



Press Release, May 20, 2019

Delayed bedtime because of delayed Sunset time, Health and Economic impacts in the USA

ACHED - French Association Against Double Summer Time - For the reduction of time advancements

Association (law of 1901) since 1983

The association ACHED informs you of the very recent publication of a study about the impact of delayed sunset time: Osea Giuntella, Fabrizio Mazzonna; **Sunset Time and the Economic Effects of "Social Jetlag" Evidence from US Time Zone Borders**; Journal of Health Economics (May 2019), ISSN: 1879-1646, Vol: 65, Pages: 210-226; <https://doi.org/10.1016/j.jhealeco.2019.03.007>

Chronobiologists use the term "Social Jetlag" (although it has nothing to do with travel and jets) about the misalignment between biological clocks and social clocks (Roennenberg 2012). Natural light, an important factor for human biological clocks, has a temporal variable distribution affected by time zones (and by legal forward / backward clock changes). The authors Giuntella and Mazzonna take advantage of the temporal discontinuity at the boundaries of the time zones in the United States, to characterize and study the cause-and-effect relationships between "Social Jetlag" and the health and economic observations. They find that there is discontinuity in the "Social Jetlag" as well as in the observations at the passage of the demarcation line between two contiguous time zones. They show that, on the right side, east of the demarcation line, having delayed sunsets (by one hour according to the clocks), people who reside there, start sleeping later than those on the left side (west of the demarcation line). These people, right side, often fail to get up later, especially if they work or have school children and, as a result, suffer 19 minutes of sleep loss on average. This sleep deficit is associated with health problems: they are 11% more likely of being overweight, and they have as well increased probabilities for obesity, diabetes, breast cancer and cardiovascular diseases. Increased health problems mean higher health costs per person. The authors also show a link with lost productivity and lower wages.

1 hour ahead on the clock	
19 minutes less sleep per night \$ 82 additional health expenses / person 11% more likelihood of being overweight + 19% heart attacks	- 3% wages \$ 23 lost daily productivity / person 21 % more likelihood of obesity + 5% breast cancer

Some French facts to put in the perspective of this study;

In 25 years, the time spent sleeping at night has decreased by 18 minutes.

Source Insee, France social portrait 2012, Layla Ricoch

<https://www.insee.fr/fr/statistiques/1374047?sommaire=1374058>

In France, we know that

- in 1916, we moved the summer clocks by one hour forward (compared to before the first world war)
- in 1945, we moved the winter clocks by one hour (compared to before the second world war), resulting in a permanent one hour ahead clock.
- in 1976, the summer clocks were advanced by an additional hour, resulting in a seasonal two hours ahead clock for 6 and later 7 months ..

This obviously has a cost. This study gives us an idea.

Our comments on www.ached.fr

<https://www.ached.fr/page/568608>