

Research Spotlight highlights scientific research focused on girls and women with ADHD and informs non-scientists about the research process

Article Title: [The Impact of Comorbid Mental Health Symptoms and Sex on Sleep Functioning in Children with ADHD](#)

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Terms to know when reading this article

- **Comorbid symptoms:** Symptoms of two or more health conditions that are experienced at the same time by the same person
 - The comorbid symptoms referred to in this article include depression, anxiety and oppositional defiant disorder (ODD), which may be experienced by children with ADHD.
- **Bedtime resistance:** A child “fights” bedtime or uses tactics to avoid going to bed
- **Parasomnias:** A group of sleep disorders that includes sleepwalking, sleep terrors, sleep talking and sleep paralysis
- **Sleep-disordered breathing:** Breathing during sleep that includes problems such as snoring and sleep apnea

What were the goals of this study?

- To examine whether boys or girls with ADHD differ in their sleep functioning
- To identify relationships between ADHD symptom severity, sleep problems and comorbid symptoms of anxiety, depression and ODD in children with ADHD
- To explore whether links between comorbid mental health symptoms and sleep difficulties differ in boys and girls with ADHD

What is already known about this topic?

- Compared to their typically developing peers, children with ADHD have more sleep problems, including resisting bedtime, difficulty falling asleep, waking up at night, sleep-disordered breathing and daytime sleepiness.
 - In children with ADHD, sleep problems are associated with more problems with attention, family functioning and cognitive functions such as memory.
 - Children with both ADHD and symptoms of depression and anxiety have more sleep problems.
 - Comorbid symptoms of ADHD and ODD have been linked with bedtime resistance, sleep-onset delay, difficulty waking in children and decreased likelihood of willingly going to bed in adolescents.

How was this study done?

- The study included 181 children between seven and 13 years old who were diagnosed with ADHD. Sixty-nine percent were boys and 31 percent were girls.
- Families were recruited from a clinic that specializes in evaluating and treating ADHD.
- The children's caregivers reported on the severity of ADHD symptoms, as well as on comorbid symptoms of ODD, anxiety and depression.
- Caregivers reported children's bedtime resistance, sleep duration, sleep-related anxiety, night waking, parasomnias, sleep-disordered breathing, daytime sleepiness and difficulty falling asleep.

What were the study findings?

- Girls with ADHD have more difficulties than boys with bedtime resistance, sleep-related anxiety, sleep duration, night waking, parasomnias and daytime sleepiness.
- Relationships between sleep functioning and comorbid mental health symptoms did not differ between boys and girls. This suggests that although sleep problems are more prevalent in girls, how those problems relate to mental health symptoms is similar across sexes.
- Findings that apply to both the girls and boys include:
 - Shorter sleep duration and more parasomnias were associated with more severe symptoms of inattention, hyperactivity, ODD, anxiety and depression.
 - Increased bedtime resistance and more waking at night were associated with more severe symptoms of hyperactivity, ODD, anxiety and depression.
 - More difficulty falling asleep was associated with hyperactivity and ODD symptoms.

Why are these findings important?

- **Parents of girls with ADHD symptoms should:**
 - Pay attention to sleep problems and comorbid symptoms such as ODD and anxiety that may impact sleep by, for example, contributing to bedtime resistance
 - Consider using science-based sleep hygiene strategies such as avoiding screens the hour before bed and keeping a regular bedtime and wake time, even on the weekends
 - Educate themselves by reading books such as *Take Charge of Your Child's Sleep: The All-in-One Resource for Solving Sleep Problems in Kids and Teens* by Judy A. Owens and Jodi A. Mindell
 - Talk with their pediatricians or mental health clinicians if their daughters' sleep does not improve, as poor sleep can negatively affect mental health overall
- **Clinicians conducting ADHD evaluations or providing ADHD treatment should:**
 - Evaluate girls with ADHD for sleep disturbances during assessments and treatment planning
 - Gather information about a range of sleep problems and comorbid symptoms of anxiety, depression and ODD when forming treatment plans
- **Educators of school-age girls should:**
 - Watch for signs of daytime sleepiness in female students, particularly in those with diagnosed or suspected ADHD
 - Speak with appropriate school personnel and students' families if they notice a pattern of daytime sleepiness, which is associated with more attention and cognition problems and may interfere with classroom learning in children with ADHD