

Neural correlates of moral judgment and moral judgment competence

Kristin Prehn

Cluster of Excellence „Languages of Emotion“

Freie Universität Berlin
Habelschwerdter Allee 45,
14195 Berlin, Germany

Tel: ++49-(0)30-83851378

Email: kristin.prehn@fu-berlin.de

Developments in cognitive neuroscience are providing powerful tools to investigate the neural correlates of moral cognition and behavior (how and where morality is implemented in the human brain). Using these tools an increasing number of neuroimaging studies have been conducted to identify brain regions that contribute to *domain-specific and general processes* involved in moral cognition such as emotion and social cognitive information processing (e.g., the attribution of an actor’s mental states such as intents, beliefs, and desires). After reviewing these studies and pointing to some methodological issues, I will present my own work comprising a neuroimaging study investigating the influence of *individual differences in moral judgment competence* (according to the Dual Aspect Theory by Georg Lind). This study shows that participants with lower moral judgment competence recruited the “moral decision-making network” more than participants with greater competence in this domain when judging whether a described behavior is morally good or bad. Moreover, moral judgment competence scores were inversely correlated with activity in the right dorsolateral prefrontal cortex (DLPFC) indicating an increased recruitment of cognitive resources and control processes in participants with lower moral judgment competence. Our study thus supports the view that morality can be considered in terms of a competence (i.e., the ability to apply moral values in a consistent and differentiated manner in varying social situations).

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Figure 1. A neural network involved in moral cognition.

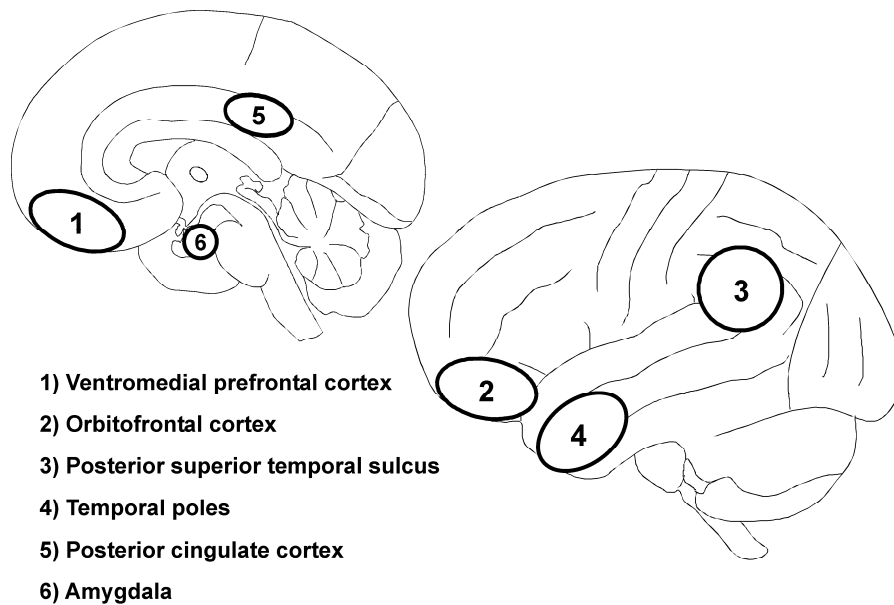


Figure 2. Moral judgment competence reflected in BOLD responses in right DLPFC (Prehn et al., 2008).

A) Covariation of C-scores with BOLD responses in right DLPFC during moral contrasted with grammatical judgments ($p < .05$, corrected).

B) Upper panel: Negative correlation of C-scores and BOLD responses in right DLPFC during moral judgments [$r = -.45$; $p = .03$; C-scores plotted against BOLD responses in arbitrary units (a.u.) with regression line]. Lower panel: No correlation of C-scores and BOLD responses in right DLPFC during grammatical judgments [$r = -.04$; $p = .64$].

