

Links to important articles and stats

<https://www.ncsl.org/technology-and-communication/social-media-and-children-2024-legislation>
NCSL (National conference of state legislators) list of current and pending legislation pertaining to Social media and minors for 2024

Article of interest regarding why we need to use the verification source that we chose for our Zero Knowledge Proof and why our age groups include all under the age of 18.

<https://www.usatoday.com/story/news/nation/2022/02/23/tennessee-woman-charged-statutory-rape-high-school-students/6914454001/>

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3781082

Berkeley Tech Law Journal article initially published 2/18/21 last revised 01/10/22
Verification Dilemmas in Law and the Promise of Zero Knowledge Proofs

<https://www.welivesecurity.com/en/kids-online/child-identity-theft-how-keep-kids-personal-data-safe/#:~:text=Child%20identity%20theft%20is%20more,taking%2016%20hours%20to%20resolve.>

Over a million minors were victim of identity theft in 2022

<https://blog.gitnux.com/internet-safety-statistics/#:~:text=5%25%20of%20children%20would%20share,face%20when%20using%20the%20Internet.>

2023 report

<https://safeatlast.co/child-security/kids-online-safety/#gref>

75% of minors will give out PII for the mere promise of good or services

<https://www.forbes.com/home-improvement/internet/child-internet-safety-guide/#:~:text=Exposure%20to%20Inappropriate%20Content,explicit%20language%2C%20images%20and%20videos.>

More than 50% of kids 10-12 have reported seeing explicit or inappropriate content while doing research homework online.

<https://www.theatlantic.com/technology/archive/2016/08/the-social-media-invisibles/497729/>

“Invisibles” between the ages of 8-12 on Facebook

“When asked, Simon Milner, a senior executive with Facebook, said that it would be “almost impossible.” He has told *The Guardian*, “We

haven't got a mechanism for eradicating the problem [of underage users].”””

<https://www.theguardian.com/technology/2016/nov/22/facebook-executive-accuses-uk-parents-flouting-age-restrictions>

<https://drlisastrohman.com/kids-age-social-media/>

On average kids are handed their first cell phone at 10 years of age in the U.S. after 6 months 50% are on social media.

[https://www.marketingcharts.com/television-571#:~:text=Children%20begin%20using%20electronic%20devices,of%20age\)%2C%20NPD%20said.](https://www.marketingcharts.com/television-571#:~:text=Children%20begin%20using%20electronic%20devices,of%20age)%2C%20NPD%20said.)

Average ages of using personal electronic devices is declining rapidly. (2007 data)

<https://medium.com/@jdunns4/just-how-big-is-the-us-education-market-98eb26a2a6f7>

<https://www.pewresearch.org/internet/2020/07/28/childrens-engagement-with-digital-devices-screen-time/#:~:text=Among%20the%2060%25%20of%20parents,between%20ages%203%20and%204.>

2020 data

Alexa danger to an under aged user

<https://www.cnn.com/2021/12/29/business/amazon-alexa-penny-plug-intl-scli/index.html>

Dangers of collecting children's data

<https://www.fm-magazine.com/issues/2018/oct/collecting-childrens-data.html>

How you can be COPPA compliant and collect children's data

<https://www.globalprivacyblog.com/gdpr/4-questions-to-consider-when-dealing-with-childrens-data-in-the-us/>

Children's apps unknowingly collecting children's data at risk

<https://news.bloomberglaw.com/privacy-and-data-security/childrens-apps-unknowingly-collecting-data-pose-compliance-risk>

Google Play Store misleads on privacy of children's data

<https://news.bloomberglaw.com/privacy-and-data-security/google-play-store-misleads-on-childrens-privacy-groups-tell-ftc?context=article-related>

Third party children's data collection and privacy violations - game industry

<https://news.bloomberglaw.com/privacy-and-data-security/kids-mobile-game-maker-settles-ftc-privacy-claims-for-150-000?context=article-related>

US Child population by age group

<https://datacenter.kidscount.org/data/tables/101-child-population-by-age-group#detailed/1/any/false/574,1729,37,871,870,573,869,36,868,867/62,63,64,6,4693/419,420>

60 million kids under the age of 15 in this country according to KidsCount.org

48 million are 11 and under.

So roughly 52 million are under 13.

But there are 72 million minors in the US.

General revenue stats for online sales for 2022

<https://www.insiderintelligence.com/insights/ecommerce-industry-statistics/>

US e-commerce sales will reach more than \$1 trillion dollars in 2022 and are expected to double by 2024.

Amazon will reach 3.6 billion dollars in sales in 2022, alone, and it's YoY (year over year) 25% growth means it is only going to grow more as it increases its footprint in online grocery.

<https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/>

Retail stats on global e-commerce sales from 2014 through 2025. "In 2021, retail e-commerce sales amounted to approximately 4.9 trillion U.S. dollars worldwide. This figure is forecast to grow by 50 percent over the next four years, reaching about 7.4 trillion dollars by 2025."

<https://www.statista.com/statistics/271582/revenue-of-selected-social-media-companies/>

In 2021, Meta Platforms, formerly Facebook Inc., had a total annual revenue of over 117 billion U.S. dollars, up from 85.96 in 2020

Education Market stats 12/30/21

<https://www.marketwatch.com/press-release/us-education-market-2021-top-players-emerging-demand-business-profit-analysis-sales-revenue-and-expansion-strategies-by-2027-2021-12-30>

<https://medium.com/@jdunns4/just-how-big-is-the-us-education-market-98eb26a2a6f7>

1.3T in 2015

<https://www.prnewswire.com/news-releases/us-education-market-size-worth-usd-2-3-trillion-by-2028--cagr-4-5-zion-market-research-301478688.html>

1.1T will be 2.3T in 2028

Children viewed inappropriate content during covid on school issued laptops

https://www.washingtonpost.com/local/education/complaint-alleges-children-discovered-pornography-while-browsing-on-school-issued-laptops/2020/11/24/8e9c7cac-2dc8-11eb-860d-f7999599cbc2_story.html

EdTech market stats 1/21

<https://www.grandviewresearch.com/industry-analysis/education-technology-market> global market

