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The Forbidden Feed: Adolescent Well-Being and the Limits of Social-Media Regulation

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Executive Summary

Smartphones and social media are now central to adolescent life, prompting understandable concern about teens' mental health, sleep, school performance, and compulsive use. Policymakers have responded with enacted or proposed age bans, verification requirements, parental-consent mandates, time limits, school-phone restrictions, and warning labels. This white paper assesses the evidence behind these interventions, their unintended consequences, and their constitutional durability.

The evidence does not establish that social media broadly causes adolescent mental-health problems. Average associations are generally small, often explain less than 1% of the variation in well-being, and depend heavily on model and measurement choices. Outcomes also vary by user and context. Social media is associated with harm for some adolescents but provides others with friendship, belonging, creative expression, and access to support—benefits that may be especially important for LGBTQ+, neurodivergent, rural, and otherwise isolated young people.

Broad mandates have weaker support than the public rhetoric suggests. Australia's social-media ban and China's gaming curfews illustrate the tendency toward circumvention and displacement. School-phone restrictions produce mixed results, while parental-consent mandates and warning labels lack meaningful outcome evaluations. Age verification creates privacy risks and may drive adolescents toward unmonitored access. Broad restrictions can also isolate vulnerable young people, entrench large platforms, and burden constitutionally protected speech.

More promising approaches target specific harms while preserving choice and beneficial uses. Voluntary friction tools, family controls, social-media literacy, physical exercise, industry standards, and independent certification all can promote healthier habits and are able to adapt as evidence develops. Heavy device use may also partly fill a void left by declining opportunities for independent play and in-person socialization. Restoring those opportunities may improve adolescent well-being more than banning their digital substitutes.

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Prologue

An eighth grader walks through his front door after school, eyes fixed on his phone. He heads down the hall to his room, shuts the door, flops onto his bed, and spends the next four hours scrolling through social media, messaging friends, and watching videos.

No public parks lie within walking distance of his home. Shopping malls bar unsupervised minors. Like 66% of children his age, he cannot leave his yard without an adult present, and his parents cannot accompany him until they finish working for the day.[1] His peers face the same circumstances. Thus, they spend their free time alone together on their phones—the only source of social connection and exploration available to them.

Introduction

In a relatively short amount of time, the use of smartphones and social media have become ubiquitous across age groups. In 2010, manufacturers shipped 300 million smartphones worldwide, and social media had about 1 billion users.[2] By April 2026, the numbers of unique mobile-phone users and active social-media user identities had each reached approximately 5.8 billion.[3]

Time spent on social media also grew dramatically. In August 2010, the average visitor worldwide spent approximately 4.5 hours per month—or roughly nine minutes per day—on social-networking sites.[4] By 2025, online adults spent more than 150 minutes per day, on average, consuming social and video feeds when the measure included platforms such as YouTube and TikTok.[5]

This rapid growth has raised concerns about the harms associated with phone use generally and social media in particular, especially among adolescents. Surveys suggest that average social-media

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[1] Michael Toscano, Lyman Stone & Grant Bailey, *More Screen Time, Less Play Time for America's Kids* (Inst. for Fam. Stud. May 5, 2026), https://ifstudies.org/blog/new-ifs-brief-more-screen-time-less-play-for-americas-kids.

[2] *See* Int'l Telecomm. Union, *Impact of M2M Communications and Non-M2M Mobile Data Applications on Mobile Networks* 6, ITU-T Technical Paper QSTP-M2MI (June 15, 2012), https://www.itu.int/dms_pub/itu-t/opb/tut/t-tut-iot-2012-m2m-pdf-e.pdf.

[3] Backlinko Team, *Social Media Usage & Growth Statistics* (Backlinko Apr. 27, 2026), https://backlinko.com/social-media-users; Simon Kemp, *Digital 2026 Mid-Year Global Update Report* (DataReportal Apr. 22, 2026), https://datareportal.com/reports/digital-2026-mid-year-global-update-report.

