The Role of Sleep in Adolescents' Stress Management During COVID-19

By Bailey Dustin

A recent study conducted during the COVID-19 pandemic shed light on the potential benefits of increased sleep in alleviating stress among adolescents. Tracking the sleep patterns of 62 typically-developed adolescents before and during the pandemic revealed significant findings. Analysis of the data indicated that adolescents experienced lower levels of daytime drowsiness, cognitive-emotional arousal at night, and behavioral arousal at bedtime during the pandemic compared to pre-pandemic levels. Furthermore, both sleep duration and cognitive-emotional arousal were identified as factors influencing adolescents' perceived stress levels, suggesting the importance of addressing these modifiable behaviors in stress management strategies.

Prior to the pandemic, researchers had already begun studying the effects of sleep on adolescents' stress levels. "The tendency of teens not getting enough sleep was already a global concern prior to the COVID-19 pandemic. Now more than ever it's critical we tackle the problem," said co-author of this study Sujata Saha, the Principal of Heritage Regional High School of the Riverside School Board.

The study was conducted by tracking the sleep patterns of the adolescents in both time 1 and time 2. The participants' sleep patterns were tracked specifically using a sleep log, self-reported sleep duration, and self-reported sleep quality. In combination with self-reported sleep quality, participants used the Modified Epworth Sleepiness Scale to record daytime sleepiness along with sub-scales of the Adolescent Sleep Hygiene Scale to measure arousal at bedtime.

Along with the listed tracking measures, outcomes were measured in both time 1 and time 2 via participant's answers on the Perceived Stress Scale [PSS-10]. For reference, the PSS-10 gauges how much a person feels their life is out of their control, unpredictable, and overloaded with scores ranging from 0 to 40. In addition, the percentage of adolescents who got enough sleep shifted from 4% during time 1 to 26.5% during time 2.

An analysis of collected data showed that in comparison to pre-pandemic levels, the adolescents' reported daytime drowsiness, cognitive-emotional arousal at night, and behavioral arousal at bedtime were all lower during the pandemic ($F(1,61) = 13.17$, $p < 0.01$, $\eta p2 = 0.18$; $F(1,61) = 4.44$, $p < 0.001$, $\eta p2 = 0.22$; and $F(1,61) = 4.2$, $p < 0.05$, $\eta p2 = 0.6$, respectively).

Additionally, analysis of all tracked variables led to the conclusion that both sleep duration and cognitive-emotional arousal affect levels of perceived stress in adolescents. Both factors are classified as modifiable behaviors, indicating possible usefulness in the reduction of adolescents' stress in varying situations- like COVID-19.

"Not sleeping enough and being overly stimulated before bedtime are poor habits that are modifiable. We can target these behaviors with preventative measures to reduce teens' stress in the face of overwhelming situations like to COVID-19 pandemic," says Reut Gruber, Director of the Attention, Behaviour and Sleep Laboratory at the Douglas Research Centre. By targeting modifiable behaviors such as inadequate sleep and pre-bedtime stimulation, preventative measures can be implemented to mitigate adolescents' stress levels during challenging circumstances. As we navigate through uncertain times, prioritizing adequate sleep and adopting healthy sleep habits may serve as effective tools in supporting adolescents' mental well-being and resilience.

References

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