

Sleep deprivation increases teen angst

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Sleep deprivation—from lifestyle choices, pandemic stress, or late-night computer study—can quickly lead to loss of energy and function during the day and even feelings of anger and depression, an Australian sleep institute study has shown.

The study, led by Flinders University, asked 34 healthy teenagers (20 males) aged between 15 and 17 to spent 10 days and nine nights in a specially designed sleep center.

They were allocated to one of three sleep "doses" for five consecutive nights— from five hours, 7.5 hours, or 10 hours in bed per night—with two baseline and two "recovery" nights of up to 10 hours' time in bed.

Their mood was measured every three hours after waking up to assess responses to feelings such as "depressed," "afraid," "angry," "confused," "anxious," "happy" and "energetic."

Using unipolar visual analog scales measuring the mood states, the study found:

- Participants in the five-hour group, but not the 7.5- or 10-hour groups, reported being significantly more depressed, angry, and confused during sleep restriction than at baseline
- Happiness and energy decreased significantly following sleep restriction to five hours' sleep opportunity
- When the participants had 10 hour sleep opportunities, their happiness significantly increased
- No statistically significant effects of [sleep restriction](#) were found for fear or anxiety, although small-to-moderate effects of sleep restricted to five or 7.5 hours were found.

"The two nights of recovery sleep was not sufficient to recover from increased negative mood states for the five-hour group, although recovery occurred for positive mood states," says lead author Flinders University research fellow Dr. Michelle Short.

"Given the prevalence of insufficient sleep and the rising incidence of mood disorders and dysregulation in adolescents, our findings highlight

the importance of sufficient sleep to mitigate these risks."

The article, "Sleep duration and mood in adolescents: an experimental study," (2021) by SA Booth (CQU), MA Carskadon (US), R Young and MA Short, has been published in *Sleep*.

Adolescence is a critical maturational stage in terms of heightened risk of the onset of mood disorders, with researchers stressing that sufficient sleep crucial to guard against mood deficits in otherwise healthy adolescents.

The results of the experimentally manipulated sleep duration and mood study confirm that adolescents report deterioration in moods in terms of depression, happiness, anger, confusion and energy.

The relationship between experimentally manipulated [sleep duration](#) and [mood](#) in adolescents used mixed models analyses with adhoc comparisons.

More information: Stephen A Booth et al, Sleep duration and mood in adolescents: an experimental study, *Sleep* (2020). [DOI: 10.1093/sleep/zsaa253](#)

Provided by Flinders University

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