



**January 2015:  
How Sleep Affects a Child's Development and Behavior**

**Background**

"Goodnight room. Goodnight moon. Goodnight cow jumping over the moon." So goes the American children's book *Goodnight Moon*, by Margaret Wise. Reading this popular book has been a part of many bedtime routines for children. Did you have a favorite bedtime routine that you remember? Or perhaps do you have one with your own children now? Some families say prayers before they tuck their children to bed, others talk about the day's events. Bedtime routines have been shown to positively affect sleep duration and help regulate sleep patterns in children, which in turn affects cognitive development, health, and behavior. Nourishing healthy sleeping habits is vital in today's society, since our pace of life is more demanding and can result in less sleep for both adults and children.

The resources in this research blast feature information on sleep for infants, toddlers, and preschoolers. The articles also look at how lack of sleep can affect a child's behavior and health. They review how setting bedtime routines, specifically language-based routines, can improve sleep duration, improve verbal skills in children, and strengthen the parent-child relationship. We also feature a study that reviews the impact of a sleep education program, Sweet Dreamzzz, in Head Start centers in Lansing and Detroit, MI. We hope that you will find the articles informative and the resources helpful in creating relevant workshops that educate families and staff on the importance of sleep for children.

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**Resources**

[Sleep and Newborns](#)

This resource by KidsHealth from the Nemours Foundation focuses on sleep and infants, and most importantly highlights safety precautions against sudden infant death syndrome (SIDS). Much research has been conducted on SIDS, which accounts for 2,500 deaths each year in the United States, and is the leading cause of death in infants.

### [Night-Night...Or Not: Talking About Babies, Toddlers, and Sleep](#)

In this 30 minute podcast, Dr. Jodi Mindell, Associate Director of the Sleep Center at the Children's Hospital in Philadelphia, explains what to expect in sleep for children birth to 3 years of age. She also gives tips and tricks on how to cope with sleep challenges and how to develop healthy sleep habits for children.

### [Good Night, Sleep Tight: Preschoolers and Sleep](#)

Reading Rockets is a national project dedicated to helping young children learn how to read. This resource, available in [Spanish](#) as well, offers an activity where parents can help children understand the signals their body gives when they are tired, which can lead to better sleeping habits. In addition, the resource includes story suggestions for use during bedtime.

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## **Research**

Psychological Bulletin

### [Sleep, Cognition, and Behavioral Problems in School-Age Children: A Century of Research Meta-Analyzed](#)

by Rebecca Astill, Kristiaan B. Van der Heijden, Marinus H. Van IJzendoorn, and Eus J.W. Van Someren

Many experts have long supported the idea that increased sleep duration in children has a positive relationship with a child's cognitive performance. For the first time, this report takes a comprehensive look at 86 studies that focused on sleep, cognition, and behavior problems in school-age children. The findings support the long held fact that increased sleep positively affects cognitive performance and executive functioning, along with academic performance, though not intelligence, attention, or memory. Most importantly, the authors highlight the connection between fewer hours of sleep and internalizing and externalizing behavior problems in children. Internalizing behavioral problems are when negative feelings are directed inward, and children look socially withdrawn, exhibiting signs of depression or anxiety. Externalizing behavioral problems happen when the child directs his or her feelings outward. In this instance, lack of sleep was associated with higher instances of destructive or argumentative behavior. Overall, the study highlights how crucial sleep is to a child's cognitive and social development.

Pediatrics

### [Sleep Duration, Sleep Regularity, Body Weight, and Metabolic Homeostasis in School-aged Children](#)

by Karen Spruyt, Dennis L. Molfese, and David Gozal

There have been many initiatives in recent years dedicated to tackling child obesity in the United States. Although most attention is focused on healthy eating and exercising, this study focuses on the effect of sleep duration and regularity on a child's body mass index (BMI) and metabolic regulation. BMI is calculated based on a child's height and weight and is a reliable indicator of body fatness in most children, while dysfunction found in metabolic regulation has been linked to obesity since cells are unable to break down essential nutrients. The authors found that obese children had shorter sleep duration and showed more variability of sleep schedules on weekends. Most alarmingly, children with shorter sleep durations and irregular sleep schedules had the greatest health risk due to dysfunction in metabolic regulation. The authors underscore the importance of promoting routine and healthy sleep schedules for all children along with other healthy habits to combat obesity in children.

Journal of Family Psychology

[A Longitudinal Study of Preschoolers' Language-Based Bedtime Routines, Sleep Duration, and Wellbeing](#)

by Lauren Hale, Lawrence M. Berger, Monique K. LeBourgeois, and Jeanne Brooks-Gunn

Many early childhood experts promote the routine use of language-based activities during a child's bedtime. Some examples of language-based bedtime routines include praying, singing, reading a book, and talking. In this study, the authors analyzed the relationship between language-based bedtime routines parents reported when their children were 3 and children's sleep duration and cognitive, health, and behavioral outcomes at age 5. The study showed that bedtime language-based routines had a positive association to both sleep duration and verbal test scores. Additionally, the routines showed a reduction in both internalizing and externalizing behaviors. The authors suggest that one factor that may contribute to the results may be the close relationship that is developed between the child and parent during bedtime language-based routines and how that relationship reinforces safety in the child's life.

Journal of Sleep and Sleep Disorder Research

[Evaluation of a Sleep Education Program for Low-Income Preschool Children and Their Families](#)

by Katherine E. Wilson, Alison L. Miller, Karen Bonuck, Julie C. Lumeng, and Ronald D. Chervin

In this article, the researchers analyzed the effect of a sleep education program for Head Start preschool children and their families in greater Lansing and Detroit, Michigan. The education program was provided by [Sweet Dreamzzz](#), a non-profit organization that is dedicated to sleep education and providing bedtime essentials to at-risk families in order to promote healthy child

development. Each parent attended a one-time, 45-min sleep education workshop while preschoolers received 2 weeks of classroom sleep curriculum. The researchers found that children who received the sleep education lessons improved their weeknight sleep duration by 30 minutes a month after the intervention. On the other hand, while parents initially showed greater knowledge, attitudes, and self-efficacy, these results faded by one month after intervention. The authors recommend that repeated exposure to sleep education and its benefits on child development are crucial for parents as well as their children.

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### Discussion Questions

1. What is something new that you learned about the effect of sleep on children? How can you incorporate this information into a workshop for staff and parents?
  2. A parent asks you for advice on helping with the sleep challenges they are having with their child. What three suggestions do you give them?
  3. In [Evaluation of a Sleep Education Program for Low-Income Preschool Children and Their Families](#), the findings suggest that families need more than a "one and done" session to increase their knowledge and attitudes about sleep. What strategies can your program use to continually educate families on the benefits of sleep for their children?
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Do you know of other recent research that may be of interest to the Head Start field? Do you have other questions, comments or concerns? E-mail Emmalie Dropkin ([edropkin@nhsa.org](mailto:edropkin@nhsa.org)).