

group, including interaction terms to assess moderating effects of discrimination.

**Results:** Insomnia symptoms were associated with shortened telomere length among non-latinx white participants ( $\beta$  -0.046,  $p=0.015$ , [-0.06, -0.01]). Discrimination had a moderating effect between insomnia symptoms and telomere length among black participants ( $\beta$  -0.28,  $p=0.045$ , [-0.33, -0.00]). Analyses remained significant after adjusting for age, medical co-morbidities, smoking status, and a history of depression.

**Conclusion:** Our results suggest that symptoms of insomnia may contribute to telomere erosion, with potentially adverse effects on genomic integrity. For black individuals, those who experienced discrimination were at greater risk of telomere damage associated with insomnia.

**Support (If Any):** Funding has been made available by the NIH, granted to UCSF School of Nursing Biobehavioral Research Training Program in Symptom Science (NIH: T32 NRO16920).

## 0060

### SLEEP DISPARITIES BY RACE/ETHNICITY DURING PREGNANCY: AN ENVIRONMENTAL INFLUENCES ON CHILD HEALTH OUTCOMES (ECHO) STUDY

Maristella Lucchini<sup>1</sup>, Louise O'Brien<sup>2</sup>, Linda Kahn<sup>3</sup>, Patricia Brennan<sup>4</sup>, Kelly Baron<sup>5</sup>, Emily Knapp<sup>6</sup>, Claudia Lugo<sup>1</sup>, Lauren Shuffrey<sup>7</sup>, Galit Dunietz<sup>2</sup>, Yeyi Zhu<sup>8</sup>, Carmela Alcantara<sup>9</sup>, William Fifer<sup>7</sup>, Amy Elliott<sup>10</sup>

Department of Psychiatry, Columbia University Irving Medical Center, New York, NY, USA <sup>1</sup> Department of Neurology, Division of Sleep Medicine, and Department of Obstetrics & Gynecology, University of Michigan <sup>2</sup> Departments of Pediatrics and Population Health, New York University Grossman School of Medicine <sup>3</sup> Emory University <sup>4</sup> Department of Family and Preventive Medicine, University of Utah <sup>5</sup> Department of Epidemiology, Johns Hopkins University Bloomberg School of Public Health <sup>6</sup> Department of Psychiatry, Columbia University Irving Medical Center <sup>7</sup> Kaiser Permanente Division of Research <sup>8</sup> School of Social Work, Columbia University <sup>9</sup> Avera Research Institute <sup>10</sup>

**Introduction:** Poor sleep during pregnancy is common and associated with increased risk of adverse perinatal outcomes. Racial/ethnic minoritized groups in the United States experience worse sleep than non-Hispanic Whites (nHW), likely due to downstream effects of systemic and structural discrimination. Nonetheless, the extent of sleep disparities in the perinatal period remains understudied. In this analysis we estimated the prevalence of subjective measures of sleep in a multi-racial/ethnic pregnant population from the Environmental influences on Child Health Outcomes (ECHO) program.

**Methods:** Participants self-reported their race and ethnicity and were grouped into four categories: 1) nHW, 2) non-Hispanic Black/African American (nHB/AA), 3) Hispanic, 4) non-Hispanic Asian (nHA). Our analysis examined trimester-specific nocturnal sleep duration, sleep quality, and sleep disturbances (derived from the Pittsburgh Sleep Quality Index and the ECHO maternal sleep health questionnaire) by race/ethnicity. A total of 1119,2409 and 1284 participants in the first (T1), second (T2) and third trimesters (T3) reported on sleep duration. 1107,1742 and 783 participants in T1, T2 and T3 reported on sleep quality. 1112,1758, and 787 participants in T1, T2 and T3 reported on sleep disturbances. Linear or multinomial regression were used to estimate associations between race/ethnicity and each sleep domain by trimester, controlling for

body mass index (BMI) and age. We repeated analyses within education strata (high school degree, GED/equivalent; some college and above)

**Results:** nHB/AA participants reported shorter sleep duration (T2:  $\beta=-0.55$  [-0.80, -0.31]; T3:  $\beta=-0.65$  [-0.99, -0.31]), and more sleep disturbances (T2:  $\beta=1.92$  [1.09, 2.75]; T3:  $\beta=1.41$  [0.09, 2.74]) compared to nHW. Hispanic participants reported longer duration compared to nHW (T1:  $\beta=0.22$  [0.00004, 0.44]; T2:  $\beta=0.61$  [0.47, 0.76]; T3:  $\beta=0.46$  [0.22, 0.70]), better sleep quality (Compare to Very good quality OR for Fairly good T1: OR=0.48 [0.32, 0.73], T2: OR=0.36 [0.26, 0.48], T3: OR=0.31 [0.18, 0.52]; Fairly bad T1: OR=0.27 [0.16, 0.44], T2: OR=0.46 [0.31, 0.67], T3: OR=0.31 [0.17, 0.55]), and fewer sleep disturbances (T2  $\beta=-0.5$  [-1.0, -0.12]; T3  $\beta=-1.21$  [-2.07, -0.35]). Differences persisted within the subsample of high SES women.

