



# Teléfonos inteligentes y su impacto en los aprendizajes

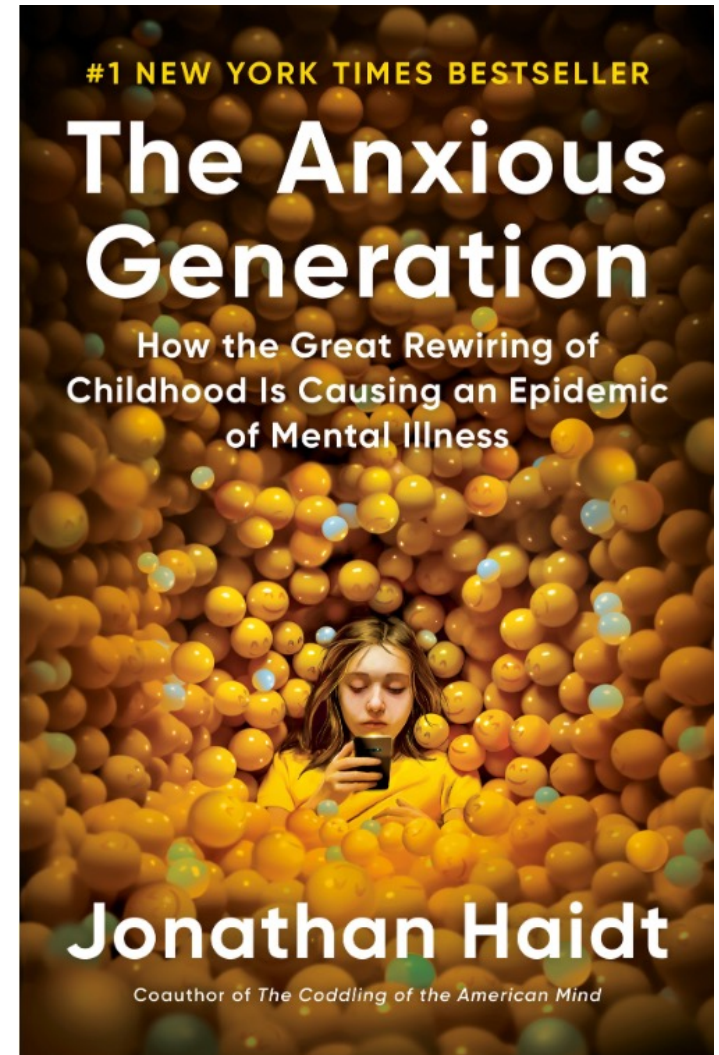
Horacio Alvarez, Banco Mundial



# La “generación ansiosa”

(Haidt, 2024)

- En su libro “The Anxious Generation”, Jonathan Haidt, profesor de sociología y negocios de NYU, muestra cómo los teléfonos inteligentes, las redes sociales y la sobre protección han provocado un deterioro de la salud mental de los niños y jóvenes y ofrece soluciones prácticas para superar estas dificultades.
- Haidt presenta un resumen del impacto negativo de los teléfonos inteligentes en los niños y jóvenes en cuatro grandes dominios del desarrollo:
  - Privación social
  - Privación del sueño
  - Fragmentación de la atención
  - Adicción
- Nos enfocaremos en los tres primeros elementos que señala Haidt, pero sobre todo en la fragmentación de la atención, que incide en menores aprendizajes.

