

How screentime affects baby's nighttime

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Credit: Flinders University Lead author, Flinders University postdoctoral research fellow Dr Michal Kahn, from the College of Education, Psychology and Social Work, says even in moderation, screens can have a considerable impact on infant sleep. Credit: Flinders University

Increased exposure to TV and touchscreens can have a significant impact on infants' sleep, a major new study has found.

With [screen time](#) on the rise due to the coronavirus pandemic, there is renewed attention on its impact on children and babies.

The new study published in the journal *Sleep*, found that infants as young as three months old may be more vulnerable to the effects of touchscreens. Screens may cause a disruption to their sleep-wake rhythms, with age playing a substantial role in the relationship between the type of screen exposure and sleep.

The global study led by researchers at Flinders University and Nanit—developers of the leading smart baby monitor and sleep tracker—is the first ever to use objective sleep measurement to examine the link between [touchscreen](#) and

television exposure to daytime and nighttime sleep of infants.

With the largest sample size to date, researchers used the Nanit Plus camera with its computer vision technology to track and analyze almost 14,000 nights of infant sleep along with parents reporting on the sleep and screen time of more than 1000 infants.

Findings from the study reveal:

- **Daytime touchscreen exposure is associated with marked decreases in nighttime sleep in older infants.** Infants that were 13-months-old, on average, lost one minute of nighttime sleep for each minute of time they used a touchscreen during the day. Touchscreens were also associated with poorer sleep quality and more fragmented sleep with more nighttime awakenings.
- **Watching television during the day was linked to shorter than average sleep duration.** Three-month-old infants that watched 34 minutes of television during the day averaged 20 minutes less daytime sleep and 22 minutes less total sleep within 24 hours.
- **Age plays a more substantial role when it comes to touchscreen exposure compared to television.** Touchscreen exposure was more robustly associated with sleep than television exposure. A surprising finding showed the three-month-old infants given five minutes of time with a touchscreen device during the day averaged 13 minutes less daytime sleep. However, the findings also suggest a trade-off between daytime and nighttime sleep. The displacement of daytime sleep may promote longer sleep stretches at night.

Lead author, Flinders University postdoctoral research fellow Dr. Michal Kahn, from the College of Education, Psychology and Social Work, says

even in moderation, screens can have a considerable impact on infant sleep.

Provided by Flinders University

"There is still much we have to explore in understanding the connection between screen time and sleep, but this research definitively shows us they are linked and the effects vary by age," Dr. Kahn says.

"There are so many factors that go into helping your baby sleep well," adds co-author Dr. Natalie Barnett, Director of Clinical Research at Nanit.

"Parents may not often think about how a little bit of screen time can have a big effect on the amount of sleep and how well they sleep," Dr. Barnett says.

"These findings suggest that while even a small amount of screen exposure might lead to a decrease in daytime sleep, nighttime sleep might be more consolidated in younger infants."

The report, *Sleep and screen exposure across the beginning of life* (2020) by Dr. Michal Kahn, Dr. Natalie Barnett, Dr. Assaf Glazer (Nanit co-founder and Chief Product Officer) and Flinders University Professor Michael Gradisar, director of the Child and Adolescent Sleep Clinic at Flinders University, Bedford Park, has been published online in *Sleep*.

A global sample of 1074 [infants](#) ranging in ages 0-18 months participated in the study and nearly 14,000 nights of sleep were objectively assessed using Nanit's computer-vision technology. Sleep was additionally reported by parents in an online survey, as was infant's exposure to screens. The study was conducted in November and December 2019 prior to the outbreak of COVID-19.

More information: Michal Kahn et al. Sleep and screen exposure across the beginning of life: deciphering the links using big-data analytics, *Sleep* (2020). [DOI: 10.1093/sleep/zsaa158](https://doi.org/10.1093/sleep/zsaa158)

Michal Kahn et al. Sleep, screen time and behavior problems in preschool children: an actigraphy study, *European Child & Adolescent Psychiatry* (2020). [DOI: 10.1007/s00787-020-01654-w](https://doi.org/10.1007/s00787-020-01654-w)

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