REGIONE AUTONOMA FRIULI VENEZIA GIULIA

ISTITUTO DI RICOVERO E CURA A CARATTERE SCIENTIFICO
Burlo Garofolo di Trieste

BURLO

L'uso corretto della telefonia cellulare

Trieste 19 dicembre 2019

L'uso del cellulare nelle abitudini di vita, compreso il sonno

Marco Carrozzi

S.C. Neuropsichiatria Infantile

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

Guidance for the Clinician in Rendering Pediatric Care

Clinical Report—The Impact of Social Media on Children, Adolescents, and Families

abstract

FREE

Using social media Web sites is among the most common activity of today's children and adolescents. Any Web site that allows social interaction is considered a social media site, including social networking sites such as Facebook, MySpace, and Twitter; gaming sites and virtual worlds such as Club Penguin, Second Life, and the Sims; video sites such as YouTube; and blogs. Such sites offer today's youth a portal for entertainment and communication and have grown exponentially in recent years. For this reason, it is important that parents become aware of the nature of social media sites, given that not all of them are healthy environments for children and adolescents. Pediatricians are in a unique position to help families understand these sites and to encourage healthy use and urge parents to monitor for potential problems with cyberbullying, "Facebook depression," sexting, and exposure to inappropriate content. *Pediatrics* 2011;127:800–804

Gwenn Schurgin O'Keeffe, MD, Kathleen Clarke-Pearson, MD, and COUNCIL ON COMMUNICATIONS AND MEDIA

KEY WORDS

Internet, cyberbullying, online harassment, Facebook depression, sexting, social media, digital footprint, COPPA, advertising, social networking, bullying, adolescents, children

ABBREVIATION

AAP—American Academy of Pediatrics

shared interests. During the last 5 years, the number of preadolescents and adolescents using such sites has increased dramatically. According to a recent poll, 22% of teenagers log on to their favorite social media site more than 10 times a day, and more than half of adolescents log on to a social media site more than once a day.[2] Seventy-five percent of teenagers now own cell phones, and 25% use them for social media, 54% use them for texting, and 24% use them for instant messaging.[3] Thus, a large part of this generation's social and emotional development is occurring while on the Internet and on cell phones.

…22% degli adolescenti si connette più di 10 volte al giorno; il 50% almeno 1 volta; il 75% degli adolescenti possiede un suo telefono ed 25% lo usa per i sociali media…54% lo usa per texting ed il 24% per SMS.

Una parte non piccola dello sviluppo sociale ed emotivo di questa generazione è mediato da internet e dai telefoni cellulari

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Other problems that merit awareness include Internet addiction and concurrent sleep deprivation.[7]

Ma è tutta farina del diavolo ?

vantaggi

- Miglioramento socializzazione e comunicazione
- Incrementarre le opportunità di apprendimento
- Accesso ad informazioni circa la salute soprattutto per adolescenti con patologie croniche
- Gruppi di autoaiuto fra adolescenti
- Ausilio alla psicoterapia (primi tentativi)

rischi

- Attività fra pari
  Cyberbullismo e molestie on line
  Sexting
  Facebook depression
- Contenuti inappropriati
- Mancata conoscenza delle normative della privacy on line (“digital footprint”)
- Influenze di gruppi di pressione commerciali
  “Banner ads” e “Behavior ads”

Uso intelligente: ausilio alla psicoterapia…..

The result is a role-playing fantasy game, where teenagers adopt a warrior avatar and get to blast negative thoughts with fireballs while trying to save the world from sinking into a mire of pessimism and despair.

...And here's your new therapists: the SPARX computer game uses cognitive behavioural therapy to try to remove depression

The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

COMMITTEE OPINION

Number 653 • February 2016

Committee on Adolescent Health Care

This Committee Opinion was developed by the American College of Obstetricians and Gynecologists' Committee on Adolescent Health Care. Member contributors included Meredith Loveless, MD. This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed.

Concerns Regarding Social Media and Health Issues in Adolescents and Young Adults

ABSTRACT: Although there are many positive aspects of social media for adolescents and young adults, there are also risks. Adolescence is a time of significant developmental changes, during which adolescents exhibit a limited capacity for self-regulation and an increased risk of susceptibility to peer pressure and experimentation. Social media can be harmful, and obstetrician–gynecologists may screen their adolescent and young adult patients for high-risk sexual behaviors, especially if sexualized text communication (sexting), exposure to pornography, online dating, or other risk-taking behaviors are present. Victims of cyberbullying and those who engage in sexting are at increased risk of sexually transmitted infections and pregnancy. The effect of social media may be considered in the differential diagnosis of myriad health problems during adolescence. Referrals to mental health care providers or providing outside resources may be indicated. A multidisciplinary approach to address these issues can include the obstetrician–gynecologist, guardians, and school officials and personnel. Knowledge of resources, including those within the schools and community, allows the obstetrician–gynecologist to provide support to adolescents facing these issues.

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ABSTRACT: Although there are many positive aspects of s… there are also risks. Adolescence is a time of significant d… a limited capacity for self-regulation and an i… …nts exhibit …and experimentation. Social media can be harmful, and cl… …escent and young adult patients for high-risk sexual beh… …cation (sexting), exposure to pornography, online dating… …ms of cyberbullying and those who engage in sexting a… …tions and pregnancy. The effect of social media may be consid- …myriad health problems during adolescence. Referrals to mental health care …de resources may be indicated. A multidisciplinary approach to address these issues …obstetrician–gynecologist, guardians, and school officials and personnel. Knowledge of resources, …ding those within the schools and community, allows the obstetrician–gynecologist to provide support to adolescents facing these issues.

