

Is daylight saving good for Australia?

What they said...

'It would definitely aid hospitality, [that's] been doing it tough the past two years'

Angelica Jolly, a Brisbane restaurant and bar owner, arguing for the adoption of daylight saving in Queensland

'A country kid waiting on a roadside for a school bus in the dark is surely...negatively impacted'

Professor John Cole, Pro Vice-Chancellor at The University of Southern Queensland, arguing against daylight saving

The issue at a glance

At 2.00am on Sunday, April 3, 2022, daylight savings ended across New South Wales, Victoria, South Australia, Tasmania and the ACT. <https://www.abc.net.au/news/2022-04-01/when-does-daylight-savings-end-australia-2022/100929150>

Twice every year, when daylight saving either begins or ends across all south-eastern states, debate is renewed over whether it should be retained.

On March 15, 2022, the debate was given an extra impetus by the United States Senate deciding to institute daylight saving for the whole year, starting in 2023. (The decision still must be passed by the United States House of Representatives before it can be presented to the president to sign.)

<https://www.abc.net.au/news/2022-03-16/us-to-make-daylight-saving-time-permanent-in-2023/100913748><https://www.abc.net.au/news/2022-03-16/us-to-make-daylight-saving-time-permanent-in-2023/100913748>

So far, the debate in Australia has not centred around extending daylight saving across the whole year. The question currently is either whether daylight saving is desirable, or, more specifically, whether Queensland should adopt it. On several occasions in the past, the same question has been raised in Western Australia.

Background information

The information below on the history of daylight saving is adapted from a KidsNews article titled 'Let's learn more about daylight saving as it comes to an end for another year'. The full text can be accessed at <https://www.kidsnews.com.au/explainers/lets-learn-more-about-daylight-saving-as-it-comes-to-an-end-for-another-year/news-story/bb7c61e6af48b668608e4f5126cb7857>

The history of daylight saving

George Vernon Hudson, an entomologist and astronomer from New Zealand, proposed the idea of daylight saving in 1895. [https://en.wikipedia.org/wiki/George_Hudson_\(entomologist\)](https://en.wikipedia.org/wiki/George_Hudson_(entomologist)) He suggested shifting the time forward by two hours. His idea did not attract support. Seven years later, a British builder, William Willett, took the idea to England's parliament to prevent the nation from wasting daylight.

https://en.wikipedia.org/wiki/William_Willett His proposal was rejected.

The first place to introduce daylight saving was the Canadian city of Port Arthur, on July 1, 1908, after a local businessman urged the council to move the clocks forward in summer so children could enjoy an extra hour of sun. <https://www.smh.com.au/national/where-did-daylight-saving-come-from-and-which-states-have-it-20191003-p52xfe.html> In 1916, two years into World War I, the German government began investigating energy saving. Drawing on Willett's proposal, they introduced daylight saving into wartime Germany. England and most other nations fighting in World War 1 soon made the same change.

<https://graphics.wsj.com/100-legacies-from-world-war-1/daylight-saving-time> At that time, coal was the main source of home heating and of supplying energy for industry. By reducing domestic consumption of coal for approximately an hour each day, more energy was available for wartime industries.

The history of daylight saving in Australia <https://www.smh.com.au/national/where-did-daylight-saving-come-from-and-which-states-have-it-20191003-p52xfe.html>

Tasmania was the first Australian state to use daylight saving in 1916, during World War I. The following year, all states and territories used it; however, it was removed in 1918 at the end of the war.

It was reintroduced during World War II when it was used from 1942 to 1944. After the end of World War II, daylight saving was not adapted again until October 1, 1967, when Tasmania reintroduced it during a drought. Tasmania has used daylight saving in the warmer months ever since.

Victoria, NSW, the ACT, South Australia and Queensland readopted daylight saving in 1971. However, Queensland abandoned it the following year and, except for a trial from 1989 to 1992, it has not used it since. On four occasions Western Australia has had a referendum on daylight saving — 1975, 1984, 1992 and 2009. They have voted 'no' each time. <https://thewest.com.au/opinion/never-mind-the-whingers-wa-needs-to-have-daylight-saving-once-and-for-all-ng-b881157039z>

The current operation of daylight saving in Australia

The information below is condensed from a Wikipedia entry titled 'Daylight saving in Australia'. The full entry can be accessed at https://en.wikipedia.org/wiki/Daylight_saving_time_in_Australia

Each state and territory of Australia determines whether to use daylight saving time (DST).

New South Wales, the Australian Capital Territory, Victoria, Tasmania and South Australia observe DST every year. This has resulted in three time zones becoming five during the daylight-saving period.

Officially, the change to and from DST takes place at 02:00 local standard time (which is 03:00 DST) on the appropriate Sunday.

Of the states that observe DST, most began on the last Sunday in October, and ended on the last Sunday in March, until 2007. Tasmania, owing to its further southern latitude began DST earlier, on the first Sunday in October, and ended on the last Sunday in March.

In the 2007–08 season, Tasmania started on the first Sunday in October whilst the ACT, NSW, Vic and SA started in the last Sunday in October. As part of the transition to earlier daylight saving, those states and Tasmania all finished on the first Sunday in April. For subsequent years, DST in the south-eastern states and SA now starts on the first Sunday in October, finishing on the first Sunday in April the next year.

Queensland, Northern Territory and Western Australia do not observe DST though Western Australia has adopted it briefly on a couple of occasions.

Internet information

On April 6, 2022, The Conversation published a comment by Steve Calandrillo, Professor of Law, University of Washington, titled '5 ways Americans' lives will change if Congress makes daylight saving time permanent'. The opinion piece outlines five advantages which Americans may experience as a result of permanent daylight-saving time.

The full text can be accessed at <https://theconversation.com/5-ways-americans-lives-will-change-if-congress-makes-daylight-saving-time-permanent-179739#:~:text=The%20U.S.%20Senate%20approved%20the,%E2%80%9D%20or%20%E2%80%9Cfall%20back.%E2%80%9D>

On April 3, 2022, ABC News published a background report titled 'Daylight saving ends in Australia today. In America, they're debating whether to make it permanent' which gives an explanation of the daylight saving debate in the United States.

The full text can be accessed at <https://www.abc.net.au/news/2022-04-03/united-states-permanent-daylight-saving/100957766>

On April 1, 2022, Harvard Magazine published a report by Rebecca Cadenhead titled ‘The Dark Side of Daylight Saving’. The report gives a brief treatment of the physical and psychological effects of daylight saving looking at its effect on circadian rhythms.

The full text can be accessed at <https://www.harvardmagazine.com/2022/04/the-dark-side-of-daylight-saving>

On March 24, 2022, C/Net published a report titled ‘Daylight Saving Time 2022: How to Reset After Losing an Hour of Sleep’ which gives advice on how to transition from standard time to daylight saving time.

