Conclusion: This adolescent sample demonstrated greater sleep/wake regularity compared to previous reports of college students and adolescents/young adults, supporting the hypothesis that SRI may be a proxy for regularity of other aspects of daily living (e.g., fixed school start times). Adolescent SRI appears to be independent of sleep duration (consistent with previous findings) and timing, suggesting that SRI captures a distinct dimension of sleep. This research team plans to proceed with longitudinal analysis to clarify developmental trends, further explicating the potential informative role of SRI.

0182

CHILDHOOD SLEEP IS LONGITUDINALLY ASSOCIATED WITH ADOLESCENT ALCOHOL AND MARIJUANA USE

Akshay Krishnan[1], David Reichenberger[1], Stephen Strayer[1], Lindsay Master[1], Orfeu Buxton[1], Lauren Hale[2], Anne-Marie Chang[1]
The Pennsylvania State University [1] Stony Brook University [2]

Introduction: Worse sleep health has been linked with greater substance use among adolescents. However, most studies have only cross-sectionally examined this relationship or examined these longitudinal effects in children with sleep disorders. This study investigates whether childhood sleep is longitudinally associated with adolescent alcohol or marijuana use.

Methods: We analyzed data from the Fragile Families and Child Wellbeing Study, a longitudinal birth cohort. Parents reported their child's bedtime at ages 3, 5, and 9, and their child's average sleep duration at ages 5 and 9. At age 15, adolescents self-reported their bedtime, time in bed, whether they ever drank alcohol without parents, and whether they ever tried marijuana. Only participants with complete data were included (N=1,493). Logistic regression analyses for each substance use outcome were adjusted for age, sex, race, family socioeconomic status, family structure, and caregiver education level.

Results: Later bedtime at age 3 was longitudinally associated with lower odds of ever drinking alcohol at age 15 (OR=0.73, CI=0.58, 0.91, p<0.01) whereas later bedtime at age 9 was associated with greater odds (OR=1.44, CI=1.10, 1.89, p<0.01). Later bedtime at age 15 was cross-sectionally associated with greater odds of ever drinking alcohol (OR=1.40, CI=1.23, 1.59, p<0.01). Later bedtime at age 5 was associated with greater odds of ever trying marijuana (OR=1.25, CI=1.00, 1.57, p<0.05), as was later bedtime at age 15 (OR=1.34, CI=1.19, 1.51, p<0.01). Additionally, longer sleep duration at age 9 was longitudinally associated with lower odds of ever trying marijuana (OR=0.84, CI=0.74, 0.97, p<0.02). Adolescents who had longer time in bed at age 15 had lower odds of ever drinking alcohol (OR=0.72, CI=0.63, 0.81, p<0.01) and ever trying marijuana (OR=0.89, CI=0.79, 0.99, p<0.04).

Conclusion: In general, earlier bedtimes and longer sleep duration during childhood and adolescence were associated with lower odds of ever using alcohol or marijuana during adolescence. These results are consistent with current literature indicating that healthy sleep is associated with reduced risk-taking behaviors. Future research should further investigate whether sleep patterns across childhood are linked to decision-making and risk-taking behaviors in adolescence.

0183

DAILY SLEEP PREDICTS ADOLESCENTS' NEXT-DAY PSYCHOMOTOR VIGILANCE, SLEEPINESS, AND FATIGUE: ECOLOGICAL MOMENTARY ASSESSMENT ACROSS 28 DAYS OF SCHOOL AND VACATION

Lin Shen[1], Tracey Sletten[1], Joshua Wiley[2], Bei Bei[3]
Turner Institute for Brain and Mental Health, School of Psychological Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Australia [1] [1]. Turner Institute for Brain and Mental Health, School of Psychological Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Australia [2]. Peter MacCallum Cancer Centre, Melbourne, Australia [2] [1]. Turner Institute for Brain and Mental Health, School of Psychological Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Australia, [2].Women's Mental Health Service, Royal Women's Hospital, Department of Psychiatry, University of Melbourne, Melbourne, Australia [3]

Introduction: Few studies have examined the associations between daily sleep and daytime functioning in adolescents during naturalistically-occurring constrained (school term) and unconstrained (vacation) sleep opportunities.

Methods: Adolescents (n = 205; 54.1% females, age M ± SD = 16.9 ± 0.87 years) completed daily measures of sleep and daytime functioning over 28 continuous days (2-week school, and the subsequent 2-week vacation). Total sleep time (TST) and sleep efficiency (SE) were measured using actigraphy and sleep diary. Participants self-reported sleepiness and fatigue every morning and afternoon, and completed the brief, 3.2-minute psychomotor vigilance task (PVT; Joggle Research) on an iPad every afternoon. Using cross-lagged multilevel models, daily TST and SE were examined as predictors of next-day sleepiness, fatigue, and PVT performance. The associations did not differ between school and vacation. The non-significant interaction terms were dropped, and school/vacation status was maintained as a covariate. Previous-day outcome, day of the week, study day, school/vacation and sociodemographics were adjusted. Between-person associations (differences between individuals) and within-person associations (daily deviations from individual's own mean capturing whether nights with longer- or better-than-average TST or SE respectively, relative to the individual's average TST/SE, predict next-day outcomes) were tested simultaneously.

Results: Adolescents performed better on the PVT (faster reaction time and fewer lapses) following nights with longer-than-average TST (actigraphy and diary, p-values ≤ .044). Longer-than-average TST (actigraphy and diary) and higher diary SE also predicted lower self-reported sleepiness the next day (morning and afternoon, p-values ≤ .002). Similarly, longer-than-average TST and higher-than-average SE predicted lower self-reported fatigue the next day (morning and afternoon, all p-values ≤ .032). Compared to the vacation, school term was associated with higher self-reported fatigue in the morning and afternoon (p-values ≤ .014), but not higher sleepiness or poorer PVT performance.

Conclusion: Fluctuations in daily sleep were associated with adolescents' next-day functioning. Importantly, longer- and better-than-average sleep consistently predicted better daytime functioning the next day. Findings were consistent across objective sustained attention and self-reported sleepiness and fatigue, highlighting the short-term effects of sleep restriction on adolescents' daytime functioning. Protecting adolescents' sleep duration and promoting good quality sleep on a daily basis could support optimal daytime functioning.