



Ensuring Child Safety Online

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Child Safety in the Digital World

All children have a right to be protected from harm and provided with safe, nurturing conditions for them to grow, learn and thrive. Yet, despite the fact that children born in the 21st century have never known a day without technology, we have failed to create any meaningful legal framework to ensure our children are safe in the digital world. Nationally, up to 95% of youth aged 13-17, and approximately 40% of children 8-12 report using social media.^{1,2} During adolescence, youth are undergoing developmental changes which make them more vulnerable to the dangers of technology. They are experiencing rapid brain development that leads to impulsive and risky behavior and are at an age where symptoms of mental health concerns are likely to emerge.^{1,3}

Engagement in the digital world not only is linked with poor mental health outcomes for children, it also places them at a surprisingly high risk of victimization of predation, sometimes referred to as 21st Century Child Abuse,⁴ and exposure to harmful content, such as extreme pornography.^{5,6} There has also been a rise in the illegal online sale of drugs and firearms to children. The dangerous consequences of an unregulated digital world include mental health distress, tech-facilitated child abuse, and even death⁷ for many of Colorado's children. Stronger age assurance and verification regulation is a necessary step in combating these pressing issues.

Colorado's Age-Related Safety

The lack of legal protections for children online differs significantly from our physical world. Across cultures and human history, children have been recognized as requiring unique legal protections due to their developmental vulnerabilities. Thus, in the physical world society organizes experiences and spaces based on individuals' biological and chronological age in part through the implementation of laws focused on age assurance and verification.

Policy Protections for Children in the Digital Space Require:



Restriction of adult-content websites from children.



Social media and gaming platforms to verify new account users' age.



Social media platforms to enable maximum default privacy settings for children.



For example, in Colorado, children must be at least fifteen years of age to obtain a driver's permit,⁸ distributors of alcohol and tobacco cannot sell to those under 21 years of age,⁹ it is illegal for anyone under 21 to gamble,¹⁰ and the sale, distribution, and exhibition of obscene materials to a child is prohibited.¹¹ It is also illegal in Colorado to involve children in sexually exploitative activities such as employing them as exotic dancers,¹² to provide a child with a firearm,¹³ to sell marijuana to a child,¹⁴ and to sell cough syrup containing dextromethorphan (DXM) to children.¹⁵ Such laws and regulations are in place as a mechanism to protect children and to aid in their ability to thrive.

21st Century Child Abuse and Harms

Without age assurance or verification in the digital world, adults are now able to access and engage with children in ways that would seldom be allowed in the physical world. Currently, most child sex trafficking victims report they are being contacted via text and internet platforms such as social media and gaming. Predators have quickly learned they can use the internet to transcend the limitation of time and space to identify and contact more potential victims faster and with greater ease.¹⁶



HOW GAMING IS INCREASING RISKS TO CHILDREN



71%

of US children played video games for at least one hour per week and accounted for at least 24% of all gamers in 2022¹⁷

- The lifelike character interactions and immersive experience of gaming allow for adults to more easily build relationships with minors, increasing contact risk.¹⁷
- Anonymity and ease of interactions further increase risk of contact with predators.¹⁷
- Actions and interactions in gaming platforms are difficult to moderate.¹⁷
- The frequent use of headsets in gaming make it more difficult for parents/guardians to monitor what children are doing and who they are communicating with.¹⁷
- In-app currencies are a necessary component to improve gaming experiences, incentivizing predators to use this as an opportunity to exchange monetary tokens in return for sexual favors.¹⁷



CHILDHOOD EXPERIENCES ONLINE

A 2020 survey¹⁶ of undergraduate students when asked about their childhood experiences online showed:



~25%

of respondents engaged with adult strangers online when they were children¹⁶



33%

of respondents who communicated with adult strangers reported sexual solicitation¹⁶



32M

images of child sex abuse material were collected by authorities in 2022, a 10,000% increase over 20 years¹⁶



LGBTQ+ YOUTH

3 times more likely to face high risk interactions¹⁶

Are less likely to report harmful digital experiences or to seek support due to concerns of having sexual identity revealed¹⁶

Additionally, the number of images of child sex abuse material (CSAM; formerly referred to as child pornography) sent to authorities increased exponentially in the 21st century, and the vast majority of CSAM images come from social media. The sextortion of children has also metastasized online and there is a higher frequency of incidents in which children and teens are being contacted by adults and then coerced to send explicit images online, which are then used to extort children for money, more explicit images, or even in-person exploitation and abuse. Some children have died by suicide as a direct result of these sextortion schemes targeting children.