The full text can be accessed at <https://www.cnet.com/health/sleep/daylight-saving-time-how-to-reset-after-losing-an-hour-of-sleep/>

On March 22, 2022, Popular Mechanics published a comment by Dan Nosowitz titled ‘Daylight Saving Time Is Actually a Good Thing’ which explains some of the benefits associated with daylight saving and counters some of the arguments most often made against it.

The full text of the article can be found at

<https://www.popularmechanics.com/science/environment/a18011/in-defense-of-daylight-saving-time/>

On March 15, 2022, The Latch published a comment by Jack Revell titled ‘Daylight Savings Is Actually Really Bad for Your Health’. The opinion piece details a number of adverse physical and mental effects that daylight saving is claimed to have.

The full text can be accessed <https://thelatch.com.au/daylight-savings-health/>

On March 15, 2022, Vox published an opinion piece by Brian Resnick titled ‘The Senate just voted to make daylight saving time permanent. Good.’ which explains the benefits of making daylight saving time permanent.

The full text can be accessed at <https://www.vox.com/science-and-health/22979745/senate-daylight-saving-time-vote-good>

On March 11, 2022, The Conversation published a report by Beth Ann Malow, Professor of Neurology and Pediatrics, Vanderbilt University, titled ‘Why daylight-saving time is unhealthy – a neurologist explains’. The report details further findings indicating why daylight saving is mentally harmful.

The full text can be accessed at <https://theconversation.com/why-daylight-saving-time-is-unhealthy-a-neurologist-explains-175427>

On March 9, 2022, National Geographic published a comment and analysis titled ‘Why daylight-saving time exists—and is so unpopular’. The article gives a detailed account of why daylight saving has been put in place around the world and explains a number of the problems it creates.

The full text can be accessed at <https://www.nationalgeographic.com/science/article/daylight-saving-time>

On January 18, 2022, The Washington Post published an article by Lisa L. Lewis titled ‘Why teens need more sleep, and how we can help them get it’ which details the importance of sleep to adolescences and how to help them achieve it.

The full text can be accessed at <https://tinyurl.com/5fbvcm8b>

On November 7, 2021, Global News published a report titled ‘“Social jetlag”: How daylight-saving time can impact our health’ which explains how the disruption of circadian rhythms can affect people.

The full text can be accessed at <https://globalnews.ca/news/8355922/daylight-saving-time-2021-health-effects/%20>

On October 2, 2021, The Sydney Morning Herald published a background piece titled ‘Where did daylight saving come from and which states have it?’ The article looks at the origins of daylight saving and the manner in which it now operates in Australia.

The full text can be accessed at <https://www.smh.com.au/national/where-did-daylight-saving-come-from-and-which-states-have-it-20191003-p52xfe.html>

On September 28, 2021, The Guardian published a comment by Elias Visontay titled ‘Australia can’t get back the time lost to lockdowns – but an extra hour of daylight saving would help’. The author proposes an additional hour of daylight-saving time in New South Wales to help the state overcome the economic burdens of COVID.

The full text of the article can be accessed at

<https://www.theguardian.com/commentisfree/2021/sep/28/australia-cant-get-back-the-time-lost-to-lockdowns-but-an-extra-hour-of-daylight-saving-would-help>
<https://www.theguardian.com/commentisfree/2021/sep/28/australia-cant-get-back-the-time-lost-to-lockdowns-but-an-extra-hour-of-daylight-saving-would-help>

On September 26, 2021, news.com.au published an article titled ‘Queenslanders regret decision to scrap daylight savings, new study finds’ which presents the findings of Dr Thomas Sigler, the lead researcher in a recent survey which found 60 percent of Queenslanders now favour daylight savings.

The full text can be accessed at <https://www.news.com.au/national/queensland/politics/queenslanders-regret-decision-to-scrap-daylight-savings-new-study-finds/news-story/066c484d2a236ad9fcfbe96044c082e2>

On September 18, 2021, ABC News published a report titled ‘Daylight saving was introduced in WWI to save fuel. Does it still reduce electricity consumption and costs?’ The report details recent research which suggests that daylight saving does not result in any energy savings.

The full text can be accessed at <https://www.abc.net.au/news/science/2021-09-18/daylight-saving-time-electricity-lights-air-conditioning-power/100456470>

On October 3, 2020, The Brisbane Times published a report titled ‘“It’s more than the time of day”: The facts behind daylight saving’ which examines some of the health problems said to be caused by daylight saving.

The full text can be accessed at <https://www.brisbanetimes.com.au/national/queensland/it-s-more-than-the-time-of-day-the-facts-behind-daylight-saving-20201001-p56181.html>

On October 5, 2019, The Gold Post Bulletin published a report titled ‘“You actually live life to the fuller”: How Gold Coasters reacted to daylight saving arriving for another year’ which reported on the positive outlook many Queenslanders now have toward daylight savings.

The full text can be accessed at <https://www.goldcoastbulletin.com.au/news/gold-coast/gold-coasters-support-calls-for-daylight-saving-2019/news-story/6775f622ec4c3110ce3538b1464f0a77>

On September 13, 2019, The Conversation published a report by Julie Green, Principal Fellow, Murdoch Children’s Research Institute, titled ‘6 ways to stop daylight saving derailing your child’s sleep’. The report gives advice to parents on how to avoid having their children’s sleep disrupted by the transition to daylight saving time.

The full text can be accessed at <https://theconversation.com/6-ways-to-stop-daylight-saving-derailing-your-childs-sleep-123871>

On March 14, 2017, news.com.au published a report titled ‘More proof daylight-saving sucks’ which detailed a United States study indicating that daylight savings does not promote the consumer spending which its supporters claim.

The full text can be accessed at <https://www.news.com.au/finance/economy/australian-economy/more-proof-daylight-saving-sucks/news-story/952aa5072f62104396afdd5ed7394268>

On March 12, 2016, Insider published an article titled ‘Daylight saving time is a huge inconvenience for criminals’ which discusses research indicating that daylight saving discourages some types of crime.

The full text can be accessed at <https://www.businessinsider.com/when-daylight-savings-time-bad-for-criminals-2016-3>

Arguments in favour of daylight saving in Australia

1. Daylight saving benefits the economy

One of the primary arguments offered in support of daylight saving in Australia, and elsewhere, is that it encourages economic activity, supporting jobs, profits, and growth.

