

The Why Toolkit® Evidence-Based Brief

Assessing Sleep and Its Impact on Distress Behavior, Social/Emotional Skills, and Learning

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Introduction

Sleep is a fundamental component of overall health, yet its role in cognitive processing, distress behavior, social/emotional skills, and learning often goes underappreciated. The Why Toolkit® is a research-informed assessment and support tool designed to help professionals address the underlying causes of distress behaviors in students, enhancing their ability to thrive in educational environments. Assessing sleep is crucial because it provides insights into various aspects of an individual's life, particularly in educational settings. This brief explores the significant impact of sleep on distress behavior, social/emotional skills, and learning, drawing on research studies to underscore the importance of sleep assessments.

According to recent statistics, a significant portion of students experience sleep difficulties. For example, it is estimated that approximately 7 in 10 middle and high school students are not getting sufficient sleep.¹ Additionally, research indicates that nearly 20% to 30% of children experience insomnia, which includes difficulty falling and staying asleep.²

The Role of Sleep in Cognitive Processing

Sleep is crucial not just for resting, but also for learning. While we sleep, our brain continues to process what we learned during the day. This is called memory consolidation, and helps strengthen our

1. Wheaton et al., "Short Sleep Duration Among Middle School and High School Students — United States, 2015."
2. Summer and Vyas, "Sleep Disorders in Children," April 5, 2024.

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memories. Alexis Chambers emphasizes that sleep supports the integration and storage of memories, which is crucial for learning and academic performance.³ In simple terms, consistent sleep is crucial to help individuals achieve positive learning and behavioral outcomes. Understanding this process shows why good sleep is so important for learning and why we need to pay attention to how well students are sleeping.

Sleep and Distress Behavior Outcomes

Distress behavior patterns are often linked to sleep quality. Liu et al. found a bidirectional association between sleep and behavior difficulties in children.⁴ Additionally, distress behavior patterns are often linked to sleep quality. Consistent sleep patterns contribute to more balanced behavior, while disturbances in sleep can lead to increased difficulties, as seen in various populations including autistic children and early adolescents.⁵ Madrid-Valero et al. found that inconsistent sleep was also associated with counterproductive behaviors like rule-breaking and aggression.⁶ Moreover, Demichelis et al. and Van Veen et al. conducted meta-analyses showing that inconsistent sleep is associated with aggression.⁷ Finally, research indicates that insufficient sleep can significantly exacerbate emotional symptoms, conduct difficulties, hyperactivity/inattention, and difficulties with peer relationships.⁸

Sleep's Influence on Social/Emotional Skills

Social and emotional skills have been found to be significantly affected by sleep quality. Ursache et al. studied children in historically marginalized communities and found that sleep positively impacted classroom behavior and academic achievement.⁹ Deng et al. further highlighted that sleep disturbances are linked to emotional and behavioral differences (EBDs) in preschool children, with chronic sleep disturbances being particularly predictive of persistent EBDs.¹⁰ Palagini et al. suggest that supportive sleep environments can enhance neuroplasticity, which can be crucial for emotional regulation and social interactions.¹¹

3. Chambers, "The Role of Sleep in Cognitive Processing: Focusing on Memory Consolidation."

4. Liu et al., "Longitudinal Bidirectional Association Between Sleep and Behavior Problems at Age 6 and 11 Years."

5. Wang et al., "Effects of Sleep Disturbances on Behavioral Problems in Preschool Children With Autism Spectrum Disorder."

Hosokawa et al., "Association Between Sleep Habits and Behavioral Problems in Early Adolescence: A Descriptive Study."

6. Madrid-Valero et al., "Children Sleep and Antisocial Behavior: Differential Association of Sleep With Aggression and Rule-Breaking."

7. Demichelis et al., "Sleep, Stress and Aggression: Meta-Analyses Investigating Associations and Causality."

Van Veen et al., "The Association of Sleep Quality and Aggression: A Systematic Review and Meta-Analysis of Observational Studies."