Attenzione ai comportamenti sessuali ad alto rischio, soprattutto in caso di "texting" e di esposizione a materiale pornografico. I soggetti esposti ad atti di cyberbullismo e di texting sono a rischio per infezioni sessualmente trasmissibili e gravidanze…

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Glossario

- ***Cyberbulling***: aggressive and repetitive acts meant to hurt someone and involves an imbalance of power inflicted through electronic media (12).
- ***Internet addiction***: uncontrollable use of the Internet that results in excessive time consumption or social dysfunction (5).
- ***Digital footprint***: refers to the data left behind by users of electronic media
- ***Pornography***
- ***Sexting***: is the act of sending sexually explicit messages or suggestive images by cell phone (24) Per la legge italiana il sexting rientra in ciò che si chiama *"produzione e distribuzione di materiale pedopornografico"*, cioè foto o video che ritraggono soggetti minorenni
- ***Internet Dating (incontri romantici via internet):*** has been used by adolescents as a way to explore new relationships. The Internet allows adolescents to explore sexual interest with anonymity, perceived safety, and hidden identity.
- ***Sleep deprivation***

Perché dormiamo?

Sleep Medicine Reviews 28 (2016) 46–54

Contents lists available at ScienceDirect

Sleep Medicine Reviews

journal homepage: www.elsevier.com/locate/smrv

THEORETICAL REVIEW

Sleep function: Toward elucidating an enigma

James M. Krueger [a, *], Marcos G. Frank [a], Jonathan P. Wisor [a], Sandip Roy [b]

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[b] Department of Electrical Engineering, Washington State University-Pullman, WA, USA

A che cosa serve il sonno

- Funzione immunologica
- Riduce il consumo di calorie
- Permette il ripristino dello stato energetico
- Funzione glinlinfatica
- Mantiene e migliora la connettività fra i neuroni

Practice points

1) Sleep may serve multiple functions. Thus insufficient sleep will manifest in multiple ways, e.g., obesity, cognitive impairment, immune dysfunction.
2) Sleep likely evolved to meet a primordial function, brain connectivity, but other functions co-evolved to meet other needs.
3) The molecular mechanisms responsible for sleep cannot be separated from the mechanisms responsible for connectivity as they are one in the same.
4) Sleep likely is initiated within small local networks such as cortical columns. Organism sleep is brought about by the state coordination of many such small networks via sleep regulatory networks.

Il sistema glinlifatico

- Permette di rimuovere le sostanze di “scarto” prodotte dal sistema nervoso centrale
- Svolge le funzioni del sistema linfatico pur essendo anatomicamente completamente differente
- **La massima attività è presente durante il sonno**

Table 1
Typical sleep need for children and adolescents by developmental stage

Age group	Years	Total sleep need
Infants	3 to 12 months	14 to 15 hours
Toddlers	1 to 3 years	12 to 14 hours
Preschoolers	3 to 5 years	11 to 13 hours
School-aged	6 to 12 years	10 to 11 hours
Adolescents	12 to 18 years	8.5 to 9.5 hours

Sleep and Sleep Disorders in Children and Adolescents

Lisa J. Meltzer, PhD[a,*], Jodi A. Mindell, PhD[b,c]

Psychiatr Clin N Am 29 (2006) 1059–1076
PSYCHIATRIC CLINICS
OF NORTH AMERICA

BMJ Open

Sleep and use of electronic devices in adolescence: results from a large population-based study

Mari Hysing,[1] Ståle Pallesen,[2,3] Kjell Morten Stormark,[1] Reidar Jakobsen,[1] Astri J Lundervold,[1,4] Børge Sivertsen[5,6,7]

To cite: Hysing M, Pallesen S, Stormark KM, *et al*. Sleep and use of electronic devices in adolescence: results from a large population-based study. *BMJ Open* 2015;**5**: e006748. doi:10.1136/bmjopen-2014-006748

► Prepublication history for this paper is available online. To view these files please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2014-006748).

Received 26 September 2014
Revised 28 November 2014
Accepted 2 December 2014

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ABSTRACT

Objectives: Adolescents spend increasingly more time on electronic devices, and sleep deficiency rising in adolescents constitutes a major public health concern. The aim of the present study was to investigate daytime screen use and use of electronic devices before bedtime in relation to sleep.

Design: A large cross-sectional population-based survey study from 2012, the youth@hordaland study, in Hordaland County in Norway.

Setting: Cross-sectional general community-based study.

Participants: 9846 adolescents from three age cohorts aged 16–19. The main independent variables were type and frequency of electronic devices at bedtime and hours of screen-time during leisure time.

Outcomes: Sleep variables calculated based on self-report including bedtime, rise time, time in bed, sleep duration, sleep onset latency and wake after sleep onset.

Results: Adolescents spent a large amount of time during the day and at bedtime using electronic devices. Daytime and bedtime use of electronic devices were both related to sleep measures, with an increased risk of short sleep duration, long sleep onset latency and increased sleep deficiency. A dose–response relationship emerged between sleep duration and use of electronic devices, exemplified by the association between PC use and risk of less than 5 h of sleep (OR=2.70, 95% CI 2.14 to 3.39), and comparable lower odds for 7–8 h of sleep (OR=1.64, 95% CI 1.38 to 1.96).