The additional hour of effective daylight is believed to offer greater opportunities for people to shop, recreate and dine after work of an evening. This is seen as a major driver of economic growth. The recreation industry, including the sporting industry, is seen as particularly benefitting from daylight saving. In the United States, the importance of daylight saving to the recreation industry has been recognised for many decades. In 1986, under President Ronald Reagan, the United States lengthened daylight saving from six to seven months a year. At Congressional hearings the year before, the golf industry had told members of Congress that the one additional month of daylight saving was 'worth \$200 million in additional sales of golf clubs and greens fees.' <https://qz.com/1120488/daylight-saving-time-as-americans-know-it-was-instituted-by-corporate-lobbies-not-farmers/>

Daylight saving has also been claimed to benefit the retail industry more broadly. Michael Downing, author of the book 'Spring Forward: The Annual Madness of Daylight-Saving Time' has commented, 'The first and most persistent lobby for daylight saving in [the United States] was the Chamber of Commerce, because they understood that if their department stores were lit up, people would be tempted by them.' Downing's book highlights the role of the candy lobby, the barbeque lobby, and the golf ball lobby in seeking the introduction of daylight-saving time into the United States. <https://qz.com/1120488/daylight-saving-time-as-americans-know-it-was-instituted-by-corporate-lobbies-not-farmers/> The negative impact of COVID lockdowns on many Australian businesses has increased the importance of daylight saving to the retail and hospitality industry. In an opinion piece published in The Guardian on September 28, 2021, Elias Visontay argued for an additional hour of daylight-saving time in New South Wales. He comments, 'More hours of sunlight later in the day means more time to enjoy the beaches after work, and more people spending time outdoors to visit businesses.' Visontay refers specially to a new outdoor dining scheme planned for Sydney which he claims would benefit from more daylight-saving time. He explains, 'There would be more foot traffic associated with this, meaning retail and outdoor entertainment could go on later. You could call it a tactic to woo some locals and interstate tourists from travelling internationally once the borders reopen.' He presents this as a means of helping businesses and customers recover from the deprivations of lockdowns. <https://www.theguardian.com/commentisfree/2021/sep/28/australia-cant-get-back-the-time-lost-to-lockdowns-but-an-extra-hour-of-daylight-saving-would-help>

In Queensland, where there appears to be growing support for the state to join the rest of the east coast and adopt daylight saving time, emphasis is being placed on the economic advantages of this change. David Jones, of Wynham, Queensland, has posted an inline petition calling for the Gold Coast to adopt daylight savings again after 30 years. His petition attracted over 3,000 signatures in its first week. <https://www.goldcoastbulletin.com.au/business/gold-coast-business/daylight-savings-new-argument-claims-programs-return-to-qld-could-help-economic-recovery-from-covid/news-story/9459874d0534fc508c86ecce28ebd64e> The petition states, 'Queensland is economically and socially disadvantaged by not having daylight saving. This causes deep divisions within our community, as Queensland is out of sync with all other eastern states for six months of the year, resulting in enormous issues for many businesses across the state... Not having daylight saving in Queensland is estimated to cost the state's economy in excess of \$4 billion annually, due to business inefficiencies, and missed tourism and retail opportunities. As a consequence, the state government also forgoes significant revenue – estimated to be \$1 billion annually. Daylight saving should therefore be considered as a priority in supporting Queensland's economic recovery from the COVID-19 induced financial conditions.' <https://www.parliament.qld.gov.au/Work-of-the-Assembly/Petitions/Petition-Details?id=3613> A similar petition to the Queensland Premier, was posted by another Queensland resident, Daniel Lynch. At the time it closed it had attracted 12,642 signatures. Part of its argument was 'From an economic point of view, people are more likely to go out shopping and eating while it is daylight outside - which will help bolster our local economy.' The petition also notes the economic advantages of operating in the same time zone as the rest of the eastern states. <https://www.change.org/p/premier-of-queensland-reintroduce-dst-to-queensland>

2. Daylight saving promotes public health

Another major argument offered in support of daylight saving is that it offers people a greater opportunity for exercise and so encourages public health.

A major cross-cultural study has found that daylight saving increases children's and adolescents' physical activity and has the potential to improve their health. In 2014, the wide-ranging study brought together 23,188 children aged 5–16 years from 15 studies in nine countries in the International Children's Accelerometry Database. The study found that longer evening daylight was associated with a small increase in daily physical activity among the children. <https://ijbnpa.biomedcentral.com/articles/10.1186/1479-5868-11-84> The lead author of the study, Anna Goodman, of London School of Hygiene & Tropical Medicine, stated, 'This study provides the strongest evidence to date that, in Europe and Australia, evening daylight plays a role in increasing physical activity in the late afternoon and early evening – the 'critical hours' for children's outdoor play. Introducing additional daylight savings measures would affect each and every child in the country, every day of the year, giving it a far greater reach than most other potential policy initiatives to improve public health.' Responding to these findings, Ashley Cooper, Professor of Physical Activity and Public Health at the University of Bristol, concluded, 'While the introduction of further daylight savings measures certainly wouldn't solve the problem of low physical activity, we believe it is a step in the right direction.' <https://www.news-medical.net/news/20141023/Daylight-saving-associated-with-public-health-benefits.aspx>

A 2014 United States study similarly concluded that daylight saving appears to promote exercise within the community and thus has the potential to benefit public health. The study stated 'Americans spend six minutes in front of the TV for every minute that they spend outdoors. This figure is alarming, especially in light of the health care costs imposed by obesity, diabetes, and heart disease. We find that DST has the potential to increase outdoor activity by 30 minutes and burns an additional 10 per cent of calories. This may have important policy implications.' The study further stated, 'During the DST extension period, the average American has the potential to reduce their Body Mass Index (BMI) by 0.91per cent... This translates into healthcare savings of \$8.33 billion annually.' <https://econ.washington.edu/sites/econ/files/old-site/uploads/2014/06/Economica-R-and-R-2014-Wolff-Makino.pdf>

A study published in Western Australia in 2010 looking at the impact of daylight saving found that 27 percent of respondents had increased their amount of physical activity while 22 percent had decreased it in the period during which Western Australia had trialled daylight saving between 2006 and 2009. A study of the impact of this policy change found a discernible increase in the activity levels of men and some other subgroups in the state. The findings suggest that the introduction of daylight saving in Western Australia resulted in almost half the population changing their physical activity patterns. These changes were evident both in terms of when people were physically active (in the morning before work, during the day, in the afternoon after work, later in the evening) and the number of sessions of physical activity they engaged in. The study found that for males, respondents 30-44 years of age, and those living in the metropolitan Perth area, daylight saving provided a greater opportunity to take advantage of additional after workhours of daylight for physical activity. The same positive effect was not observed with a majority of female respondents suggesting that morning exercise may suit them better. The overall effect was an increase of approximately 5 percent. The study's authors concluded, 'The results indicate that the introduction of a public policy that imposes a relatively modest compulsory change, such as daylight saving, can...have a powerful impact on patterns of physical activity...' <https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1753-6405.2010.00479.x>

3. Daylight saving reduces traffic accidents and crime

Supporters of daylight saving argue that despite data showing that the immediate effect of daylight saving is an increase in motor vehicle accidents when daylight saving is first adopted each year, the long-term effect is a reduction in traffic accidents. It has been suggested that daylight saving also reduces the rate at which wildlife is killed on countries' roads. Supporters of daylight saving further note that crime rates fall during the months daylight saving is in place.

