

Study shows teens with later sleep schedules are less active, eat more carbohydrates

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A new study to be presented at the [SLEEP 2024](#) annual meeting found that circadian misalignment, which is highly prevalent in adolescents, is linked with carbohydrate consumption and sedentary behavior in teens.

Results show that a later sleep schedule was significantly associated with greater intake of carbohydrates, and this relationship was partially explained by irregular sleep timing. A later sleep schedule was also associated with greater sedentary behavior, even after adjusting for variables such as demographics, sleep disorders, and insufficient sleep.

"Delaying [sleep schedules](#) is normal during puberty and adolescence; however, some [adolescents](#) delay their sleep schedule to an extent that they become misaligned with the day-night cycle, their social schedules, and responsibilities," said principal investigator Julio Fernandez-Mendoza, who is a professor and [clinical psychologist](#) at Penn State College of Medicine in Hershey, Pennsylvania.

"Our data supports that this lack of alignment may be associated with inadequate diet and [physical activity](#), further contributing to the obesity epidemic and poor cardiometabolic health."

The study involved 377 adolescents from the Penn State Child Cohort who had a minimum of three nights of at-home actigraphy and one night of in-lab polysomnography. These tests helped calculate their sleep midpoint and sleep regularity. Physical activity was also measured by actigraphy, and carbohydrate intake was assessed using a survey.

According to the American Academy of Sleep Medicine, [sleep is essential to health](#), and healthy sleep requires [adequate duration](#), good quality, appropriate timing and regularity, and the absence of sleep disturbances or disorders. A [delayed sleep schedule](#), characterized by

sleep timing that is later than conventional or socially acceptable timing, is more common among adolescents and young adults.

Fernandez-Mendoza noted that proper circadian alignment is necessary for the health of adolescents.

"Circadian misalignment of the sleep-wake cycle, and its associated variability in sleep duration, should be an integral part of interventions targeting poor dietary choices and sedentarism in youth," Fernandez-Mendoza said.

The research abstract was published recently in an [online supplement](#) of the journal *Sleep* and will be presented Wednesday, June 5, during SLEEP 2024 in Houston.

More information: Pura Ballester-Navarro et al, 0165 Association of Circadian Misalignment with Diet and Physical Activity in Adolescents, *Sleep* (2024). [DOI: 10.1093/sleep/zsae067.0165](https://doi.org/10.1093/sleep/zsae067.0165)

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