

Talks II

Mrudula Arunkumar, University of Jena | Dissociating the role of episodic bindings versus insight-based contingency awareness for overshadowing effects in contingency learning | Mrudula Arunkumar, Dr. Carina G. Giesen & Prof. Dr. Klaus Rothermund

Overshadowing is a common phenomenon existing in the classical conditioning literature related to learning. Previous studies exploring overshadowing in humans have shown mixed results where the preference of one salient cue over another nonsalient cue is present when participants are instructed to learn but is absent in situations like incidental learning (Schmidt & DeHouwer, 2010). Our study aims to explore overshadowing in contingency learning and whether these effects can be attributed to incidental episodic bindings or rather stem from insight (detection of contingencies). In our task, irrelevant salient or nonsalient distractors are equally predictive for responses to the target stimuli. No prior information was given on this predictiveness, but participants were asked to guess the response to try and hint at the contingencies after the first block. Results of Experiment 1 show that participants learnt the associations better with salient distractors, which reflects overshadowing in contingency learning. However, this effect seemed to be evident only in those participants who detected the contingency. In Experiment 2, we explore the influence of incidental episodic bindings and their relation to the overshadowing phenomenon when contingency awareness is measured only at the very end of the study, thus reducing the impact of insight. This allows us to investigate whether episodic bindings can indeed explain the associations learnt between salient distractors and targets in an incidental learning setup.

Keywords: overshadowing, learning, binding, awareness.

Larissa Duffek, University of Düsseldorf | The influence of shame and guilt on prospective memory

Event-based prospective memory (PM) refers to performing a previously planned action at a certain point in the future. PM consists of two components: the prospective (i.e. remembering that something has to be done) and the retrospective component (remembering what has to be done and when it has to be done). As PM is crucial for many tasks in everyday life, it is important to investigate factors influencing PM performance. In two previous experiments, we showed that induced shame led to an impairment in the prospective component of PM. A similar emotion is guilt. Surprisingly, in a third experiment using a guilt induction, our data showed that guilt led to an improvement in the prospective component. The aim of the current study was twofold. First, we want to replicate our previous findings by investigating both emotions in one experiment. We expect that shame leads to an impairment in the prospective component, whereas guilt leads to an improvement. Second, we want to investigate possible explanations for the positive influence of guilt on the prospective component. Participants were randomly assigned to one of three mood conditions (neutral vs. shame vs. guilt) before working on a standard PM task. To investigate whether the positive influence of guilt on PM might be due to an increase in general working motivation, participants then worked on unsolvable anagrams. Results will be analyzed using Smith & Bayen's (2004) multinomial processing tree model of event-based PM to obtain unconfounded measures for the prospective and retrospective component of PM.

Carolyn Hey, University of Düsseldorf | Misinformant Credibility and Retractor Credibility both affect the Continued Influence Effect of Misinformation

The *Continued Influence Effect* (CIE) of misinformation refers to the phenomenon that people continue to rely on misinformation for judgments and inferences, even after the misinformation has been retracted. Past research suggests a rational basis for the CIE: Misinformation reliance depends on the credibility of the source that retracts the misinformation (the retractor). High-credibility retractors led to lower misinformation reliance, whereas low-credibility retractors did not (Ecker & Antonio, 2021). However, the effect of the credibility of the source that presents the misinformation (the misinformant) on the CIE has never been systematically studied. In two experiments, I simultaneously and independently manipulated misinformant credibility and retractor credibility. Participants read a news report in which misinformation and retraction were each presented either by a reputable journalist or by a discredited blogger. I measured spontaneous misinformation agreement in an additional control group that saw neither misinformation nor retraction. As expected, misinformant and retractor credibility affected misinformation reliance: Participants more strongly relied on misinformation presented by the high-credibility misinformant compared to the low-credibility misinformant. Conversely, participants relied less on misinformation retracted by the high-credibility retractor compared to the low-credibility retractor. Participants relied on misinformation more than the control group when the misinformant was at least as credible as the retractor. Only when the retractor was more credible than the misinformant, misinformation concurrence was as low as in the control group. Thus, participants relied on the information provided by the more credible source. These findings provide evidence for a rational component of the CIE.

Bruno Richter, University of Tübingen | Learning and memory mechanisms of identification conditioning: An MPT modeling approach

The Shared Features Principle predicts that when two stimuli share a feature, people assume that they share other features as well. I provide preliminary evidence that this tendency can be conditioned to neutral objects (CS) by means of co-occurrence with ingroup (US+) versus outgroup (US-) members. During pretesting, participants were shown 60 CS and asked how much they identify with them. During learning, the 20 most neutrally rated CS were selected, 10 of which were paired with 4 US+ and 10 of which were paired with 4 US-. During posttesting, participants were asked how much they identify with the 20 CS. Participants identified more strongly with CS that were paired with US+ compared to US-. A second prediction derived from the Attractor Field Model suggests diminished memory for ingroup versus outgroup pairings. I assessed memory performance via a 4-picture recognition paradigm. Group memory was diminished for CS-US+ pairings contrasted with CS-US- pairings. A corresponding MPT model validated the observed memory bias. The MPT model fits the data well; the respective parameter for group memory is significantly smaller for CS-US+ pairings. The findings provide tentative evidence that (1) identification can be learnt by virtue of conditioning, (2) memory performance is diminished for CS-US+ pairings, and (3) the relevant memory and guessing processes can be modeled via an MPT. I discuss implications of these findings with respect to the Shared Features Principle and provide an explanation of the detected memory bias along the lines of the Attractor Field Model.

Florian Ermark, University of Heidelberg | A matter of aggregation levels: collective reasoning in multi-level regulation

Before making judgments evidence is often aggregated. One must not only integrate the evidence, but also monitor the adequacy of the aggregation behind it since it can severely affect the implied judgments. In our project we will investigate underlying processes as well as remedies to cognitive shortcomings in multi-level reasoning and conflict regulation. Multi-level aggregation problems constitute a major source of social and political conflict. Considering the same problem at different aggregation levels can lead to completely different implications for the decision process and subsequent action. Different players can address a problem from the very aggregation level that best suits their interests, creating a potential source of conflict and fallacies. Crucial to improved multi-level reasoning is not the amount of big data or their resolution level; it is rather essential to understand that different layers of truth can exist at different aggregation levels. Through metacognitive monitoring people can make sense of seemingly contradictory data and validate counter-intuitive inferences. Thus, a deeper understanding of the inherent levels of aggregation in data can bridge the gap between knowledge of data and adequate action. In the course of the project we will investigate the decision process when reasoning about information presented on different levels of aggregation. We will identify boundary conditions of improving multi-level reasoning through collective interaction (e.g., inducing epistemic vigilance), debiasing approaches using dialectical strategies (e.g., consider the opposite), and exploiting the potential of modern IT ecologies for virtual interaction to facilitate collective search and reasoning.