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„Does acute Stress influence the successful Distraction from Pain in young and older Adults?“

Wed-A7-Talk VI-05

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Previous research has shown that cognitive modulation of pain through psychological strategies can contribute to pain relief and that distraction from pain through cognitive engagement represents an efficient method of these strategies. However, little is known about the impacts of stress and age on pain modulation, although previous findings suggest a negative effect of stress and that the efficacy may be impaired due to age-related cognitive decline. The present study therefore investigated the impact of acute stress on the efficacy of pain modulation through distraction in aging. Before and after an acute stress induction using the Trier Social Stress Test (TSST) or a control condition, healthy younger (18-30 years) and older (60+ years) adults performed a n-back working memory task with low (0-back) and high (2-back) working memory load serving as the distraction paradigm, during which participants received individual adjusted non-painful and moderately painful electrical stimuli transmitted transdermal to the left inner forearm and rated them regarding intensity and unpleasantness on a visual analogue scale. Stress response was measured using heart rate and pulse and mood questionnaires about the stress experience. Preliminary results suggest more effective pain distraction under low working memory load for older adults, while in younger adults, pain reduction was higher under high load condition. So far, acute stress did not affect pain distraction in both age groups. The final results may contribute to a deeper understanding of pain modulation in aging and the impact of stress for a helpful optimization of pain therapy in older age.

Keywords: *Pain, Stress, TSST, Pain Distraction, Aging*

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