GNYACSM Abstract

Effect of Last Meal Timing on Sleep Efficiency in College Students during COVID-19

NICOLE HAYES[1], ZACHARIAS PAPADAKIS[2], FACSM, ALI BOOLANI[3], & ANDREAS STAMATIS[1], FACSM

[1]Exercise and Nutrition Science; SUNY Plattsburgh; Plattsburgh, NY
[2]Human Performance Laboratory, Barry University; Miami Shores, FL
[3]Physical Therapy; Clarkson University; Potsdam, NY

Category: Undergraduate

Advisor / Mentor: Stamatis, Andreas (astam004@plattsburgh.edu)

ABSTRACT

Sleep efficiency (SE), the proportion of total sleep time to total time spent in bed, has established associations with various health and disease outcomes. Notably, the interval time between the last meal and bedtime has been shown to influence SE. Recent studies indicate that the COVID-19 pandemic has resulted in significant disruptions to the eating and sleeping patterns of college students. **PURPOSE**: To explore changes in college students' SE in relation to the timing of their last meal and bedtime during COVID-19. **METHODS**: We collected data from 123 college students (m_{age} = 19.3 years, *SD* = 0.97; 58 Females, 65 Males) over 66 days. Self-reported questionnaires were used to obtain the interval time (IT) between the last meal and bedtime (calculated as the difference in minutes). Growth curve mixed modeling (GAMLj) with 2990 observations was used to analyze the data, treating waves (i.e., days), sex, and IT as latent variables. **RESULTS**: SE varied between 0.02% and 1%, while IT ranged from 15 to 1380 minutes. The intercept (β = 0.92) represents the predicted SE for students on day 1. The slope for waves was positive and significant (β = 0.001, p < 0.001). Conversely, the slope for IT was negative and significant (β = -0.001, p = 0.003). The level 2 predictor, sex, was also significant and negative (β = -0.05, p = 0.001) (Female = 0, Male = 1). The variation in intercepts, representing day 1 SE for each student, was significant (σ_μ^2 = .01, LR $\chi^2(1) = 1117.77$, p <.001), with an ICC of 0.36. No significant interaction effects were observed among the examined variables. **CONCLUSION**: This study provides valuable insights into the relationship between meal timing habits and SE during a stressful period amidst COVID-19. The findings suggest that SE is predicted to increase gradually over time, but decrease with longer intervals between the last mealtime and bedtime. Additionally, females exhibited higher SE compared to males, and substantial between-student variation in day 1 SE was observed. These results can inform interventions aimed at improving SE in young adults, particularly during times of increased stress. Limitations include self-reported measures. Future studies should account for other potential factors that may influence SE, such as physical activity and caffeine intake.