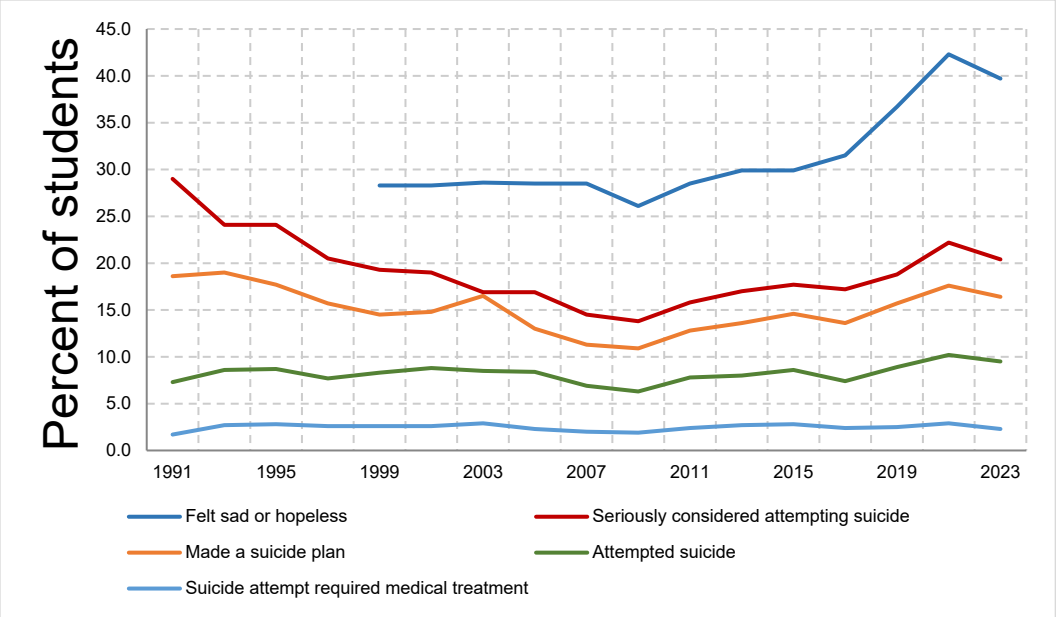
[4] Press Release, Comscore, Inc., *Russia Has Most Engaged Social Networking Audience Worldwide* (Oct. 20, 2010), https://www.comscore.com/Insights/Press-Releases/2010/10/Russia-Has-Most-Engaged-Social-Networking-Audience-Worldwide; The Nielsen Co., *Social Networks/Blogs Now Account for One in Every Four and a Half Minutes Online* (June 2010) (reporting that U.S. visitors spent an average of 6 hours, 35 minutes, and 2 seconds per person on social-networking and blog sites in April 2010).

[5] Simon Kemp, *Digital 2025: The State of Social Media in 2025* (DataReportal Feb. 5, 2025), https://datareportal.com/reports/digital-2025-sub-section-state-of-social.

use among U.S. adolescents ages 12–17 approximately doubled over the past decade, from 2.5 to three hours per day in 2015 to about five hours per day in 2025.[6]

Over roughly the same period, the Centers for Disease Control and Prevention's Youth Risk Behavior Survey recorded a sharp rise in the share of adolescents who reported that they "felt sad or hopeless for two or more weeks in a row." The steepest increase occurred from 2019 to 2021, followed by a modest decline, while other measures of mental health remained relatively stable (see Figure 1).

FIGURE 1: U.S. High School Students' Mental Health Indicators, 1991-2023



SOURCE: *CDC Youth Risk Behavior Survey*[7]

The apparent association between greater access to smartphones and social media and rising mental-health problems—sometimes compounded by concerns about school performance—has prompted calls for sweeping restrictions. Policymakers in many jurisdictions have proposed or adopted minimum-age bans, parental-consent mandates, time-based curfews, and universal age verification.

Yet evidence that these interventions improve adolescent mental health, educational outcomes, or other measures of well-being remains weak at best. There is stronger evidence that they impose substantial costs, including lost privacy, harms to vulnerable populations, circumvention that can undermine voluntary controls, and violations of constitutional rights such as freedom of speech.

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[6] Jonathan Rothwell, *Teens Spend Average of 4.8 Hours on Social Media Per Day* (Gallup Oct. 13, 2023), https://news.gallup.com/poll/512576/teens-spend-average-hours-social-media-per-day.aspx.

[7] Ctrs. for Disease Control & Prevention, Youth Risk Behavior Survey Data Explorer, *1991–2023 High School Youth Risk Behavior Survey Data*, https://yrbs-explorer.services.cdc.gov (last visited Sept. 5, 2026) [hereinafter CDC Youth Risk Behavior Survey].