Children are also at greater risk of being exposed to adult content including pornography, whether the exposure was sought out or unwanted. Although children are prohibited from buying pornography in the physical world due to research showing that it is both harmful and developmentally inappropriate, it is easily accessible online in states like Colorado that do not have age verification in place. Children and adolescents lack normative sexual experiences, have rapidly developing brains, are going through biological puberty, and are susceptible to peer pressure, all of which makes them more vulnerable to the dangerous effects of exposure to harmful adult content.

CHILD SEXUAL ABUSE MATERIAL (CSAM)

The numbers are not going down



2023 saw a

1,816%

increase in self-generated child sex abuse material since the IWF first started tracking in 2019.²⁰

- **A nationwide survey of 2639 adults** asking about childhood experiences of tech-facilitated sexual abuse found that 7.2% self-produced CSAM.¹⁸
- **Between 2020 and 2021, the Internet Watch Foundation (IWF) reported a 20% increase** in assessed reports of CSAM and a 64% increase in confirmed CSAM. The same report identified a three-fold increase in self-generated imagery of 7–10-year-olds that was attributed to the increased amount of time children spent online during the COVID-19 pandemic.¹⁹

EARLY EXPOSURE TO ADULT CONTENT



63% of tweens

77% of teens

in the US encountered nudity or content of sexual nature online in 2024, and much of this exposure is unwanted^{21,22}

- **Adolescents of both sexes** who are exposed to pornography are more likely to become sexually active earlier,²³ have multiple partners,²⁴ and engage in paid sex.²⁵
- **Child sexual abuse** is the most depicted form of sexual violence in pornography.²⁶
- **Pornography is used to groom** and lure children into sexually abusive relationships.²⁷

Social media and digital platforms are also frequently used to sell drugs and firearms to children. The National Crime Prevention Council estimates that 80% of teen and young adult fentanyl poisoning can be traced back to a form of social media contact.²⁸ Dealers tend to use coded language, emojis, encrypted messaging systems, and disappearing messages to conceal illegal behavior. Children can also easily find sellers through hashtags, comments, and direct messaging. Often, while young people believe they are purchasing prescription medication, instead, they are purchasing counterfeit pills made with cheaper ingredients, most frequently fentanyl.^{7,29,30}

Age Verification Practices and State Laws

Protecting children online would require platforms to verify the ages of their users and to put restrictions in place so children can navigate the digital world safely. Various advanced age verification processes have been developed and are widely available including facial or biometric recognition, document verification, selfie verification, and third-party verification, for example. Biometric methods conducted through face characterization use facial image scans to signal that a user meets an age threshold.^{31,32} Document verification involves a user submitting a government-issued identity document, such as a passport or ID card. Selfie verification integrates an added layer of verification to ensure a government-issued ID matches the person submitting the document. Third-party verification services help digital platforms to comply with laws and regulations, offering one-time verification which allows users to verify use of the same credentials across platforms. Many third-party providers use encrypted verification to prevent businesses from directly storing sensitive user data.³²

Despite the fact that age verification is now readily available, many platforms have failed to implement age protections even when they know children frequent their sites. Thus, lawmakers are compelled to make clear that the same protections for children that exist in the physical world are also required in the digital world. For example, age assurance and verification laws in the physical world help prevent children from purchasing tobacco, alcohol, and pornography. To ensure that children are similarly protected online, numerous states are now passing age verification legislation including Alabama, Arkansas, California, Florida, Georgia, Idaho, Indiana, Kansas, Kentucky, Louisiana, Maryland, Mississippi, Montana, Nebraska, North Carolina, Ohio, Oklahoma, South Carolina, Tennessee, Texas, Utah, and Virginia.³³ Additional states are in the process of proposing such legislation.³⁴



