

PW01-145 - NEURAL CORRELATES OF ASSESSING ENVIRONMENTAL AND TECHNOLOGICAL HAZARDS

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Background: In personal and in political context, we often evaluate the risk of certain conditions. Therefore, two principal psychological approaches are suggested: the analytical consideration and the intuitive estimation, both with according discriminative brain activation. We investigated the neural basis on which non-experts evaluated high risk of different environmental hazards for the society compared with respective low risk.

Methods: Twenty healthy subjects underwent functional magnetic resonance imaging while evaluating the risk of fifty more or less risky conditions presented as written terms. We analyzed brain activations during the individual estimations of 'high' against 'low' risk. Further, the individual brain activations associated with 'negative' versus 'not negative' emotional valence of the terms were analyzed.

Results: Estimating hazards to be of high risk was associated with activation in medial thalamus, anterior insula, nucleus caudatus, posterior cingulate cortex and precuneus. These areas were not involved according to the analysis of the emotion ratings.

Conclusions: The results point to a substantial contribution of viscerosensitive areas to signal high risk and supports models of an intuitive "gut" feeling independent of the subjective emotional valence when estimating a high risk of environmental hazards.