Treating social media and screen use as the villain in this story is understandable but, as we argue in this white paper, incomplete and overly simplistic. Jonathan Haidt, a leading proponent of the view that smartphones and social media have contributed to deteriorating adolescent mental health, also argues that a parallel trend has received too little attention: the steady erosion of children's and adolescents' freedom to play, explore, and socialize independently.[8]

Haidt argues that increasingly restrictive parenting and institutional practices, adopted largely in the name of child safety, have deprived young people of opportunities to develop autonomy, resilience, and social competence through independent exploration and unsupervised play. In his account, adults have systematically overprotected children in the physical world while underprotecting them in the digital one.

That overrestrictive parenting in the physical world may, in fact, be the broader problem. Indeed, adolescents may suffer from too little in-person social connection "in real life" and seek substitute forms through smartphones and social media. If so, restricting their access to phones and social media may do little to address the underlying problem and could even make it worse.

This white paper evaluates policies intended to address harms associated with smartphones and social media, drawing on research in psychology, economics, and law. It begins by assessing the empirical relationship among smartphone use, social-media use, and mental health. As we document, the evidence is weak and ambiguous. For most adolescents, smartphones and social media appear neither uniformly good nor uniformly bad for mental health. They seem to benefit a significant minority and harm a smaller minority. Their effects also depend heavily on context, suggesting that blanket rules are unlikely to offer an effective solution.

Section II evaluates existing and proposed laws through the lens of law & economics. It asks whether these policies can reduce the harms associated with social media while preserving its benefits, especially given the wide variation in individual experiences. The central finding is that the most politically popular interventions—minimum-age bans, universal age verification, and mandatory time caps—have the weakest evidence of effectiveness and the highest documented costs. Section III examines these interventions' unintended consequences, and Section IV assesses their prospects under the First Amendment.

We then consider alternatives that could help adolescents derive greater net benefits from phones and social media while reducing harms more effectively. In particular, we examine how parents and other caregivers can encourage healthier use, including by loosening restrictions on activities such as independent travel that build autonomy, agency, and in-person peer interaction.

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[8] JONATHAN HAIDT, THE ANXIOUS GENERATION: HOW THE GREAT REWIRING OF CHILDHOOD IS CAUSING AN EPIDEMIC OF MENTAL ILLNESS (2024).

I. Smartphones, Social Media, and Adolescent Mental Health

On several measures, American adolescents report worse mental health than they did two decades ago. In the Centers for Disease Control and Prevention's (CDC) 2023 Youth Risk Behavior Survey, 40% of high school students reported persistent sadness or hopelessness, up from 30% in 2013. The share who had seriously considered suicide rose more modestly, from 17% to 20%, while the share who reported attempting suicide remained roughly constant at 9%.[9] Academic indicators also disappoint, with math and reading scores flat or declining.[10]

These changes coincide with the spread of smartphones and social media among adolescents, but the evidence of a causal relationship remains far less clear. International data reveal a more complicated picture. In England, for example, the share of young people reporting longstanding mental-health conditions rose sixfold, from 0.8% to 4.8%, between 1995 and 2014—a period of rapid growth in smartphone and social-media use. Yet measured psychological distress barely changed.[11]

Across 41 countries surveyed from 1994 to 2022, adolescent psychological complaints followed markedly different trajectories from one country to the next, even as smartphone and social-media use followed broadly similar paths.[12] Across 35 countries, complaints in 2022 also substantially exceeded projections based on pre-2020 trends, suggesting that the COVID-19 pandemic and related policies may help explain the recent increase.[13]

These findings suggest that the relationship among smartphones, social media, and mental health is more complex than the account presented by Jonathan Haidt and some other scholars and activists. As Candice Odgers of the University of California, Irvine, observes, "Hundreds of researchers,

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[9] CDC Youth Risk Behavior Survey, *supra* note 7.

[10] Nat'l Ctr. for Educ. Statistics, *NAEP Long-Term Trend Assessment Results: Reading and Mathematics* (2023), https://www.nationsreportcard.gov/highlights/ltt/2023. Research on device and social-media use finds similarly small negative effects on educational outcomes, which accords with the mental-health literature. *See* Metin Kuş, *A Meta-Analysis of the Impact of Technology-Related Factors on Students' Academic Performance*, 16 FRONTIERS PSYCH. 1524645, at 1, 7–8 (2025), https://doi.org/10.3389/fpsyg.2025.1524645. We focus primarily on mental-health effects because they dominate activist and policy concerns.

