



How are adolescents affected by using technology at bedtime during weekdays?

Examining the relationships between sleep, technology and body mass index

Background

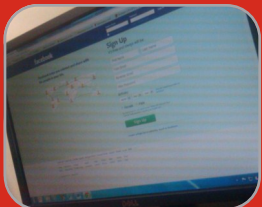
- The Midlands has the highest obesity rates among adolescents in Europe.
- Researchers wanted to find out how use of computers, mobile phones, television and video games may be associated with weekday sleep duration and body mass index (BMI). They studied data given by 759 students aged 11 – 18 years from six Midlands schools.
- Lack of sleep is common in adolescents, as they may stay up late despite having to get up early to go to school.
- There has already been a suggestion that all the devices at teenagers' disposal exacerbate the problem of getting a good night's sleep.
- We wanted to replicate these findings and see if active devices such as video games may be more likely to disrupt sleep than passive activities such as watching television. We also wanted to see how both sleep and devices impacted on weight.

Findings

- We confirmed the association between less sleep and higher BMI.
- The majority (85.1%) of students reported using at least one type of technology device at bedtime. Those who did not use a technology device at bedtime had a significantly longer sleep duration compared with those who did.
- Mobile phones had the strongest negative effect on weekday sleep duration. This may be due to the multiple facilities these devices offer (e.g. internet, social networking, gaming, calling, texting, photos, diary and music).
- Watching TV and playing video games was significantly associated with increased BMI. However, no significant effects of TV viewing and video game playing on sleep duration were found, so these activities may promote obesity, independent of the effects on sleep.
- Each technology device was significantly associated with increased BMI except for mobile phones, possibly due to their portable nature.
- Improving sleep habits such as restricting computer and mobile telephone use at bedtime during the week could help to ensure adolescents gain ample sleep and hence reduce the risk of obesity.

References

Arora T, Hussain S, Lam KBH, Yao LG, Thomas NG, Taheri S. Exploring the complex pathways among specific types of technology, self-reported sleep duration and body mass index in UK adolescents. *International Journal of Obesity*. 8 January 2013. Available from <http://www.ncbi.nlm.nih.gov/pubmed/23295500>. Epub ahead of print.



Recommendations for practice

Technology use may need to be better managed in adolescents, encouraging daytime, rather than bedtime usage. This may enhance sleep duration with potential positive effects on health and wellbeing.

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