

# Let's not lose any sleep

Is lack of sleep turning children into unteachable zombies, irritable at home, and prone to obesity? Let's take a calm look at the facts, says **Jim Horne**

A GREAT deal of anxiety is being expended over children not getting enough sleep, usually because of lax bed times, watching too much TV and playing video games. Teachers and parents worry sleep-deprived children will be too tired to perform at school and irritable at home. Scientists worry they are becoming fat: according to recent research, sleep-deprived children are twice as likely to be obese.

As just one example of sleep anxiety, a recent British survey of 2000 families warned of an "epidemic" of sleeplessness among children aged 5 to 15. It claimed that two-thirds of them are being turned into "zombies" by late-night gaming, television, YouTube and cellphone use, and it warned of the consequences for their waistlines. The survey was carried out for the hotel chain Travelodge – self-styled "retailer of sleep" – and it was not published in a peer-reviewed journal. It still found its way into mainstream media.

The story of an epidemic of sleep-deprived zombie children is neat and appealing, but it quickly falls apart. There is little evidence that children are sleeping less than before. And the link between sleep deprivation and obesity has been greatly exaggerated.

Sleepy children are not a new concern. A hundred or so years ago things were just as bad or even worse, though the culprit back then was too much homework. In 1884, the *British Medical Journal* reported that the influential psychiatrist James Crichton-Browne had testified to the UK



parliament: "I have encountered many lamentable instances of derangement of health, diseases of the brain, and even death resulting from enforced evening study in the case of young children, with the nervous excitement and loss of sleep which it so often induces."

His words were ignored but he did not give up. In 1908, in his presidential address to the Child Study Society, Crichton-Browne (by then ennobled) bemoaned that "the evil of insufficient sleep in children is widespread".

He was responding to a talk by educational pioneer Alice Ravenhill, who described her long investigation into the sleep of

6000 elementary school children. She found that children aged between 3 and 5 years of age slept for 10 hours, 45 minutes a night, on average, while for 13-year-olds it was 8 hours (both of which are pretty much the same today). This, she said, was not enough. Having "consulted the best authorities", she advocated 13 hours sleep for the younger group and 11 hours for the older.

Soon afterwards, in 1913, Lewis Terman and Adeline Hocking from Stanford University,

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California, reported similar sleep durations among US school children. They found an average of 11 hours for 6-year-olds and 9 hours for 13-year-olds.

Fast forward to today, and little has changed. A survey of 11,500 children by Peter Blair and colleagues at the University of Bristol, UK, found that 6-year-olds sleep 11.3 hours on average, while 10-year-olds sleep 10.5 hours (*Sleep*, vol 35, p 353).

Although there were wide variations among the children, they concluded that "compared with earlier studies, the younger children... slept for a shorter period". Nevertheless, both these values are greater than those from 1908 and similar to Terman and Hocking's results in 1913.

Yet another study, by a team at the University of South Australia in Adelaide, looked at records going back to 1897 and found that average children's sleep time has been steadily declining for the past century – though only at a rate of 43 seconds per year, or 1 hour and 20 minutes in total.

Intriguingly, the team also found that children consistently slept for about 37 minutes fewer than health professionals thought best at the time, and that the blame was invariably put on children being "overtaxed by the stimulation of modern living". This suggests that sleep recommendations start with the assumption that children don't get enough sleep, rather than an empirical assessment of how much they actually need.

If children are no more sleep deprived today than they ever

were, then maybe claims that too little sleep leads to obesity are also exaggerated.

Several studies have reported that children who sleep less are fatter. One, for example, found that 7-year-olds sleeping fewer than 10 hours a night are twice as likely to be obese than longer sleepers (*International Journal of Obesity*, vol 26, p 710). That sounds alarming, but “twice as likely” obscures the fact that the absolute numbers are small. Only around 10 per cent of the shorter sleepers are obese, compared with 5 per cent for those sleeping over 10 hours. Put differently, the vast majority of short sleepers are not obese. What is more, there is only about 30 minutes difference in the sleep of obese children versus those of normal weight.

If short sleep does cause obesity, then the effect is moderate at best, amounting to the accumulation less than half a kilogram of extra fat per year as a result of hundreds of hours of accumulated “lost sleep”. I estimate that rather than sleeping for an extra hour or more, obese children could obtain the same effect with only 10 minutes of extra exercise each day.

So how much should children sleep? It is difficult to say because of large individual variation in requirements. As a rule of thumb, a child who has had enough sleep can get up fairly easily in the morning, is happy, alert, able to concentrate for most of the day and not too grouchy.

Paradoxically, children with persistently poor sleep may not seem sleepy but irritable, overactive, in need of constant stimulation and unable to concentrate – rather like mild attention-deficit hyperactivity disorder (ADHD). Inadequate sleep may be a small contributor to childhood obesity, but the case is far from made. ▢

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### PROFILE

Name Here largest burns centre in Victoria Hospital, Bangalore, ten macabre scene is played out with horrifying regularity. A twenty burnt woman is brought in by her husband and

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