[11] Jacqueline Pitchforth *et al.*, *Mental Health and Well-Being Trends Among Children and Young People in the UK, 1995–2014: Analysis of Repeated Cross-Sectional National Health Surveys*, 49 PSYCHOL. MED. 1275, 1275 (2019), https://doi.org/10.1017/S0033291718001757 (analyzing 36 national surveys covering 140,830 respondents ages 4–24 and finding "relatively little change" in measures of psychological distress and emotional well-being). In Scotland, the comparable figure rose from 2.3% to 6.0% over 11 years.

[12] Karen Schrijvers *et al.*, *Three Decades of Adolescent Health: Unveiling Global Trends Across 41 Countries in Psychological and Somatic Complaints (1994–2022)*, 69 INT'L J. PUB. HEALTH 1607774 (2024), https://doi.org/10.3389/ijph.2024.1607774. Among 470,797 15-year-olds, trends were linear in 25% of country-complaint-gender combinations, quadratic in 28.7%, and cubic in 28.7%.

[13] Alina Cosma *et al.*, *Cross-National Trends in Adolescents' Psychological and Somatic Complaints Before and After the Onset of COVID-19 Pandemic*, 76 J. ADOLESCENT HEALTH 254 (2025), https://doi.org/10.1016/j.jadohealth.2024.09.028 (studying 792,606 adolescents across 35 countries in four survey waves from 2010 to 2022). The underlying age gradient long predates smartphones. Across 43 countries between 2001 and 2014, adolescent life satisfaction fell by 0.61 standard deviations between ages 10 and 16. Michael Daly, *Cross-National and Longitudinal Evidence for a Rapid Decline in Life Satisfaction in Adolescence*, 94 J. ADOLESCENCE 422 (2022), https://doi.org/10.1002/jad.12037.

myself included, have searched for the kind of large effects suggested by Haidt. Our efforts have produced a mix of no, small and mixed associations."[14] Policymakers have nevertheless often proceeded as though the causal evidence were much clearer.

Before Section II evaluates policies intended to address the alleged harms associated with phones and social media, this section offers a more balanced assessment of the nature and strength of those relationships, drawing on the best evidence available at the time of writing.

A. Main Effects and Their Limits

We begin with "main-effect" studies, which examine the overall relationships among social-media use, device use, and mental-health outcomes. Most use cross-sectional designs that measure variables at a single point in time. They can therefore identify correlations but cannot establish causation.

Although public discussion often treats this research as settled, the available evidence has several important limitations. First, results vary with the analytical model. Researchers have found effects ranging from minuscule to moderate, but the studies collectively offer no consistent and compelling account of how social media or device use affects adolescent mental health.

Second, the large datasets used in some studies can produce statistically significant results that have little practical importance due to small effect sizes. Statistical significance indicates that an observed relationship is unlikely to result from chance. It does not establish that the effect is large or meaningful.

Third, research generally cannot prove that something is safe. It can only fail to detect harm. Yet journals are less likely to publish null findings—results showing no effect—than studies reporting even a small, statistically significant relationship. This publication bias may make the evidence of harm appear stronger and more consistent than it is.

1. Model Choices Shape the Results

Deciding which variables to study, how to define and measure them, and which statistical controls to include is as much art as science. Researchers can reasonably disagree about whether to control for a variable—accounting for it statistically—or investigate it as a potential mechanism through which an effect operates. Some models also provide more conservative tests than others.

Observed correlations often hinge on these choices. Results can vary depending on how researchers measure "social-media use" or "device use," which outcomes they examine, and which other variables they control for.

One way to test whether results are robust rather than dependent on a single model is to examine many similar models at once and identify overarching trends. Researchers call this technique

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[14] Candice L. Odgers, *The Great Rewiring: Is Social Media Really Behind an Epidemic of Teenage Mental Illness?*, 628 NATURE 29, 29 (2024), https://doi.org/10.1038/d41586-024-00902-2 (reviewing Haidt, *supra* note 8).

specification-curve analysis. Amy Orben and Andrew Przybylski of the University of Oxford used it to test about 20,000 model specifications.[15] As they note, "for some of the datasets analyzed there were more than a trillion different ways to operationalize a simple regression."[16] That range underscores the value of examining the overall pattern rather than selecting a few models from among a trillion possibilities.

Orben and Przybylski found a "negative but small" association that explained at most 0.4% of the variation in well-being. They concluded that the effect was "too small to warrant policy change."[17] Many other factors had stronger associations. Being bullied was 4.3 times more strongly associated with reduced well-being than technology use. Wearing eyeglasses was 1.5 times more strongly associated.