<https://www.toptal.com/finance/market-research-analysts/edtech-trends-2020>

Education and EdTech expenditures at 1.2T in 2020

<https://www.prnewswire.com/news-releases/edtech-market-to-grow-by-usd-112-39-bn-from-2020-to-2025evolving-opportunities-with-alphabet-inc--blackboard-inc17000-technavio-reports-301412825.html>

2021-2021 112B 20+% YoY growth

E-commerce statistics for 2022-2025

<https://www.insiderintelligence.com/insights/ecommerce-industry-statistics>

<https://www.oberlo.com/statistics/global-ecommerce-sales-growth>

<https://www.shopify.com/blog/global-ecommerce-sales>

<https://www.businessinsider.com/kids-under-13-use-facebook-instagram-2021-5#:~:text=40%25%20of%20Kids%20Under%2013%20Already%20Use%20Facebook%2C%20Instagram%3A%20Report>

40% of kids under the age of 13 are using Facebook and IG

269 teachers were arrested for sex crimes in the first 9 months of 2022 That works out to 1 a day.

10% of students have experienced sexual abuse k-12 (roughly 6 million students)

<https://www.foxnews.com/politics/at-least-269-k-12-educators-arrested-child-sex-crimes-first-9-months-year?fbclid=IwAR292wMJIPY10LLtjUan3qWJNkBmFCdNg7vc06uM7bKaZI8WIo1g4bxEtig>

Gaming industry statistics:

Average age of a Roblox user

<https://www.statista.com/statistics/1190869/roblox-games-users-global-distribution-age/>

Daily users on Roblox: 54% are between the ages of 9 to 12.

<https://www.statista.com/statistics/1192573/daily-active-users-global-roblox/>

<https://www.statista.com/statistics/1192573/daily-active-users-global-roblox/#:~:text=As%20of%20the%20third%20quarter,user%20count%20of%2043.2%20million.>

Fortnite statistics:

<https://financesonline.com/fornite-statistics/>

<https://www.statista.com/statistics/985792/fornite-playing-children-united-states/>

<https://www.linkedin.com/feed/update/urn:li:activity:6978047882343936001/>

<https://stanfordmag.org/contents/life-the-metaverse-and-everything>

Roblox explores the idea of kids and adults socializing and shopping in co-existence online in the metaverse.

Minecraft statistics:

<https://playtoday.co/blog/stats/minecraft-statistics/>

<https://www.webwise.ie/parents/a-parents-guide-to-minecraft/#:~:text=Minecraft%20is%20huge,y%20popular%20with,and%20the%20possibilities%20and%20endless.>

(OPENING LINE NODS to the fact kids don't have to prove their age)

Over 40% of parents report that their children have made microtransactions in-game on apps without their authorization or knowledge.

<https://www.statista.com/statistics/1107249/kids-secret-in-app-purchases/>

8.2% of parents report that their children spend 100 dollars or more in microtransactions in mobile game apps monthly

<https://www.statista.com/statistics/1107246/kids-in-app-purchases-spending/>

How Roblox is exploiting young game developers - and more

<https://www.youtube.com/watch?v=vTMF6xEiAaY>

https://www.youtube.com/watch?v=_gXlaurB1EQ

Roblox SEC filing for 2020

https://www.sec.gov/Archives/edgar/data/1315098/000119312520298230/d87104ds1.htm#in87104_6

<https://www.bloomberg.com/features/2024-roblox-pedophile-problem/#:~:text=More%20than%2040%25%20of%20its,data%20compiled%20by%20Bloomberg%20Businessweek.>

2024 Roblox predators are a problem

Social media stats:

Revenue

<https://www.statista.com/statistics/271582/revenue-of-selected-social-media-companies/>

Industry statistics:

<https://www.ibisworld.com/industry-statistics/number-of-businesses/social-networking-sites-united-states/>

Social media data regarding minors and their interaction:

<https://www.marketingdive.com/ex/mobilemarketer/cms/news/research/22866.html#:~:text=The%20average%20age%20when%20children,by%2077%20percent%20of%20kids.>

Average age for kids to get a phone is now 10.

Create a social media account 11.

50% of all kids are now on social media by age 12.

Site specifics:

TikTok stats:

<https://backlinko.com/tiktok-users>

Role of social media influencers on minors

<https://www.frontiersin.org/research-topics/9295/the-role-of-social-media-influencers-in-the-lives-of-children-and-adolescents>

<https://groupdiscussion.gkbymrdj.com/social-media-influencers/>

<https://intellectualgyani.com/advantages-disadvantages-social-media-on-youth/>

<https://cornerstone.lib.mnsu.edu/cgi/viewcontent.cgi?article=1923&context=etds>

2022: Social media pending litigation

<https://www.politico.com/news/2022/03/15/instagram-tiktok-addiction-kids-california-proposal-00017196>

<https://www.dailymail.co.uk/news/article-10811481/TikTok-sued-family-Philly-girl-10-died-doing-dangerous-blackout-challenge.html#v-1657890565629195689>

<https://www.businessinsider.com/teen-lawsuit-snapchat-google-apple-exploited-marine-california-child-abuse-2022-5>

<https://www.usatoday.com/story/tech/news/2022/06/13/parents-sue-meta-daughter-instagram-addiction/7607510001/>

<https://www.theverge.com/2022/7/7/23199058/tiktok-lawsuits-blackout-challenge-children-death>

<https://www.thetimes.co.uk/article/901e63ec-3dbb-11ed-a7af-c587dcb7526e?shareToken=f2df2a8139917c10feb701210f194ed2>

Sextortion targeting teens:

<https://www.today.com/parents/teens/sextortion-one-mom-warning-parents-sons-death-rcna55471>

Text messaging, Teens, cyberbullying and corporate buttressing accusations peer pressure on all fronts

<https://www.linkedin.com/news/story/googles-text-bubble-beef-with-apple-4630865/>

Social media influence on minors increase in depression and suicide

<https://www.healio.com/news/psychiatry/20201005/social-media-use-may-play-important-role-in-youth-suicide-expert-says>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7392374/>

