Physiological Reactivity to Graded Levels of Cognitive Workload across Three Age Groups: An On-Road Evaluation

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This study examined the sensitivity of two physiological measures to the demand of structured cognitive tasks representing low, moderate and relatively high levels of secondary cognitive workload during actual highway driving. In a sample of 108 relatively healthy drivers, balanced by gender, and drawn from three age groups (20-29, 40-49, and 60-69), both heart rate and skin conductance were found to increase in a statistically significant and relatively linear fashion across 4 levels of workload. Issues associated with the study of sensitivity, task engagement and age are considered.