

## 0212

## DISTURBED SLEEP AND RISK BEHAVIOR IN LOW-INCOME MINORITY TEENS

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**Introduction:** Sleep is particularly important for brain maturation and sleep deprivation in teens has a potent negative effect on behavior, emotion, and attention. Adolescents tend to experience more problems with sleep loss as a natural consequence of puberty, but teens from impoverished urban areas witness violence and experience stressors that are likely to affect sleep. The purpose of this study was to examine sleep disturbance in very low income youth (age range: 9.75-19.25 years) in the Mobile Youth Survey (MYS).

**Methods:** The MYS is a longitudinal household study of impoverished inner-city adolescents that has a very high repeat participation rate (~85%). Data from the years 1998-2005 were used to compare sequential surveys by subject (2-year increments, N = 20,716). The measure of sleep disturbance captured aspects of both insomnia and nightmares, and was elicited by a question about how sleep was affected "when bad things happen to a friend or a family member".

**Results:** Growth curve analysis showed that reports of sleep disturbance decreased incrementally from age 10 - 18 years, and that after age 10 boys had consistently lower levels of sleep disturbance than girls. Using a cross-lagged panel multivariate approach comparing reports by subject for sequential years and controlling for age/gender, sleep disturbance was associated with violent behavior (carrying, using gun/knife) quick temperedness, worry, and belief in the neighborhood Street Code in the subsequent year. Conversely, worry, traumatic stress, a quick temper, a positive attitude toward the neighborhood and identification with the Street Code were associated with sleep disruption in the subsequent year.

**Conclusion:** These results suggest a partial explanation for the negative effect of socioeconomic status on sleep among low-income adolescents. Research is needed to determine the prevalence of sleep disorders in this high-risk population and the longitudinal effects of disturbed sleep on teen violence, emotional and academic outcomes.

## 0213

## PREDICTING MATERNAL ADAPTATION TO INFANT SLEEP: AN ECOLOGICAL PERSPECTIVE

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**Introduction:** Maternal adaptation to infant sleep may be an important determinant of infant sleep quality. The present longitudinal study takes an ecological approach to examine maternal, infant, and marital predictors of mothers' adaptation to infant sleep at 3 months of age.

**Methods:** This study (Project SIESTA), examines parenting, infant sleep, and infant-parent outcomes across the infants' first two years. To date, 44 families (of 150 total) have been recruited, and data are available at 1 and 3 months of infant age. Maternal adaptation to infant sleep was assessed with a composite variable that tapped mothers' satisfaction with infant sleep location, putting their infants to sleep at bedtime, and their infants' night waking. Infant and parent sleep quality was assessed from sleep diaries, actigraphy and video recordings at bedtime and during the night. Additional questionnaires assessed co-parenting quality and maternal depressive symptoms.

**Results:** Mothers' adaptation to infant sleep at 3 months was strongly associated with adaptation at 1 month,  $r(31) = .73$ ,  $P < .001$ . In addition, 3 month co-parenting correlated with co-parenting conflict,  $r(28) = -.39$ ,  $P < .05$ , maternal depressive symptoms,  $r(31) = -.41$ ,  $P < .05$ , frequency of infant night wakings,  $r(28) = -.55$ ,  $P < .01$ , and mothers' reports of

their own sleep quality,  $r(29) = .52$ ,  $P < .01$ . Multiple regression analysis revealed that, when all of these predictors were entered together as a block, only infant night waking and maternal sleep quality remained as significant predictors of maternal adaptation.

**Conclusion:** These findings support the premise that mothers' adaptation to infant sleep is responsive to mothers' well-being and social milieu, but at this early infant age it is most sensitive to the quality of infants' and mothers' own sleep. These and additional analyses will be based on a substantially larger complement of data by conference time.

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## 0214

## OBJECTIVE IN-HOME WEEKDAY VS. WEEKEND SLEEP IN A SAMPLE OF THE US POPULATION

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**Introduction:** There is interest in understanding how populations sleep in their home environment. Studies aimed at this question have been mostly limited to self-report measures of selective parameters. Recent advances in technology now make it feasible to measure sleep parameters unobtrusively in the home.

**Methods:** The DOZER sleep registry is an IRB approved study of sleep in the US population in the home. Its participants purchase and use the Zeo Personal Sleep Coach, a new instrument that uses a fabric headband, to comfortably measure their sleep. Average Total Sleep Time (TST) was calculated for each of 477 subjects ( $47.9 \pm 13.6$  years, 17.4% female) who contributed at least one weekday (Sun-Thu) and one weekend (Fri-Sat) night of nocturnal sleep data during the final two weeks of October, 2009. Mean and distributions of TST were compared between weekday and weekend nights.

**Results:** TST on weekday versus weekend nights was significantly different ( $\chi^2 = 65.6$ ,  $P < 0.001$ ): 20.3% of subjects averaged fewer than 6hrs TST on weekdays vs. 17.4% on weekends; 35.4% of subjects averaged between 6 and 7hrs TST on weekdays vs. 23.9% on weekends; 36.9% of subjects averaged between 7 and 8 hrs TST on weekdays vs. 32.1% on weekends; and 7.3% of subjects average at least 8 hrs TST on weekdays vs. 26.6% on weekends. Mean ( $\pm$  SEM) TST was also lower on weekday versus weekend nights: 6.79 ( $\pm$  0.06) hrs vs. 7.20 ( $\pm$  0.04) hrs, respectively (Student's T-test,  $P < 0.0001$ ).

**Conclusion:** These data are consistent with previous findings. However, the proportion of people who obtain less than 7 to 8 hours of sleep is larger in this objectively measured study than in previous reports that are based on self-reported data, such as the 2005 National Sleep Foundation Sleep in America Poll and the 2004-2006 National Health Interview Survey. These findings may have important implications for our understanding of sleep in America.

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## 0215

## MASTICATION AND SLEEP AND BEHAVIORAL CHANGES IN MICE

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**Introduction:** Decreased mastication from dental problems and soft diets causes various functional and morphological changes. Reduction in central histaminergic neurotransmission by reduced mastication, which may affect sleep and other behaviors, are also reported in experimental animals. In the current study, we have evaluated the effects in mice of chronic diet change (solid vs. powder diet) from weaning on sleep and other behavior (locomotor activity and anxiety).

**Methods:** Sixteen littermate WT mice aged 25 days were divided into two groups and fed either a solid (SD group) or a powder (PD group)