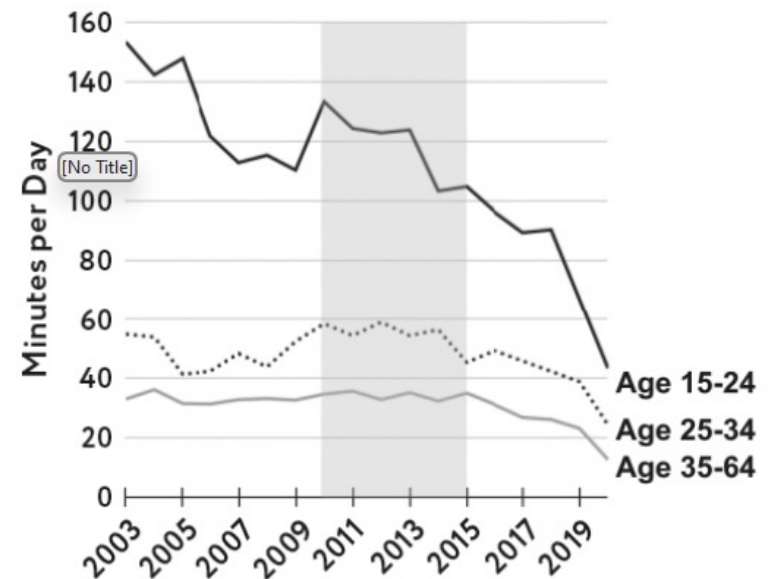


# Daño 1: Privación social

(Haidt, 2024)

- Los niños necesitan tiempo suficiente para jugar unos con otros, cara a cara, para lograr un mayor desarrollo social y emocional. Haidt argumenta que, con la llegada de la llegada de los celulares, la caída en el tiempo que los adolescentes comparten con sus pares ha caído dramáticamente.
- Haidt argumenta, además, que esta cifra subestima el tiempo real en que los jóvenes comparten, pues aún cuando pasan tiempo juntos, buena parte del tiempo están en el celular.

**Daily Time with Friends, by Age Group**



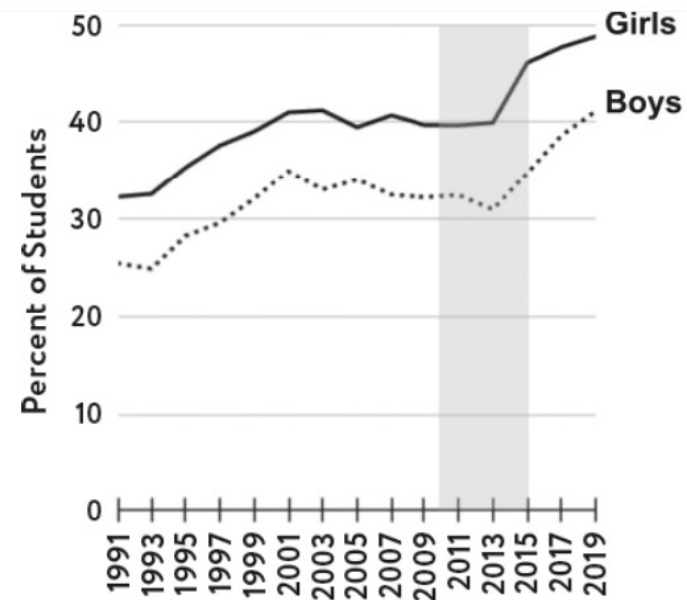
**Figure 5.1.** Daily average time spent with friends in minutes. Only the youngest age group shows a sharp drop before the 2020 data collection, which was performed after COVID restrictions had begun. (Source: American Time Use Study.)<sup>[19]</sup>

## Daño 2: Privación de sueño

(Haidt, 2024)

- Los jóvenes necesitan dormir más que los adultos, cuando menos nueve horas cuando son pre adolescentes y ocho horas cuando llegan a la adolescencia.
- Los jóvenes están durmiendo menos de lo que necesitan y el comienzo del uso de los teléfonos móviles está relacionado con un incremento considerable de la proporción de jóvenes que duerme menos de siete horas cada noche.
- Un análisis de 36 estudios correlacionales encontró una clara asociación entre el uso de redes sociales, reducción del sueño y disminuciones en la salud mental de los jóvenes: mayor incidencia de depresión, mayores niveles de agresión y otras actitudes antisociales relacionadas con la falta de control del impulso..

