The Effects of Cannabis on Mind Wandering

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Main Findings:

Our analysis of the data collected (*n* = 30) reveals that cannabis use is associated with impaired task performance, increased spontaneous mind wandering across all levels of instruction, and reduced reports of deliberate mind wandering when instructed to mind wander 80% of the time.

Study Design:

To examine the effects of cannabis on mind wandering 50 regular users who smoke legally purchased pre-rolled joints will take part in a three-session remote study. In each session (30 minutes) participants are instructed to complete three blocks of a simple computer task in which they press the spacebar in time with a steady metronome tone. The task is intermittently interrupted by thought probes asking participants to indicate their levels of spontaneous and deliberate mind wandering.

Critically, in the second and third blocks participants were instructed to mind wander either 20% or 80% of the time the order counterbalanced across participants. Sessions 1 and 3 are scheduled on days of planned abstention while Session 2 immediately follows the planned use of cannabis. Participants report the quantity and cannabinoid profile of the cannabis product they use. Mixed effects analysis was conducted on the data collected thus far.

Within sessions participant's mind wandering reports and performance clearly changed in response to our instructions. Cannabis use during Session 2 was associated with increased spontaneous mind wandering, impaired task performance, and a smaller increase in deliberate mind wandering in response to instructions.
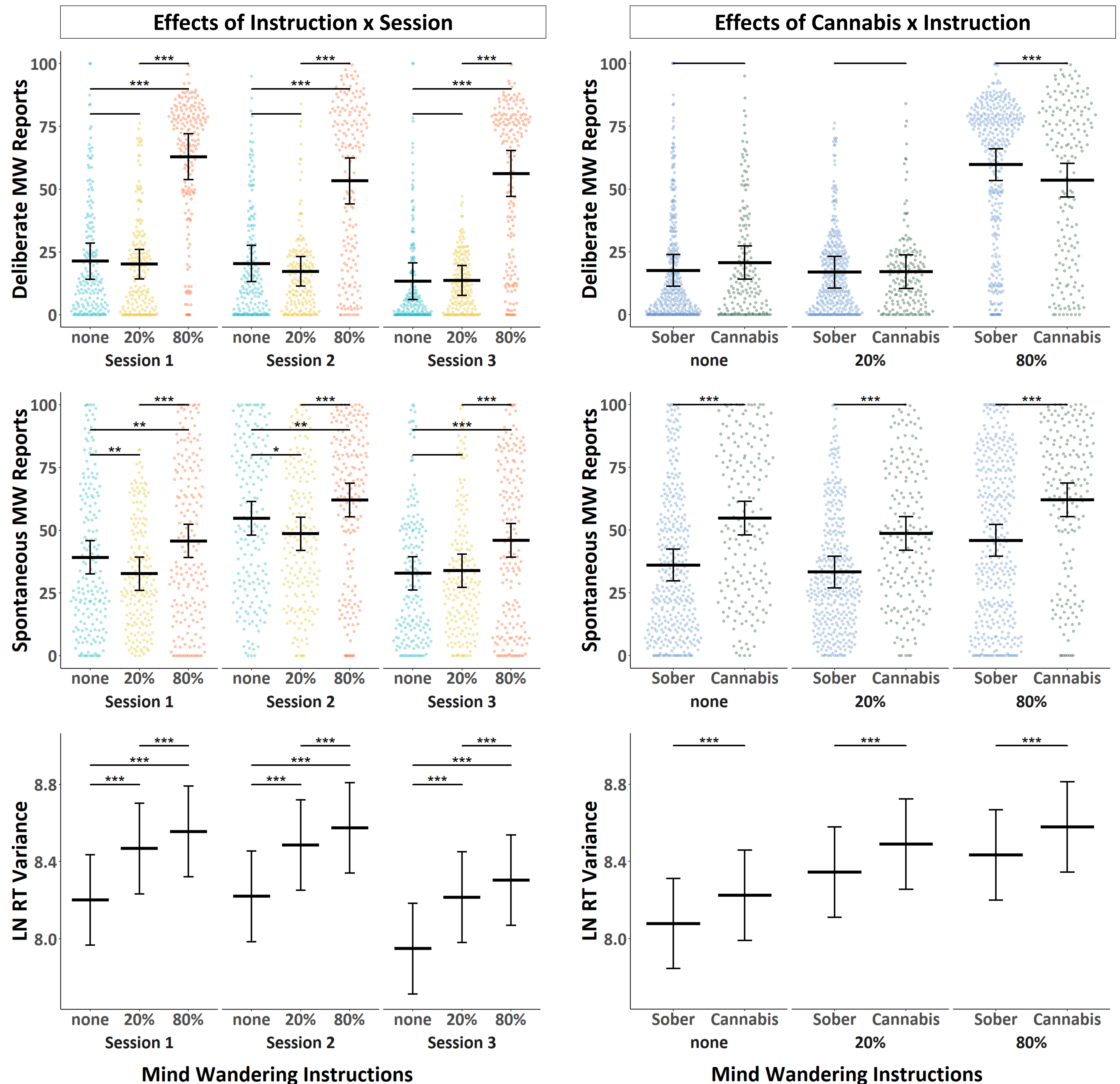
The coloured points illustrate raw participant responses, the estimated marginal means and 95% confidence intervals from our mixed effects models are presented in black. Pairwise comparisons were adjusted for multiple comparisons.