<https://prcp.psychiatryonline.org/doi/full/10.1176/appi.prcp.20190015>

<https://www.cnn.com/2022/04/19/tech/social-media-lawsuits-teen-suicide/index.html>

Lawsuits regarding data

<https://arstechnica.com/tech-policy/2022/09/ireland-fines-instagram-e405-million-for-failing-to-protect-childrens-data/>

<https://www.businesswire.com/news/home/20210225006128/en/TikTok-Agrees-to-Pay-92-Million-to-Settle-Lawsuit-Alleging-Its-App-Captured-Users%E2%80%99-Biometric-and-Private-Data-FeganScott-Law-Firm-Announces>

<https://techstory.in/metaverse-allows-kids-into-virtual-strip-clubs/>

<https://www.texasattorneygeneral.gov/news/releases/paxton-sues-facebook-using-unauthorized-biometric-data>

National School Boards association may have data we can work with for this project.

The Center for Public Education (CPE) provides accurate and timely information about public education and its importance to the wellbeing of our nation. CPE offers research, data, and analysis on current education issues and explores ways to improve student achievement and engage support for public schools

<https://www.nsba.org/Services/Center-for-Public-Education/library>

COPPA compliance and EdTech

<https://www.ftc.gov/news-events/blogs/business-blog/2020/04/coppa-guidance-ed-tech-companies-schools-during-coronavirus>

Cost of compliance white paper (a bit dated 2017-2018)

<https://static.helpsystems.com/globalscape/pdfs/guides/gs-true-cost-of-compliance-data-protection-regulations-gd.pdf>

Per incident cost average

Per employee cost average

Global cybersecurity budgets to exceed 1.75 trillion dollars between 2021-2025

<https://cybersecurityventures.com/cybersecurity-spending-2021-2025/>

Cost of a data breach in 2021

<https://www.upguard.com/blog/cost-of-data-breach>

Schools COVID shut down 2022

<https://www.wavy.com/news/education/more-than-2k-schools-closing-over-covid-concerns-in-first-week-of-2022/amp/>

ISTE article

<https://edtechmagazine.com/k12/article/2021/06/istelive-21-how-schools-can-confidently-create-strategy-digital-world>

Minecraft coding classes

Collection of children's data at an alarming rate back in 2018

<https://www.vox.com/the-goods/2018/12/5/18128066/children-data-surveillance-amazon-facebook-google-apple>

Children and the media 2019

<https://www.statista.com/topics/3980/children-and-media-in-the-us/#dossierKeyfigures>

Facebook etc antitrust FTC lawsuit moving forward

<https://www.vox.com/2021/8/19/22632826/facebook-ftc-lawsuit-antitrust-monopoly-lina-khan-instagram-whatsapp-path-circle>

Lawsuit from 16 year old against Snap, Google and Apple regarding exploitation from the time she was 12 -

<https://www.businessinsider.com/teen-lawsuit-snapchat-google-apple-exploited-marine-california-child-abuse-2022-5>

Instagram Age Verification using biometrics and using AI

<https://www.yahoo.com/now/instagram-tests-using-ai-other-173402607.html>

The dangers of children on social media and predators

<https://www.sportskeeda.com/pop-culture/what-happened-wren-eleanor-tiktok-controversy-explored-comments-profile-gets-disabled>

<https://www.nytimes.com/2022/07/31/business/student-privacy-illuminate-hack.html>

<https://9to5mac.com/2021/05/13/children-under-13-sexual-abuse-online/>

Upwards of 40% of users are under the age of 13

Population stats

<https://vividmaps.com/us-population-aged-0-4/#:~:text=Today%2C%20the%20number%20of%20children,21.1%20million%20persons%20in%202008.>

<https://www.infoplease.com/us/census/demographic-statistics>

<https://www.ojdp.gov/ojstatbb/population/qa01104.asp?qaDate=2020>

D.O.J. 2020 US children population stat

Social media and teens 13-17 - 90% are on social media

https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Social-Media-and-Teens-100.aspx

PC Magazine parental controls

<https://www.pcmag.com/picks/the-best-parental-control-software>

Age restrictions

<https://www.thesun.co.uk/tech/4136922/age-restrictions-facebook-snapchat-twitter-instagram/>

Social media law Florida First amendment appeal

<https://www.axios.com/2022/09/21/florida-supreme-court-social-media-law>

Age Appropriate design code articles

https://www.huffpost.com/entry/california-law-protect-kids-online_l_6324bec6e4b027aa40660b96

"While it's uncertain if Instagram will raise this age cutoff to 18 in California now, the Age-Appropriate Design Code Act does require companies to take into account "the unique needs of different age ranges" and developmental stages, defined by the law as follows: "0 to 5 years of age or 'preliterate and early literacy,' 6 to 9 years of age or 'core primary school years,' 10 to 12 years of age or 'transition years,' 13 to 15 years of age or 'early teens,' and 16 to 17 years of age or 'approaching adulthood.'" from the dissection of the AADCA by the even our age groups were right on target except age 5 is being kept in pre-school age although Kindergarten is primarily in public school and a part of Early Childhood Development age grouping in most before and after school programming and developmental ratios. I believe that they put 13-15 in a group as "early teens" because of the COPPA/GDPR current standards, and in the U.S. age 16 to 17 years 11 months are ages where minors begin to take on more adult roles and responsibilities - employment, driving, decision making regarding post-secondary education opportunities, and in the justice system many can be tried as "an adult" should they break the law during these ages and stages.

