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### **Emotional Decision Making: Crossroads of Cognitive and Clinical Psychology**

Cognitive psychologists have often considered normative models in human decision making. They have also developed statistical methods to disentangle the specific cognitive components of a decision. At the same time, a growing body of literature highlights the impact of emotions on the processes involved in a decision. To investigate these effects, researchers have made use of well-established decision making paradigms. In these paradigms, they either experimentally manipulate affective states or included emotional cues in the tasks. This has advanced research and demonstrates the influence emotions have on decisions. This symposium will introduce several relevant decision making paradigms as well as recently developed experimental and emotional variations. We will present promising approaches to close the gap between the two psychological disciplines by integrating their methodological approaches and theoretical knowledge on decision making.

Unterbeitrag 1:

#### **Is risk preference associated with dispositional affect?**

**PD Dr. Thorsten Pachur (Max Planck Institute for Human Development, Berlin)**

Affect seems to have an important impact on a person's willingness to take a risk. For instance, experimental studies using manipulated affect found that induced positive affect (happiness) seems to increase risk seeking, whereas induced negative affect (fear) seems to increase risk aversion. Further, people are more risk averse when choosing between options whose outcomes trigger strong affect (e.g., medications with adverse side effects) than when choosing between relatively affect-poor options. It is currently unclear, however, to what extent also dispositional (rather than manipulated) affect is linked with risk preference. Moreover, given the wealth of available measures of risk preference (self-report instruments, various behavioral tasks), it is unclear for which measures a link with dispositional affect exists and whether such a link differs across the different measures. To address these issues, I analyzed data of a sample of 1,000 participants (aged 20-35 years) from the Berlin-Basel Risk Study. In this study, participants completed various batteries of affective (i.e., PANAS) and cognitive measures as well as various types of measures of risk preference, including both self-report and behavioral measures (e.g., Balloon Analog Risk Task, lotteries, decisions from experience, Columbia Card Task). As predicted by the risk-appraisal framework, dispositional happiness and anger were positively (and independently) associated with higher risk seeking, whereas dispositional fear was associated with higher risk aversion. Importantly, however, this link emerged primarily for self-reported risk preference, and was considerably weaker (or even nonexistent) for the behavioral measures of risk preference.

Unterbeitrag 2:

#### **Risk-Taking Under Threat: Women Remain Hesitant When Men Become Bold**

**M.Sc. Katharina Siebenhaar, Prof. Dr. Georg W. Alpers (Universität Mannheim)**

Emotions are powerful determinants of decision making. Thus, it is very plausible that threat will influence how willing individuals are to take risks. Current findings are heterogeneous regarding both the direction of this influence and whether gender differences are evident in risk-taking under threat.

To disentangle these effects, we combined an ecologically valid risk-taking paradigm with a phasic threat induction, and explicitly examined gender differences.

Participants (N = 75) completed the Balloon Analogue Risk Task (BART) as a measure of risk-taking. This task was arranged into six alternating safety and threat conditions, where threat was induced via verbally instructed threat-of-shock. In addition to task risk-taking, we also recorded skin conductance and decision response times.

Threat did not influence task risk-taking overall, but an interaction of threat and gender emerged as the task progressed. Under threat, women took significantly fewer risks than men, and remained risk averse throughout the task. In contrast, men took more risks once they had familiarized themselves with the task. Finally, decision response times were longer under threat, which we consider a sign of anxious hesitation.

Our findings emphasize that gender critically determines how individuals respond to threat. Potential implications of the mechanisms involved in gender differences in disorder prevalence should be considered.

Unterbeitrag 3:

### **Decision making and executive functions in obesity**

**Dr. Silke Müller<sup>1,3</sup>, M.Sc. Marek Lescher<sup>2</sup>, Dr. Elisa Wegmann<sup>1</sup>, Prof. Dr. Matthias Brand<sup>1,3</sup>, Prof. Dr. Astrid Müller<sup>3</sup>** (<sup>1</sup> *General Psychology: Cognition and Center for Behavioral Addiction Research (CeBAR), University of Duisburg-Essen*, <sup>2</sup> *Department of Psychosomatic Medicine and Psychotherapy, Hannover Medical School*, <sup>3</sup> *Erwin L. Hahn Institute for Magnetic Resonance Imaging, Essen*)

Obesity has become a serious public health challenge. Deficits in decision making and cognitive control functions are assumed to contribute to overeating and obesity. We investigated whether the confrontation with food cues interferes with decision-making in the Iowa Gambling Task (IGT). Furthermore, we analyzed potential moderating effects of craving reactions and executive functions.

In a laboratory setting, patients with severe obesity (n=107) and a group of healthy control participants (n=61) performed a modified IGT, in which pictures of unhealthy/appetitive food were displayed on the covers of the advantageous or disadvantageous card decks (between factor). Pictures of healthy/non-appetitive food covered the other decks. The experimental setting also included a cue-reactivity paradigm and the Modified Card Sorting Test (MCST) measuring executive functions.

Patients differed from control participants in executive functions and impulsivity but behaved similarly in the IGT. Against our expectations, participants showed significantly poorer IGT performance in the version with appetitive food pictures presented on advantageous decks. Craving moderated the effect of IGT version on decision-making performance, in a way that higher craving was associated with fewer advantageous decisions in case the advantageous decks were covered by non-appetitive/healthy food pictures.

The results illustrate that both groups avoided to choose options linked to unhealthy food in ambiguous decision situations even if the choices resulted in negative outcomes. This result potentially reflects a learned/ internalized decision strategy to prefer healthy instead of high caloric food, representing an avoidance tendency in treatment-seeking individuals. Strong cravings towards appetitive/unhealthy food may counteract this strategy. The findings can be discussed against the