In 2022, Jean Twenge, Haidt, and their coauthors used the same data and analytical method but chose different model specifications. They found that:

> [I]n particular, social media use (as opposed to all screen time) for girls (as opposed to all teens) showed much larger relationships with poor mental health, particularly when we removed possible mediators (such as unhappiness at school) from the set of variables controlled for, and when we treated all of the mental health scales equally.[18]

Some of these adjustments seem reasonable, including separating the effects by sex and examining social-media use rather than overall screen time. But the larger estimates depend heavily on treating unhappiness at school as a mediator—a pathway through which social media might affect mental health—rather than as a control. Both choices have defensible rationales, which the two sets of authors discuss in their published work.

Public discussion, however, rarely reflects how much the results vary or how strongly researchers contest them. It tends to favor Haidt and Twenge's conclusions over those of Orben and Przybylski and other researchers discussed below who question the relationship.

2. Small Effects and Measurement Error

A second dispute between Haidt and Twenge, on one side, and Orben and Przybylski, on the other, concerns whether the observed effects are large enough to justify policy intervention. Large datasets—the datasets analyzed by Orben and Przybylski included more than 355,000 participants—give researchers substantial statistical power. But they can also produce statistically significant results with

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[15] Amy Orben & Andrew K. Przybylski, *The Association Between Adolescent Well-Being and Digital Technology Use*, 3 NATURE HUM. BEHAV. 173, 173 (2019), https://doi.org/10.1038/s41562-018-0506-1 (analyzing data from the U.S. Youth Risk Behavior Survey, Monitoring the Future, and the U.K. Millennium Cohort Study).

[16] *Id.*

[17] *Id.*

[18] Jean M. Twenge *et al.*, *Specification Curve Analysis Shows That Social Media Use Is Linked to Poor Mental Health, Especially Among Girls*, 224 ACTA PSYCHOLOGICA 103512, at 8 (2022).

little practical importance. In other words, a relationship may be unlikely to result from sampling chance yet still be too small to matter.

If social-media use has a weaker association with well-being than bullying and even wearing eyeglasses, policymakers should ask whether regulation is warranted and, if so, whether the proposed response is proportionate to the effect.

Consider an analogy. Suppose an official wants to determine whether a bowling ball is suitable for use in an official game. A sufficiently powerful microscope will establish beyond doubt that the ball carries a speck of dust. The speck is real, but it reveals little about the ball's suitability. It does not alter the ball's weight or shape enough to disqualify it. Statistical significance measures the sensitivity of the instrument, not the magnitude of what it detects. Datasets containing hundreds of thousands of respondents resemble extremely powerful microscopes: They can detect associations that are unlikely to reflect sampling chance but may remain too small to matter in practice.

Orben and Przybylski are not alone in finding statistically significant but small effects. In a 2025 meta-analysis, Christopher Ferguson of Stetson University and his colleagues pooled 79 effect sizes from 46 studies. They found an association of 0.061, below the 0.10 threshold that they and other researchers treat as the minimum of evidentiary interest.[19]

A University of Cambridge team led by Luisa Fassi reached a similar result. Its review covered 143 studies involving nearly 1.1 million adolescents.[20] The pooled estimate for time spent on social media, based on 56 of those studies and 482,273 participants, showed a statistically significant but small association with internalizing symptoms, such as anxiety and depression ($r = 0.12$). That correlation means social-media use accounts for roughly 1.4% of the variation in the outcome, leaving 98.6% unexplained. A 2026 meta-analysis of 153 longitudinal studies found similar effect sizes. It also found that video gaming appeared to *improve* executive function by about the same magnitude.[21]

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[19] Christopher J. Ferguson *et al.*, *There Is No Evidence That Time Spent on Social Media Is Correlated with Adolescent Mental Health Problems: Findings from a Meta-Analysis*, 56 PROF. PSYCHOL.: RSCH. & PRAC. 73 (2025), https://doi.org/10.1037/pro0000589 (analyzing 79 effect sizes from 46 studies and finding $\beta = .061$, 95% CI [.047, .075], and $\beta = .044$ for the longitudinal subset). Egger's regression ($p = .021$) and a trim-and-fill analysis that identified four missing studies suggested possible publication bias, but the authors provide no bias-adjusted estimate. An earlier meta-analysis by the same group found a pooled r of .052 for screen media generally and no evidence that screen media contributed to suicidal ideation. Christopher J. Ferguson *et al.*, *Like This Meta-Analysis: Screen Media and Mental Health*, 53 PROF. PSYCHOL.: RSCH. & PRAC. 205 (2022), https://doi.org/10.1037/pro0000426.