**Conclusion:** These findings highlight racial/ethnic disparities across multiple domains of sleep health during pregnancy. Given the stark racial/ethnic disparities in perinatal outcomes and their associations with sleep health, further research is warranted to investigate the determinants of these disparities, such as downstream effects of systemic and structural discrimination

**Support (If Any):**

## 0061

### ASSOCIATIONS BETWEEN SLEEP, ADVERSE CHILDHOOD EXPERIENCES AND HIGH BODY MASS INDEX IN A NATIONAL SAMPLE OF ADOLESCENTS

Lauren Covington<sup>1</sup>, Janeese Brownlow<sup>2</sup>, Xiaopeng Ji<sup>1</sup>  
University of Delaware <sup>1</sup> Delaware State University <sup>2</sup>

**Introduction:** Adverse childhood experiences (ACEs) are independently associated with short sleep duration (SD) and an increased obesity risk that tracks into adulthood. Similarly, substantial research has demonstrated an association between deficient sleep and overweight/obesity in adolescents. Not known is how sleep duration and ACEs may interact in association with obesity risk in adolescents. This study explored ACEs as a moderator between sleep duration and obesity risk in a national sample of adolescents. **Methods:** Using the National Survey of Children's Health 2017-2018 dataset, we included adolescents (10-17 yrs) with available SD and Body Mass Index (BMI) data. Parents reported adolescent's SD, and number of ACEs. We classified adolescents as overweight/obese if they had a BMI  $\geq$ 85th percentile. Using a stepwise approach and accounting for complex survey design, logistic regression (STATA 16.0) estimated the interaction between SD and the number of ACEs in adolescents, controlling for selected covariates (i.e., demographics, social determinants, sleep regularity, exercise, and mental/physical health outcomes).

**Results:** In a sample of 26,013 adolescents (mean age=13.81, SD=2.29; 52% male, 70% White, Non-Hispanic), 27% were classified as overweight/obese, 47% had  $>1$  ACE, and 34% had SD  $<8$ -10 hours/night. Accounting for covariates and ACEs, every hour increase in SD was associated with 6% decrease in the odds of overweight/obesity (OR=0.94,  $p=0.04$ ). There was a significant interaction between SD and ACEs. Compared with having no ACEs, the association between longer sleep and lower odds of high BMI was weakened or even reversed if an adolescent experienced one ACE (OR=1.18,  $p=0.02$ ) or two or more ACEs (OR=1.13,  $p=0.04$ ).

**Conclusion:** Adolescence may be a critical period in the life course for the interaction between SD and ACEs on obesity risk. Increasing SD is a known intervention target to decrease obesity risk, yet in children experiencing one or more ACE, this protective role may be dampened. Our results suggest that sleep and

cardiometabolic intervention efforts should target adolescents who may be living within risky childhood environments.

**Support (If Any):** None.

## 0062

### RACE/ETHNICITY, SLEEP DURATION, AND ALL-CAUSE MORTALITY RISK IN THE UNITED STATES

Justin Denney<sup>1</sup>, Anna Zamora-Kapoor<sup>1</sup>, Devon Hansen<sup>1</sup>, Paul Whitney<sup>1</sup>

Washington State University<sup>1</sup>

**Introduction:** Health experts recommend that adults should sleep between 7 to 9 hours in a 24-hour period, with data indicating higher mortality risks both above and below these thresholds. However, no study to date has examined the association between sleep duration and mortality risk across racial/ethnic groups.

**Methods:** Data from the linked mortality files of the 2004-2015 National Health Interview Survey (NHIS) were used to examine the association between sleep duration and all-cause mortality among U.S. adults. Of 278,103 adults aged 25+, 22,347 individuals died over the follow-up period. Sleep duration was coded as: <7 hours, 7 to 9 hours, and >9 hours. Race/ethnicity was categorized as: non-Hispanic (NH) White, NH Black, NH American Indian/Alaska Native, NH Asian, NH multiple races, and Hispanic. Cox Proportional Hazard models were used to estimate associations between sleep duration, race/ethnicity, and mortality. All results are reported as relative risk ratios (RRR).

**Results:** Across the sample, we replicated previous research, finding increased mortality risk for those sleeping <7 hours or >9 hours in a 24-hour period. Relative to NH Whites, after adjustments for sociodemographic and socioeconomic variables, mortality risk for NH Blacks and NH multiracial individuals was statistically indistinguishable while NH Asians (RRR= 0.79;  $p < 0.001$ ) and Hispanics (RRR= 0.80;  $p < 0.001$ ) had lower risk. Interactions between sleep duration and race/ethnicity showed that NH White adults sleeping >9 hours experienced 1.82 times higher ( $p < 0.001$ ) risk than those sleeping 7 to 9 hours. This risk was greater than NH Blacks (RRR= 1.42;  $p < 0.001$ ), NH Asians (RRR= 1.00;  $p < .05$ ), and Hispanics (RRR= 1.15;  $p < 0.01$ ). Further, stratified regression analyses showed heightened mortality risks only for NH Whites sleeping <7 hours (RRR= 1.06;  $p < 0.05$ ).

