Study (SHHS) were used to compare OSA severity by sex during all sleep stages, as well as during REM and NREM sleep stages. Participants included 2728 (47%) men and 3076 (53%) women over the age of 40. Independent sample t-test analysis was performed using sex and log-transformed versions of RDI in REM, NREM, and total sleep.

Results: Men had significantly higher RDIs in both total and NREM sleep stages than women $\{[t(5802)=22.049, p<.001, d=0.58, 95\% \ CI \ (0.53, 0.63)], [t(5640)=25.626, p<.001, d=0.68, 95\% \ CI \ (0.63, 0.74)]\}$. The RDI in REM sleep was also significantly higher in men $\{t(5613)=10.732, p<.001, d=0.29, 95\% \ CI \ [0.23, 0.34]\}$.

Conclusion: This study, unlike prior studies, demonstrated that men have more severe OSA than women in both REM and NREM sleep, despite using a more inclusive measure (RDI instead of AHI) as the dependent variable. This novel finding may reflect the project's use of the SHHS, which contains a non-clinical sample that includes adequate numbers of women.

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0280

ASSOCIATION OF SLEEP ARCHITECTURE WITH SELF-REPORTED SLEEP QUALITY AND SLEEPINESS IN WOMEN EXPOSED TO REPEATED EXPERIMENTAL SLEEP FRAGMENTATION TO MODEL MENOPAUSE-RELATED SLEEP CHANGES

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Introduction: Menopause-related sleep disruption manifests as increased nighttime awakenings commonly associated with hot flashes, and with shifting toward more N1 sleep. Using an experimental model of sleep interruption, we examined the association of changes in EEG sleep architecture with changes in self-reported sleep quality and sleepiness.

Methods: To date, 5 healthy women [mean (±SD) age 28.4 ± 6.4 years] have completed 3 consecutive inpatient nights at our Intensive Physiologic Monitoring Unit. Participants received 9-h sleep opportunities (11pm - 8am) involving 1 h of experimentally induced wake after sleep onset (WASO) and allowing for up to 8 h of sleep. An automated auditory stimulus was delivered every 15 min (range 60-90 dB) to initiate wake and repeated every 10 sec to maintain wake for 2 consecutive minutes each time wake was initiated. Wakefulness was confirmed by event-marks during polysomnographically-recorded sleep. Self-reported sleep quality and sleepiness were assessed upon awakening each morning on 7-point scales.

Results: The fragmentation protocol induced [mean (±SD)] 57.6 ± 23.8 min of WASO with 7.9 ± 0.5 h of total sleep time (TST) across the 3 nights. Across the 3 nights, the amount of WASO and TST were similar (p≥0.63), whereas N3 sleep increased significantly (p=0.02). While the number of wake-initiation responses did not differ across the 3 nights (p=0.32), the response time to waking and failure to maintain wakefulness increased significantly

across the nights (both p<0.01). As participants progressed across the 3 nights, complaints of poor sleep quality increased in relation to increasing REM sleep (r^2=0.77, p<0.01), and complaints of increasing sleepiness in association with decreasing N2 sleep (r^2=0.79, p<0.01). Neither outcome correlated with changes in TST, WASO, N1 or N3 sleep time (p≥0.15).

Conclusion: Changes in self-reported sleep quality and sleepiness are associated with changes in sleep architecture induced by repeated sleep interruption in women. These results have important implications for understanding the shifts in sleep architecture associated with menopause and hot-flash associated sleep disruption.

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0281

SHORT SLEEP DURATION AND POOR SLEEP EFFICIENCY EXACERBATE EFFECTS OF EXECUTIVE FUNCTIONING PROBLEMS ON FACIAL AFFECT RECOGNITION WITHIN DISADVANTAGED AND DIVERSE MOTHERS

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Introduction: Sleep problems (e.g., short duration, inefficient sleep) have been found to exacerbate effects of Executive Functioning (EF) problems on social functioning. However, this work has not utilized nuanced measures of social functioning (e.g., dynamic recognition of facial affect) and has not typically examined at-risk populations. This study examined disadvantaged and ethnically diverse mothers, many of whom had histories of perpetrating child neglect (a population at risk for EF problems and misappraisals during social interactions). Previous studies have begun to examine links between EF problems and misappraisals of social situations among this population, however, the role of EF problems in recognition of facial affect, and the moderating role of sleep problems have not been examined. This study predicted that maternal EF problems would be associated with greater inaccuracy for recognizing facial affect, and that this association would be stronger under conditions of poor sleep.

Methods:

Participants: 91 disadvantaged mothers of preschool-aged children, 29 with histories of perpetrating child neglect.

Cognitive Measures: Wisconsin Card Sort (cognitive flexibility); Alternate Uses Test (divergent thinking); Trailmaking Test (EF/processing speed); WAIS-IV Coding (processing speed); WAIS-IV Digit Span (working memory)

Actigraphy-Assessed Sleep Measures: Total sleep time; Sleep efficiency

Recognition of Facial Affect: Dynamic Affect Recognition Evaluation (inaccuracy for evaluating facial affect)

Results: Factor analysis of EF measures supported a single factor representing global impairment of EF. Maternal EF problems were significantly positively associated with inaccurate recognition of facial affect (β = .25, p = .02). Moderation analyses indicated that sleep duration and sleep efficiency moderated the association between maternal EF problems and inaccurate recognition of facial affect such that the relationship between EF problems and inaccuracy was stronger at lower levels of sleep time and sleep efficiency.

Conclusion: Short sleep duration and inefficient sleep exacerbated effects of EF problems on inaccurate recognition of facial affect. Findings suggest that in addition to direct benefits, improving sleep