



**University of
Zurich** ^{UZH}

Department of Economics – Neuroeconomics Seminar

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Generalization, Fast and Slow

Psychologists and neuroscientists seek to understand how the human mind/brain works. As part of this enterprise, we make inductive generalizations about the world. When we conduct a study in the lab, we tacitly assume that the effects we observe hold not only for the sampled subjects, stimuli, experimenter, research site, etc., but also for other unsampled members drawn from the same populations. In this talk, I draw on logical, empirical, and statistical considerations to demonstrate that the statistical models commonly used in psychology and neuroimaging almost never justify this kind of implicit belief in the generality of our results--with the result that there is only the most tenuous of connections between the inferential statistics reported in most psychology studies and the scientific conclusions their authors wish to draw. I discuss the implications of this problem in relation to the recent "reproducibility revolution" and the field more generally, and conclude with a number of potential avenues for improvement.