Conclusions: Use of electronic devices is frequent in adolescence, during the day as well as at bedtime. The results demonstrate a negative relation between use of technology and sleep, suggesting that recommendations on healthy media use could include restrictions on electronic devices.

Strengths and limitations of this study

- This study employed a large, well-defined population-based sample of adolescents.
- The data employed in this study are from a recent data collection.
- This study included several detailed measures of sleep patterns and sleep problems, as well as detailed measures of media use.
- The cross-sectional design of this study precluded any causal inference.
- This sample had a limited age-range.

BACKGROUND

In the last decade, we have witnessed a sharp increase in the availability and use of electronic devices such as smart phones, video game consoles, television, audio players, computers and tablets. Owing to this, electronic devices have become an integral part of adolescent life, as exemplified by almost all American adolescents (97%) reporting to have at least one electronic media device in their bedroom.[1] In addition to the entertainment aspects, electronic devices play an important part in the social lives of adolescents. A more active, stimulating and social media use may, however, affect sleep in a negative way.[2]

Parallel with the increased use of electronic devices, there has been a shift towards poorer sleep over the past decades among adolescents.[3] Recent epidemiological data on adolescent sleep shows that it is characterised, on average, by late bedtime, long sleep onset latency (SOL) and short sleep duration of approximately 6.5 h on weekdays, contributing to daily sleep deficiency of about 2 h.[4]

The high rate of media use in adolescence may be one factor that is related to the short sleep duration and late bedtimes. TV use has consistently and inversely been associated with sleep duration,[5 6] as well as delayed bedtime and wake-up time in adolescents.[7] A high level of computer use has been found to be related to sleep problems,[8] reduced time in bed[9 10] and increased SOL.[11] Overall, electronic media use has been consistently linked with delayed bedtime and shortened sleep, according to a review of the literature. However, some shortcomings in

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Sleep and use of electronic devices in adolescence: results from a large population-based study

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all American adolescents (97%) reporting to have at least one electronic media device in their bedroom.[1] In addition to the entertainment aspects, electronic devices play an important part in the social lives of adolescents. A more active, stimulating and social media use may, however, affect sleep in a negative way.[2]

9846 adolescenti nella fascia di età 16-19 anni

Quesionari autosomministrati per valutare:

- L'ora in cui si va a letto (bedtime)
- Latenza dell'inizio del sonno (sleep onset latency)
- Tempo trascorso svegli dopo essersi coricati
- Ora del risveglio e tempo in cui ci si alza

Sono stati divisi i giorni della settimana da quelli del fine settimana.

