



# Bonn Melbourne Seminar in Decision Making and Computational Psychiatry

### The impact of somatic markers on decision-making in ADHD

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### Abstract

Risky decision-making behavior has been shown to be impaired in attention-deficits-/hyperactivity disorder (ADHD) and often causes deficits in the patients' socio-emotional life. As risky decisions often result from quick and intuitive behavior, analyses of subconscious affective functions and feedback processes are important. These emotion-driven processes elicit physiological changes and can be detected by measuring alternations in skin conductance signals. A link between affect, physiological activity, and stimulus is represented by the somatic markers (SM). In subconscious decision-making processes, these markers are then used to intuitively guide behavior. The aim of this study is to explore whether deficits in risky decision-making behavior in ADHD can be traced back to an impaired SM generation. Therefore, skin conductance responses were continuously recorded during the performance of a modified version of the Balloon Analogue Risk Task (BART). Additional data, regarding conscious self-assessment of risk behavior and emotional competence were collected by questionnaires (DOSPERT; EKF). In this talk, I will first give a brief overview about the pathology of ADHD and the basis of unconscious decision-making, influenced by somatic markers. Secondly, I will present the behavioral results and related SCRs. Then, I will compare the behavioral data with the self-assessments from the questionnaires. Finally, I will discuss these results as an explanation for somatic marker dysfunction in ADHD and how an upcoming imaging study will be used to investigate the underlying mechanisms.

## Thursday, 2<sup>nd</sup> June 2022, 9am (CEST)

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