<https://www.techdirt.com/2022/09/15/gavin-newsom-fucks-over-the-open-internet-signs-disastrously-stupid-age-appropriate-design-code/>

<https://www.wired.com/story/california-aadc-kids-privacy-age-checks/>

Kid-friendly internet looks like

<https://techpolicy.press/a-bill-designed-to-protect-kids-could-change-the-internet-for-the-better/>

<https://www.youtube.com/watch?v=AvpjSoFiu-g>

[Meta and YouTube designed addictive products that harmed young people, jury finds | Meta | The Guardian](#)

Meta IG

Facial recognition scans Biometrics

<https://www.dw.com/en/instagram-uses-face-scans-to-verify/a-62239924>

<https://www.forbes.com/sites/petersuciu/2022/07/01/meta-testing-new-age-verification-tools-experts-explain-why-they-wont-work/>

<https://www.protocol.com/bulletins/instagram-facial-recognition-age>

<https://firstsiteguide.com/how-many-websites/#:~:text=question%20people%20ask%3A-,How%20many%20websites%20are%20there%3F,over%201.98%20billion%20websites%20online.>

How many websites are there on the internet 2022

<https://www.weforum.org/agenda/2021/08/number-websites-2021-world-wide-web/#:~:text=British%20physicist%20Tim%20Berners%2DLee,now%20around%201.88%20billions%20sites.>

3000 websites in 1994

<https://www.visualcapitalist.com/cp/most-popular-websites-by-web-traffic/>

Less than 200 sites in 1993 now almost 2 billion

<https://www.apple.com/newsroom/2018/07/app-store-turns-10/#:~:text=In%2010%20years%2C%20the%20App,travel%20and%20so%20much%20more.>

When it started in 2008 it had 500 apps

<https://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/>
2.2 million apps on app store 3.5 million on google play

<https://www.androidauthority.com/android-market-google-play-history-754989/>

When google play started in 2012 it had 450,000 apps now 3.5 million.

<https://www.mobvista.com/en/blog/short-story-google-play-store-four-things-weve-learned-10-years-one-androids-leading-stores/#:~:text=Launched%20originally%20as%20The%20Android,interesting%20retrospective%20of%20the%20store.>

Originally google play was launched in 2008 as Android market and had barely a dozen apps

https://www.linkedin.com/posts/callumvoge_european-commission-proposal-to-prevent-and-activity-6977569071911321600-Zn4u?utm_source=share&utm_medium=member_desktop

EU movement to protect children from sexual abuse and predatory behaviors

https://www.linkedin.com/posts/barb-winters-b146882a_preventing-social-media-addiction-helpful-activity-6976243181474476032-zE1z?utm_source=share&utm_medium=member_desktop

Suggestions for preventing social media addiction for children

<https://hopefulmom.net/preventing-social-media-addiction/>

Complete article

Telehealth company didn't use software to flag minors and treated patient without parental consent.

https://www.wsj.com/articles/cerebral-treated-a-17-year-old-without-his-parents-consent-the-y-found-out-the-day-he-died-11664416497?utm_source=facebook&utm_medium=news_tab&fb_news_token=MA5G4kqFJAN6JV80Rq4NfA%3D%3D.XatPg0JCSfCfaL1oQi6SPwKcEvwDoxROEBmZnNl%2Bbm1ocZDgsp0SlyrSrrTBHm2Pr6%2BxpF6or5hf991fJZrvSFb7rzUvMqsuSsAZAMGplxIY6ahqMdDU0fbLjFYW8eCriBvYxeCjJ9LZsk%2B1nOECJjgGq6yRdsvOU1V39i00MeIDvJgHQ%2FovAN%2FgdEPMUIsYlHymRUmFrFkGM4%2BwMrAJ6SA5OTCRAuZ%2BcA%2BDRCqWjGZG5q3O6V0zznbNPg2FABxq9IGIY0VATF4W0FP9CdAHrQN%2BXnbpXbUnWgR%2BXZEhJp2Ep3iZFdKemd214bOy6yAaKhfJ4pgfoWFEyXiTxyB8mgzm7b2jc3mpp0FABBa2ePf91wa3I%2FqKqpJIABtJEPs&fbclid=IwAR3KCyE5SzyXGxm7WZXAdGua4l6MePDnAfmo0ujss3ANSzw7xN0kTxBjdo

Grindr attempted murder and grooming for 3 yrs predator started at 19 with 16 yr old

<https://www.nbcnews.com/nbc-out/out-news/louisiana-man-pleads-guilty-kidnapping-gay-teen-grindr-attempted-murder-rcna50171?fbclid=IwAR1H8QFumbPASwv6DJ0gWriZLesOaMbWB53iH5H3G3RV3m48-qAtq15yTTU>

TikTok stats

<https://www.demandsage.com/tiktok-user-statistics/#:~:text=users%20on%20TikTok.,How%20Many%20TikTok%20Users%20are%20There.billion%20are%20monthly%20active%20users.>

<https://www.socialchamp.io/blog/tiktok-stats/#:~:text=General%20TikTok%20Stats,-The%20following%20general&text=The%20app%20has%20registered%20more.million%20users%20utilizing%20the%20platform.>

34 million videos are uploaded to TikTok daily

Self harm monitoring implications in privacy

<https://publicinterestprivacy.com/the-privacy-and-equity-implications-of-using-self-harm-monitoring-technologies/>

Beyond commercialization safety and privacy concerns for students

<https://publicinterestprivacy.com/2022-05-25/>

PDF handout from California

<https://californiaadc.com/wp-content/uploads/2022/08/AADC-How-it-Works-FINAL.pdf>

Distance learning saw a 300% increase in sexual exploitation of children from 2019 to April of 2020

<https://fairplayforkids.org/porn-on-school-devices/>

<https://www.scientificamerican.com/article/the-coronavirus-pandemic-puts-children-at-risk-of-online-sexual-exploitation/>

“In 2018 tech companies reported finding more than 45 million instances of child sexual abuse material on their platforms.”

And grooming techniques:

“Predators make their way into chat rooms and video game sessions and often pose as minors, starting innocuous conversations. These interactions escalate into the adults pressuring children to send them sexually explicit photographs or videos (sometimes using financial bribes; other times exploiting vulnerabilities around self-esteem). The predators later use such images as blackmail to coerce their victims into sending them more sexually explicit material and keeping the abuse secret. They may threaten to send the pictures to children’s parents if they don’t provide increasingly graphic images.”

How many social media platforms are there?

<https://datareportal.com/social-media-users>

How many students report sexual misconduct by school staff annually?

