

¹University of Delaware School of Nursing, ²Delaware State University, ³University of Delaware

Introduction: Social risk factors are associated with poor sleep outcomes across the life course. It is unclear if this association varies based on biological factors, such as age and gender. Therefore, the purpose of this analysis was to identify if age or gender moderated the association between cumulative risk and sleep duration/regularity in a national sample of children and adolescents.

Methods: We completed a secondary data analysis using the National Survey of Children's Health 2017–2018 publicly available dataset. In a sample of 36,997 children age 6–17 years, we explored the association between a social cumulative risk index score (CRI) and child sleep duration and regularity. We included eight dichotomous social risk variables in the CRI: parental education

Results: Age was a significant moderator of the association between CRI and short sleep duration, such that the magnitude of the CRI-sleep relationship was greater in school-age children (age 6–11; $b = -0.13$, $p < 0.001$) compared to adolescents (age 12–17 years; $b = -0.05$, $p < 0.001$). Age was not a significant moderator between CRI and sleep irregularity. However, CRI independently predicted increased odds of sleep irregularity (OR = 1.30, $p < .001$) and older age moderately increased the odds of sleep irregularity (OR = 1.21, $p = 0.06$). Sex was not a significant moderator of the association between CRI and sleep duration or sleep regularity. However, female sex was positively associated with sleep duration ($b = 0.06$, $p = 0.11$), but was not a significant independent predictor of sleep irregularity.

Conclusion: Younger children with cumulative risk factors are at risk for short sleep duration. Further research is needed to uncover biological mechanisms underlying multiple sleep parameters across developmental ages.

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SLEEP AND CIRCADIAN MARKERS OF BMI IN A DIVERSE SAMPLE OF 9-YEAR OLD CHILDREN FROM THE FRAGILE FAMILIES CHILD AND WELLBEING STUDY

Alicia Chung,¹ Jesse Moore,¹ Peng Jin,¹ Joao Nunes,² Giardin Jean-Louis,¹ Azizi Seixas¹

¹NYU Grossman School of Medicine, ²CUNY

Introduction: Hispanic and Black school-age children from low-income communities experience disproportionate rates of obesity (26% Hispanic, 22% Black) compared to their White counterparts (14%). Sleep patterns and circadian regulation of biological markers are associated with BMI status. However, little is known about racial and ethnic disparities in circadian regulation among children of color. These suggest that it is important to investigate biological markers that could help delineate associations between sleep-circadian regulation and obesity among children of color. Serotonin transporter gene, a neurotransmitter associated with circadian rhythm regulation, has emerged as an important biological variable. In this study, we investigated whether this factor could serve as a proxy for studying associations of circadian rhythm regulation with weight status in this diverse sample.

Methods: Statistical analysis included descriptive and linear regression analysis of the wave 5, Year 9 cohort of the Fragile Families Child and Wellbeing Study dataset. Interviews were conducted with the participant child around their ninth birthday for data collection on home routines and other parent relationship and school connectedness variables. Biological variables were derived from saliva samples at Year 9 to assess telomere length and DNA methylation levels and changes. Variables of interest included sleep duration, sleep timing, and biological variables 5httlpr (insomnia and sleep quality), skin 2 (serotonin

transporter), telomere length (stress) and rs9939609 (fat mass and obesity), with BMI as the outcome.

Results: The final sample of 466 children comprised 52% male were 9 years old. Participants' race was: 35% White, 46% Black, 20% Hispanic, 4% Asian and 5% other. Median family income was \$42,500. Sleep duration obtained from these children was negatively associated with BMI ($\beta = -0.245$ with $p = 0.022$). We found that *gk5stin212* (serotonin transporter gene) was positively associated with BMI ($\beta = 0.991$, $p = 0.009$), while no significant associations was found for genetic variable *gk5stin210*.

Conclusion: Circadian rhythm dysregulation may serve as a biological mechanism driving overweight or obesity among minority children. Lifestyle and behavioral interventions aimed at the family unit may be needed to modify household and environmental factors that affect circadian regulation among children.

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AN EXPLORATORY STUDY OF PARENTS-CHILD CO-SLEEPING IN KOREA

Solbi Kang,¹ Seockhoon Chung,² Sooyeon Suh³

¹Sungshin Women's University, ²University of Ulsan College of Medicine, ³Sungshin Women's University

Introduction: Asian cultures, including Korea, are known to have a higher proportion of parent-child co-sleeping than Western cultures. While recent studies have shown that bed-sharing increases the mother's depression and causes sleep problems for children, there has never been a study in Asia on the sleep problems of parents and children caused by co-sleeping. Therefore, we aim to investigate the types of sleep problems in children and their mothers' insomnia severity due to co-sleeping.

Methods: This study was conducted in 79 mothers (mean age 33.65 ± 3.98 years) who reported having insomnia due to their children. All participants had children between 6 to 36 months old. Participants were asked to answer the survey includes demographics, sleep environment, child's sleep problems, child's health status items and the mother's insomnia (measured by the Insomnia Severity Index; ISI). Children's age was divided into 5 age groups (6–11, 12–17, 18–23, 24–29, and 30 to 36 months). Frequency analysis and independent t-test were conducted.

Results: Of the total respondents, 72.2% ($n=57$) reported co-sleeping with their children. The most reported sleep problem in children was waking up in the middle of the night 51.9% ($n=41$), followed by difficulty in sleep initiation 12.7% ($n=10$), looking for mother or an attachment object 12.7% ($n=10$), sleep-limiting problems 7.5% ($n=6$), multiple problems 12.7% ($n=10$), and none 2.5% ($n=2$). An independent t-test results for determining whether co-sleeping caused a difference in the severity of maternal insomnia was significant in the 6 to 11 months group only ($t = -2.336$, $p < .05$). The co-sleeping mother's ISI average score ($M=18.28$) was significantly higher than mother who slept separate from her child ($M=14.31$).

Conclusion: Co-sleeping in Asian cultures is prevalent, and may require attention and intervention for mothers who report having insomnia due to their children's sleep disturbance.

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REGULAR BEDTIME ROUTINES AND BIOLOGICAL OBESITY RISK AMONG 9-YEAR OLD CHILDREN FROM THE FRAGILE FAMILIES CHILD AND WELLBEING STUDY

Alicia Chung,¹ Peng Jin,¹ Jesse Moore,¹ Joao Nunes,² Azizi Seixas,¹ Giardin Jean-Louis¹