### Teens Who Get Less Than 7 Hours of Sleep



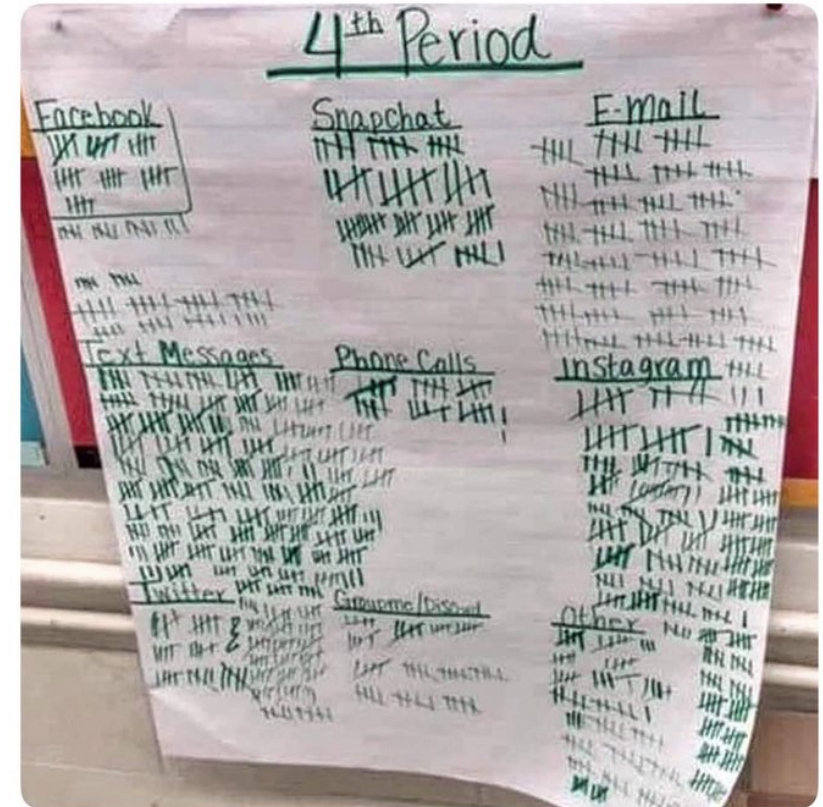
**Figure 5.2.** Percent of U.S. students (8th, 10th, and 12th grade) who get less than seven hours of sleep on most nights. (Source: Monitoring the Future.)<sup>[33]</sup>

(No Title)

## Daño 3: Fragmentación de la atención

(Haidt, 2024)

- En promedio, un joven recibe 192 notificaciones o alertas por día, un promedio de 11 notificaciones por hora, mientras está despierto.
- Para un adolescente es mucho más difícil enfocarse en una tarea específica, dado que la corteza frontal, que regula las funciones ejecutivas, aún está madurando. Por tanto, las interrupciones constantes producidas por los distintos aplicativos de los celulares, hacen más difícil que logren mantener la concentración.
- En situaciones normales, esto ya representa un gran desafío para los docentes. Las continuas interrupciones que producen los teléfonos móviles dificultan aún más la labor de los docentes y reducen los aprendizajes.



Mary Garza, a teacher in the U.S. had her students turn their phones on loud, and every time they received a notification they went up and put a tally mark under the correct category. This was one class, one period. Every one of these tally marks is an interruption in a student's education.

# **La fragmentación de la atención y su impacto en los aprendizajes**

*“You don't need to prove phones cause anxiety to justify a school phone ban.*

*You need to prove their impact on learning.*

*And given their ability to distract, the default should be school phone bans, and you should have to prove they enhance learning in order to unban them!”*



