 46 participants.

Registration:
Via e-mail to bruno.desousa@fpce.uc.pt with the following information:

   Participant's Full Name.
   Institutional Affiliation.
   If in a PhD program, include the name of the program and the university.

Priority will be given to PhD students at the FPCEUC. Participants will be required to confirm their attendance at the workshop two days prior to the beginning of the course.