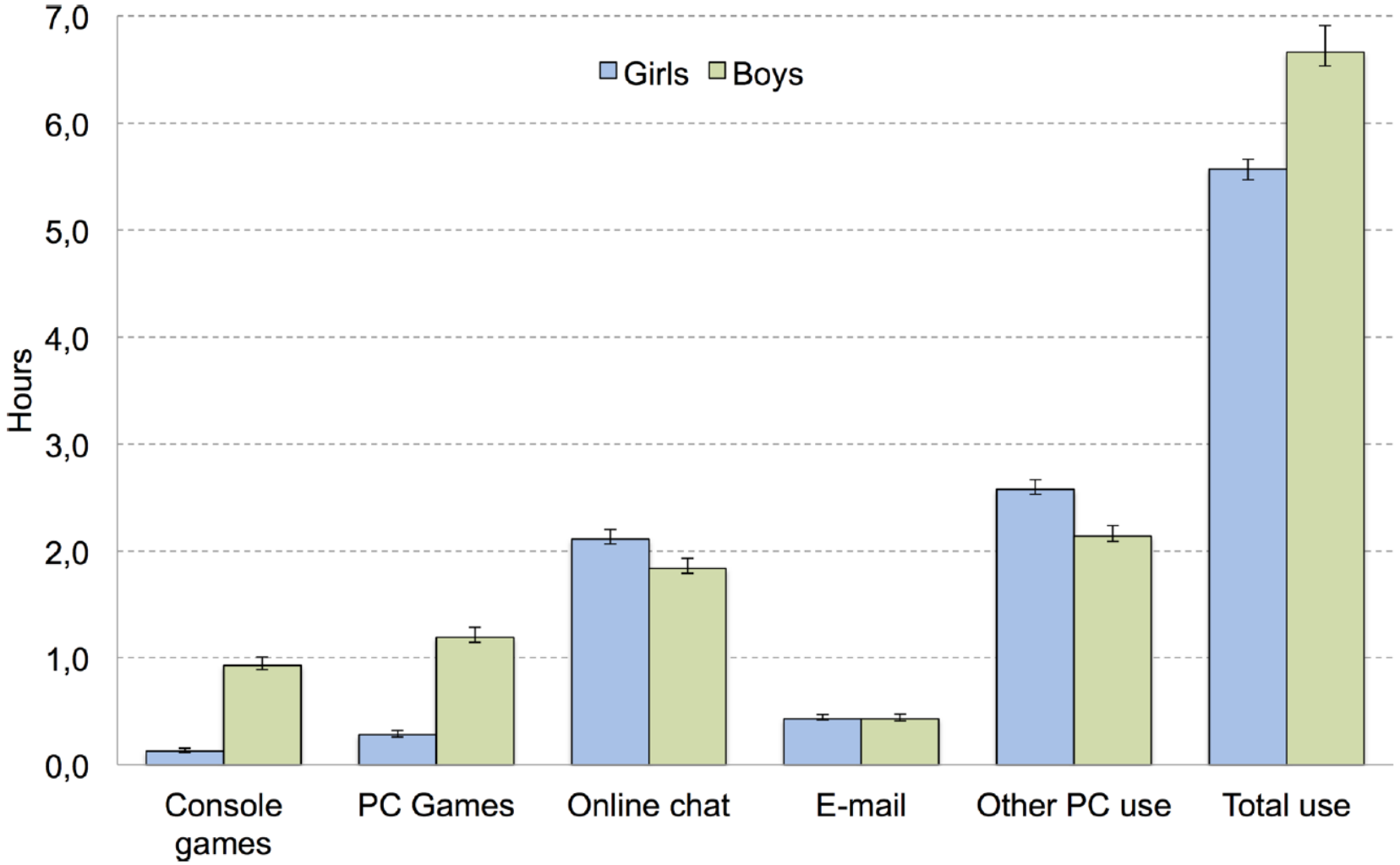

Figure 2 Average daytime screen use among girls and boys in the youth@hordaland study (n=9846). Error bars represent 95% CIs.

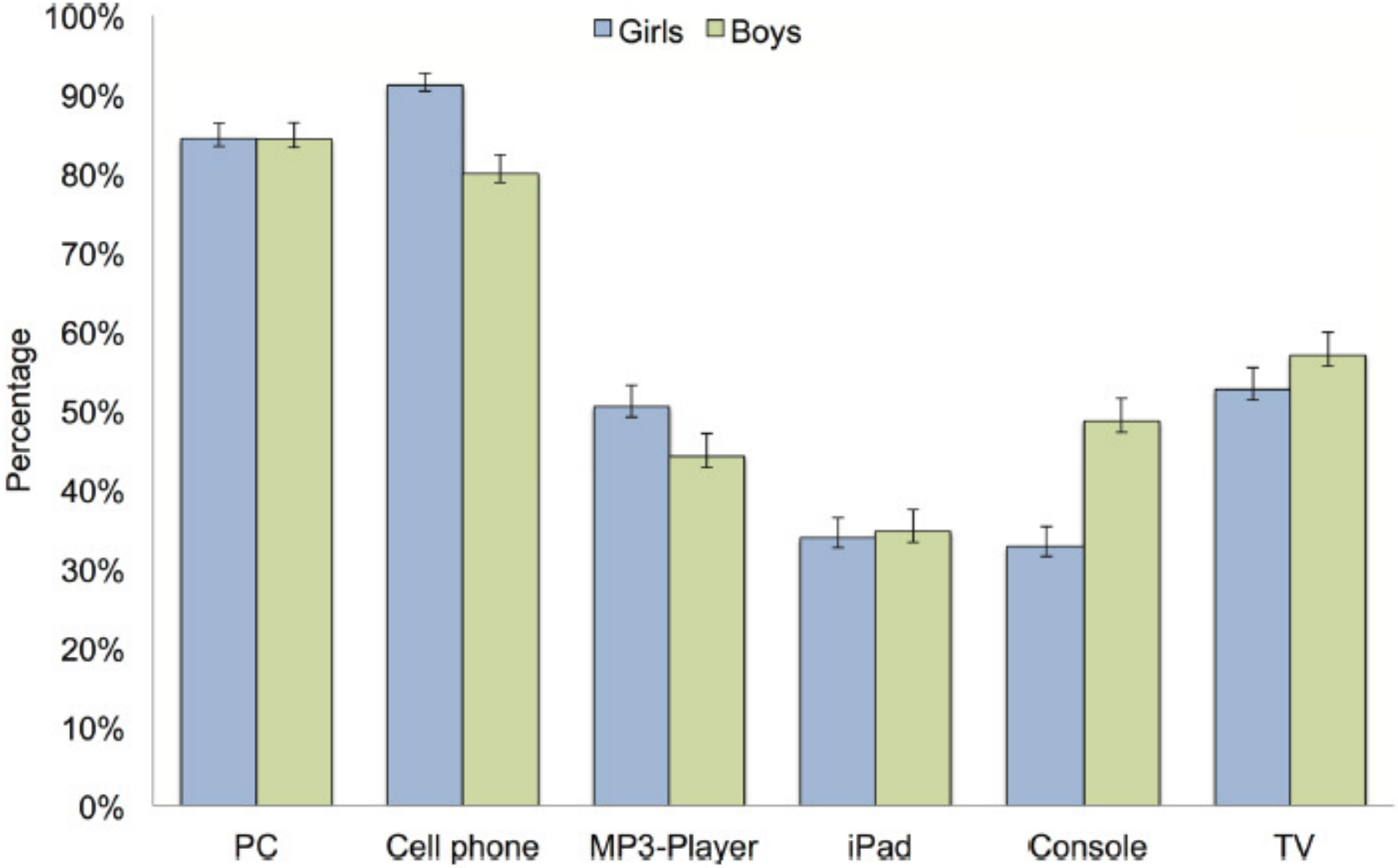

Figure 1 Use of electronic devices during the last hour before bedtime among girls and boys in the youth@hordaland study (n=9846). Error bars represent 95% CIs.