Daisy Christodoulou  
Education Policy Expert and Author



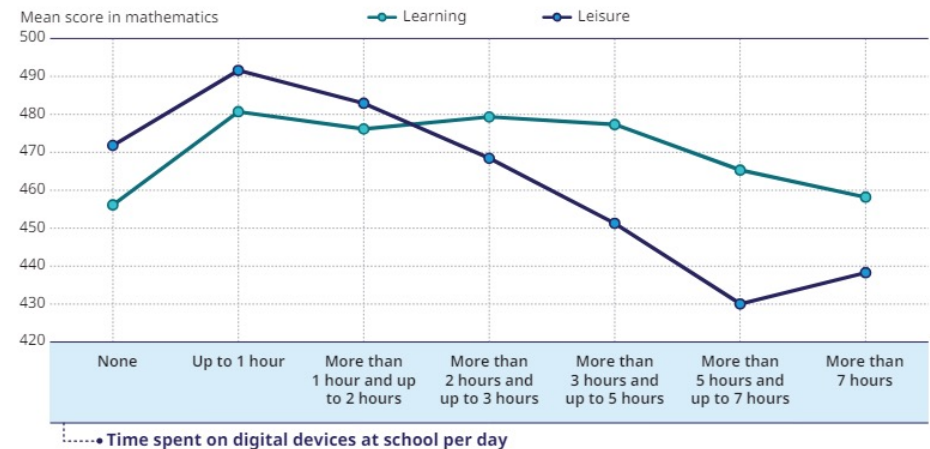
# PISA 2022: Insights and Interpretations

(Schleicher, 2023)

- On average, across OECD countries, 65% of students reported being distracted by using digital devices in at least some Maths lessons.
- Just as importantly, across the OECD, 59% of students said their attention was diverted due to other students using phones, tablets or laptops in at least some Maths lessons.
- 45% of students across OECD countries feel anxious if their phones are not near them.
- Data suggest that students who use digital devices a little bit can get a learning gain, though “students who used them more than an hour a day for leisure – social media apps, browsing the internet or games – saw a big drop in Maths scores”.

## Time spent on digital devices at school and mathematics performance

*Based on students' reports; OECD average*



**Note:** Differences between categories are all statistically significant (see PISA Results Volume II Annex A3).

**Source:** OECD, PISA 2022 Database, Volume II Annex B1, Chapter 5 (Figure II.5.14).

# The Influence of Technology on Academic Distraction: A Review

(Dontre, 2021)

- The meta-analysis, with studies from 14 countries ranging from 2007 to 2017 uncovered detrimental negative effects of mobile phone use on academic performance: as grades, test scores, and overall academic success.
- The decrease is mainly related to the increase in distractions and time dedicated to non-academic activities during learning hours. Incoming notifications or the mere proximity of a mobile device can distract students and cause them to be sidetracked from the task at hand. The use of smartphones in classrooms leads students to carry out activities not related to school, which affects memory and understanding.
- The impact on academic performance may vary across different age groups. The relationship is more pronounced among adolescents and college students.

# **Does The Mobile Phone Addiction and Depression Among High School Students: The Roles of Cyberbullying Victimization, Perpetration, and Gender**

(Wu, et. Al., 2021)

- Mobile phone addiction was positively correlated with and high school students' depression.
- Cyberbullying victimization and the cyberbullying perpetration significantly mediated the relation between mobile phone addiction and high school students' depression, which contained two mediating paths—the independent mediating effects of cyberbullying victimization and the sequential mediating effect of cyberbullying victimization and the cyberbullying perpetration
- There are gender differences in the sequential mediation model, and boys who are victims of cyberbullying are more likely to develop into cyberbullying perpetrators than girls.
- 1297 high school students were recruited to complete the Smartphone Addiction Scale, European Cyberbullying Intervention Project Questionnaire and the Center for Epidemiological Studies Depression Scale.

# Dividing attention in the classroom reduces exam performance

(Glass & Kang, 2019)

- Divided attention had no effect on performance of the classroom lesson questions in the short term.
- However, following the lessons in which cell phones and laptops were allowed, performance was poorer on the unit exam and final exam questions.
- The main effect of divided attention in the classroom is not an immediate effect of selection or switching on comprehension but a **long-term effect of divided attention on retention**, at the largest at the largest retention interval.
- social effect of classroom distraction When the use of electronic devices was allowed in class, performance on the unit exams and final exams was poorer for students who did not use electronic devices during the class as well as for the students who did use an electronic device. on subsequent exam performance. The effect of classroom distraction on exam performance confirms the laboratory finding of the social effect of distraction (Sana et al., 2013).

