

# The early bird may just get the worm

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Night owls may be looking forward to falling back into autumn standard time but a new study from the University of Ottawa has found Daylight Saving Time may also suit morning types just fine.

Research from Dr. Stuart Fogel, a cognitive neuroscientist, professor at

the University of Ottawa's School of Psychology, and researcher at the Royal's Institute for Mental Health Research, is shedding light into how the impact of a person's daily rhythm and [activity levels](#) during both wake and sleep relate to [human intelligence](#). Contrary to the adage "the early bird gets the worm," previous work suggests that evening types, or "owls," have superior verbal intelligence.

Yet, "once you account for key factors including bedtime and age, we found the opposite to be true, that morning types tend to have superior verbal ability," says Stuart Fogel, Director of the University of Ottawa Sleep Research Laboratory. "This outcome was surprising to us and signals this is much more complicated than anyone thought before."

Fogel's team identified individual's chronotype—their evening or morning tendencies—by monitoring [biological rhythms](#) and daily preferences. A person's chronotype is related to when in the day they prefer to do demanding things, from intellectual pursuits to exercise.

Young individuals are typically "evening types" while older individuals and those more regularly entrenched in their daily/nightly activities are likely "morning types". The juxtaposition here is that morning is critical for [young people](#), especially school aged children and adolescents, who have their schedules set by their morning-type parents and their routines. This might be doing youngsters a disservice.

"A lot of school start times are not determined by our chronotypes but by parents and work-schedules, so school-aged kids pay the price of that because they are evening types forced to work on a morning type schedule," says Fogel.

"For example, math and [science classes](#) are normally scheduled early in the day because whatever morning tendencies they have will serve them well. But the AM is not when they are at their best due to their evening

type tendencies. Ultimately, they are disadvantaged because the type of schedule imposed on them is basically fighting against their biological clock every day."

The study enlisted volunteers from a wide age range, who were rigorously screened to rule out [sleep disorders](#) and other confounding factors. They outfitted volunteers with a monitoring device to measure activity levels.

Establishing the strength of a person's rhythm, which drives intelligence, is key to understanding the results of this nuanced study, says Fogel, with a person's age and actual bedtime proving [important factors](#).

"Our brain really craves regularity and for us to be optimal in our own rhythms is to stick to that schedule and not be constantly trying to catch up," adds Fogel.

**More information:** Aaron Gibbings et al, Does the early bird really get the worm? How chronotype relates to human intelligence, *Current Research in Behavioral Sciences* (2022). [DOI: 10.1016/j.crbeha.2022.100083](#)

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