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GENDER DIFFERENCES IN THE PHYSIOLOGICAL CORRELATES OF MULTITASKING

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Background: There is a widespread belief that women are better at multitasking than men, yet empirical evidence shows no consistent, notable gender difference in multitasking abilities which might explain this stereotype. The present project aims to resolve this discrepancy between empirical findings and public stereotype by investigating gender effects in multitasking from a new, previously unexplored perspective.

One reason for the discrepancy might be that previous empirical research did not investigate the measures which may actually show gender differences in multitasking. For instance, previous behavioural studies typically analysed response times and error rates as measures of multitasking abilities. However, in the general public the term “abilities” might also refer to other aspects, such as the experienced level of stress.

Aims: The proposed project aims to test whether there are gender differences in multitasking performance which are linked to experienced stress and to investigate whether these differences result in gender effects in the (neuro)physiological correlates of multitasking.

Method: For this, we will take physiological measures of stress (electrodermal activity, EDA, and functional thermal infrared imaging, fITI) and assess the brain activity during multitasking (functional magnetic resonance imaging, fMRI). In addition, we will assess how stressed participants appear during multitasking behaviour by video observations, i.e. video recordings of participants performing either single- or multi-tasks will be played to naïve observers who will rate how stressed the person in the video appears.

Preliminary results: Data collection is currently ongoing. We will test whether males and females differ in any of these measures specifically during multitasking. Such knowledge will considerably deepen our understanding of the human cognitive system, in particular regarding cognitive models on gender differences. Additionally, the gained knowledge will also have a profound applied impact, because it will help to shape and design contexts in which humans may face multitasking, such as workplaces, car cockpits, or human-computer interaction.

Keywords: Multitasking, Gender Differences, Individual differences, Dual-Task performance

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