Arnold L. Glass & Mengxue Kang (2019) Dividing attention in the classroom reduces exam performance, *Educational Psychology*, 39:3, 395-408, DOI: 10.1080/01443410.2018.1489046

# Disengagement during lectures: Media multitasking and mind wandering in university classrooms

(Wammes, et. al, 2019)

- Study measured rates of disengagement during lectures related to media use (i.e. media multitasking; Studies 1 & 2) and lecture-unrelated thoughts (i.e. mind wandering; Study 2).
- Study measured the impact of these behaviors on learning using quiz questions at the end of each lecture, and students' actual course tests.
- Rates of media multitasking were relatively high and increased as time elapsed in a lecture, while in Study 2, consistent with prior work, rates of mind wandering remained relatively stable.
- Media multitasking - but not mind wandering - was associated with negative learning outcomes.

# The effects of mobile phone use on academic performance: A meta-analysis

(Kates, Wu & Cornyn, 2018)

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- The impact on academic performance may vary across different age groups. The relationship is more pronounced among adolescents and college students.

# Cell phone usage and academic performance: An experiment

(Darghan Felisoni & Strommer Godoi, 2018)

- Significant negative relationship between total time spent using smartphones and academic performance, after controlling for known predictors of performance such as self-efficacy and past academic results.
- Each 100 min spent using the device on average per day corresponded to a reduction in a student's position at the school's ranking of 6.3 points, in a range from 0 to nearly 100.
- Considering usage during usage during class time only (as opposed to during free time and weekends): the effect was almost twice as high.
- Differently from previous studies that rely on self-reporting mobile phone usage data (underestimate time spent by students), apps were used to effectively measure actual usage.
- Data from 43 students at Fundação Getúlio Vargas (FGV), São Paulo, Brazil.

# The impact of computer usage on academic performance: Evidence from a randomized trial at the United States Military Academy

(Carter, Greenber & Walker, 2017)

- Study prohibited computers in randomly selected classrooms of an introductory economics course.
- Permitting computers reduces final exam scores by 0.18 standard deviations.
- Negative effects in classrooms where laptops and tablets are permitted without restriction
- Negative effects in classrooms where students are only permitted to use tablets that must remain flat on the desk.



# Does multitasking with mobile phones affect learning? A review

(Chen & Yan, 2016)

- Multitasking with mobile phones can have detrimental effects on learning and cognitive performance.
  - Negatively affects learning outcomes, due to divided attention and cognitive overload, which hinder the encoding and retention of information.
  - Decreased cognitive performance, constantly switching between tasks can lead to inefficiency and errors in processing information.
- Even when not actively used, the presence of mobile phones can serve as a distraction and disrupt attention during learning tasks, lowering comprehension and retention of material.
- Complex or challenging material may be more susceptible to interference from multitasking compared to simpler tasks.
- The effects of multitasking with mobile phones on learning may vary among individuals. Factors such as age, cognitive abilities, and prior experience with technology can influence how individuals are affected by multitasking.
- Results from 132 studies published between 1999–2014.

# Causes, effects, and practicalities of everyday multitasking

(Carrier et. al, 2015)

- Multitasking may increase productivity in certain situations; however, it often leads to decreased efficiency, reduced performance, and increased stress levels.
- Multitasking requires individuals to switch their attention between different tasks rapidly. This constant task-switching can lead to cognitive overload, impairing memory, attention, and overall cognitive functioning.
- Studying, doing homework, learning during lectures, learning from other sources, grades, and GPA likely are all negatively affected by concurrent multitasking with technology.
- Young people who frequently multitask compared with other young people may be poorer at ignoring irrelevant environmental information, but the effects of extreme multitasking on other cognitive outcomes are not clear-cut.

# The Relationship Between Cell Phone Use and Academic Performance in a Sample of U.S. College Students

(Lepp, et. al, 2015)

- Increased cell phone use was associated with decreased academic performance, sample of 536 undergraduate students from 82 self-reported majors at a large, public university were sampled.
- Cell phone use was significantly and negatively ( $\beta = -.164$ ) related to actual college GPA after controlling for demographic variables, self-efficacy for self-regulated learning, self-efficacy for academic achievement, and actual high school GPA, which were all significant predictors.

