



Insufficient sleep might affect children's emotional health

By Dr. Jessica Edwards

Data from a new study published in the *Journal of Child Psychology and Psychiatry* suggest that insufficient sleep can affect emotional health in children. The study, conducted by Candice Alfano and colleagues, assessed the impact of sleep duration on different aspects of emotion in a cohort of 53 children aged 7-11 years old. Sleep was assessed via polysomnography and actigraphy, while emotional responses were monitored during two in-lab assessments, one after a night of sufficient sleep (10 h in bed) and one after two consecutive nights of sleep restriction (7 h and 6 h in bed, respectively).

During the in-lab assessments, the children completed questionnaires to assess their current feelings. They then watched short videos and viewed images meant to elicit various positive and negative emotions. Children were asked to subjectively rate their own emotions/feelings during the tasks. Objective measures of emotional responding during the tasks were also collected including respiratory sinus arrhythmia (a measure of emotional regulation) and computer-analysis of facial expressions.



From these analyses, the researchers made some important findings. First, after just two consecutive nights of moderate sleep loss, the children exhibited significant changes in the way they experienced, regulated and expressed emotion. The most robust changes included reduced positive affect and decreased emotional responding in relation to positive rather than negative images and videos. Second, children with the highest levels of anxiety symptoms exhibited the most significant changes in their emotional responses when they did not get enough sleep.

“While positive emotions were impacted most significantly by sleep loss in all children, we were not surprised to find that those with the greatest levels of anxiety showed the most significant reductions in positive affect when tired”, says Alfano. “We know that positive emotions are essential for effective coping and problem-solving, two areas where anxious youth struggle.”

Alfano *et al.* explain that during the school-aged years, children learn to accurately identify their own emotional reactions, alter their emotional expressions in appropriate ways, and empathize with other’s emotional experiences — skills that are critical for socio-emotional health. “The pubertal transition heralds biological and social changes that increase risk for sleep and affective problems, but sleep habits and emotional skills start to become ingrained much earlier”, says Alfano. “The pre-pubertal years might, therefore, offer a critical window for reducing the likelihood of later sleep and affective problems - particularly in emotionally vulnerable children”.

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Referring to:

Alfano, C.A., Bower, J.L., Harvey, A.G., Beidel, D.C., Sharp, C. & Palmer, C.A. (2020), *Sleep restriction alters children’s positive emotional responses, but effects are moderated by anxiety.* *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13287.

Glossary:

Polysomnography: a sleep study during which several body functions are monitored to provide a comprehensive profile of sleep quality. The body functions measured can include brain wave patterns, eye movements, muscle activity, heart rhythm, airflow through the nose and mouth, and oxygen saturations.

Actigraphy: the continuous measurement of movement to identify periods of sleep, using a non-invasive, wearable device known as an actigraph.

Respiratory sinus arrhythmias: a naturally occurring variation in the length of time between heart beats that is coordinated with breathing.

