



# 9 ACBI Webinar

"I have collected my CBM data - what now?" New answers to old dilemmas



8 Nov 2023



1-3pm London Time



Members: Free Non-members: US\$25

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#### UNIVERSITÄT SALZBURG



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# How different pre-processing decisions affect the reliability and validity of the approach-avoidance task

Given the numerous methods to deal with outliers and error trials and subsequently compute bias scores, researchers using the approach-avoidance task or other reaction time tasks would benefit from knowing which of these methods lead to psychometrically better outcomes. I compared a large number of possible pre-processing decisions on how they affect the reliability and validity of bias scores in six empirical datasets as well as simulations. I will discuss the recommendations that came out of this research.

#### **Multiverse Analysis**

When analysing data, researchers make many different decisions. Often, there is no principled way of making these decisions, there is no one "best" analysis. Here, we present multiverse analysis - that is analysing data in many different ways and drawing inferences across pathways - as an analysis method for situations where there is no clear "best analysis approach".

### **Radboud University**







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# ANOVA versus Linear Mixed Effects Models for Experimental Paradigms: Power and Type-1 Error

In most experimental tasks, participants respond to experimentally manipulated stimuli (e.g., pictures, words). Using simulations based on a large dataset, we investigated power and type-1 error rates for analyses using ANOVA versus Linear Mixed-Effects Models (LMEM) in these tasks. I will demonstrate that ANOVA, when applied to data containing a sample of stimuli, can severely inflate type-1 errors. I will also illustrate the circumstances that lead to inflated type-1 errors and explain how to address this issue using LMEM.