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Sleep and use of electronic devices in adolescence: results from a large population-based study

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Table 1 Use of electronic devices in the last hour before bedtime and daytime screen use as risk factors for sleep onset latency (SOL) of 60 min or more, and sleep deficiency of 2 h or more in the youth@hordaland study (n=9846)†

	SOL (≥60 min)		Sleep deficit (≥2 h)	
	OR	95% CI	OR	95% CI
Electronic devices used in the last hour before bedtime				
PC	1.52***	1.34 to 1.71	1.53***	1.34 to 1.76
Cell phone	1.48***	1.30 to 1.68	1.35***	1.17 to 1.55
MP3-player	1.36***	1.25 to 1.48	1.21***	1.10 to 1.32
Tablet	1.18***	1.08 to 1.29	1.12*	1.02 to 1.23
Console	1.13***	1.04 to 1.23	1.20***	1.10 to 1.32
TV	1.19***	1.10 to 1.30	1.36***	1.24 to 1.49
Daytime screen use				
Total screen time (4 h+)	1.49***	1.36 to 1.64	1.72***	1.56 to 1.89
Console games (2 h+)	1.20*	1.04 to 1.38	1.31***	1.13 to 1.52
PC games (2 h+)	1.19**	1.05 to 1.34	1.41***	1.25 to 1.60
Online chat (2 h+)	1.43***	1.31 to 1.56	1.87***	1.70 to 2.05
Email (2 h+)	1.93***	1.55 to 2.40	1.68***	1.31 to 2.14
Other PC use (2 h+)	1.38***	1.26 to 1.51	1.37***	1.25 to 1.51

*p<0.05; **p<0.01; ***p<0.001.
†Reference: SOL <60 min.

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Table 2 Use of electronic devices in the last hour before going to sleep and daytime screen use as risk factors for short sleep duration among girls and boys in the youth@hordaland study (n=9846)†

	<5 h		5–6 h		6–7 h		7–8 h	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Electronic devices used in the last hour before bedtime								
PC	2.70***	2.14 to 3.39	2.69***	2.09 to 3.46	2.30***	1.90 to 2.79	1.64***	1.38 to 1.96
Cell phone	1.85***	1.45 to 2.35	1.65***	1.28 to 2.13	1.75***	1.42 to 2.15	1.50***	1.24 to 1.83
MP3-player	1.52***	1.29 to 1.78	1.46***	1.12 to 1.73	1.33***	1.15 to 1.53	1.19*	1.03 to 1.36
iPad or other tablet	1.19*	1.01 to 1.41	1.29**	1.09 to 1.54	1.18*	1.92 to 1.37	1.10	0.95 to 1.28
Console	1.40***	1.19 to 1.64	1.38***	1.17 to 1.64	1.27**	1.09 to 1.47	1.17*	1.01 to 1.35
TV	1.51***	1.29 to 1.77	1.44***	1.22 to 1.71	1.35***	1.17 to 1.56	1.16*	1.01 to 1.33
Daytime screen use								
Total screen time (4 h+)	3.64***	3.06 to 4.33	2.66***	2.22 to 3.19	2.07***	1.79 to 2.40	1.29***	1.12 to 1.49
Console games (2 h+)	2.03***	1.53 to 2.69	1.73***	1.28 to 2.35	1.58**	1.21 to 2.06	1.20	0.92 to 1.58
PC games (2 h+)	1.90***	1.51 to 2.38	1.22	0.95 to 1.58	1.39**	1.12 to 1.73	1.06	0.86 to 1.32
Online chat (2 h+)	3.58***	3.03 to 4.24	2.79***	2.33 to 3.33	1.98***	1.70 to 2.30	1.31***	1.13 to 1.51
Email (2 h+)	3.28***	2.07 to 5.16	2.42***	1.48 to 3.95	1.34	0.84 to 2.14	1.14	0.72 to 1.82
Other PC use (2 h+)	2.06***	1.74 to 2.42	2.04***	1.71 to 2.44	1.54***	1.33 to 1.78	1.21**	1.05 to 1.39

*p<0.05; **p<0.01; ***p<0.001.
†Reference: 8–9 h.

Perché il sonno ne risulterebbe disturbato?

mechanisms. According to this model, media use may directly affect sleep by replacing it due to its time consuming nature, or it may interfere with sleep through increased psychophysiological arousal caused by the stimulating content of the material, or through bright light exposure inherent in most electronic media devices.[12] Bright light

1. Consumo del tempo dedicato al sonno
2. Attivazione psicofisiologica dovuta ai contenuti stimolanti
3. Esposizione alla luce intensa degli strumenti

JAMA Pediatrics | Original Investigation

Association Between Portable Screen-Based Media Device Access or Use and Sleep Outcomes
A Systematic Review and Meta-analysis

Ben Carter, PhD, MSc; Philippa Rees, MPhil, MBBCh; Lauren Hale, PhD, MPH; Darsharna Bhattacharjee, MBChB, MRCPCH; Mandar S. Paradkar, MBBS, DCH, MPH

IMPORTANCE Sleep is vital to children's biopsychosocial development. Inadequate sleep quantity and quality is a public health concern with an array of detrimental health outcomes. Portable mobile and media devices have become a ubiquitous part of children's lives and may affect their sleep duration and quality.

OBJECTIVE To conduct a systematic review and meta-analysis to examine whether there is an association between portable screen-based media device (eg, cell phones and tablet devices) access or use in the sleep environment and sleep outcomes.