**Conclusion:** The association between sleep duration and all-cause mortality risk varies by race/ethnicity. While sleeping <7 hours in a 24-hour period is thought to increase mortality risk, we found this is specific to NH Whites. Sleeping >9 hours is associated with a higher mortality risk, but more so for NH Whites than other groups. More research on sleep duration and mortality that takes race/ethnic specific risk factors into account is needed to identify causal mechanisms.

**Support (If Any):** Health Equity Research Center (HERC) at Washington State University

## 0063

### BIOPSYCHOSOCIAL PREDICTORS OF SLEEP HEALTH IN BLACK, ASIAN, AND HISPANIC/LATINX SAMPLES

Spencer Nielson<sup>1</sup>, Natalie Dautovich<sup>1</sup>, Joseph Dzierzewski<sup>1</sup>

Virginia Commonwealth University<sup>1</sup>

**Introduction:** Sleep health is an important aspect of sleep and is associated with biopsychosocial factors such as physical health, mental health, and social functioning. Disparities in sleep health are widely prevalent in individuals who identify as Black, Asian, and Hispanic/Latinx. Investigating unique associations between

general sleep health and biopsychosocial factors may elucidate underlying associations and lead to innovative approaches to promote sleep health in these historically marginalized populations.

**Methods:** 3,284 adults participated in an online study investigating sleep longitudinally across normal development (ISLAND). These analyses were conducted in the samples of individuals who self-identified as Black ( $n = 263$ , Mage = 40.6 years, 52.1% female), Asian ( $n = 208$ , Mage = 34.8 years, 39.9% female), and Hispanic/Latinx ( $n = 216$ , Mage = 35.8 years, 44.4% female). Participants were stratified across the lifespan, with equal numbers of men and women recruited. Participants completed several questionnaires including demographics, the RU-SATED, Patient Health Questionnaire-15 (PHQ-15), Patient Health Questionnaire-2 (PHQ-2), Generalized Anxiety Disorder-2 (GAD-2), and the De Jong Gierveld Loneliness Scale. Multiple regression analyses were conducted within each group to determine whether biological (PHQ-15 without the sleep item), psychological (composite score of PHQ-2 and GAD-2), and social (social loneliness factor of the De Jon Gierveld Loneliness Scale) predictors of sleep health while controlling for demographic variables (i.e., age, sex, education).

**Results:** Within the Black sample, lower mental health functioning was associated with poorer sleep health ( $p = 0.008$ ). Within the Asian sample lower physical functioning and lower mental health functioning were significantly associated with poorer sleep health ( $p$ 's < .001). Within the Hispanic/Latinx sample, lower physical functioning was significantly associated with poorer sleep health ( $p < .001$ ).

**Conclusion:** Sleep health was observed to be associated with biopsychosocial factors within Black, Asian, and Hispanic/Latinx samples. Unique patterns of associations were observed within each sample. Future research would benefit from employing longitudinal designs or using more objective measurements to further elucidate these associations.

**Support (If Any):** National Institute on Aging of the National Institutes of Health under Award Number K23AG049955 (PI: Dzierzewski).

## 0064

### YOUTH SLEEP-WAKE EXPERIENCE IN JUVENILE JUSTICE FACILITIES: A DESCRIPTIVE ANALYSIS

Kelsey Woodard<sup>1</sup>, Julianna Adornetti<sup>1</sup>, Josefina Munoz Nogales<sup>1</sup>, Mea Foster<sup>1</sup>, Lauren Leask<sup>1</sup>, Ryann McGee<sup>1</sup>, Marianna Carlucci<sup>1</sup>, Stephanie Crowley<sup>2</sup>, Amy Wolfson<sup>3</sup>

Dept. of Psychology, Loyola University Maryland<sup>1</sup> Biological Rhythms Research Laboratory, Dept. of Psychiatry & Behavioral Sciences, Rush University Medical Center<sup>2</sup> Loyola University Maryland<sup>3</sup>

**Introduction:** Adolescents are susceptible to sleep loss due to biological and environmental factors such as delayed circadian timing and schedule demands. Few studies have examined sleep-wake patterns for adolescents residing in juvenile justice facilities. The current study assessed youth's self-reported sleep-wake schedules, sleep environment perceptions, and sleep quality.

**Methods:** Participants were recruited from 11 juvenile services detention and treatment facilities in Maryland. For seven consecutive mornings, youth completed a sleep-wake diary reporting their bed/wake times, sleep onset, and type of (nocturnal) light exposure. Youth wore digital wristwatches to accurately depict their sleep-wake schedules. Sleep quality and wake difficulty were rated on a scale from 1-10 (1=very poor/easy to 10=very good/hard, respectively).