[20] Luisa Fassi *et al.*, *Social Media Use and Internalizing Symptoms in Clinical and Community Adolescent Samples: A Systematic Review and Meta-Analysis*, 178 JAMA PEDIATRICS 814 (2024), https://doi.org/10.1001/jamapediatrics.2024.2078. The review covered 886 effect sizes from 143 studies involving 1,094,890 adolescents. Across clinical and community samples, the pooled estimate for time spent on social media was $r = 0.12$ (95% CI [0.09, 0.14]) across 56 studies, 117 effect sizes, and 482,273 participants, with $I^2 = 98.0\%$. Sample type did not significantly moderate the result. Following Jacob Cohen, the authors classify effect sizes below $r = 0.10$ as small. JACOB COHEN, STATISTICAL POWER ANALYSIS FOR THE BEHAVIORAL SCIENCES (2d ed. 1988).

[21] Samantha Teague *et al.*, *Digital Media Use and Child Health and Development: A Systematic Review and Meta-Analysis*, 180 JAMA PEDIATRICS 510 (2026), https://doi.org/10.1001/jamapediatrics.2026.0085 (analyzing 1,072 effect sizes from 153

Statisticians have proposed standard effect-size benchmarks to reduce the risk that researchers' prior beliefs will shape how they characterize results. Guidelines commonly distinguish among small, medium, large, and even huge effects.[22] Researchers define those categories in different ways, but the U.S. Department of Education and others recommend benchmarks that account for the seriousness of the outcome, research norms, and effect sizes typical of the field. Social-media and device-use researchers would benefit from field-specific benchmarks that reduce the risk of well-meaning scholars either downplaying or exaggerating effects based on their subjective views.

Even these estimates may be too generous because researchers often measure phone and social-media use poorly. A preregistered meta-analysis by Douglas Parry and his colleagues found that self-reported and device-logged media use correlated at only $r = 0.38$, implying roughly 14% shared variance. Self-reports also rarely matched logged use.[23] Studies that ask adolescents to recall their screen time may therefore measure something quite different from their actual use.

The measurement error also may not be random. Evidence suggests that the gap between actual and remembered screen time varies with respondents' well-being. Unhappy adolescents may overestimate their screen time, creating a false correlation between screen time and mood.[24]

This problem extends beyond social-media research. Common-method bias can arise whenever participants report both the proposed cause and the outcome at the same time. Features of the reporting method or the respondent's outlook may then make the two appear more closely related than they are. Researchers can reduce this bias through better study design and statistical analysis.[25]

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longitudinal studies covering 115 cohorts). For social-media use and depression, the pooled estimate was $r = 0.09$ (95% CI [0.06, 0.12]). Effects were stronger after one year or less ($\beta = 0.12$) than after one to three years ($\beta = 0.04$) or more than three years ($\beta = 0.03$). For internalizing behaviors, poor-quality studies yielded $\beta = 0.21$, significantly larger than the estimate from good-quality studies. Restricting the analysis to fair- and good-quality studies attenuated most associations and rendered the association with academic achievement nonsignificant. The authors nevertheless conclude that "digital media use was consistently associated with risks to child and adolescent health and development, particularly for social media."

[22] David C. Funder & Daniel J. Ozer, *Evaluating Effect Size in Psychological Research: Sense and Nonsense*, 2 ADVANCES METHODS & PRACS. PSYCH. SCI. 156 (2019), https://doi.org/10.1177/2515245919847202.

[23] Douglas A. Parry *et al.*, *A Systematic Review and Meta-Analysis of Discrepancies Between Logged and Self-Reported Digital Media Use*, 5 NATURE HUM. BEHAV. 1535 (2021), https://doi.org/10.1038/s41562-021-01117-5. Across 66 effect sizes from 44 studies involving 52,007 participants, self-reported and logged use correlated at only $r = 0.38$ (95% CI [0.33, 0.42]). For self-reported problematic-use scales, the correlation fell to $r = 0.25$ across 40 effect sizes from 19 studies. Only three of 49 comparisons (6.12%) placed mean self-reported use within 5% of mean logged use. The authors caution against drawing broad knowledge claims or policy recommendations from studies that rely solely on self-reported media use.

