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● ASK people whether they would like more sleep, and most will say yes. Does that mean they are not sleeping enough? The apparent desire for more shut-eye, together with oft-repeated assertions that our grandparents slept longer, all too easily leads to the conclusion that we in the west are chronically sleep-deprived. Adding to these concerns are recent claims that inadequate sleep causes obesity and related disorders, such as diabetes.

Plus ça change. Claims of widespread sleep deprivation in western society are nothing new – in 1894, the *British Medical Journal* ran an editorial warning that the “hurry and excitement” of modern life was leading to an epidemic of insomnia.

Even then it probably wasn't true. The fact is that most adults get enough sleep, and our collective sleep debt, if it exists at all, has not worsened in recent times. Moreover, claims that sleep deprivation is contributing to

claim to reveal high levels of sleepiness in the general population, but as they are performed under relaxing conditions they are able to eke out the very last quantum of sleepiness which, under everyday conditions, is largely unnoticeable.

Another line of evidence trotted out for chronic sleep deprivation is that we typically sleep longer on vacation and at weekends, often up to 9 or 10 hours a night. It is often assumed that we do this to pay off a sleep debt built up during the week.

However, just because we can easily sleep beyond our usual daily norm – the Saturday morning lie-in, the Sunday afternoon snooze – it doesn't necessarily follow that we really need the extra sleep. Why shouldn't we be able to sleep to excess, for indulgence? After all, we enthusiastically eat and drink well beyond our biological needs. Why shouldn't it be the same with sleep?

Most mammals will sleep for longer than

# Wake-up call

Claims that we are chronically sleep-deprived are lazy and irresponsible, says sleep researcher **Jim Horne**

obesity and diabetes have been overblown. My assertion is that the vast majority of people sleep perfectly adequately. That's not to say that sleep deprivation doesn't exist. But in general we've never had it so good.

Over the past 40 years, there have been several large studies of how much sleep people actually get, and the findings have consistently shown that healthy adults sleep 7 to 7½ hours a night.

The well-known “fact” that people used to sleep around 9 hours a night is a myth. The figure originates from a 1913 study by researchers at Stanford University in California, which did find that average daily sleep was 9 hours – though this applied to children aged 8 to 17, not adults. Even today, children continue to average this amount.

More support for today's epidemic of sleep debt supposedly comes from laboratory studies using very sensitive tests of sleepiness, such as the multiple sleep latency test, in which participants are sent to a quiet, dimly lit bedroom and instructed to “relax, close your eyes and try to go to sleep”. These tests

normal if overfed, caged or bored. The three-toed sloth is a good example. Sloths kept in zoos sleep around 16 hours a day – yet in their natural, wild state they sleep less than 10. Niels Rattenborg and colleagues at the Max Planck Institute for Ornithology in Starnberg, Germany, recently found this out by using miniature EEG recorders attached to the heads of sloths in Panama, the first such experiment on a free-ranging wild animal. Why this difference in its sleep? The most likely explanation is that sloths simply sleep to excess when caged (*Biology Letters*, vol 4, p 402). This is seen in domestic animals too. Sheep in pens, horses in stables and cows in barns sleep much more than when in open fields, and pet cats sleep extensively compared with feral cats.

Until recently, people living above the Arctic circle slept much longer in winter than in summer. There are reports from the 1950s of Inuit sleeping up to 14 hours a day during the darkest months compared with only 6 in the summertime. Given the opportunity, we can all learn to significantly increase daily sleep on a more or less permanent basis. When it is cut back to normal we are sleepy for a few days, and then the sleepiness disappears.

Far from our being chronically sleep-deprived, things have never been better. ►

There's nothing wrong with a bit of insomnia

Compare today's sleeping conditions with those of a typical worker of 150 years ago, who toiled for 14 hours a day, six days a week, then went home to an impoverished, cold, damp, noisy house and shared a bed not only with the rest of the family but with bedbugs and fleas.

What of the risk of a sleep shortage causing obesity? Several studies have found a link, including the Nurses' Health Study, which tracked 68,000 women for 16 years (*American Journal of Epidemiology*, vol 164, p 947).

