



Frank Krueger, PhD

Professor, School of Systems Biology

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Education

PhD, Cognitive Psychology, Humboldt University of Berlin, Germany

Key Interests

Social Neuroscience | Prosocial Behavior | Trust | Trustworthiness | Human Belief Systems | Altruistic Punishment | Prefrontal Cortex | Neuroimaging | Virtual Reality

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SELECT PUBLICATIONS

- › F. Krueger & A. Meyer-Lindenberg, Toward a model of interpersonal trust drawn from neuroscience, psychology, and economics. *Trends in Neurosciences* 42(2), 92-101 (2019).
- › F. Krueger & M. Hoffman, The emerging neuroscience of third-party punishment. *Trends in Neurosciences* 39(8), 499-501 (2016).
- › F. Krueger *et al.*, The medial prefrontal cortex mediates social event knowledge. *Trends in Cognitive Sciences* 13(3), 103-109 (2009).
- › F. Krueger *et al.*, Neural correlates of trust. *Proceedings of the National Academy of Sciences USA* 104, 20084-20089 (2007).

Research Focus

As a psychologist, physicist, and neuroscientist, I investigate the psychological functions (i.e., why they exist and work) and the proximate neurobiological mechanisms (i.e., how they work) of social cognition (e.g., beliefs, schemata) and social interaction (e.g., trust, cooperation, altruistic punishment). By combining paradigms from social psychology and experimental economics with methods from social and computational neuroscience, I pursue the following three lines of research: The first line of research seeks to advance understanding of the neuropsychological underpinnings of social beliefs (e.g., moral, religious, and free will beliefs). The second line aims to understand the neural correlates of interpersonal trust in social dyads. The third line is designed to shed light on the neural signatures of altruistic punishment of social norm violations. With an interdisciplinary and multi-method approach, I aim to promote the transfer of basic research findings into treatment for and prevention of social brain disorders ultimately providing benefits to human health.

Current Projects

- Examining oxytocin as a causal mechanism for long-term bonding between humans and autonomy
- The effect of 5-HTTLPR genotype on the microbiome and the serotonergic system in modulating framing of social risk behavior: an fMRI pilot study for future research on mental disorders
- Social salience attribution in addiction: an fMRI pilot study
- Changing our bodies – changes our minds: an fMRI pilot study on changeability of implicit attitudes toward automation on trust