UTAH'S AGE VERIFICATION

One robust example of age verification law is Utah's, which requires age-restricted service providers such as adult pornography websites to verify user age. The law also includes social media companies to require users verify their age before use, and the consent of a parent or guardian is required for a child to access the platform. Under Utah's law, all users must verify their age with a digitalized identification card or through an independent third-party age verification solution partner, and the maximum default privacy settings are enabled as the default for children's accounts. Utah's law also enforces social media use curfews for children, restricting their access from 10:30 pm to 6:30 am.³⁴



Policy Actions for Child Safety Online

Countless protections exist for our children in the physical world yet are almost entirely absent in the digital world.

Age verification is a necessary first step to ensure child safety online. There are many policy changes needed to further ensure technology safety, but all hinge on the recognition that technology is enhanced with age assurance, verification, and developmentally appropriate guidance and mechanisms. Who better to implement safe technology than the technology industry? However, without laws in place during the last 30 years, the largely unregulated internet has proven that it is up to the State of Colorado to ensure its children are protected online. Thus, it is recommended that Colorado:

- Require pornography websites to verify user age to ensure only adults are accessing the sites;
- Require social media companies and gaming platforms to verify a new account holder's age; and
- Require social media platforms to enable maximum default privacy settings for users who are children.

SUGGESTED CITATION

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References

1. U.S. Department of Health and Human Services, Office of Surgeon General. Social media and youth mental health: The U.S. Surgeon General's advisory. Published online 2023. <https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf>
2. Rideout V, Peebles A, Mann S, Robb MB. Common Sense Census: Media use by tweens and teens, 2021. *Common Sense Media*. https://www.common SenseMedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf. 2022.
3. National Institute of Mental Health. The teen brain: 7 things to know. Published online 2023. <https://www.nimh.nih.gov/health/publications/the-teen-brain-7-things-to-know#:~:text=Teen%20brains%20may%20respond%20differently,such%20as%20anxiety%20and%20depression>
4. WeProtect Global Alliance. Global Threat Assessment 2023. Published online 2023. <https://www.weprotect.org/wp-content/uploads/Global-Threat-Assessment-2023-English.pdf>
5. Salter M, Woodlock D, Wong T. Inquiry into Impacts of Harmful Pornography on Mental, Emotional, and Physical Health. Published online 2023. <https://www.parliament.nsw.gov.au/lcdocs/submissions/89081/0055%20Childlight.pdf>
6. Salter M, Woodlock D, Wong T. The sexual politics of technology industry responses to online child sexual exploitation during COVID-19: "This pernicious elitism." *Child Abuse Negl*. Published online November 2023:106559. doi:10.1016/j.chiabu.2023.106559
7. Colorado Attorney General's Office. Social Media, Fentanyl, and Illegal Drug Sales: A report from the Colorado Department of Law. Published online 2023. <https://coag.gov/app/uploads/2023/03/Colorado-AG-Report-Social-Media-Fentanyl-Illegal-Drug-Sales.pdf>
8. Colorado Department of Revenue, Division of Motor Vehicles. Minor Permit. Published online 2025. <https://dmv.colorado.gov/minor-permit>
9. Colorado Revised Statute 44-3-901. Published online 2023.
10. Colorado Department of Revenue. Playing in a Casino & Gaming. Published online n.d. <https://sbg.colorado.gov/playing-in-a-casino-gaming>
11. Colorado Revised Statute 18-7-102. Published online 2023.
12. Colorado Revised Statute 18-6-40. Published online 2023.
13. Colorado Revised Statute 18-12-108.7. Published online 2023.
14. Colorado Revised Statute 18-18-406. Published online 2024.
15. Colorado Revised Statute 25-5-100.5. Published online 2024.
16. Greene-Colozzi EA, Winters GM, Blasko B, Jeglic EL. Experiences and Perceptions of Online Sexual Solicitation and Grooming of Minors: A Retrospective Report. *J Child Sex Abuse*. 2020;29(7):836-854. doi:10.1080/10538712.2020.1801938
17. United Nations Intergenerational Crime and Justice Research Institute. Gaming and the Metaverse: The risks and opportunities in terms of security and crime prevention. Published online 2022. <https://unicri.org/sites/default/files/2022-11/Gaming%20and%20the%20Metaverse.pdf>
18. Finkelhor D, Turner H, Colburn D. Prevalence of Online Sexual Offenses Against Children in the US. *JAMA Netw Open*. 2022;5(10):e2234471. doi:10.1001/jamanetworkopen.2022.34471
19. Internet Watch Foundation. IWF Annual Report 2021. Published online 2021. <https://annualreport2021.iwf.org.uk/trends>
20. Internet Watch Foundation. IWF Annual Report 2023. Published online 2023. <https://www.iwf.org.uk/annual-report-2023/trends-and-data/self-generated-child-sex-abuse/>
21. Bark's 2024 Annual Report. Published online 2024. https://www.bark.us/annual-report-2024/?srsltid=AfmBOop3jh5bTvEc_K7zJTXzFQKtS6Aw258vik4k0GF3fdY_byJ5tOX
22. Campbell CE. A child's right to be protected from exposure to online pornography: assessing the harm to a child exposed to contemporary online pornography and evaluating current regulatory and legal frameworks aimed at child protection online. *Int J Jurisprud Fam*. Published online 2018.
23. Brown JD, L'Engle KL. X-Rated: Sexual attitudes and behaviors associated with U.S. early adolescents' exposure to sexually explicit media. *Commun Res*. 2009;36, 129151.
24. Wright PJ, Randall AK. Internet pornography exposure and risky sexual behavior among adult males in the United States. *Comput Hum Behav*. 2012;28(4):1410-1416. doi:10.1016/j.chb.2012.03.003
25. Svedin CG, Åkerman I, Priebe G. Frequent users of pornography. A population based epidemiological study of Swedish male adolescents. *J Adolesc*. 2011;34(4):779-788. doi:10.1016/j.adolescence.2010.04.010
26. Vera-Gray F, McGlynn C, Kureshi I, Butterby K. Sexual violence as a sexual script in mainstream online pornography. *Br J Criminol*. 2021;61(5):1243-1260. doi:10.1093/bjc/azab035