The hazard, though real, is hardly anything to worry about. It only becomes apparent when habitual sleep is below 5 hours a day, which applies to only 5 per cent of the population, and even then the problem is minimal. Somebody sleeping 5 hours every night would only gain a kilogram or so of fat per year. To put it in perspective, you could lose weight at the same rate by reducing your food intake by about 30 calories per day, equivalent to about one bite of a muffin, or by exercising gently for 30 minutes a week.

In truth, few obese adults are short-sleepers, and few short-sleeping adults are obese. The Nurses' Health Study also revealed that people sleeping more than 9 hours a night are just as likely as short-sleepers to be fat.

The link between sleep shortage and obesity has also been found in children, though again the findings have been overstated. In one classic study of 5-year-olds, children who slept under 10 hours a night were more than twice as likely to be obese as those who slept for more, which sounds worrying (*International Journal of Obesity*, vol 16, p 721). But the actual

**We're not as tired  
as we like to believe**



seems to be 5 hours, yet the researchers did not test the effect of 5 hours' sleep on metabolism, and many have just assumed that what is found with 4 hours' sleep applies to short sleep in general.

Not only have chronic sleep deprivation and its consequences been overstated, I also believe that our apparent desire for more sleep isn't all it seems. Do we really mean it when we say "yes" to the question, "Would you like more sleep?" It's a leading question that invites a positive response, in the same way as asking whether you would like more money, a bigger house or more holiday. Who, in all

a sleep shortfall, averaging 25 minutes a night, and around 20 per cent had excessive daytime sleepiness. However, the people with a sleep deficit were no more likely to experience daytime sleepiness than those without.

To gauge the respondents' determination to make up their perceived sleep debt, we then asked, "If you had an extra hour a day, how would you prefer to spend it?" The alternatives were playing sport or exercising, socialising, reading or relaxing, watching TV or listening to the radio, working, sleeping, and "other".

Only a handful of people opted to use their extra hour for sleep. It seems that wanting more sleep is not necessarily synonymous with needing more sleep, and that given a choice, people will happily forego extra sleep in favour of other leisure activities.

Does any of this matter? I believe it does. Propagating the myth of a chronically sleep-deprived society is not only intellectually lazy, but further adds to the anxieties of people who believe they are not getting enough, creating unfounded health concerns and a greater demand for sleeping pills. Instead of worrying that we're not getting enough sleep, we should acknowledge that we're probably sleeping better than ever before – and rather than trying to increase our sleep, maybe spend those "extra" hours of wakefulness doing something more productive. ●

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## "Given a choice, people will happily forego extra sleep in favour of other leisure activities"

numbers are small – 7.7 per cent versus 3.6 per cent. Similarly, while obese children sleep less on average than children of normal weight, the difference is very small – around 14 minutes.

The link between short sleep and diabetes has also been overcooked. It's true that lean, healthy young adults who are restricted to 4 hours' sleep a night for several nights show the beginnings of glucose intolerance and metabolic syndrome, which can be a precursor to type 2 diabetes (*Journal of Applied Physiology*, vol 99, p 2008). However, that doesn't mean it happens in the real world.

For one thing, the effect quickly reverses after one night of recovery sleep. Moreover, 4 hours' sleep is highly artificial and the vast majority of people cannot sustain it for more than a few days. Our very lowest natural limit

honesty, would say no?

The acid test of inadequate sleep is excessive daytime sleepiness. Another way to expose the truth is to gauge to what extent those who say they want more sleep would actually sacrifice other desirable activities.

My team recently investigated these questions by giving around 11,000 adults a questionnaire asking indirectly about perceived sleep shortfall. We did this by asking when they usually went to sleep and at what time they woke up, followed by, "How much sleep do you feel you need each night?" The difference between the two gave an estimate of the shortfall. They also completed a standard questionnaire to assess daytime sleepiness (*Sleep Medicine*, vol 9, p 184).

Half the respondents turned out to have

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