<https://www.innocentlivesfoundation.org/sexual-misconduct-in-the-classroom-everything-you-need-to-know/>

How many content creators are there on YouTube and other social media

[https://influencermarketinghub.com/creator-economy-stats/#:~:text=In%20contrast%2C%20you%20are%20more,%2C%20and%20Other%20\(200%2C00\).](https://influencermarketinghub.com/creator-economy-stats/#:~:text=In%20contrast%2C%20you%20are%20more,%2C%20and%20Other%20(200%2C00).)

22k youtubers have more than 1M followers

230,000 youtube channels have more than 100k followers

500k Instagrammers have more than 100k followers

3.2M content creators in CA

<https://www.commerce.senate.gov/services/files/FC8A558E-824E-4914-BE-DB-3A7B1190BD49>

Whistleblower Frances Haugen written testimony

online predatory statistics

<https://www.indianaprevention.org/child-abuse-statistics#:~:text=30%2D40%25%20of%20victims%20are,that%20they%20have%20been%20abused.>

<https://screenandreveal.com/online-predators-statistics/#:~:text=Online%20predators%20mostly%20target%20children,and%20chatrooms%2C%20predator%20statistics%20show.>

<https://childsafety.losangelescriminallawyer.pro/children-and-grooming-online-predators.html#:~:text=There%20are%20an%20estimated%20500%2C00,ages%20of%2012%20and%2015.>

<https://www.missingkids.org/content/dam/missingkids/pdfs/ncmec-analysis/Online%20Enticement%20Pre-Travel.pdf?kbid=104055>

<https://www.socialmediasafety.org/resources/>

https://www.puresight.com/case_studies/online-predators-statistics/

<https://youthinternetsafety.wordpress.com/2011/05/29/the-types-of-online-predators/>

<https://www.guardchild.com/statistics/>

<https://www.missingkids.org/blog/2021/rise-in-online-enticement-and-other-trends--ncmec-releases-2020->

<https://www.mcafee.com/blogs/consumer/family-safety/reports-of-online-predator-on-the-rise-how-to-keep-your-kids-safe/>

<https://www.theguardian.com/society/2021/mar/28/victims-in-84-of-online-grooming-cases-are-girls>

<https://isc2-center.my.salesforce.com/sfc/p/#G0000000iVSt/a/of00000ofyoc/TYQ9XvDATBA78rRooG.PGJ9fmaLm1vQfAW9HCpy3GWk>

<https://www.koaa.com/news/deep-dive/fbi-estimates-500-000-online-predators-are-a-daily-threat-to-kids-going-online>

<https://www.fbi.gov/how-we-can-help-you/parents-and-caregivers-protecting-your-kids>

<https://www.fbi.gov/how-we-can-help-you/safety-resources/scams-and-safety/common-scams-and-crimes/sextortion>

Kids as young as 8 are using social media

[https://www.nytimes.com/2022/03/24/well/family/child-social-media-use.html#:~:text=On%20average%2C%20daily%20screen%20use,\(ages%2013%20to%2018\).](https://www.nytimes.com/2022/03/24/well/family/child-social-media-use.html#:~:text=On%20average%2C%20daily%20screen%20use,(ages%2013%20to%2018).)

<https://www.digitalinformationworld.com/2021/06/google-play-store-has-serious-privacy.html>

20% of the top 500 apps for children on the Google Play Store were found to violate these privacy policies to some extent or the other. This discovery was made by **Comparitech**, and the analysis revealed that the privacy violations mostly occurred in the form of data mining that's not exactly legal since there are hard limits that have been

placed on the kinds of data that an app developer can collect from kids for some pretty obvious reasons.

<https://thetoyzone.com/the-most-invasive-kids-apps>

“5% of the apps harvested location or contact data without verifiable parental consent, and nearly a fifth of the apps collected “personally identifiable information” [e.g. name, birthday, biometrics] through third-party software development kits (SDKs) that were not supposed to be used in child-directed apps. Many also transmitted data without adequate security.”

https://info.thorn.org/hubfs/Research/Responding%20to%20Online%20Threats_2021-Full-Report.pdf

https://blog.precise.tv/blog/gaming_park_precise_advertiser_report_kids

https://static.gustodio.com/public-site/uploads/ADR_2022_en_040422.pdf

https://www.common sensemedia.org/sites/default/files/research/report/common-sense-2021-state-of-kids-privacy_0.pdf

https://www.pewresearch.org/internet/wp-content/uploads/sites/9/2020/07/PI_2020.07.28_kids-and-screens_FINAL.pdf

<https://nypost.com/2019/08/15/alarming-study-reveals-40-percent-of-children-have-spoken-to-a-stranger-online/>

40% of kids have spoken to a stranger online

[https://www.additudemag.com/statistics-of-adhd/#:~:text=ADHD%20Prevalence%20in%20Children&text=388%2C000%20\(2.4%20percent\)%20of%20young,aged%2012%20to%2017%20years](https://www.additudemag.com/statistics-of-adhd/#:~:text=ADHD%20Prevalence%20in%20Children&text=388%2C000%20(2.4%20percent)%20of%20young,aged%2012%20to%2017%20years)

9.4% of students in the US have ADHD or ADD

<https://www.additudemag.com/impulse-control-strategies-adhd-students/#:~:text=Many%20children%20with%20ADHD%20seem,t%20successfully%20turn%20this%20around.>

Impulse control for kids with ADHD or ADD

<https://www.healthdigest.com/474112/science-says-your-brain-isn-t-fully-developed-until-youre-this-age/>

Brain not fully developed until 25

<https://datacenter.kidscount.org/data/tables/99-total-population-by-child-and-adult-populations#detailed/1/any/false/574/39,40,41/416,417>

73M kids under the age of 18

<https://www.iberdrola.com/social-commitment/impact-social-media-youth>

<https://www.iberdrola.com/social-commitment/cyberbullying-definition-effects-and-solutions>

<https://www.npr.org/2021/10/05/1043207218/whistleblower-to-congress-facebook-products-harm-children-and-weaken-democracy>

