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Poor Sleep May Impact Academic Achievement for Children in Disinvested Neighborhoods

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Sleep, Classroom Behavior, and Achievement Among Children of Color in Historically Disinvested Neighborhoods

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PRESS RELEASE

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Research shows that poor sleep health may disproportionately affect children of color from families of low socioeconomic status and place them at risk for behavior problems and lower academic performance. However, few sleep studies utilize standard measures of both classroom behavior and academic achievement.

A new longitudinal study examined the relation between sleep, classroom behavior, and academic achievement scores among primarily Black children growing up in historically disinvested neighborhoods. Disinvested refers to neighborhoods in which public and private funding, city services, or other necessary resources have been denied or withheld, and which are often segregated along racial and economic lines as a result. The findings showed that sleep is related to observed classroom behavior and may predict future academic achievement.

The findings were published in a *Child Development* article, written by researchers at the NYU Grossman School of Medicine, Harvard Medical School, and University of Texas at Austin.

According to the study, higher teacher-reported child sleepiness was associated with lower observed adaptive behaviors (defined as active engagement in learning in the classroom), and higher classroom behavior problems in first grade. Higher teacher-reported child sleepiness also predicted lower academic achievement as assessed one year later, in second grade. Parent-reported bedtime resistance and disordered breathing also predicted lower achievement in second grade.

“Our study, the first to examine the ways in which sleep is related to observed engagement in learning and academic test scores among primarily Black children growing up in disinvested neighborhoods, highlights the importance of educating both parents and teachers about fostering positive sleep habits in young children for their school success,” said Alexandra Ursache, assistant professor in the department of population health at NYU Grossman School of Medicine. “The study indicates that encouraging teachers to

share their observations of children's sleepiness with parents, in a collaborative and culturally-affirming manner could help make them aware of its interference with learning."

The study included 572 predominantly Black first grade girls and boys with over half coming from immigrant families. The children came from 10 schools located in historically disinvested neighborhoods in New York City. Children in first and second grade (approximately ages 6 and 7), were assessed on:

- **Sleep health and sleep disorder symptoms:** Parents used a questionnaire to report on their children's bedtime resistance, sleep duration, disordered breathing, daytime sleepiness, and sleep onset delay. Teachers reported on their students' daytime sleepiness.
- **Classroom behavior (adaptive and problem behaviors):** Observers from the research team used a coding system to assess students' adaptive behaviors (non-verbal actively engaged learning such as listening, nodding, sitting up, working on an assigned task) and problem behaviors (behavioral or emotional problems).
- **Academic achievement:** A standardized academic achievement assessment was administered by trained research assistants to assess reading, math and writing ability in second grade.

"Sleep is an essential component of healthy development for children, and children of color are at elevated risk for poor sleep health and undetected sleep disorders," said Alicia Chung, assistant professor in the department of population health at NYU Grossman School of Medicine. "This can set the stage for sleepiness in school, increased problem behavior, decreased engagement in learning activities and lower academic achievement."

"The findings raise the possibility that developing a sleep health curriculum may help engage teachers and parents to promote sleep health," said Rebecca Robbins, instructor in medicine at Harvard Medical School.

The authors acknowledge that the measures of sleep used in this study were reported by parents and teachers rather than objective, standardized assessments (for example, collected through activity monitors). The authors also recognize that the measures provided by teachers and parents may include inherent bias involving Black children or African American children being incorrectly rated as sleepy. Although the authors controlled for several important covariates and examined longitudinal relations with academic achievement, they cannot make strong causal claims about the relations between sleep health and classroom behavior or achievement without a research design that intentionally manipulates sleep

behavior, for example by randomly selecting some families to participate in an intervention to promote sleep health. This work may also not be generalized to Latinx children or other populations of children of color.

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Summarized from *Child Development*, Sleep, Classroom Behavior and Achievement among Children of Color in Historically Disinvested Neighborhoods by Ursache, A. (NYU Grossman School of Medicine), Robbins, R. (Harvard Medical School and Brigham and Women's Hospital) Chung, A. (NYU Grossman School of Medicine), Dawson-McClure, S. (NYU Grossman School of Medicine), Kamboukos, D. (NYU Grossman School of Medicine), Calzada, E.J. (University of Texas at Austin), Girardin, J.L. (NYU Grossman School of Medicine), Brotman, L.M. (NYU Grossman School of Medicine). Copyright 2021 The Society for Research in Child Development, Inc. All rights reserved.