



UKE Paper of the Month April 2012

Science, 2012 Apr 19, [Epub ahead of print], (PMID: 22517323)

Don't Look Back in Anger! Responsiveness to Missed Chances in Successful and Nonsuccessful Aging

Stefanie Brassen, Matthias Gamer, Jan Peters, Sebastian Gluth, Christian Büchel

ABSTRACT: Lifespan theories explain successful aging with an adaptive management of emotional experiences like regret. As opportunities to undo regrettable situations decline with age, a reduced engagement into these situations represents a potentially protective strategy to maintain wellbeing in older age. Yet, little is known about the underlying neurobiological mechanisms supporting this claim. We used a multimodal psychophysiological approach in combination with a sequential risk taking task that induces the feeling of regret and investigated young as well as emotionally successfully and unsuccessfully (i.e. late-life depressed) aged participants. Responsiveness to regret was specifically reduced in successful aging paralleled by autonomic and fronto-striatal characteristics indicating adaptive shifts in emotion regulation. Our results suggest that disengagement from regret reflects a critical resilience factor for emotional health in older age.

STATEMENT: *We could show for the first time that the way we evaluate and regulate missed chances changes with successful aging and that the brain modulates these changes. It seems to be essential for our emotional wellbeing to not look back in anger and to focus on the positive when we are older. The fact that emotionally healthy older people engage regulatory brain regions when confronted with regretful events points to our life-long ability to deal with the demands of changing life-circumstances. Thus, our findings open up new perspectives not only for the treatment of late-life depression but also for prevention strategies to maintain emotional health when we age.*

BACKGROUND: This work was performed at the Department of Systems Neuroscience headed by Christian Büchel who holds a professorship at UKE since 2005. The department belongs to the Center for Experimental Medicine and focuses on the function of the human brain. The study was part of the DFG grant "Emotional processing in successful aging and late-life depression" to Stefanie Brassen (BR 2877/2-1). S.B. is head of the new research group 'Cognitive and emotional aging' at the Department of Systems Neuroscience. The work was additionally supported by a BMBF grant (Bernstein 01gQ0912).