

## 0055

**BIDIRECTIONAL ASSOCIATIONS BETWEEN SLEEP AND DAILY BEHAVIORS IN URBAN AMERICAN INDIAN/ALASKA NATIVE (AI/AN) YOUTH**

Lu Dong<sup>1</sup>, Elizabeth D'Amico<sup>1</sup>, Daniel Dickerson<sup>2</sup>, Ryan Brown<sup>1</sup>, Alina Palamaru<sup>1</sup>, Carrie Johnson<sup>3</sup>, Wendy Troxel<sup>1</sup>

RAND Corporation <sup>1</sup> UCLA Semel Institute for Neuroscience and Human Behavior, Integrated Substance Abuse Programs (ISAP) <sup>2</sup> Sacred Path Indigenous Wellness Center <sup>3</sup>

**Introduction:** American Indian/Alaska Native (AI/AN) individuals experience health disparities that emerge early in life. This is the first study to prospectively examine associations between sleep and daily behaviors in urban AI/AN adolescents.

**Methods:** Participants were 142 urban AI/AN adolescents (mean age = 14 years, 58% female). Sleep health characteristics were measured with actigraphy (total sleep time [TST], sleep efficiency [SE]) and daily diary (bedtime, wakeup time, sleep quality, alertness) over 7 days. Daily behaviors (caffeine consumption, physical activities, participation in traditional cultural activities, electronic use after 8PM, and mood) were measured via daily diary. Multilevel models examined the degree to which nightly sleep predicted next day's behaviors and, reversely, daily behaviors predicted nightly sleep, controlling for age, gender, and weekday/weekends. Weekday/weekend was tested as a moderator.

**Results:** Earlier bedtime ( $b = -0.11$ ,  $p = 0.03$ ) and wakeup time ( $b = -0.18$ ,  $p < 0.001$ ) were associated with more physical activity the following day. Earlier wakeup time ( $b = -0.17$ ,  $p = 0.048$ ) and shorter TST ( $b = -0.004$ ,  $p = 0.03$ ) were associated with greater participation in cultural activities. Later wakeup time ( $b = 0.96$ ,  $p = 0.004$ ), better sleep quality ( $b = 0.38$ ,  $p < 0.001$ ), longer TST ( $b = 0.02$ ,  $p = 0.001$ ), and higher alertness ( $b = 0.28$ ,  $p < 0.001$ ) were associated with higher mood rating. When examining the reverse direction, greater daytime caffeine consumption was associated with later wakeup time ( $b = 0.17$ ,  $p = 0.01$ ). More physical activity was associated with earlier bedtime ( $b = -0.12$ ,  $p = 0.002$ ) and wakeup time ( $b = -0.12$ ,  $p = 0.01$ ), but only during weekdays. Participation in cultural activities was associated with later bedtimes ( $b = 0.14$ ,  $p = 0.02$ ). More electronic use after 8 PM was associated with later bedtime ( $b = 0.38$ ,  $p < 0.001$ ) and wakeup time ( $b = 0.32$ ,  $p < 0.001$ ), shorter TST ( $b = -8.24$ ,  $p = 0.001$ ) and lower SE ( $b = -0.94$ ,  $p = 0.002$ ), with stronger effects on the weekdays than weekends.

**Conclusion:** Findings highlight dynamic associations between sleep and daily behaviors in AI/AN adolescents and may elucidate novel pathways for intervention and future research.

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## 0056

**REST-ACTIVITY RHYTHMS (RARS) AND COGNITIVE FUNCTIONS IN EARLY POST-MENOPAUSAL WOMEN**

Alexandra Paget-Blanc<sup>1</sup>, Stephen Smagula<sup>2</sup>, Rebecca Thurston<sup>3</sup>, Yuefang Chang<sup>3</sup>, Pauline Maki<sup>1</sup>

University of Illinois at Chicago <sup>1</sup> University of Pittsburgh Medical Center <sup>2</sup> University of Pittsburgh <sup>3</sup>

**Introduction:** RAR disruptions are more common among individuals with dementia than healthy individuals. In healthy older women, RAR disruption predicted future diagnosis of Mild Cognitive Impairment (MCI). With no cure for Alzheimer's

Disease, it is crucial to identify modifiable risk-factors for early prevention of cognitive decline. Here we aim to determine whether RAR disruption was associated with cognitive status and cognitive performance in early post-menopausal women, thereby representing a modifiable risk factor for dementia.

**Methods:** The sample drawn from MsBrain study, included 229 cognitively unimpaired women and 42 women with MCI/dementia, based on score on Montreal Cognitive Assessment (MOCA) adjusted for age and race. Participants completed a 72-hour wrist actigraphy monitoring and neuropsychological assessment including: California Verbal Learning Test (CVLT), Letter Number Sequencing (LNS), Card Rotation Test, Symbol Digit Modalities Test (SDMT). Latent profile analysis (LPA) was performed using five nonparametric RAR variables (intra-daily variability (IV), inter-daily stability (IS), relative amplitude (RA), alpha and F-statistic). The association between RAR clusters and cognitive performance and the relationship between RAR clusters, cognitive status and race/ethnicity were assessed using linear regression models, controlling for age, race/ethnicity, education and body mass index (BMI); and using chi-square test respectively.

**Results:** LPA revealed three clusters: Robust with high F-Stat, RA and IS and low IV; Normal; Weak with low RA and high alpha. The proportion of subjects with MCI/dementia did not differ between clusters however there was a significant association between race and RAR clusters,  $X^2(2, N = 271) = 14.18$ ,  $p < 0.001$ , with non-white women more likely than white women to belong in the Weak group ( $p < .01$ ). In an adjusted analysis of healthy women, the Weak group performed worse than the Robust group in LNS control ( $p < .050$ ). In the unadjusted model, the Weak group performed worse than Robust group in CVLT Total Learning and Long Delay Recall and SDMT ( $p = .0074$ ,  $p = .011$  and  $p = .0041$ , respectively).

**Conclusion:** Non-white women had weaker RAR than their white counterparts. Weaker RARs related to poorer working memory as measured by LNS; and poorer verbal memory and processing speed, measured by CVLT and SDMT however these effects were largely influenced by covariates, particularly race/ethnicity and education.

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## 0057

**AGE AT MENOPAUSE AND INSOMNIA IN A RACIALLY DIVERSE COHORT**

Monica Shieu<sup>1</sup>, Tiffany Braley<sup>1</sup>, Afsara Zaheed<sup>2</sup>, Julie Perry<sup>1</sup>, Jill Becker<sup>2</sup>, Galit Levi Dunitz<sup>1</sup>

Michigan Medicine, University of Michigan <sup>1</sup> University of Michigan <sup>2</sup>

**Introduction:** Menopause is related to major hormonal, physical, and psychological changes for women, each of which could influence their sleep. However, sleep in women post-menopause may differ by race and ethnicity. We aimed to examine associations between age at menopause and insomnia symptoms among US women by race and ethnicity.

**Methods:** We utilized 2008-2012 data from the Health and Retirement Study, a nationally representative cohort of US adults age 50+, restricted to women with natural transition to menopause. Age at menopause was retrieved from baseline information (2008) and was used to categorized women into premature menopause (age  $\leq 40$ y), early menopause (age 41-45y), and normal menopause (age  $> 45$ y). An insomnia composite score was constructed from 2010 and 2012 survey items that assessed insomnia symptoms (i.e., trouble falling asleep, nighttime awakenings, early morning