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Dynamics of decision-making and creativity in collective interactions



Karsten Olsen

School of Culture and Society,
Interacting Minds Center,
Aarhus University

11am-12pm

Location:

Sapienza Università di Roma
Dipartimento di Psicologia,
Via dei Marsi, 78, Rome
Aula 10



Kristian Tylén

Department of Linguistics,
Cognitive Science and
Semiotics,
Aarhus University

12-1pm

Collective decision-making, advice-taking, and the role of individual differences in explicit metacognition

In this talk I will address the observation that some people tend to be susceptible to information that is unreliable, when it comes from overconfident (but otherwise incompetent) individuals. In collective decision-making, we often find that groups can achieve more than the best individual members of that group. However, there are also examples of situations where individuals somehow fail to reach the potential of the group (given our model predictions). To understand these types of interactions, we need to unpack the roles of inter-individual differences in relevant cognitive abilities (e.g. in metacognitive abilities) as well as the composition of the group (e.g. similarity of group members). In this presentation I will shortly outline some of our interactive experiments addressing this topic, and highlight a recent study in which we investigate the ability to weight information of varying reliability – and the social susceptibility to unreliable but overconfident individuals. Using a task where participants had the opportunity to revise their responses (choice about a noisy stimulus and metacognitive estimate of this choice being correct) in light of the responses made by advisors of different reliability, we found consistent individual differences in the weights assigned to the social sources, and in the benefit obtained from the social sources – factors which we collectively refer to as Social Weighting Sensitivity (SWS). We also found that an individual's explicit metacognition predicted SWS, with participants who e.g. were overconfident about their own performance listening less to and benefiting less from social information. These studies will be discussed in context of our extraordinary human abilities for social learning, explicit metacognition and social interaction.

Investigating collective creativity

Creativity is a fundamental yet ill understood cognitive phenomenon. While creativity is typically thought of as an individual process, it often unfolds in socially interactive settings where individuals jointly explore and manipulate their environment to discover novel, interesting and useful objects, solutions, or experiences. Inspired by for instance Hills et al. (2008), we can characterize the creative process as a search through a possibility space, relying on mechanisms similar to those observed in animal foraging behavior (Buchanan, 2008). This framework allows us to study how a creative process balance exploitation of more accessible local solutions and exploration of less accessible, but perhaps more original, distal solutions. In this talk, I discuss recent experimental and agent-based simulation work that seek to uncover how social interaction affects cognitive search and in particular the balance between exploiting and exploring the solution space. The findings suggest that a number of properties of social interaction (e.g. diversity and coordination) modulates how collective creative search unfolds and impact aspects of the creative solutions.