DATA SOURCES A search strategy consisting of gray literature and 24 Medical Subject Headings was developed in Ovid MEDLINE and adapted for other databases between January 1, 2011, and June 15, 2015. Searches of the published literature were conducted across 12 databases. No language restriction was applied.

STUDY SELECTION The analysis included randomized clinical trials, cohort studies, and cross-sectional study designs. Inclusion criteria were studies of school-age children between 6 and 19 years. Exclusion criteria were studies of stationary exposures, such as televisions or desktop or personal computers, or studies investigating electromagnetic radiation.

DATA EXTRACTION AND SYNTHESIS Of 467 studies identified, 20 cross-sectional studies were assessed for methodological quality. Two reviewers independently extracted data.

MAIN OUTCOMES AND MEASURES The primary outcomes were inadequate sleep quantity, poor sleep quality, and excessive daytime sleepiness, studied according to an a priori protocol.

RESULTS Twenty studies were included, and their quality was assessed. The studies involved 125 198 children (mean [SD] age, 14.5 [2.2] years; 50.1% male). There was a strong and consistent association between bedtime media device use and inadequate sleep quantity (odds ratio [OR], 2.17; 95% CI, 1.42-3.32) ($P < .001$, $I^2 = 90\%$), poor sleep quality (OR, 1.46; 95% CI, 1.14-1.88) ($P = .003$, $I^2 = 76\%$), and excessive daytime sleepiness (OR, 2.72; 95% CI, 1.32-5.61) ($P = .007$, $I^2 = 50\%$). In addition, children who had access to (but did not use) media devices at night were more likely to have inadequate sleep quantity (OR, 1.79; 95% CI, 1.39-2.31) ($P < .001$, $I^2 = 64\%$), poor sleep quality (OR, 1.53; 95% CI, 1.11-2.10) ($P = .009$, $I^2 = 74\%$), and excessive daytime sleepiness (OR, 2.27; 95% CI, 1.54-3.35) ($P < .001$, $I^2 = 24\%$).

CONCLUSIONS AND RELEVANCE To date, this study is the first systematic review and meta-analysis of the association of access to and the use of media devices with sleep outcomes. Bedtime access to and use of a media device were significantly associated with the following: inadequate sleep quantity, poor sleep quality, and excessive daytime sleepiness. An integrated approach among teachers, health care professionals, and parents is required to minimize device access at bedtime, and future research is needed to evaluate the influence of the devices on sleep hygiene and outcomes.

JAMA Pediatr. 2016;170(12):1202-1208. doi:10.1001/jamapediatrics.2016.2341
Published online October 31, 2016.

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Related article page 1236
Supplemental content

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JAMA Pediatrics | Original Investigation

Association Between Portable Screen-Based Media Device Access or Use and Sleep Outcomes

A Systematic Review and Meta-analysis

Ben Carter, PhD, MSc; Philippa Rees, MPhil, MBBCh; Lauren Hale, PhD, MPH; Darsharna Bhattacharjee, MBChB, MRCPCH; Mandar S. Paradkar, MBBS, DCH, MPH

Sleep is crucial to the development of physically and psychologically healthy children. Sleep disturbance in childhood is known to lead to adverse physical and mental health consequences. Short- and long-term detrimental health outcomes include poor diet, sedentary behavior, obesity, reduced immunity, stunted growth, mental health issues (eg, depression and suicidal tendencies), and substance abuse.[1-3]

Research

JAMA Pediatrics | Original Investigation

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sleep through various pathways.[7,8] First, they may negatively influence sleep by directly displacing, delaying, or interrupting sleep time. Second, the content can be psychologically stimulating, and, third, the light emitted from devices affects circadian timing, physiological sleep, and alertness.[9]

1 si ritarda il momento in cui coricarsi o si interrompe il sonno

2 contenuti stimolanti

3 la luce emessa disturba il ritmo circadiano

JAMA Pediatrics | Original Investigation

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A Systematic Review and Meta-analysis

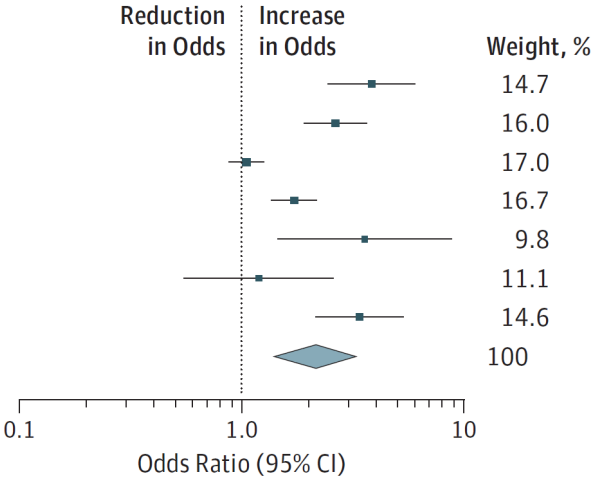
Ben Carter, PhD, MSc; Philippa Rees, MPhil, MBBCh; Lauren Hale, PhD, MPH; Darsharna Bhattacharjee, MBChB, MRCPCH; Mandar S. Paradkar, MBBS, DCH, MPH

search capabilities.[8,9] A previous literature review[8] reported a suspected association between screen time and poor sleep outcomes and stimulated debate to assess the quality of evidence and quantify the magnitude of the potential relationship.[7] To our knowledge, we present the first system-