8. Hosokawa et al., "The Association Between Sleep Habits and Behavioral Problems in Early Adolescence: A Descriptive Study."


9. Ursache et al., "Sleep, Classroom Behavior, and Achievement Among Children of Color in Historically Disinvested Neighborhoods."

10. Deng et al., "Sleep Disturbances and Emotional and Behavioral Difficulties Among Preschool-Aged Children."

11. Palagini, Geoffroy, and Riemann, "Sleep Markers in Psychiatry: Do Insomnia and Disturbed Sleep Play as Markers of Disrupted Neuroplasticity in Mood Disorders? A Proposed Model."



Understanding the Impact of Sleep on Behavior, Social Skills, and Learning

 20–30% of U.S. students report challenges with sleep ¹

The Why Toolkit™ integrates sleep assessment questions to facilitate discussions & proactive strategies for improving student outcomes.



Incorporating Sleep

- The Why Toolkit™ includes specific questions designed to evaluate sleep patterns
- Facilitates structured discussions among educational teams to consider how sleep affects overall student well-being and performance.



Reducing Distress Behaviors Through Improved Sleep

inconsistent sleep is associated with rule-breaking and aggression ²



Enhance Learning and Behavior Support with The Why Toolkit™!

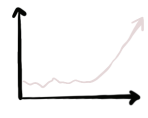
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Proactive Sleep Strategy Development

- Encourages teams to think proactively about strategies to improve sleep for better emotional regulation and social interaction.
- Supports the development of tailored supports that address individual sleep needs, fostering environments conducive to learning and growth.

Impact on Academic & Behavioral Development

- sleep enhances neuroplasticity facilitating better learning outcomes ³
- The Centers for Disease Control and Prevention recommends adequate sleep for students to support their academic performance and overall well-being ⁴



(1) Juan J. Madrid-Valero, José R. Ordoñana, Kelly L. Klump, and Santiago Yanes-González. "Children Sleep and Antisocial Behavior: Differential Association of Sleep With Aggression and Rule-Breaking." *Journal of Abnormal Child Psychology* 47 (2019): 791–99. <https://doi.org/10.1007/s10802-018-0480-0>
(2) Olivia P. Demichelis, Sarah A. Grainger, Kate T. McKay, Xanthia E. Bourdaniotis, Emily G. Churchill, and Julie D. Henry. "Sleep, Stress and Aggression: Meta-Analyses Investigating Associations and Causality." *Neuroscience & Biobehavioral Reviews* 139 (2022): 104732. <https://doi.org/10.1016/j.neubiorev.2022.104732>
(3) Maaiké M. Van Veen, Mariké Lancel, Elise Beijer, Sharon Rimmelzwaal, and Femke Rutters. "The Association of Sleep Quality and Aggression: A Systematic Review and Meta-Analysis of Observational Studies." *Sleep Medicine Reviews* 59 (2021): 101500. <https://doi.org/10.1016/j.smrv.2021.101500>
(4) Whitney Stee and Philippe Peigneux. "Post-learning Micro- and Macro-Structural Neuroplasticity Changes With Time and Sleep." *Biochemical Pharmacology* 191 (December 16, 2020): 114369. <https://doi.org/10.1016/j.bcp.2020.114369>
(5) CDC. "Sleep and Health Recommendations for Students." last reviewed July 15, 2024, accessed May 23, 2024. <https://www.cdc.gov/healthyschools/sleep.htm>
(6) Sleep Foundation. "Sleep Disorders in Children," last modified April 5, 2024, accessed May 23, 2024. <https://www.sleepfoundation.org/children-and-sleep/sleep-disorders-in-children>

1. Summer, Jay, and Nilong Vyas. "Sleep Disorders in Children." Sleep Foundation, April 5, 2024. <https://www.sleepfoundation.org/children-and-sleep/sleep-disorders-in-children>.
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4. CDC. "Sleep and Health Recommendations for Students." <https://www.cdc.gov/healthyschools/sleep.htm>, n.d.