# Examining the impact of off-task multi-tasking with technology on real-time classroom learning

(Wood et. al, 2012)

- Study finds overall negative impact of off-task multitasking with technology on real-time classroom learning. Students who engaged in off-task multitasking with technology during class, such as using their smartphones or browsing the internet for non-academic purposes:
  - Experienced a significant decrease in academic performance.
  - Had lower comprehension and retention of the material presented compared to those who remained focused on the lesson.
- Off-task multitasking with technology negatively impacted students' attention and engagement with the course material. It led to divided attention, making it difficult for students to fully concentrate on the lesson.

**La respuesta: la prohibición de  
teléfonos inteligentes**



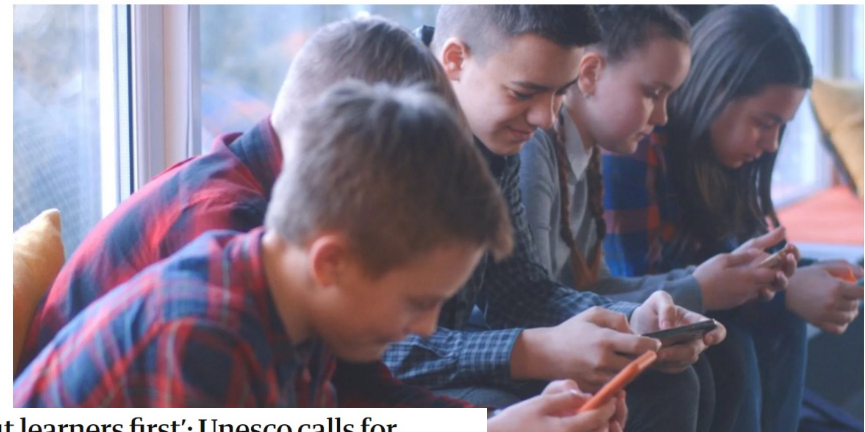
INFORME DE SEGUIMIENTO DE LA EDUCACIÓN EN EL MUNDO

2023

## Tecnología en la educación: ¿UNA HERRAMIENTA EN LOS TÉRMINOS DE QUIÉN?



## UNESCO calls for schools around the world to ban smartphones in the classroom



### 'Put learners first': Unesco calls for global ban on smartphones in schools

Major UN report issues warning over excessive use, with one in four countries already banning the devices

- Analysis: distraction and bullying are key concerns
- 'I would crank up the restrictions': teachers on banning phones in school



The UN report warned of a 'negative link' between excessive use of digital technology and student performance. Photograph: Sueddeutsche Zeitung Photo/Alamy

### Smartphone Ban Recommended In Schools As UN Says They Are A 'Distraction To Learning'



BREAKING NEWS  
Photo: Getty Images via Shutterstock.com

Forbes


# Países que han prohibido teléfonos inteligentes en la escuela

- [Francia](#) (2018) – prohibición de uso de teléfonos, tabletas y relojes inteligentes en la primaria y secundaria baja.
- [China](#) (2021) - plan para limitar el uso de teléfonos inteligentes dos horas diarias, prohibición de uso en escuelas.
- [Italia](#) (2022) – los docentes recogen los celulares de los estudiantes al iniciar el día lectivo.
- [Australia](#) (2023)
- Suecia (2022)
- [Finlandia](#) (2023)
- [Nueva Zelandia](#) (2023) – Away for the Day
- [Inglaterra](#) (2023) – prohibición durante el día escolar, inclusive en recesos.
- [Países bajos](#) (2024)
- Estados Unidos (2023-fecha) Florida, Vermont, Oklahoma, Kansas.



# **Soluciones y consideraciones**





Soluciones  
disponibles:  
PhoneAwayBox

<https://www.phoneawaybox.com/>

Soluciones  
disponibles:  
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Soluciones  
disponibles:  
Casilleros por  
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