Population-weighted multinomial logistic regression analyses examined the relationship between race/ethnicity and sleep duration in the complete sample, and stratified by state.

**Results:** Overall, short sleep was more prevalent among Black/African-American (OR = 1.74; 95% CI [1.66–1.82]; p < 0.0001), Asian/Pacific-Islander (OR = 1.40; 95% CI [1.28–1.54]; p < 0.0001), Native-American (OR = 1.38; 95% CI [1.23–1.54]; p < 0.0001), and Other/Multiracial (OR = 1.58; 95% CI [1.44–1.74]; p < 0.0001) groups, and long sleep was more prevalent among Black/African-American (OR = 1.65; 95% CI [1.53–1.77]; p < 0.0001), Native-American (OR = 1.45; 95% CI [1.21–1.74]; p < 0.0001), and Other/Multiracial (OR = 1.42; 95% CI [1.17–1.72]; p = 0.0003) groups. Blacks/African-Americans exhibited greater prevalence of short sleep in 40 states and long sleep in 19 states. Hispanics/Latinos demonstrated increased short sleep in 9 states and increased long sleep in 3 states. Asians/Pacific-Islanders demonstrated increased likelihood of short sleep in 9 states, more long sleep in 1 state, and less long sleep in 7 states. Native-Americans demonstrated more short sleep in 14 states, more long sleep in 7 states and less long sleep in 1 state. Others/multiracial demonstrated more short sleep in 25 states, and more long sleep in 7 states.

**Conclusion:** The relationship between sleep duration and race/ethnicity varies by state of residence. It is possible that factors unique to different regions may exert differential influence over sleep as it relates to other factors such as race/ethnicity.

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**0244**

**IS A SAILOR'S LIFE FOR YOU? ACHES AND PAINS OF U.S. NAVY SAILORS**

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**Introduction:** Musculoskeletal (MSK) symptoms are associated with physical and psychosocial aspects of work. Previous epidemiological investigations assessed MSK injuries at-sea, finding they accounted for majority of medical visits and lost man-hours compared to other injuries. Additionally, personnel at-sea often experience chronic sleep restriction countered by excessive caffeine consumption. This epidemiological, questionnaire-based study explores prevalence of and associations among MSK symptoms, sleep, alertness, and fatigue in active duty USN personnel at shore-based and at-sea commands.

**Methods:** Surveys were collected from two populations: at-sea group (USN aircraft carrier, n = 767, 14% response) and shore-based group (USN educational facility, n = 69, 11% response). Surveys included demographics, work-out frequency, sleep duration, caffeine consumption, Epworth Sleepiness Scale (ESS), Fatigue Severity Scale (FSS), and a standardized MSK symptoms survey.

**Results:** MSK symptoms were most prevalent in the upper body (45%) in both populations. At-sea group reported lower-back (39.5%) and knees (33.6%) as highest reported anatomic sites of MSK symptoms, whereas shore-based group reported lower-back (55.3%), neck (40.3%), and shoulders (38.8%). MSK symptoms were associated with elevated fatigue levels and excessive daytime sleepiness in both populations. Compared to personnel without MSK symptoms, personnel with symptoms received less sleep (p < 0.0001), felt sleep duration was inadequate (p < 0.0001), experienced elevated daytime sleepiness (p = 0.0014), increased fatigue levels (p < 0.0001), were more likely to use sleep-promoting medications (p = 0.0039), and consumed more caffeine (p = 0.0055). Compared to the at-sea group, the shore-based group reported receiving 20-minutes more sleep per night on average (p = 0.0091) and had reduced daytime sleepiness (p = 0.0172). However, the shore-based group had higher BMI (p = 0.0089) and more MSK symptoms (p = 0.0073), particularly upper-body (p = 0.0062).

**Conclusion:** We hypothesized that shore-based duty would be less demanding on sailors than at-sea. However, this initial look shows evidence that shore-based duty in office-like sedentary environments has greater negative impacts on physical health as measured by BMI and MSK symptoms.

**0245**

**BEYOND THE MEAN: A SYSTEMATIC REVIEW ON THE CORRELATES OF DAILY SLEEP VARIABILITY**

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**Introduction:** Correlates of mean sleep duration and quality have been extensively researched, but correlates of daily sleep variability have rarely been examined and are poorly understood. This systematic review identifies factors that are associated with daily sleep variability, and discusses opportunities and challenges in examining variability as a dimension of sleep parameters.

**Methods:** A systematic search and review following the PRISMA guidelines were conducted in five major databases from inception to November 2014. Unique records (N = 3411) that imply the presence of daily sleep measures and the examination of its variability were identified and screened, with 70 records meeting the following criteria for review: (a) human adults, (b) peer-reviewed empirical publications, (c) daily assessment of sleep for ≥ 2 consecutive days, (d) variability of daily sleep parameters were quantified and examined in relation to other variables.

**Results:** Included studies spanned 1974 to 2014, with 45.7% published in the last 5 years. Most studies quantified variability using individual standard deviations (ISD; 58.6%) or ISD/individual mean (14.3%). Overall, this literature appeared ad hoc, with under-developed theoretical frameworks and inconsistent methodologies. Nevertheless, the following themes emerged: (a) Insomnia (21.4% of studies): higher variability in sleep duration and quality were associated with greater insomnia complaints, cognitive behaviour therapy for insomnia reduced such variability. (b) Psychopathology (20%): variable sleep patterns were associated with bipolar disorder, depression, posttraumatic stress disorder, and schizophrenia. (c) Health: variable sleep duration was associated with obesity, inflammation, and mortality. (d) Daytime functioning and cognitive performance: the roles of daily sleep variability were inconsistent. Across themes, older age consistently predicted less variable sleep timing.

**Conclusion:** Variability in daily sleep patterns was associated with important mental and physical health outcomes, and should be considered as an additional dimension when sleep is examined across multiple days. The existing literature highlights the need to adopt consistent methodology and to systematically investigate both the correlates and underlying mechanisms of daily sleep variability.

**0246**

**PHYSICAL ACTIVITY AND HABITUAL SLEEP DURATION: DOES THE SPECIFIC TYPE OF ACTIVITY MATTER?**

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**Introduction:** Physical activity is associated with healthy sleep. It is unknown, though whether the source of physical activity is relevant.

**Methods:** Data from the 2013 Behavioral Risk Factor Surveillance System was used. N = 429,110 adults provided information about sleep and physical activity. Sleep duration was assessed as total habitual sleep within 24 hrs and was categorized as very short (< 4 hrs), short