Laag-inflammatoire activiteit en cognitief functioneren
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The research in this thesis investigated low-grade inflammation as a factor in cognitive function, focussing on three cognitive domains: social cognition, motivated behaviour, and attention and psychomotor processes. Vaccination-induced acute low-grade inflammation reduced emotion recognition and perceived loneliness predicted the magnitude of the inflammatory response to this induction. The effects of acute low-grade inflammation on emotion recognition were replicated in age- and BMI-related chronic low-grade inflammation. Next, acute inflammation affected selective aspects of motivated learning (e.g., rate of learning, flexibility). These results were again partly replicated in chronic inflammation. Finally, older age and high BMI were both associated with psychomotor slowing (i.e., slower motor response time), and inflammation appeared to be a mediator. Behavioural responses to the Attention Network Task appeared unaffected by both acute and chronic low-grade inflammation. However, EEG analysis demonstrated that acute low-grade inflammation affected the underlying neurophysiological process that underpins the alerting function of attention, as evident by greater cue-induced suppression of alpha power. This result suggests greater deployment of mental effort to maintain adequate performance. While prior research has mostly focussed on inflammation as a possible determinant of psychopathology, the present results indicate that low-grade inflammation in the absence of illness likewise impact cognitive function, suggesting also relevance for every-day cognitive functioning.