A range of studies have demonstrated that the longer-term impact of daylight saving is a reduction in road accidents. A United States study published in 1995 found that over the full period of daylight saving, setting

clocks forward reduced traffic accidents. The data used in this study covered five years of fatal crashes, 1987 through 1991, across the United States. Its authors concluded ‘The results of this study provide strong support for the proposition that daylight saving saves lives; extending it into the winter months could save additional lives.’ Specifically, they suggested that had daylight saving been extended into the winter months during the five-year period studied, ‘An estimated 901 fewer fatal crashes (727 involving pedestrians, 174 involving vehicle occupants) might have occurred.’ As these figures indicate, the study suggests that daylight saving is particularly effective at protecting pedestrians.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1615292/> In 2017 the British Medical Journal published a report on the impact of daylight saving on road accidents. The data analysed was drawn primarily from the United States. Other countries included were the United Kingdom, Canada, Finland, Israel, Ireland and Sweden. Years covered in the analyses ranged from 1973 to 2012. The review concluded, ‘Findings from the short-term studies were inconsistent. The long-term findings suggested a positive effect of daylight-saving time. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5734262/> Though the writers of the review were reluctant to make recommendations based on their findings as they were wary of the impact of other variables, supporters of daylight-saving note that this study suggests daylight saving has a positive overall effect in reducing traffic accidents. A similar study published in 2020 looked at the impact of daylight savings on traffic accidents in Mexico. It concluded, ‘The main finding is that setting the clocks forward an hour significantly lowers the total number of traffic accidents in the country’s metropolitan areas.’ <https://mpira.ub.uni-muenchen.de/101835/>

Some studies have also suggested that daylight saving reduces the rate at which wildlife is killed on roads. An Australian study published in 2016 found that daylight saving seemed to have helped reduce the number of koalas killed on southeast Queensland roads.

https://www.researchgate.net/publication/320415359_Daylight_saving_time_can_decrease_the_frequency_of_wildlife-vehicle_collisions Without supplying formal research figures, Tasmanian biological scientist, Dr Alistair Hobday, has noted that the number of wild animals killed on Tasmanian roads increases at the end of daylight saving. <https://www.sbs.com.au/news/article/tas-roadkill-problem-at-worst-experts/5853hkg2i> Kristy Gould, the acting director of ACT Parks and Conservation Service’s urban reserves, has similarly noted that the number of wildlife killed on the Capital Territory’s roads (including kangaroos) increases with the annual end of daylight saving. <https://the-riortact.com/drought-breaks-on-roadkill-toll-for-act-wildlife/407218>

Further, it has been noted that daylight saving increases public safety by reducing the incidence of certain types of crime. Several studies have indicated that daylight appears to discourage some criminals. In 2015, The Review of Economics and Statistics published research findings which found fewer robberies are committed when daylight-saving begins in spring, with a particularly significant drop during that extra hour of sunlight in the time immediately after work. The authors state, ‘Results show that daily cases of robbery, a violent and socially costly street crime, decrease by approximately 7 percent in the weeks after DST begins, with a 19 percent drop in the probability of any robbery occurring. A 27 percent decrease in the robbery rate during the sunset hours drives much of this result.’ They identified the period immediately after work, as people travel home, as one where they are vulnerable to robbery and suggested greater visibility reduced this. <https://www.businessinsider.com/when-daylight-savings-time-bad-for-criminals-2016-3>

4. Daylight saving allows for more recreation

Supporters of daylight-saving time see it as a valuable opportunity to spend part of the afternoon and evening outdoors after parents are home from work and children have completed homework and other formal activities. In a world in which work and other commitments reduce discretionary time, many see daylight saving as offering some relief.

Many Queenslanders have expressed the desire to reintroduce daylight saving time so there is a greater opportunity to use time flexibly in the afternoon and evening. In 2021, The University of Queensland published a paper showing that a substantial majority of Queenslanders (60 percent) want a return to daylight saving. <https://espace.library.uq.edu.au/view/UQ:e3dac68> Dr Thomas Sigler, Associate Professor and Deputy Head of the School of Earth and Environmental Sciences at Queensland University was the lead author of the research. He explained that many people live highly restricted lives and rarely, for example,

can eat their evening meal out in the sun. He stated further that changing the time would benefit workers with fixed schedules, parents, dog owners wanting to walk their pets and anyone who wished to exercise after work. <https://www.news.com.au/national/queensland/politics/queenslanders-regret-decision-to-scrap-daylight-savings-new-study-finds/news-story/066c484d2a236ad9fcfbe96044c082e2> The research reflects the opinions published in many Queensland newspapers made by vox pop commentators giving their views on daylight saving. These include commentators expressing their satisfaction with the possibility of ‘Getting home from work and still having time to do things. Mow your lawns, wash your car, while you’re having a quiet beer and that leaves your weekend free to do what you want with no chores’ and ‘Much prefer to enjoy late evening twilight, mow the lawn, have a game of golf.’ <https://www.goldcoastbulletin.com.au/news/gold-coast/gold-coasters-support-calls-for-daylight-saving-2019/news-story/6775f622ec4c3110ce3538b1464f0a77> Another observed, ‘Most tradies prefer daylight saving, as they work with the cool of the morning and are able to knock off when the sun is high at 3pm and still enjoy recreational sunlit time until 8pm.’ https://www.reddit.com/r/australia/comments/96tla4/most_queenslanders_now_support_daylight_saving/

Among the south-eastern Australian states, where daylight-saving has been in place since 1971, deliberate efforts are made to extend the opening hours of public amenities so that people are better able to enjoy the additional hour of daylight available to them. Adelaide’s Botanic Gardens extend their opening time so that ‘Over the warmer months, people can come to a botanic garden later in the day for all sorts of reasons – a picnic and show on a balmy night, a play in Wittunga’s nature playspace, an after-work jog or taking photographs in those magical twilight hours’. <https://www.botanicgardens.sa.gov.au/news/daylight-saving-brings-more-time-to-enjoy-your-botanic-gardens> Similarly, New South Wales <https://www.sydneyolympicpark.com.au/Venue-Hire/Private-Events/Terms-and-Conditions> and Melbourne’s major parks and picnic spots extend their opening times through daylight saving so that visitors have greater opportunity to recreate in them. <https://www.melbourneplaygrounds.com.au/the-best-picnic-spots-in-melbourne#.Y17S09pByUk> There is a widespread intent to extend the ‘quality of life’ options available to people through daylight saving.