Figure 2. Children With Inadequate Sleep Quantity definito come < 10 ore nei bambini, < 9 ore negli adolescenti

Source	Device Users Near Bedtime: No. of Events	Device Users Near Bedtime: Total No.	No Access to a Device: No. of Events	No Access to a Device: Total No.	Odds Ratio (95% CI)
Arora et al,[30] 2013	185	289	38	120	3.84 (2.44-6.04)
Arora et al,[13] 2014	199	440	71	298	2.64 (1.91-3.66)
Chahal et al,[31] 2013	207	611	914	2785	1.05 (0.87-1.26)
Gamble et al,[32] 2014	252	555	205	629	1.72 (1.36-2.18)
Gradisar et al,[3] 2013	116	181	8	24	3.57 (1.45-8.79)
Kubiszewski et al,[35] 2013	41	141	11	43	1.19 (0.55-2.59)
Lemola et al,[27] 2015	88	180	40	182	3.40 (2.15-5.36)
Total events	1088	2397	1287	4081	2.17 (1.42-3.32)

Heterogeneity: $\tau^2 = 0.27$; $\chi^2_6 = 57.48$; $P<.001$; $I^2 = 90\%$
Test for overall effect: $z = 3.57$; $P<.001$

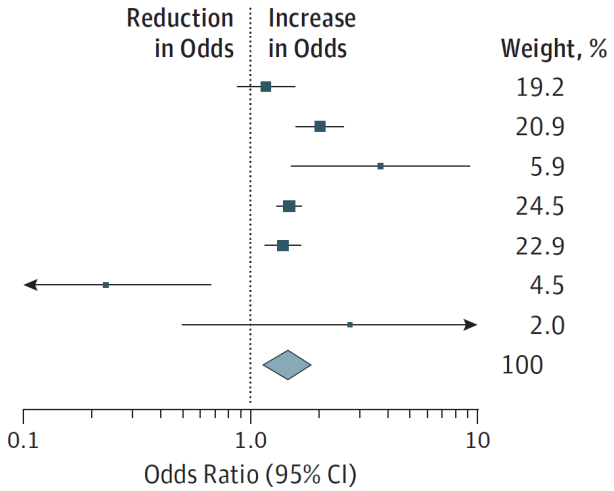


We compared children having bedtime media device use with children not having access to a device.

Figure 3. Children With Poor Sleep Quality

Source	Log Odds Ratio	SE	Device Users Near Bedtime, Total No.	No Access to a Device, Total No.	Odds Ratio (95% CI)
Arora et al,[13] 2014	0.157	0.150	440	298	1.17 (0.87-1.57)
Gamble et al,[32] 2014	0.703	0.125	555	629	2.02 (1.58-2.58)
Gradisar et al,[3] 2013	1.319	0.462	181	24	3.74 (1.51-9.24)
Hysing et al,[33] 2015	0.392	0.065	0	0	1.48 (1.30-1.68)
Jiang et al,[24] 2015	0.329	0.094	0	0	1.39 (1.16-1.67)
Kubiszewski et al,[35] 2013	-1.470	0.546	141	43	0.23 (0.08-0.67)
Lemola et al,[27] 2015	1.008	0.867	180	182	2.74 (0.50-15.00)
Total events			1497	1176	1.46 (1.14-1.88)

Heterogeneity: $\tau^2 = 0.06$; $\chi^2_6 = 25.30$; $P < .001$; $I^2 = 76\%$
Test for overall effect: $z = 2.98$; $P = .003$



We compared children having bedtime media device use with children not having access to a device. The number of participants was not provided by Hysing et al[33] or Jiang et al[24]; only the results from the statistical analysis were reported.

"Poor Sleep Quality" definito come difficoltà di addormentamento, difficoltà a mantenere il sonno o sonno non ristoratore

Research

JAMA Pediatrics | Original Investigation

Association Between Portable Screen-Based Media Device Access or Use and Sleep Outcomes