27. Carr J.). Child abuse, child pornography and the internet. Published online 2003. <http://image.guardian.co.uk/sys-files/Society/documents/2004/01/12/V1DMS5FP.pdf>
28. Segers G. Social media fuels fentanyl crisis as drug dealers take to platforms to target minors. *CBS News*. <https://www.cbsnews.com/news/instagram-tiktok-meta-social-media-fentanyl-drugs-minors/>. 2024.
29. Drug Enforcement Administration. DEA laboratory testing reveals 6 out of 10 fentanyl-laced fake prescription pills now contain a potentially lethal dose. Published online n.d. <https://www.dea.gov/alert/dea-laboratory-testing-reveals-6-out-10-fentanyl-laced-fake-prescription-pills-now-contain>
30. Busby M. Drug dealers have moved on to social media. *WIRED*. <https://www.wired.com/story/drug-dealers-have-moved-onto-social-media/>. 2024.
31. Yoti. Facial Age Estimation Fact Sheet. Published online 2023. <https://www.yoti.com/wp-content/uploads/2023/10/Facial-age-estimation-fact-sheet.pdf>
32. Common Sense Media. U.S. Age Assurance is Beginning to Come of Age: The long path toward protecting children online and safeguarding access to the internet. *Common Sense Media*. https://www.commonsensemedia.org/sites/default/files/featured-content/files/2024-us-age-assurance-white-paper_final.pdf. 2024.
33. Thomson AC, Waltzman HW, Allen K, Von Borstel MP. Children's online privacy: Recent actions by the states and the FTC. Published online 2025. <https://www.mayerbrown.com/en/insights/publications/2025/02/protecting-the-next-generation-how-states-and-the-ftc-are-holding-businesses-accountable-for-childrens-online-privacy>
34. National Conference of State Legislatures. Social Media and Children: 2023 legislation. <https://www.ncsl.org/technology-and-communication/social-media-and-children-2023-legislation>





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