

# THE EFFECTS OF ALCOHOL HANGOVER ON MULTITASKING PERFORMANCE, MOOD AND PSYCHOLOGICAL STRESS REACTIVITY

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**Introduction and Aims:** Previous research demonstrates alcohol hangover-induced deficits to cognitive performance. The majority of research assessing hangover and cognition involves laboratory studies using controlled doses of alcohol. While this methodology offers many benefits, it does not mimic naturalistic settings and may not capture the changes and impairments seen in 'real-life'. Thus, this study uses a naturalistic study design to determine the effects of hangover on cognitive multitasking, mood and stress reactivity.

**Method:** Participant completed a screening visit plus two testing visits: i) with a hangover and ii) without a hangover (counterbalanced). The hangover visit followed a night out of typical drinking resulting in a hangover. During each testing visit, participants completed the PURPLE Multi-Tasking Framework (PMTF), Bond-Lader Visual Analogue Scales (VAS), and NASA Task Loading Index (NASA-TLX).

**Results:** This methodology successfully induced an alcohol hangover in participants ( $t(24)=10.07, p<.001$ ). Multitasking performance was significantly impaired ( $t(24)=2.26, p=.033$ ) and self-reported levels of alertness ( $t(24)=7.33, p<.001$ ), contentedness ( $t(24)=3.34, p=.002$ ), mental fatigue ( $t(24)=4.90, p<.001$ ) and anxiety ( $t(24)=2.58, p=.016$ ) were significantly worsened in the hangover condition. Completion of the MTF did not differentially effect any mood item with respect to hangover. However, the battery was rated as more demanding ( $t(24)=2.19, p=.039$ ) and effortful ( $t(24)=2.29, p=.031$ ), resulting in worsened perceived performance ( $t(24)=2.75, p=.011$ ) in the hangover condition.

**Discussions and Conclusions:** The findings of this study confirm that alcohol hangover impairs cognitive performance, perceived workload and mood. However, hangover does not appear to affect stress reactivity, possibly because of poor baseline mood in the hangover condition.

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