The effect of sleep on human cognition
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Does sleep affect executive function performance?
Online browser study. Participants (N>460; M_{age}= 21.5, SD_{age}= 5.31; M >120, F >340) completed a sleep questionnaire along with a battery of tasks assessing two specific components of executive function: working memory and cognitive flexibility.

Participants were grouped based on their calculated Pittsburgh Sleep Quality Index (PSQI) scores and their reported sleep last night.

**Good Sleep**: PSQI score 8≤; **Poor Sleep**: PSQI score 4≥; **7≤ Hours**: 7 or more hours of sleep last night; **7> Hours**: Less than 7 hours of sleep last night

**Visuospatial Working Memory: n-back**
Participants were tasked with responding whenever a highlighted square in a grid matched that appearing in an earlier trial. Each level of 'n' corresponds to the number of trials 'back' that had to be recalled.

**Cognitive Flexibility: Trailmaking**
Participants used their mouse to connect alphanumeric labeled circles, alternating between letters and numbers (e.g. 1A, 2B) as fast as possible.

Conclusions and Future Work
➢ Sleep does not affect the visuospatial working memory and executive function performance of healthy adults.
➢ Suggests age-based tolerance for young adults.
➢ Precise thresholds for optimal sleep, sleep deprivation, and poor sleep should be established to avoid conflicting findings.
➢ Use these findings to tweak larger questionnaire and task battery, enhancing its ability to identify causal relationships between demographics and lifestyle factors, and cognitive and motor function.

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