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Impact on Learning and Academic Performance

Sleep is also critical for academic success. Stee and Peigneux demonstrated that post-learning sleep enhances neuroplasticity, facilitating better learning outcomes. These neuroplastic changes, as demonstrated in MRI studies, include modifications in cortical thickness and gray matter volumes that are critical for the cognitive processes underlying learning and memory.¹² This neuroplasticity is essential for adapting to new information and experiences. Cohen et al. and Abel et al. examined autistic children, revealing that insufficient sleep quality predicted behavior difficulties and negative affect.¹³ Similarly, findings from Hosokawa et al. emphasize that inadequate sleep quality is linked to increased behavioral difficulties in adolescents, further underscoring the importance of good sleep in supporting behaviors and educational outcomes.¹⁴ Finally, the Centers for Disease Control and Prevention also recommends adequate sleep for students to support their academic performance and overall well-being.¹⁵

Integrating Sleep Assessments into Systems Evaluating Distress Behaviors

Understanding the link between sleep and distress behavior is particularly important for systems assessing distress behaviors in children. Traditional behavior assessments often overlook the underlying factors contributing to these behaviors. By integrating sleep assessments, we can identify sleep-related needs that might be influencing behavior. Finding the Why, the continually updated behavioral assessment component of The Why Toolkit®, evolves with current research and moves away from traditional behaviorism. Rather, it is neuroscience-aligned, trauma-sensitive, and neurodiversity-affirming, providing a more comprehensive approach to evaluating these factors.

To get a complete picture of sleep wellness, the toolkit examines several key variables: how long the student sleeps, how long it takes them to fall asleep, any disturbances during sleep, daytime sleepiness (like napping at school), and sleep habits, including bedtime routines and any medications they use.

12. Stee and Peigneux, "Post-Learning Micro- and Macro-Structural Neuroplasticity Changes With Time and Sleep."

13. Cohen et al., "Sleep Patterns Predictive of Daytime Challenging Behavior in Individuals With Low-functioning Autism."

Abel et al., "Sleep and Challenging Behaviors in the Context of Intensive Behavioral Intervention for Children With Autism."

14. See note 8 above.

15. CDC, "Sleep and Health Recommendations for Students."



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Finding the Why emphasizes focusing on the root causes of distress behaviors, including the role of sleep. By incorporating sleep assessments, this process helps create supportive environments that address the comprehensive needs of children. This approach not only mitigates distress behaviors but also promotes social/emotional skills and academic performance.

Incorporating Sleep Strategies into Behavior Support Plan

The findings from recent studies suggest that proactive management of sleep quality could serve as a preventive strategy to alleviate distress behavior in students. Integrating supportive sleep practices can help mitigate the adverse effects of sleep disturbances on student behavior.¹⁶ The Beyond the Why, a part of The Why Toolkit® focused on a neurodiversity-affirming behavior support plan, extends this comprehensive approach by providing questions for a team to consider personalized supports that address sleep. This plan includes positive wellness supports that consider the child's unique sleep needs, aiming to improve overall well-being and reduce distress behaviors. By addressing sleep quality within behavior support plans, we can create a more supportive and effective environment to help children thrive.

Conclusion

Assessing sleep is imperative for understanding its profound effects on distress behavior, social/emotional skills, and learning. The research consistently shows that adequate sleep supports cognitive processing, promotes positive behavior, and enhances social/emotional functioning and academic performance. Given these findings, educators and healthcare providers should prioritize assessing sleep and personalize support to foster the development of children and adolescents.

By integrating the assessment of sleep into systems evaluating distress behaviors, like Finding the Why and the Beyond the Why behavior support plan do, we can identify and address sleep-related needs early, thereby fostering environments conducive to optimal learning and development. This approach respects the diversity of individual experiences and promotes a trauma-sensitive and neurodiversity-affirming perspective.

16. See note 8 above.

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