Frances Haugen Facebook whistleblower

<https://www.nytimes.com/2022/03/01/us/politics/biden-sotu-transcript.html>

Transcript of Joe Biden state of the union speech 2022

https://www.cnn.com/2022/10/30/opinions/pre-sports-evaluation-forms-for-girls-ranney/index.html?utm_source=facebook&utm_medium=news_tab&fbclid=IwAR0j6BVW4ZHbZNBvTNKG52kncDWHp5e8G7AuMeun1xNNxmkZV7jg9quctWY

Florida State School digitizes sports medical history and information including full form not just the proof of approval

Re-opened appeals case siting Google, Hasbro, DreamWorks, Mattel, Cartoon Network and PocketWatch for COPPA violations

<https://law.justia.com/cases/federal/appellate-courts/ca9/21-16281/21-16281-2022-12-28.html>

<https://www.reuters.com/technology/google-youtube-content-providers-must-face-us-childrens-privacy-lawsuit-2022-12-28/>

https://investor.hasbro.com/annual-report-2021?fbclid=IwAR3QKrV8uJZQZRaAH2HS1NHrIh0nyVjpgY2REx8IDp99ySKKsk1S7Uz7C_I

Hasbro investor report

Pocketwatch investor report

<https://incfact.com/company/pocketwatch-culvercity-ca/>

<https://www.forbes.com/companies/pocketwatch/?sh=8e2aeaa2eb86>

<https://pocket.watch/about>

Downey Ventures

<https://massinvestordatabase.com/publicfirm.php?name=Downey+Ventures>

Mattel investor reports

<https://investors.mattel.com/financials/annual-reports/default.aspx>

Epic Games FTC \$520 million COPPA fines

https://arstechnica.com/gaming/2022/12/epic-will-pay-520-million-to-settle-ftc-privacy-payment-complaints/?fbclid=IwAR3e1UsWjVIf1gTS6VTgLfN11sDzmHv_0F-drNCT0QCkBFJ8IAH6Zpl2lr8

Toy industry revenue research

<https://www.toyassociation.org/ta/research/data/u-s-sales-data/toys/research-and-data/data/us-sales-data.aspx#:~:text=Annual%20U.S.%20Sales%20Data,NPD%20Group%2FCheckout%2FUS.>

38,2 billion dollars in 2021 with an increase of 14.2%

<https://www.saint-gobain.com/en/news/why-and-how-companies-should-invest-startups>

<https://www.common sense media.org/about-us/our-partners/education-partners>

<https://www.common sense media.org/about-us/our-partners/distribution-partners>

<https://www.common sense media.org/about-us/our-partners/foundation-partners>

<https://www.common sense media.org/about-us/our-partners/latino-partners>

Law firms that are involved and knowledgeable for CA on this link
<https://www.common sense media.org/about-us/our-partners/pro-bono-partners>

Stanford researchers did not find a link between age of kids acquiring a phone and well-being - depression, sleep pattern or grades

<https://med.stanford.edu/news/all-news/2022/11/children-mobile-phone-age.html>

25% by age 10 75% at age 12. So 75% of kids online are under age content consumers that should be covered by COPPA. But Companies are lacking accurate tools on the market to prevent this compliance obstacle. So while the law exists to protect data

for kids under 13, it is impossible to comply with the law under the current trust system.

<https://www.jdsupra.com/legalnews/california-s-landmark-age-appropriate-3001597/>

<https://www.forbes.com/sites/jordanshapiro/2014/01/24/your-kids-school-may-have-the-right-to-sell-student-data/?sh=3586c10468b5>

Under FERPA law schools can sell student's data

https://docs.google.com/document/d/19GNIs0UI5kHdgaTxxoQRWKUa5uMEi9u8q80HrvRKC_0/edit

Google building "project eleven" fitbit for pre-teens

<https://www.blog.udonis.co/mobile-marketing/mobile-games/gen-alpha-gen-z-gamers#:~:text=If%20we%20look%20at%20the%20total%20online%20population%2C%20the%20average,and%2049%20minutes%20on%20average.>

Gen Z avg play time 6 hrs 10 min Gen Alpha 6 hrs 49 minutes 69% and 73% respectively are mobile gamers - more Alphas are console gamers than Zs - which is more than likely due to age - as Zs were born between 2009-1995, and Alphas are 2010 (turning 13 this year so the beginning of compliant data) through next year.

New Utah law Governor interview on Meet the Press:

<https://www.youtube.com/watch?v=JMtiCrtqX9Y>

Edmodo 6 million fine from COPPA

<https://www.huntonprivacyblog.com/2023/05/30/ftc-publishes-proposed-order-against-ed-tech-provider-edmodo/>

New KODA law

<https://www.congress.gov/bill/118th-congress/senate-bill/1409>

https://www.young.senate.gov/imo/media/doc/kids_online_safety_act_one_pager.pdf

<https://www.comparitech.com/blog/vpn-privacy/app-coppa-study/>

32% of all childrens apps violate COPPA

<https://privacyinternational.org/long-read/3254/identity-gatekeepers-and-future-digital-identity#:~:text=In%20Privacy%20International's%20opinion%2C%20in,of%20this%20use%20and%20the>

Yoti and unethical use of data

<https://www.parents.com/news/what-parents-need-to-know-about-huggy-wuggy-and-the-poppy-playtime-game-taking-over-elementary-schools/>

Parents magazine concerns about Huggy Wuggy Poppy Playtime discusses Common Sense media 12+ recommendation and how kids under 12 are still seeing the video content.

<https://www.insidehighered.com/news/tech-innovation/artificial-intelligence/2023/10/12/ai-buzz-dominates-annual-ed-tech-conference>

2024 Edtech cybersecurity and AI dominates conversation

<https://www.click2houston.com/news/local/2023/01/27/new-study-shows-kids-exposed-to-adult-content-online-much-earlier/#:~:text=But%20a%20new%20study%20shows,on%20the%20internet%2C%20like%20pornography.>

40% of 4th grade boys actively search for porn, without their parents consent or knowledge.

