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Paper Title: Influence of multitasking-induced mental workload on electrodermal activity and human cortisol

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Abstract

Current work environments have undergone a noticeable shift towards higher cognitive demands and increased involvement in multitask performance. It has therefore become crucial to investigate the levels of mental workload experienced by operators. Simulated cognitive multitasking, with varying workload intensity, duration and work order, was tested in 18 volunteers to determine its impact on task performance, perceived workload, galvanic skin response; GSR, and cortisol levels in sweat and saliva. The results showed that as workload intensity increased, there was a concurrent increase in perceived workload and a significant negative impact on task performance. As time progressed, there was a notable increase in performance. Differences in GSR can be observed based on time on task and order of stressor levels delivered to the participants. Preliminary results of cortisol levels in sweat and saliva showed distinct trends in relation to workload intensity.