This same attitude is evident among many of the supporters of daylight saving in the United States and Britain. David Prerau, author of ‘Seize the Daylight’, a history of the introduction of and response to daylight saving, has stressed the ‘quality of life’ advantages that daylight saving offers, including providing more time for outdoor activities. He has stated, referring to the United States, ‘The real goal of daylight-saving time is to move the hours of human activity to make the best use of daylight.’ <https://www.foxweather.com/lifestyle/the-history-of-daylight-saving-time> A study of the origin of Britain’s daylight-saving legislation, published in September 2021, reveals similar motivations among those who first supported daylight saving. One of the main purposes of the original proposal was to make more recreational time available to working class people whose options were otherwise highly restricted by the demands of their labour. In Britain, in 1908, William Willett was the first to develop a workable scheme for implementing a seasonal time change which gained serious government interest. In his self-published pamphlet, ‘The Waste of Daylight’, three of his six purposes were ‘To move the usual hours of work and leisure nearer to sunrise; to promote the greater use of daylight for recreative purposes of all kinds; and to benefit the physique, general health and welfare of all classes of the community.’ <https://academic.oup.com/shm/advance-article/doi/10.1093/shm/hkab105/6376036>

5. Most ill effects of daylight saving are short term and remediable

Supporters of daylight saving argue that many of the negative claims made about it refer to short-term which can be relatively easily overcome.

Critics of daylight saving tend to focus on the disorientation and sleeplessness that can result immediately after the moving of clocks forward or back when daylight saving begins and ends. The short-term health risks and the brief period of increased accident rates are used as a basis for condemning the entire operation of daylight. Its defenders argue that these are short-term problems that can be simply remedied.

This tendency to exaggerate the negative has been highlighted by many defenders of daylight saving. In an article published in Popular Mechanics on March 12, 2018, Dan Nosowitz argued that common criticisms of daylight saving were based on ‘humans being impatient and all too willing to miscalculate the harm of short-

term problems over subtle long-term benefits'. Nosowitz explains, 'Remember! DST is not the two days per year...we move our clocks around. DST is eight months long [in the United States and six months in the Australian states that adopt it]; those two days are the beginning and the end of DST. To focus on just those two days is ridiculous.' He quotes David Prerau, the author of *Seize the Daylight: The Curious and Contentious Story of Daylight-Saving Time*, who has also argued, 'There's a big difference between the [short-term] effects of the one-hour change from standard time to daylight saving time... to daylight saving time itself, which lasts eight months and offers many benefits.'

<https://www.popularmechanics.com/science/environment/a18011/in-defense-of-daylight-saving-time/>

Defenders of daylight saving also claim that most of these short-term inconveniences can be easily avoided or overcome. On March 14, 2022, a C/Net wellness column offered four steps readers could take to avoid the short-term disorientation of the first days of daylight saving. These included 'In the days leading up to the start of DST, go to bed 15 to 20 minutes earlier each night to help prepare your body for the time change. Then, on Saturday, March 12, before the time change, set your clock ahead an hour and go to bed at your regular time' and 'Avoid alcohol, caffeine and unhealthy meals before bed, especially the Saturday before DST kicks in. These substances cause sleep disruptions that keep you from getting the quality 7 to 9 hours of sleep you need to maintain physical and mental health.'

<https://www.cnet.com/health/sleep/daylight-saving-time-how-to-reset-after-losing-an-hour-of-sleep/>

There are also many measures that can be taken to help children adjust to daylight saving time. On September 30, 2019, *The Conversation* published advice from Julie Green, Principal Fellow at Murdoch Children's Research Institute. Green recommends that parents review their children's bedtime routines in the lead-up to daylight saving. She notes, 'Bedtime routines work best when the atmosphere is calm and positive. They include a bath, brushing teeth and quiet play – like reading with you – some quiet chat time, and relaxing music.' She also suggests that parents control their children's sleep environment: 'Darkening the room is an important cue to stimulate melatonin production... Trying to block out light – say, with thicker curtains – is a good strategy. Keeping the amount of light in the room consistent will also make for better sleep.'

<https://theconversation.com/6-ways-to-stop-daylight-saving-derailing-your-childs-sleep-123871>

Supporters of daylight further note that if the disadvantages associated with the two days of daylight-saving transitions each year are considered too great, a better solution would be to institute daylight saving all year round and so remove the transitional days altogether. This is the measure which the United States is in the process of adopting. In an article published on November 5, 2021, YouGovAmerica noted, 'Polled days before the annual ritual of ending Daylight Saving Time by changing their clocks, Americans say they would much rather have one time that lasts all year long, one that doesn't require changing all clocks twice a year. The latest Economist/YouGov Poll finds that nearly four times as many Americans would end the practice of setting clocks ahead in the spring and back again in the fall.'

<https://today.yougov.com/topics/politics/articles-reports/2021/11/04/daylight-saving-time-americans-want-stay-permanent>

Arguments against daylight saving in Australia

1. Daylight saving is not an effective power-saving strategy and does not reduce greenhouse gas emissions. The main reason daylight saving was first adopted was as a power-saving measure. With the urgent need to reduce greenhouse gas emissions to combat global warming, energy reduction has become an even greater consideration in Australia and around the world. However, daylight saving's critics note that in Australia, at least, it fails in this, and so maintain that one of the main supposed reasons for its retention is a fallacy. Daylight saving time does not mean lower electricity usage overall and is not helping Australia reduce emissions.

Western Australia has opted into and out of daylight saving on a couple of occasions. This has allowed researchers to compare power consumption in the state between periods when daylight saving was in place and periods when it was removed. Virginie Masson, an economist at the University of Adelaide analysed power usage over the course of the day during Western Australia's most recent experiment with daylight saving time, from 2006 to 2009. Compared to a (non-pandemic) period with year-round standard time,

Masson and her team found daylight saving time resulted in no overall energy savings. During standard time, there would usually be a large spike in energy use that coincided with people returning from work in the late afternoon and early evening. During daylight saving time that spike was reduced but energy consumption was extended over a longer period across the day. The researchers also saw a slight increase in morning electricity use during daylight saving time. Dr Masson concluded, 'And so when you put the two effects together, the decrease in demand in the 4.30 to 8.30pm window is completely cancelled by the little increase in the mornings and later at night.' <https://www.abc.net.au/news/science/2021-09-18/daylight-saving-time-electricity-lights-air-conditioning-power/100456470>

A similar conclusion was reached by two American economists in 2007, who analysed power usage during another natural Australian experiment: the 2000 Sydney Olympics. That year, daylight saving time in the south-eastern states was moved to August 27. When the economists compared the extended daylight-saving period with previous years, they found daylight saving time reduced electricity demand in the evening but had the opposite effect in the morning. <https://www.abc.net.au/news/science/2021-09-18/daylight-saving-time-electricity-lights-air-conditioning-power/100456470>

Similar findings were made by Cahit Guven, an economist at Deakin University, as part of a team that analysed Australian electricity usage data and daily weather conditions from 1998 to 2015. They found any energy-saving benefits of daylight-saving time are dependent on weather and air conditioner ownership. The use of air conditioners is why the energy saving aspect of daylight saving no longer seems to hold true in many warm parts of the world. When daylight saving time was first introduced, most household energy during summer was used for indoor lighting. Now the principal energy use is air conditioners, which more than offsets any lighting-related savings. Dr Guven has stated, 'We found we can explain all the previous literature — that electricity consumption [during daylight saving time] declines in a place where the temperatures are low and air conditioner usage is low. On the other hand, daylight saving time can be harmful in terms of cost savings, and it can increase electricity consumption, if in summertime there are higher temperatures and higher air conditioner ownership.'