<https://cybersecurityventures.com/cybersecurity-spending-2021-2025/>

1.13 billion websites and 7+ million apps accessible

\$367 billion spent 2023 on Cybersecurity

132% increase by 2025 to \$458.9 billion

<https://www.globaldata.com/store/report/usa-edtech-market-analysis/>

EdTech is 70 billion dollar market in the US with an annual average of 16% growth for the last 5 years. The Pre-K-grade 12 market makes up the largest proportion of the market at 45% for 31.5 billion in revenue.

<https://www.forbes.com/sites/forbesbusinesscouncil/2022/12/26/the-future-of-edtech/?sh=76de691f6c2f>

EdTech is a 106 billion dollar market globally with an expected 250% growth over the next 3 years. The Pre-K-grade 12 market makes up the largest proportion of the market at 45% for 31.5 billion in revenue.

<https://www.businessofapps.com/data/education-app-market/#:~:text=There%20were%20455%2C000%20education%20apps,439%2C000%20apps%20available%20in%202021.>

455000 EdTech apps

<https://www.websiteiq.com/top-sites/video-games/>

<https://webtribunal.net/blog/how-many-video-games-are-there/#ref>

831,000 online game sites

737000 gaming apps between the app store and google play

<https://www.edweek.org/leadership/education-statistics-facts-about-american-schools/2019/01>

Over 128961 public and private pre-k-12 learning institutions in the US.

<https://www.searchenginejournal.com/social-media-statistics/480507/#close>

[https://www.thebusinessresearchcompany.com/report/social-media-global-market-report#:~:text=The%20global%20social%20media%20market%20grew%20from%20%24193.52%20billion%20in,\(CAGR\)%20of%2019.4%25.](https://www.thebusinessresearchcompany.com/report/social-media-global-market-report#:~:text=The%20global%20social%20media%20market%20grew%20from%20%24193.52%20billion%20in,(CAGR)%20of%2019.4%25.)

https://www.common sense media.org/sites/default/files/research/report/2023-cs-smartphone-research-report_final-for-web.pdf

43% of tweens (age 8 to 12) have cell phones. Common Sense Media

<https://www.fox5atlanta.com/news/fulton-county-schools-security-breach-computer-systems>

Students hacked into their own county school system, and officials are currently unaware of the level of the breach, and what if any data was accessed.

<https://www.axios.com/pro/tech-policy/2024/02/15/new-version-of-kosa-picks-up-speed>

Kids online Safety act

https://www.nyc.gov/assets/home/downloads/pdf/press-releases/2024/2024-02-14%20City%20of%20New%20York%20Complaint%20021424.pdf?utm_medium=email&utm_name=&utm_source=govdelivery

NYC suing big tech for damage to youth on social media platforms.

[https://www.europarl.europa.eu/RegData/etudes/ATAG/2023/739350/EPRS_ATA\(2023\)739350_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2023/739350/EPRS_ATA(2023)739350_EN.pdf)

2023 European Parliament calling for age verification methods for children.

<https://explodingtopics.com/blog/industry-trends>

Search volume for “data governance” has grown nearly 150% in the past few years.

Two of the biggest issues to solve are deciding which users have access to data and overseeing how they use that data.

Some organizations are dedicated to data democratization—the idea that data should be accessible to users across an organization instead of just IT personnel.

<https://explodingtopics.com/blog/technology-trends>

Owlet dream sock - infant data to a parent's smart device

<https://medium.com/@jonah.harris/project-artemis-an-overview-9ce4174489db>

Info on the partnership program between Meet group and Microsoft to detect child grooming and other predatory behavior online.

<https://www.npr.org/2024/03/12/1237497833/students-schools-cybersecurity-hackers-credit>

Why hackers are going after children's data in public schools and what makes it more valuable than that belonging to adults.

https://techpolicy.unc.edu/wp-content/uploads/2023/12/CTP_state-tech-policy-2023.pdf

State policies

<https://www.politico.com/news/2024/01/13/kids-online-states-social-media-00135390>

Laws being signed in 2024 regarding kids' online safety

<https://explodingtopics.com/blog/new-social-media-networks>

Top 20 new social media networks as of 4/2024

- Includes Tagged, Substack Crunchyroll and 17 more

School districts suing social media platforms

<https://www.edweek.org/policy-politics/school-district-lawsuits-against-social-media-companies-are-piling-up/2024/01>

<https://www.forbes.com/advisor/business/software/website-statistics/#:~:text=Every%20day%20sees%20the%20creation,global%20connectivity%20and%20information%20exchange.>

252,000 websites are created daily

<https://www.wyzowl.com/youtube-stats/#:~:text=How%20many%20videos%20are%20uploaded%20to%20YouTube%20every%20day%3F.average%20length%20of%204.4%20minutes.>

How many hours of content are uploaded to YouTube per minute? 183 hours of content is uploaded daily per minute. That's an average of 2500 videos with approximately 4.4 minutes in length.

<https://www.ft.com/content/3da18ca4-2d5a-4a1b-958f-4316d8e60665>

Mental health issues and laws to regulate minor age end users online

<https://www.aasa.org/resources/resource/cybersecurity-future-driven-leader>

Podcast 6/18/24 cybersecurity spotlight from AASA

<https://edtechmagazine.com/k12/article/2024/06/it-leaders-are-optimistic-about-cybersecurity>

<https://www.govtech.com/education/k-12/cosn-report-surg-ing-demands-on-ed-tech-leaders-with-limited-resources#:~:text=CoSN's%202024%20State%20of%20EdTech,protection%20remains%20their%20top%20concern.>

<https://www2.ed.gov/about/overview/budget/budget24/summary/24summary.pdf#page18>

<https://finance.yahoo.com/news/pixalate-q1-2024-google-vs-213700987.html>

47% of apps are not COPPA compliant on Google play or Apple Store

<https://www.thorn.org/research/library/financial-sextortion/>

<https://www.missingkids.org/blog/2024/where-is-sextortion-happening-new-trends-growing-crisis>

<https://www.buzzsprout.com/1734607/14936986>

Nneka McGee on Debbie Reynolds Data Diva podcast

<https://www.priv.gc.ca/en/opc-actions-and-decisions/investigations/investigations-into-businesses/2024/pipeda-2024-001/?wbdisable=true>

Yoti mind geek porn hub lawsuit verified id only if uploading content. If uploaded content includes the user only their id is required. If others content is uploaded and the user has two weeks to supply verified id consent sharing which time the explicit content is available for public consumption.

