

Brain Imaging Study of the Psychological Antecedents and Neural Correlates of Moral Judgement

Results:

Using functional magnetic resonance imaging (fMRI) in healthy volunteers, we investigated the neural bases of counterintuitive moral judgements, while controlling for the content of these judgments (utilitarian versus non-utilitarian). More specifically, we investigated the relationship between the effort required to arrive at a moral judgement, as reflected by behavioural and neural responses during moral decision-making, and two personality traits, each potentially reflecting one of the two postulated pathways to counterintuitive moral judgment (cognitive effort or emotional deficit).

Counterintuitive judgements were perceived as more difficult than intuitive judgements, whereas there was no significant difference in perceived difficulty between utilitarian and deontological judgments. At the neural level, the fMRI data suggest that previously reported differences in moral judgment are in fact largely due to their intuitiveness and not to their content. Furthermore, we show that the difficulty of making counterintuitive moral judgments is reflected in activation in the rostral anterior cingulate cortex (rACC). Importantly, rACC activation during counterintuitive judgments of a specifically utilitarian character was negatively correlated with ‘psychoticism’, a trait associated with diminished affect and social awareness, but not with ‘need for cognition’, a trait reflecting preference for complex cognition.

Published work:

Full Papers:

Wiech, K., Kahane, G., Shackel, N., Farias, M., Savolescu, M., & Tracey, I. (2012). Cold or Calculating? Reduced activity in the subgenual cingulate cortex reflects decreased emotional aversion to harming in counterintuitive utilitarian judgment. *Cognition*, 126(3): 364-372.

Kahane, G., Wiech, K., Shackel, N., Farias, M., Savolescu, J., & Tracey, I. (2011). The neural basis of intuitive and counterintuitive moral judgment. *Social Cognitive and Affective Neurosciences*, 7, 393-402.

Chapters:

Kahane, G. ‘Intuitive and Counterintuitive Morality’, in D’Arms and D. Jacobson, eds., *The Science of Ethics: Moral Psychology and Human Agency*, Oxford: Oxford University Press, 2013.

Area(s) of interest:

Moral decision making; utilitarian judgment; fMRI; social cognition

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