However, Dr Guven noted that if more Australian households used solar panels to generate their electricity, then the power-hungry nature of daylight saving in hot climates would no longer be a factor. <https://www.abc.net.au/news/science/2021-09-18/daylight-saving-time-electricity-lights-air-conditioning-power/100456470> However, daylight saving critics have noted that general use of renewable energy would reduce greenhouse gas emissions, irrespective of the adoption of daylight saving.

Similar findings to those of Dr Guven had been made in the United States in 2008 when the National Bureau of Economic Research evaluated all eight months of daylight-saving time and the impact it had on electricity costs in Indiana. The researchers found it cost residents an additional \$9 million a year in energy costs when the state started observing the time change in 2006. That was because while the use of lighting dropped, there was more demand for heating and cooling. <https://tinyurl.com/32yydj74>

2. Daylight saving endangers people's mental health

One of the principal concerns of those opposed to daylight saving is the harm that it causes to people's mental health.

It is believed that people's mental wellbeing is related to their circadian rhythms. These are physical, mental, and behavioral changes that follow a 24-hour cycle within the body. They are regulated by 'biological clocks', which are natural timing devices found within all living things. These 'clocks' are composed of specific protein molecules that interact with the body's cells. A master clock, situated in the brain's anterior hypothalamus, coordinates all the biological clocks keeping them in sync.

<https://www.nigms.nih.gov/education/fact-sheets/Pages/circadian-rhythms.aspx#:~:text=Circadian%20rhythms%20are%20physical%2C%20mental,the%20study%20of%20circadian%20rhythms>. The body has light receptors which allow it to register external light conditions. It is important that our internal clocks remain coordinated with the external changes in light through the day. Daylight saving is believed to disrupt this co-ordination. <https://pubmed.ncbi.nlm.nih.gov/21476953/>

Increasing evidence points to the role of the biological clock in the development of depression. In seasonal depression and in bipolar disorders it seems likely that a disruption in the circadian system plays a significant part in causing the disorders. One 2017 study from Denmark analysed 185,419 hospital contacts for unipolar depression and showed that the transition from daylight-saving time to standard time was associated with an 11 percent increase in the incidence rate of these depressive episodes.

https://journals.lww.com/epidem/Fulltext/2017/05000/Daylight_Savings_Time_Transitions_and_the.7.aspx

Daylight saving has also been connected to anxiety and lapses in emotional control. In 2015, research from Tel Aviv University found sleep disruption can stir anxiety and increase the likelihood of emotional outbursts. <https://www.goodtherapy.org/blog/daylight-saving-times-effect-on-mental-and-physical-health-0317162>

Also concerning is the impact that daylight saving may have on the incidence of suicide. A study conducted in 2007 examined Australian suicide data from 1971 to 2001. It was analysed to determine the impact on the number of suicides of a one-hour time shift due to daylight saving. The results demonstrated that male suicide rates increased in the weeks following the beginning of daylight saving, compared to the weeks following the return to eastern standard time and for the rest of the year. After adjusting for the season, prior to 1986 suicide rates in the weeks following the end of daylight saving remained significantly increased compared to the rest of autumn. This study suggests that small changes in time-related biological rhythms are potentially destabilising in vulnerable individuals. <https://tinyurl.com/jmupfpen> A United States study released in 2020 had similar findings. It concluded, 'The results demonstrated a statistically significant increase in suicides during daylight-saving time. Most suicides were committed during July-October, compared to March-June, and November-February. Despite disagreement in the literature, this study would suggest eliminating daylight-saving time altogether. These results support other evidence which suggest a detrimental effect of daylight-saving time, especially with respect to the psychological and behavioral aspects of public health.'

<https://pdfs.semanticscholar.org/1157/cdfb092bbb4df0ece38f43c7f5fc3a800a28.pdf>

Many sleep researchers and neurologists argue that while permanent daylight saving might remove problems associated with the human body adjusting between daylight-saving time and standard time, it would not remove the underlying problem. This underlying problem is that people's internal clocks are out of synch with their external exposure to light which disrupts circadian rhythms and disturbs mental health.

<https://www.harvardmagazine.com/2022/04/the-dark-side-of-daylight-saving> These specialists argue that the only permanent solution is a full-time return to standard time. On March 11, 2022, The Conversation published a comment by Beth Ann Malow, Professor of Neurology and Pediatrics at Vanderbilt University. Professor Marlow states, 'My colleagues and I believe that the health-related science for establishing permanent standard time is strong. Standard time most closely approximates natural light, with the sun directly overhead at or near noon. In contrast, during daylight saving time from March until November, the natural light is shifted unnaturally by one hour later. Based on abundant evidence that daylight saving time is unnatural and unhealthy, I believe we should abolish daylight saving time and adopt permanent standard time.' <https://theconversation.com/why-daylight-saving-time-is-unhealthy-a-neurologist-explains-175427>

3. Daylight saving endangers people's physical health

Another concern regarding the adoption of daylight saving is that it puts people's physical health at risk. While turning the clocks back appears to jeopardise individual's mental health, there are also studies that show that disruptions in sleep prompted by daylight saving result in an increase in road traffic and workplace accidents, a rise in cardiac events, and an increase in the rates of stroke. Additionally, one study has suggested that daylight saving might increase skin cancer risks.

There have been studies indicating that daylight saving results in increased accident risks in several settings. One of these is a significant short-term increase in vehicle accidents in the United States. The Fritz study conducted in 2019 and published in Current Biology in February 2020, found evidence that the spring daylight saving time transition acutely increases motor vehicle accident risk, which has been partly attributed to sleep deprivation and circadian misalignment.