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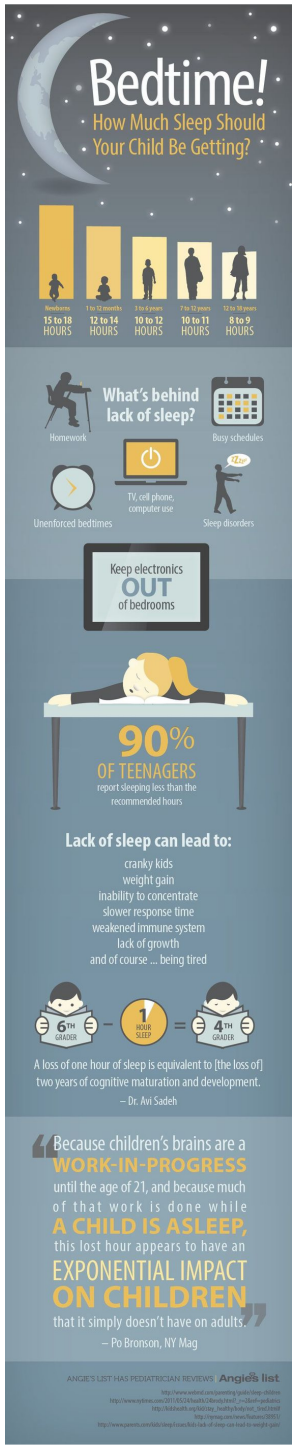
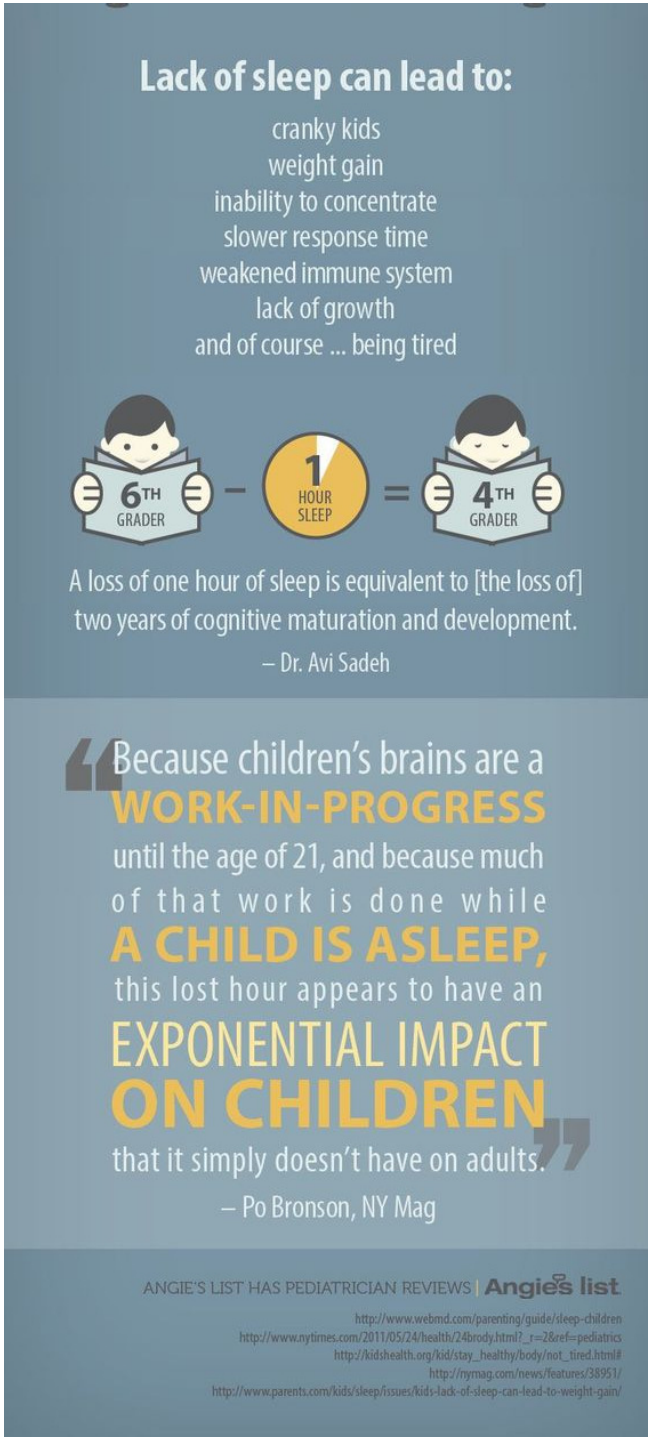
This study is the first systematic review and meta-analysis to date to include a robust quality assessment that quantified the association of media device access and use with poor sleep outcomes.[8] Our study provides supporting evidence for an interaction between media device use and psychophysiological arousal as a key mechanism of effect.[33] Our findings support recommendations that interventions should be developed and evaluated to reduce media device access and use at bedtime. Specifically, we support age-specific guidance for media device access and use[33] and parent-led initiatives to reduce device access and use in collaboration with teachers and health care professionals.[39]


Bedtime!
How Much Sleep Should Your Child Be Getting?
Newborns 15 to 18 HOURS
1 to 12 months 12 to 14 HOURS
3 to 6 years 10 to 12 HOURS
7 to 12 years 10 to 11 HOURS
12 to 18 years 8 to 9 HOURS
What's behind lack of sleep?
Homework
Busy schedules
TV, cell phone, computer use
Unenforced bedtimes
Sleep disorders
Keep electronics OUT of bedrooms
90% OF TEENAGERS report sleeping less than the recommended hours
Lack of sleep can lead to:
cranky kids
weight gain
inability to concentrate
slower response time
weakened immune system
lack of growth
and of course ... being tired
6TH GRADER – 1 HOUR SLEEP = 4TH GRADER
A loss of one hour of sleep is equivalent to [the loss of] two years of cognitive maturation and development.
– Dr. Avi Sadeh
"Because children's brains are a WORK-IN-PROGRESS until the age of 21, and because much of that work is done while A CHILD IS ASLEEP, this lost hour appears to have an EXPONENTIAL IMPACT ON CHILDREN that it simply doesn't have on adults."
– Po Bronson, NY Mag
ANGIE'S LIST HAS PEDIATRICIAN REVIEWS | Angie's list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http://www.webmd.com/parenting/guide/sleep-children
http://www.nytimes.com/2011/05/24/health/24brody.html?_r=2&ref=pediatrics
http://kidshealth.org/kid/stay_healthy/body/not_tired.html#
http://nymag.com/news/features/38951/
http://www.parents.com/kids/sleep/issues/kids-lack-of-sleep-can-lead-to-weight-gain/


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Grazie dell’attenzione….