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Sleep Can Be Good for Your Salary

While better rest can lead to better work and pay, work can also hinder sleep.

The New Health Care

By AUSTIN FRAKT

Daylight Saving Time ended on Sunday, and for many of us the extra hour of sleep has provided a small energy boost. It's widely known that sleep affects our mood and health. Less understood is how it can also affect our paychecks.

A study published last year in the Review of Economics and Statistics found that workers who live in locations where people get more sleep tend to earn more than those in areas where people get less.

One theory: Better-rested workers are more productive and are compensated for it with additional income. "There are other explanations, but we consider them less likely," said an author of the study, Matthew Gibson, an economist at Williams College.

It's not as if simply sleeping more will cause your boss to pay you more. In fact, if you get that extra sleep by being late for work, you might earn less or even lose your job. So how would the sleep-income relationship actually work?

Studying the issue is complicated by reverse causality: Not only does sleep affect work, but work also affects sleep. People who work more, and earn more for it, often sleep less. Studies show that higher-income earners sleep less than lower-income ones.

That could be because higher-income people are spending more time working, so they have less time for sleep. Additionally, working more is stressful, and stress disrupts sleep.

But poor sleep contributes to stress, too. A study in Sleep Health found that a poorer night's sleep is followed by more stress and distracting thoughts at work. Other studies also find that less and poorer sleep is associated with more conflict and stress the next day.

Consider this possible sequence: Good sleep habits could help a person land a high-income job, but the new job could be so demanding and stressful that the person sleeps less. To achieve a promotion, though, and even higher income, it could be helpful to make adjustments to get better sleep again.

More generally, many studies find worse work performance follows poor sleep. For example, tired doctors make more mistakes, and tired students get lower test scores. This is one rationale for starting school times later to give chil-



DOLLY FAIBYSHEV FOR THE NEW YORK TIMES

Studies have shown that sleep can affect mood and health, but less understood is how much it can affect our work and our paychecks.

children a better chance at more sleep. It not only lifts academic performance but their long-run incomes as well, research shows.

One study found that delaying school start times to 8:30 a.m. or later would contribute \$83 billion to the American economy within a decade. The gains would come in part through decreased car crashes — lowering the costs in mortality and lifetime productivity.

The Review of Economics and Statistics study dodged reverse causality when comparing average earnings in different locations by exploiting the variation in sunset time within time zones. Our circadian rhythms are partly tied to sunlight: We tend to go to bed earlier when sunset is earlier. But the time of sunrise has less effect on sleep habits. Workers in similar jobs wake up at roughly the same time, because work and school tend to start at the same time throughout a time zone.

Therefore, workers farther east in a time zone, where the sun sets earlier, get on average more sleep than comparable workers farther west.

Of course, many other factors besides sunset time can influence how much individuals sleep. We've all heard of people who seem to get by just fine on short rest. Some studies in recent years have identified a genetic explanation for why some can thrive despite getting a lot less than eight hours of sleep. But few other factors could affect sleep duration for an entire region. The time-zone study found that an additional hour of weekly sleep could increase earnings by 1.1 percent in the short run and as much as 5 percent in the long run.

The idea is that the entire economy is running at a slightly faster pace when everyone in it is better rested.

The Boston area has a sunset that is about 50 minutes earlier than in Ann

Arbor, Mich., which is at about the same latitude but farther west in the same time zone. As a resident of the Boston area, I probably get more sleep than my health economist colleagues at the University of Michigan, holding other things equal. That's true of Boston workers in general, relative to comparable ones in Ann Arbor.

This is far from the only difference between Boston and Ann Arbor that might affect incomes. There are probably different job opportunities, management styles and variation in negotiating leverage among unions in the two areas, for example. There are also lots of differences that influence cost of living and quality of life. So it would be silly to move just for a bit more sleep and associated increase to income.

What's not silly, and what a broad body of research highlights, is that sleep can be important for our mood and health, and our finances, too.

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