[24] *Id.* (calling it "an important unanswered question" whether the discrepancy reflects random or systematic error and citing evidence that inaccuracy varied directly with respondents' well-being); *see* Craig J.R. Sewall *et al.*, *Objectively Measured Digital Technology Use During the COVID-19 Pandemic*, 8 MOBILE MEDIA & COMMC'N 379 (2020), https://doi.org/10.1177/2050157920902830. On common-method variance, *see* Orben & Przybylski, *supra* note 15, at 178 (finding associations with caregiver-reported well-being an order of magnitude smaller than those with adolescent self-reported well-being). On the broader measurement problem, *see* Linda K. Kaye *et al.*, *The Conceptual and Methodological Mayhem of "Screen Time"*, 17 INT'L J. ENV'T RSCH. & PUB. HEALTH 3661 (2020), https://doi.org/10.3390/ijerph17103661.

[25] Philip M. Podsakoff *et al.*, *Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies*, 88 J. APPLIED PSYCH. 879 (2003), https://doi.org/10.1037/0021-9010.88.5.879.

3. *Publication Bias and the File-Drawer Problem*

The studies described above must be interpreted in light of journals' longstanding reluctance to publish null results—findings in which a hypothesized relationship does not appear. This "file-drawer problem," together with low statistical power, flexible analytical practices, and incentives favoring novel and statistically significant findings, have contributed to the replication crisis in social psychology. For many years, when researchers failed to reproduce a published effect, they were more likely to assume that something had gone wrong with the replication than to question the original finding.

These incentives complicate efforts to understand social media's effects. Studies reporting small negative associations between social-media use and adolescent well-being are generally more publishable and newsworthy than studies finding no meaningful relationship.

A null result does not, however, automatically establish safety. A study may fail to detect harm because its measures are imprecise or its sample is too small. But large, well-designed studies that consistently find effects close to zero do provide meaningful evidence that any average harm is likely to be limited.

Public discussion often misses this distinction. Statistically significant but practically small negative effects receive disproportionate attention. Publication bias, media incentives, and people's greater attention to negative information can therefore create a more alarming impression than the literature as a whole supports.

B. Mechanisms and Competing Explanations

Because main-effect studies cannot establish causation, evidence about the specific pathways through which phones and social media might cause harm can strengthen the empirical case. The four leading candidates are sleep loss, social comparison and body-image concerns, social exclusion and bullying, and intermittent reinforcement that encourages compulsive use. Each mechanism is plausible, but the supporting evidence remains generally weak and often contradictory.[26] Moreover, the

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[26] *See, e.g.*, Jacqueline Nesi & Mitchell J. Prinstein, *Using Social Media for Social Comparison and Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms*, 43 J. ABNORMAL CHILD PSYCHOL. 1427 (2015), https://doi.org/10.1007/s10802-015-0020-0. Frequency of technology use was already nonsignificant at the model's first step, which controlled for baseline depressive symptoms and offline excessive reassurance-seeking. Adding the social-comparison measure did not change that result. Sophia Choukas-Bradley, who develops the appearance-comparison account, likewise acknowledges that the cross-sectional designs dominating the literature "cannot rule out the possibility that adolescents who initially have higher social comparison tendencies are more likely to seek out appearance-related SM content." Sophia Choukas-Bradley, *Adolescents' Social Media Use and Body Image* (MIT Press Works in Progress July 17, 2024), https://wip.mitpress.mit.edu/pub/gik297kw. A recent meta-analysis reported estimates of $r = -0.062$ (95% CI [−0.163, 0.039]) for ordinary use and sleep duration, $r = 0.079$ (95% CI [−0.037, 0.194]) for ordinary use and sleep problems, $r = 0.038$ (95% CI [−0.010, 0.086]) for problematic use and sleep duration, and $r = 0.189$ for problematic use and sleep problems. Oli Ahmed *et al.*, *Social Media Use, Mental Health and Sleep: A Systematic Review with Meta-Analyses*, 367 J. AFFECTIVE DISORDERS 701 (2024), https://doi.org/10.1016/j.jad.2024.08.193. Heterogeneity was extreme in the ordinary-use analyses ($I^2 = 92.68\%$ and 97.93%), and excluding influential studies reversed the sleep-duration estimate's sign. Another study found that unhappiness with one's appearance was associated with 25.89 times the odds of low self-esteem, while at least five hours of daily social-media use was associated with 1.56 times the odds and no use with 1.75 times the odds.

association in each case attaches not to time spent on a device or social media but to a particular behavior or preexisting vulnerability—each with an offline analogue.

Another possibility is that the association is not causal at all. Adolescents who spend more time on their phones differ from those who spend less time on their phones in ways that have nothing to do with the phones themselves. Several potential alternative pathways have been identified, including displacement and reverse causation.