<https://www.sciencedirect.com/science/article/pii/S0960982219316781> The increased accident rate was put at 6 percent. For the study, the researchers analysed 732,835 accidents recorded through the U.S. Fatality

Analysis Reporting System from 1996 to 2017. In all, over the 22 years of data analysed, about 627 people died in fatal car accidents associated with the spring shift to daylight saving time, the study estimated. <https://www.sciencedaily.com/releases/2020/01/200130144410.htm> Other research supports these findings. A University of British Columbia study, using data from the Canadian Ministry of Transport, found that when Canada went into daylight saving time, there was an 8 percent increased risk of accidents on the Monday after the changeover. Daylight saving has also been found to affect workplace accidents. A 2009 study examined over 500,000 mining injuries over a more than 20-year period and found a 5.7 percent increase in injuries on the Monday following the time change. The study also found these injuries to be more severe, resulting in a 68 percent increase in the number of days missed due to these accidents. <https://www.ehstoday.com/health/article/21907645/workplace-injuries-rise-following-change-to-daylight-savings>

Other studies have indicated that daylight saving, particular the spring transition to daylight saving, appears to increase the risk of cardiac events and strokes. A study from New York, presented at the American Heart Association's Scientific Sessions in 2018, reported that hospital admissions for atrial fibrillation, the most common type of irregular heartbeat, increase with over the daylight-saving time transition period. Researchers found that on the Monday to Thursday following the start of the time transition in the spring there were 3.13 atrial fibrillation hospital admissions a day compared to 2.56 daily admissions for the same days on average over the rest of year. Stroke rates also appear to increase with the change to daylight saving time. In a 2016 study from Finland, researchers found that the overall rate of ischemic stroke was 8 percent higher during the first two days after a daylight-saving time transition. <https://newsroom.heart.org/news/biological-clock-shock> American Heart Association president, Donald M. Lloyd-Jones, stated, 'We don't really know the specific reason for increases in heart disease and stroke during the daylight-saving time change, but it likely has something to do with the disruption to the body's internal clock, or its circadian rhythm.' <https://nypost.com/2022/03/08/daylight-savings-could-impact-heart-brain-health-studies/>

Finally, it has been suggested that daylight saving time, which results in increased late-afternoon sun exposure could increase the risk of skin cancer. In 2006, having decided not to introduce daylight saving to Queensland, the state's premier, Peter Beattie stated, 'We've got the highest incidence of skin cancer in the world. An extra hour of daylight is going to make that worse.' <https://www.theage.com.au/national/now-daylight-saving-causes-cancer-20061025-ge3ew3.html> This claim was subsequently disputed by Queensland Cancer Fund's director of epidemiology, associate professor Joanne Aitken, who claimed there was no research to support it. <https://www.smh.com.au/national/daylight-saving-cancer-claim-disputed-20061025-gdoo7t.html> However, five years later, a review of a 2011 study conducted using mice tentatively suggested that afternoon sun exposure could be harmful to human beings. <https://www.pnas.org/doi/10.1073/pnas.1116516108>

4. Daylight does not boost the economy

Contrary to popular belief, studies in the United States and Australia have suggested that daylight saving does not boost the economy by contributing to consumer spending. It has also been found that the transition period during which workers adapt to daylight saving results in significantly reduced productivity in at least some sectors and causes increased workplace accidents.

A 2016 analysis of 380 million bank and credit card transactions by US bank JPMorgan Chase has challenged the assumption that daylight saving boosts consumer spending. The study compared data from Los Angeles, California, which changes its clocks in March and November, with data from Phoenix, Arizona, one of only two US states that does not adopt daylight savings. It found that while the extra hour of daylight in the spring slightly boosted card spending per person (by less than 1 percent) the negative impact of the shift back wiped out the benefit, with Los Angeles residents spending 3.5 per cent less after the November change. Shoppers made far fewer trips to the store during the week, with grocery, discount and other retailers showing the largest declines. <https://www.news.com.au/finance/economy/australian-economy/more-proof-daylight-saving-sucks/news-story/952aa5072f62104396afdd5ed7394268>

A study conducted in Western Australia in 2008 came to similar conclusions to the United States research, finding either that daylight saving had no effect on consumer spending or had a negative impact. The study examined the impacts of daylight savings among small businesses represented by a group of 41 operators including of small wineries, bed and breakfasts, food factories and other facilities open to the public located in and around Perth. While the largest group of respondents in this study did not perceive any major impacts of daylight savings on their businesses, just over a third of operators viewed daylight saving as detrimental to their businesses. Respondents also complained that daylight saving was negatively affecting business operators' lifestyle and working patterns. <https://www.jstor.org/stable/23745485>

There have also been numerous studies which suggest that the disruption to people's sleep rhythms caused by transitioning into daylight saving can have negative impacts on workers' productivity. One 2012 United States study published on APAPsycNet found that these transition periods resulted in a loss of focus and productivity for those working on computers. The researchers termed this cyberloafing. They concluded, 'the shift to Daylight Saving Time (DST) results in a dramatic increase in cyberloafing behavior at the national level. We first tested the DST–cyberloafing relation through a national quasi-experiment, then directly tested the relation between sleep and cyberloafing in a closely controlled laboratory setting.' <https://psycnet.apa.org/record/2012-04928-001>

American research has also indicated that the loss of sleep caused when people move their clocks forward has a significant effect on workplace accidents and so negatively affects the economy. The National Sleep Foundation states that it will take most people a few days to adjust to the loss of sleep. According to a 2009 study published by the Journal of Applied Psychology, losing just an hour of sleep could pose dangerous consequences for those in hazardous work environments. Using U.S. Department of Labor and Mine Safety and Health Administration injury data from 1983-2006, the study found that compared with other days, more injuries happened on the Monday after daylight saving time went into effect and the injuries were more severe. The DST switch resulted in U.S. workers getting 40 minutes less sleep, a 5.7 percent increase in workplace injuries and nearly 68 percent more workdays lost to injuries. <https://tinyurl.com/2jjwut4v> . The authors suggested employers consider rescheduling hazardous work for later in the week once workers have had a chance to adjust. Work schedules could also be modified, with workers starting 45 minutes later Monday and Tuesday, before gradually returning to their original schedules by the end of the week. Extra safety precautions could also be implemented during the week. All these adjustments, though likely to reduce the accident rate were also likely to impose a financial cost on businesses. <https://tinyurl.com/2jjwut4v> .

5. Daylight saving harms children and adolescents

Opponents of daylight saving argue that although its supposed advantages for children are one of the main reasons given for introducing daylight saving, these benefits are outweighed by the harms caused to young people.

There are large amounts of anecdotal evidence from popular publications in both Australia and overseas claiming that daylight saving disrupts family routines and is unsettling for young children. On March 12, 2022, the New York Post published a segment quoting numerous United States parents' expressing their irritation with daylight saving and the negative effective it has on children's sleeping habits. One 'exasperated mother' is cited complaining, 'Please stop this nonsense... As soon as my kids settle into their bedtime routine, daylight savings starts again and messes everything up.'

