

Title: Is the decrease in bodily response to negative auditory chills specific to insula damage?

Authors: Witt L.*, Klepzig K.*, von Sarnowsky B., Hamm A.O., Lotze M.

*These authors contributed equally.

Abstract (171 von 250 Wörtern)

Case studies suggested decreased emotional response to music for patients following cerebral stroke. Especially the insular cortex has been reported to integrate emotional experience (valence and arousal) with bodily responses. With respect to the arousal dimension indication of experienced chills in response to music is associated with an increase in the skin conductance response (SCR). In order to investigate the role of the insula for chill experience and bodily response we applied an auditory chill task already published before (6 pleasant excerpts of classical music and 6 harsh sounds; Klepzig, Horn et al., 2019) for patients with different lesion location in the chronic stage following stroke. We selected stroke patients with insular lesions (n=20), but also stroke patients without insular lesions (n=10), and age-matched healthy controls (n=14). Number of chill reports did not differ between groups but patients showed decreased bodily response (SCR) when compared to healthy controls (harsh sounds: $t(42)=2.287$, $p=0.0135$; pleasant stimuli: $t(42)=1.559$, $p=0.063$). Further analyses will include voxelbased lesion mapping in association with SCR in stroke patients.

References:

Klepzig K, Horn U, König J, Holtz K, Wendt J, Hamm A.O., Lotze M. (2019) Brain imaging of chill reactions to pleasant and unpleasant sounds, *Behavioural Brain Research* 380:112417.