



e-quilibrium

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Time Changes

Approximately two months ago on March 9th at 2:00 AM, clocks were advanced by one hour in the transition from Standard Time to Daylight Time. Many people reported feeling more fatigued than usual in the ensuing few days. Teachers also reported noticing differences in their students after the time change, while students went through a period of adjustment.

Desynchronization, commonly known as jet lag, occurs when air travelers rapidly cross time zones. Common symptoms include sleep disturbances, fatigue, and difficulty with concentration. Headaches and irritability may occur, and some persons report gastrointestinal disruptions with jet lag.

Till Roenneberg, PhD, a chronobiologist at the University of Munich, studies differences in people's preferences for circadian patterns and characterizes persons by "chronotype." Late chronotypes are those who prefer to go to bed late and wake up late. The majority of people fall in between the extremes of late and early chronotypes.

Social clocks (i.e., school and work) typically follow a pattern more in line with early chronotypes. Dr. Roenneberg finds that late chronotypes are particularly vulnerable to what he labels "social jet lag." Social jet lag is the pattern whereby persons accumulate sleep debt during the workweek, and then compensate on weekends by following their preferred sleep-wake cycle. This pattern of sleep deprivation resumes with a late bedtime Sunday night and an early morning wake-up on Monday for work or school. Some degree of social jet lag has

been found in nearly 70% of Europeans, so this phenomenon is not limited to late chronotypes alone.

According to research by Dr. Roenneberg and his colleagues, there is more to the story than just fatigue and cognitive effects from social jet lag. Higher rates of depression, obesity, and smoking have been found among those with social jet lag, especially late chronotypes. Not surprisingly, college students with social jet lag do not do as well academically.

Sleep investigators have found other health problems associated with sleep-wake pattern disruption and the resulting sleep debt. The bodies of persons getting inadequate amounts of sleep over time have been found to be in a chronic state of inflammation, subjecting these individuals to an increased risk for diabetes as well as other illnesses.

While the researchers in this field argue that school and work clocks should be adjusted to be more in line with the circadian patterns of the majority of the population, numerous factors contribute to the status quo. Chronotype preferences appear to be largely driven by genetics and stage of life, so it is very difficult to change circadian preferences. More amenable to change are the behavioral patterns associated with the sleep-wake cycle. These include common sleep hygiene recommendations, such as having a consistent time for going to bed and waking up (whether or not it is a work day), turning off the technology to create an environment more favorable for sleep, and having a before-bed routine conducive to falling asleep.

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