<https://www.goodmorningamerica.com/family/story/groomed-met-playing-video-games-online-parents-kids-112781154>

12 year old Jake's story on GMA

<https://www.unesco.org/en/digital-education/ed-tech-tragedy#:~:text=It%20is%20courageous%20in%20its,commercialised%20ed%2Dtech%20saviour%20narratives.&text=It%20is%20indeed%20a%20tragedy.their%20commitment%20to%20human%20rights>

Nicki Resiberg LinkedIn child's school issued iPad inappropriate advertisement through EdTech math app

Global age verification market statistics

<https://rivercountry.newschannelnebraska.com/story/51404176/global-age-verification-system-market-2024-2032-comprehensive-report-on-industry-trends-future-forecast>

108.49 million USD in 2023 expected to reach 148.86 million in 2030

Expected CAGR +4.62%

Currently focused on identifying adults over 18 and over 21

<https://www.verifiedmarketreports.com/product/online-age-verification-market/>

13.6 Billion USD 2023

42.36 Billion USD 2030

CAGR 17.7%

Cited obstacles:

Growing demand for age gated content

Integration with identity verification methods

Risk of biometric authentication techniques

<https://fpf.org/wp-content/uploads/2009/11/microsoft-powerpoint-madrid10-30editpptx-read-only11.pdf>

Jules Polonetsky paper Certified Kid no longer in business

<https://ahs.atlantichealth.org/about-us/stay-connected/news/content-central/2024/10-facts-about-kids-and-teens-on-social-media.html#:~:text=By%20age%2010%2C%20approximately%2040,years%20old%20to%20use%20them.>

Common Sense Media Census

40% of 10 year olds have a phone

91% of 14 year olds.

Average to 66% of 12 year olds having phones.

20% of tweens 9-12 years old say they use social media daily.

FBI estimates that there are roughly 500,000 predators POSING as minors aged 10 to 15 online at any given time to groom their next victims.

The global data protection market size was valued at USD 131.82 billion in 2023. The market is projected to grow from USD 150.38 billion in 2024 to USD 505.98 billion by 2032, exhibiting a CAGR of 16.4% during the forecast period.

<https://www.fortunebusinessinsights.com/amp/data-protection-market-109715>

The U.S. data privacy software market size was valued at USD 0.67 billion in 2022. The market is projected to grow from USD 0.90 billion in 2023 to USD 8.60 billion by 2030, exhibiting a CAGR of 38.1% during the forecast period.

<https://www.fortunebusinessinsights.com/amp/u-s-data-privacy-software-market-107450>

The global tokenization market was valued at USD 2.81 billion in 2023. The market is projected to be worth USD 3.32 billion in 2024 and reach USD 13.20 billion by 2032, exhibiting a CAGR of 18.8% during the forecast period (2024-2032). The growth of the industry is due to the increasing adoption of digitization processes and the digital processing of all sensitive data. The rise in complex and simple digital payments has accelerated industry growth. Advances in technology have enabled the provision of advanced data security solutions and services to the market.

Source: <https://www.fortunebusinessinsights.com/tokenization-market-107201>

According to Cognitive Market Research, the global Tokenization market size was estimated at USD 2514.2 Million, out of which North America held the major market of more than 40% of the global revenue with a market size of USD 1005.68 million in 2024 and will grow at a compound annual growth rate (CAGR) of 17.8% from 2024 to 2031.

According to Cognitive Market Research, the US had a major share in the Tokenization market with a market size of USD 793.48 million in 2024 and is projected to grow at a CAGR of 17.6% during the forecast period. The demand is amplified by the nation's growing technological advancements.

<https://www.cognitivemarketresearch.com/regional-analysis/north-america-tokenization-market-report>

<https://www.childrenandscreens.org/learn-explore/research/how-do-platforms-verify-childrens-ages/>

<https://www.edweek.org/technology/cybersecurity-demands-are-growing-funding-isnt-keeping-pace/2024/09>

200 million dollar 3 year pilot project which will allot up to 13.60 per student for cybersecurity purposes.

<https://www.newamerica.org/oti/reports/age-verification-the-complicated-effort-to-protect-youth-online/challenges-with-age-verification/#:~:text=In%20a%20POLITICO%20article%2C%20Mike,they%20begin%20a%20new%20session.>

Costs 65 cents per verification Mike Stable Politico

<https://avpassociation.com/4271-2/>

19 States requiring age verification services

New COPPA updates and requirements January 2025

<https://www.gibsondunn.com/ftc-updates-to-coppa-rule-impose-new-compliance-obligations-for-online-services-that-collect-data-from-children/>

📺 Foresight in 15: Life Trends 2025

Cost of hesitation:

Am I safe; in control and is this real

The parent trap:

Fast moving ecosystem of digital landscape

Parents educators and legislators creating new rules and laws to improve online experience

Impatience economy:

Expedited desire to achieve life goals like health , wealth and happiness

Turning to influencers over trusted institutions for direction and advice

Dignity of work:

Transactional nature of work and social impact of employment at companies with controversial narratives and policies

Social rewilding:

Return to simplicity

Putting the phone down for important things like community, connection and love

<https://www.foxnews.com/video/6369778096112>

Utah new law requiring app stores to use age verification to limit minor access.

AI bots are passing assessments. This would bode well for arguing that an AuthentiKey used as a MFA would assist in proof that the end user was not a bot but in fact a real student.

https://www.linkedin.com/pulse/just-when-we-thought-ai-education-couldnt-get-any-worse-thomas-ho-ln9xc?utm_source=share&utm_medium=member_ios&utm_campaign=share_via

[Comprehensive List of COPPA Enforcements and Fines | Internet Wizards](#)

As of 8/2017 there had been more than 103 million violations

[Internet Site Agrees to Settle FTC Charges of Deceptively Collecting Personal Information in Agency's First Internet Privacy Case | Federal Trade Commission](#)

First fine was in 1998