

How to Get Kids More Active

Screen time is inversely related to activity

We all spend more time than ever on screens. If the pandemic has done anything, it has increased our use of screens. Both adults and kids now spend large amounts of their leisure time on screens, especially phones. What effects does this increased use of screens have on our activity levels? How much screen time is too much? What happens if we cut back?

Abstract



- **Importance:** Children and adults spend large amounts of their leisure time using screen media, which may affect their health and behavior.
- **Objective:** To investigate the effect of reducing household recreational screen media use on physical activity and sleep in children and adults.
- **Design, Setting, and Participants:** This was a cluster randomized clinical trial with a 2-week follow-up. Enrollment began on June 6, 2019 and ended on March 30, 2021. This study included a population-based sample from 10 Danish municipalities. A total of 89 families (181 children and 164 adults) were recruited based on a population-based survey on screen media habits in families with children. To be eligible, the responding parent had to list self-reported recreational screen use greater than the 40th percentile of recreational screen time use in the source population (>2.4 hours per day). In addition, the parent had to be full-time employed (with no regular night shifts) or enrolled in full-time education.
- **Interventions:** Families were randomly assigned to the screen media reduction intervention (45 families, 86 children, 82 adults) designed to ensure participant compliance to a maximum use of screen media (≤ 3 hours per week) for a 2-week period. Families randomly assigned to the control group (44 families, 95 children, 82 adults) were instructed to carry on as usual.
- **Main Outcomes and Measures:** The primary outcome was between-group difference in leisure nonsedentary activity (in minutes per day) measured by combined thigh and waist accelerometry. Secondary outcomes included other physical activity and sleep parameters measured by single-channel electroencephalography.
- **Results:** Among the 89 randomized families (intervention group [45 families]: 86 children; mean [SD] age, 8.6 [2.7] years; 44 boys [51%]; 42 girls [49%]; control group [44 families]: 95 children, mean [SD] age, 9.5 [2.5] years; 38 boys [40%]; 57 girls [60%]), 157 children (87%) had complete data on the primary outcome. Eighty-three children (97%) in the intervention group were compliant to the screen use reduction during the intervention. The mean (SD) change in leisure nonsedentary activity in the intervention group was 44.8 (63.5) minutes per day and in the control group was 1.0 (55.1) minute per day (intention-to-treat between-group mean difference, 45.8 minutes per day; 95% CI, 27.9–63.6 minutes per day; $P < .001$). No significant between-group mean differences were observed between intervention and control for the electroencephalography-based sleep outcomes.
- **Conclusions and Relevance:** In this cluster randomized clinical trial, a recreational screen media reduction intervention resulted in a substantial increase in children's engagement in physical activity. The large effect size suggests that the high levels of recreational screen media use seen in many children should be a public health concern.

This study involved 89 families in Denmark with 181 children and 164 adults. It set out to evaluate the effect of screen time reduction on physical activity and sleep in families. To be eligible, family members had to average over 2.4 hours/day of recreational screen time. The families were randomly assigned to either continue their usual screen time or to reduce it to less than 3 hours/week. The researchers then monitored screen time for compliance in the intervention group (virtually all were compliant) and activity levels. The limited screen time children showed 45 minutes daily of increased physical activity. From a public health perspective, this is huge. Kids should get at least 60 minutes of activity daily. Gaining over 300 minutes of activity weekly is a huge step toward achieving this goal. Looking at the rates of childhood obesity and early onset of chronic diseases, lowering recreational screen use is a major step we can work toward to help our children have healthier lives.

Effects of Limiting Recreational Screen Media Use on Physical Activity and Sleep in Families With Children: A Cluster Randomized Clinical Trial. *JAMA Pediatr* 2022 May 23;[EPub Ahead of Print].