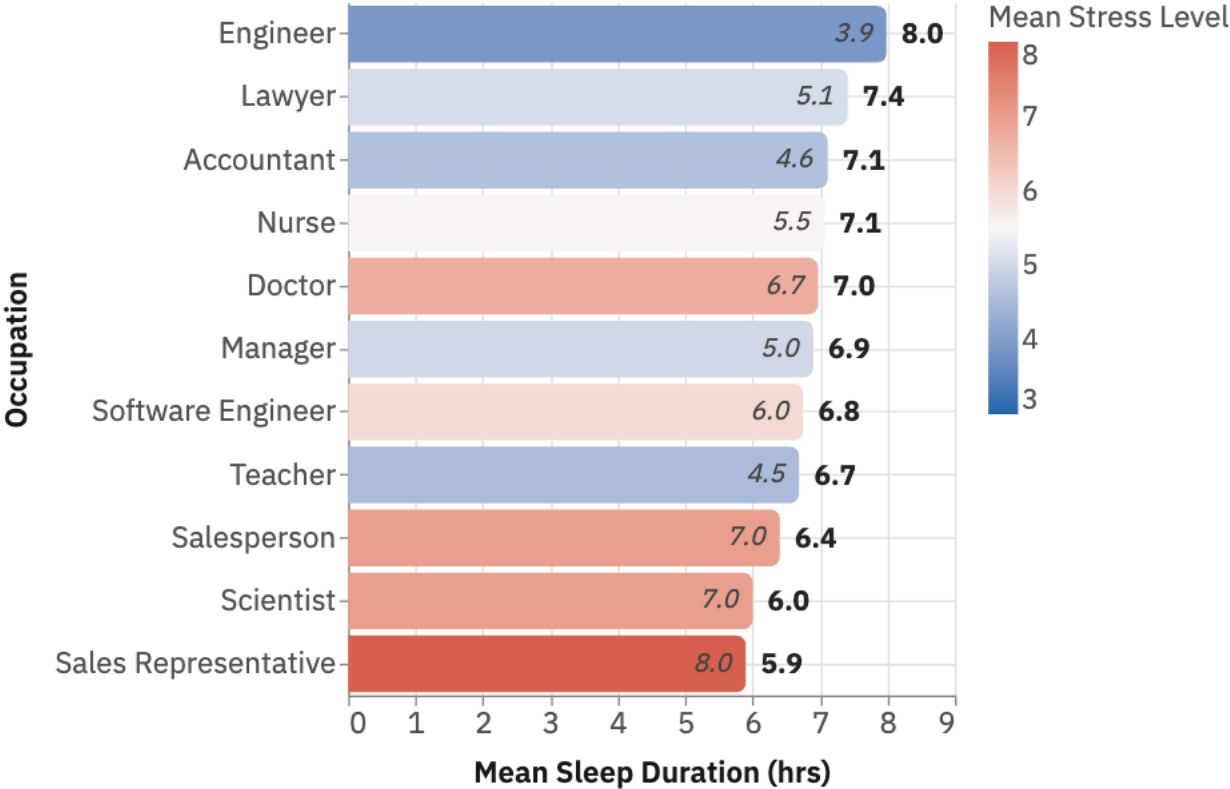


# Occupation Drives Sleep Duration – Stress Level Is the Mediating Force

Engineers average 8.



Each occupation's mean sleep duration and mean stress level reveal a near-perfect inverse pattern: low-stress roles sleep longest, high-stress roles sleep least.

## Key Insight

Engineers average 8.0 hrs sleep with stress 3.9, while Sales Representatives average only 5.9 hrs with stress 8.0 – a 2.1-hr gap almost entirely explained by the stress gradient across occupations. The stress-sleep relationship is strongly negative: as mean stress level rises from 3.9 (Engineer) to 8.0 (Sales Representative), mean sleep duration falls from 8.0 to 5.9 hrs. Sales Representatives show the highest stress (8.0) and lowest sleep (5.9 hrs); Engineers show the lowest stress (3.9) and highest sleep (8.0 hrs). Nurses show stress 5.5 and 7.1 hrs sleep, while Doctors show higher stress (6.7) but similar sleep (7.0 hrs), suggesting role-specific factors moderate the stress-sleep link. Salespersons (stress 7.0, sleep 6.4 hrs) and Scientists (stress 7.0, sleep 6.0 hrs) share identical stress levels yet differ by 0.4 hrs sleep, indicating secondary occupation-specific factors. Practical read (deep dive): The occupation → stress → sleep chain is the dominant structural pattern. Interventions targeting stress reduction in Sales Representative and Salesperson roles would likely yield the largest sleep improvement.

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## Why This Matters

- Occupational stress is a modifiable upstream factor – workplace wellness programs in high-stress roles could directly improve sleep outcomes.
  - The 2.1-hr sleep gap between Engineers (8.0 hrs) and Sales Representatives (5.9 hrs) maps to meaningful health risk differences (cognitive impairment, cardiovascular risk).
  - The consistent color gradient from blue (low stress, long sleep) to red (high stress, short sleep) visually confirms stress as the primary mediating variable.
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## Supporting Chart

A horizontal bar chart with sleep duration on the x-axis and stress level encoded as a diverging blue-to-red color scale across 11 occupations sorted by descending sleep duration, with stress score labels inside each bar, makes the mediation effect visually immediate.

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## Dataset Snapshot

Sleep health & lifestyle dataset across 11 occupations, with mean sleep duration (hrs), mean stress level (3.9–8.0 scale) recorded per occupation.

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## Confidence and Limits

The inverse stress-sleep pattern is consistent across all 11 occupation group means. However, this is observational data – occupation may proxy for age, income, or shift-work patterns not captured here, and causality cannot be established.

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