<https://nypost.com/2022/03/12/daylight-savings-time-is-a-living-hell-for-parents/> An Australian KidSpot segment published in July 2017 similarly expressed new parents' frustration with daylight saving, 'You've just managed to get little Max/Annabelle/Tyrone into a regular routine. You're getting something closer to the 7 hours of sleep per night that you desperately crave. But BAM. Here's daylight saving to ensure that you're now being woken at 5am instead of 6am. It's back to the drawing board for you.' <https://www.kidspot.com.au/lifestyle/family-health/why-daylight-saving-sucks/news-story/4cbbecf34dd5d67e132905d8f831107a>

Medical authorities have also noted that daylight saving has negative impacts on the behaviour and functioning of children. Dr. Judith Owens, a professor of neurology at Harvard Medical School and co-

director of the Pediatric Sleep Program at Boston Children's Hospital, has observed the adverse consequences of reduced sleep prompted by daylight saving on young children's learning capabilities and their behaviour. Owen's states, 'Sleep has been shown to improve cognitive functions like learning, problem-solving skills, decision-making and creativity. Insufficient sleep causes inattention, poor focusing and inability to monitor behavior...

Individuals who don't get enough sleep are more likely to take risks because they perceive less consequence. For example, a child in elementary school darts out into the road because they are more impulsive and less vigilant.' <https://www.usatoday.com/story/news/health/2021/11/01/fall-back-daylight-saving-time-health-experts-want-you-know/6174156001/>

It has further been argued that the disruptive impacts of daylight saving are especially acute for adolescents. Dr. Bhanu Kolla, associate professor of psychiatry and a consultant for the center for sleep medicine at the Mayo Clinic, has noted that adolescents may be most impacted by daylight saving time because their internal clock runs later than other age groups.

<https://www.usatoday.com/story/news/health/2021/11/01/fall-back-daylight-saving-time-health-experts-want-you-know/6174156001/> During puberty, hormonal responses to light exposure change, mean teenagers want to stay up later and sleep in longer. This can result in what is referred to as delayed sleep phase, also known as delayed sleep-wake phase sleep disorder, an internal sleep clock (circadian rhythm) sleep disorder. It occurs when your sleep pattern is delayed two hours or more from a conventional sleep pattern, causing you to go to sleep later and wake up later. <https://tinyurl.com/yckkdf6c> Early school starts, and late nights spent studying exacerbate disruption to adolescents' sleep rhythms.

The effects of daylight saving on adolescents have been claimed to be harmful. It has noted that the sleep-schedule realignment required by daylight saving is disruptive for adolescents. Dr Owens has stated, 'If you have misalignment in your own internal clock and the environment, that's going to have all kinds of physical repercussions in the short term. We very commonly see hyperactivity, impulsivity, inattention, acting out behaviors, oppositional behaviors, tied in with poor quality sleep. We see more irritability, lower frustration tolerance. We see more depression symptoms.' Dr Owens is also concerned that the increased incidents of accidents found among adults in the period of transitioning to daylight saving is also found among young people. Referring to their increased likelihood of vehicle accidents, she states, 'They may be cognitively impaired. They're not as vigilant, they're not as attentive, and that leads to things like accidents.' Dr Owens has further claimed that permanent daylight-saving time would work only if school start times shifted accordingly 'so that kids are not risking their lives by driving to school in the dark with their circadian rhythms telling them they should be asleep.' <https://cronkitenews.azpbs.org/2021/12/02/daylight-savings-time-harmful-teen-health-sleep-circadian-rhythm/>

It has additionally been noted that daylight saving has negative impacts on adolescents' academic performance. A study published in the Journal of Neuroscience, Psychology, and Economics looked at standardized testing scores at about 350 Indiana public high schools from 1997 to 2006. Researchers compared schools in counties that switched to daylight saving time to those in counties still on standard time. After controlling for socioeconomic status, race and ethnicity, they found SAT scores were negatively impacted by about 16 points in schools that transitioned to daylight saving time in the spring. <https://www.usatoday.com/story/news/health/2021/11/01/fall-back-daylight-saving-time-health-experts-want-you-know/6174156001/>

Further implications

The question of whether countries should adopt daylight saving is likely to remain contested, at least until the medical judgement on its value is decisively in.

There are conflicting claims about daylight saving's impact on traffic safety, while arguments that it encourages exercise and is therefore a public health measure need to be weighed against evidence that it prompts heart attacks, strokes, and suicide. The economic benefits of daylight saving are less disputed; however, there is research that suggests that these benefits may often be more hoped for than real.

It used to be argued that daylight saving's disadvantages were largely the result of people making the difficult transition into and out of daylight-saving time in spring and autumn each year. This has led to daylight saving being adopted all-year round in some countries, as seems likely to be about to occur in the United States. <https://www.abc.net.au/news/science/2022-03-26/daylight-saving-time-year-round-senate-health-sleep-metabolism/100927106>

However, sleep scientists are increasingly arguing that while daylight saving's negative effects may be most acute during these transition periods, they persist throughout the whole time it is in place. These scientists claim that daylight saving seriously disrupts the body's circadian rhythms, having significant impacts on mental and physical health. If this is the case, entrenching daylight saving all year may make many problems worse rather than better. <https://www.wsj.com/articles/why-permanent-daylight-saving-time-is-bad-for-your-health-sleep-scientists-say-11648002326>

Regarding the situation in the United States, it will be interesting to see if the Sunshine Protection Act passes the House of Representatives and results in daylight saving all year. If this does happen, it will then be interesting to see if this new arrangement is retained. Between 1973 and '75 the United States trialed this same plan. At the end of the two-year period, it was judged a failure and the country returned to daylight saving time for eight months and standard time for four. The rigours of getting up an hour early on cold, dark winter mornings were rejected by most citizens.

<https://www.usatoday.com/story/news/nation/2022/03/15/dst-permanent-history/7056703001/?gnt-cfr=1>

In Australia, it will be interesting to see if Queensland decides to join the other eastern states and adopt daylight saving. Currently, the Queensland premier was not even prepared to put the question to a referendum. On the heels of COVID, she may well have felt it was too divisive an issue to raise. The state is very split on the question, with the south and the Gold Coast appearing to favour daylight saving and the rural north and interior opposing it. <https://www.sbs.com.au/news/article/queensland-government-rejects-daylight-saving-referendum/vgsgszskn>

Long-term, the fate of daylight saving around the world is likely to depend on how compelling the medical evidence against it ultimately becomes. If it comes to be widely seen as a serious health risk, then it will move away from being an issue where all we are weighing up is perceived economic advantage on the one hand against disputed lifestyle benefits on the other.