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The Relationship between Anxiety, Mind Wandering and Task-switching: A Diffusion Model Analysis

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Abstract: The current study aims to examine the mechanisms underlying the negative impact of anxiety on task-switching. To do so, we employed a stochastic diffusion model analysis along with a thought-probe technique in task-switching paradigm. Across 152 participants, we found state anxiety was associated to higher switch costs in nondecision time but not drift rate parameter of diffusion model, implying that the locus of task-switching impairment in anxious individuals is pertinent to the efficiency of task-set reconfiguration but not proactive interference processes. Furthermore, we found boundary separation parameter – which quantifies conservative decisional styles – heightened as a function of anxiety, supporting the existence of compensatory strategy in anxious individuals. Lastly, we found that impaired performance by anxiety was not attributed to the frequency of worrisome thoughts during task-switching. These findings elucidate several theoretical assumptions on the relationship between anxiety and task-switching.