Under the displacement theory, phone use competes for time with sleep, exercise, and in-person socializing—activities that predict adolescent well-being far more strongly than screen use predicts its absence. In Orben and Przybylski's 2019 analysis, getting enough sleep and eating breakfast had positive associations with well-being 1.7 to 44.2 times larger than technology use's negative association. When phone use crowds out those activities, it may serve as a marker for the displaced activity rather than independently cause the harm. The appropriate response would be to protect the activity, not to prohibit the device.[27]

Reverse causation between device use and mental health is also highly plausible, as is a bidirectional relationship in which phone use and poor mental health affect each other. An adolescent who is anxious, isolated, or depressed may have strong reasons to spend more time on a phone and fewer attractive alternatives.[28] In two longitudinal studies—one involving 594 adolescents and the other 1,132 college students—Taylor Heffer and her colleagues found that "social-media use did not predict depressive symptoms over time for males or females. However, greater depressive symptoms predicted more frequent social-media use only among adolescent girls."[29]

In a longitudinal sample of 17,409 young people, Orben and her colleagues likewise found that lower-than-expected life satisfaction predicted greater subsequent social-media use. The relationship was statistically significant and consistent across participants ages 10–21 and across both sexes. The

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Russell M. Viner *et al.*, *Roles of Cyberbullying, Sleep, and Physical Activity in Mediating the Effects of Social Media Use on Mental Health and Wellbeing Among Young People in England: A Secondary Analysis of Longitudinal Data*, 3 LANCET CHILD & ADOLESCENT HEALTH 685 (2019), https://doi.org/10.1016/S2352-4642(19)30186-5. Nonusers thus appeared to fare worse than the heaviest users, a result difficult to reconcile with a dose-response account and suggesting that both extremes may proxy for something other than exposure. Appearance dissatisfaction and low self-esteem also come from self-evaluative items in the same instrument, so the 25.89 figure does not offer a like-for-like comparison with behavioral exposure. Finally, the relationship between intense use—measured by time and modeled alongside problematic use—and well-being varied by country. It was negative where intense use was uncommon and positive where it was widespread. Maartje Boer *et al.*, *Adolescents' Intense and Problematic Social Media Use and Their Well-Being in 29 Countries*, 66 J. ADOLESCENT HEALTH S89 (2020), https://doi.org/10.1016/j.jadohealth.2020.02.014.

[27] Orben & Przybylski, *supra* note 15, at 178–79 & tbl.3 (reporting that getting enough sleep and eating breakfast had positive associations with well-being 1.7 to 44.2 times larger than technology use's negative association); Viner *et al.*, *supra* note 26, tbl.4 (reporting that physical activity mediated 13.4% of the association among girls in a single-mediator model and 9.0% in the combined model, while acting as a suppressor rather than a mediator among boys at −5.9%).

[28] On the reverse pathway in a second dataset, *see* Taylor Heffer *et al.*, *The Longitudinal Association Between Social-Media Use and Depressive Symptoms Among Adolescents and Young Adults: An Empirical Reply to Twenge et al. (2018)*, 7 CLINICAL PSYCHOL. SCI. 462 (2019), https://doi.org/10.1177/2167702618812727.

[29] Heffer *et al.*, *supra* note 28.

authors concluded that the relationship was bidirectional.[30] As Odgers and Michaeline Jensen put it, adolescents "at higher risk for depressive symptoms may selectively use social media more, or differently."[31]

Age-specific life events and hormonal changes associated with puberty may also interact with social-media and device use. In the same longitudinal study, Orben and her colleagues found evidence that adolescents were more sensitive to associations between social-media use and lower subsequent life satisfaction during particular developmental periods. The first developmental window differed by sex, appearing at approximately ages 11–13 for girls and 14–15 for boys. A second window appeared at age 19 for both groups.[32]

The literature also supports other possible explanations for changing adolescent mental health, including schoolwork pressure,[33] the COVID-19 pandemic,[34] and mental-health awareness efforts that may themselves inflate reported symptoms.[35]

C. Social Media's Benefits

Studies that measure what adolescents experience on social media, rather than simply how many hours they spend there, find more benefit than harm. Given the negative public discourse surrounding social media, that result may seem surprising. It shouldn't be.

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[30] Amy Orben *et al.*, *Windows of Developmental Sensitivity to Social Media*, 13 NATURE COMMC'NS 1649 (2022), https://doi.org/10.1038/s41467-022-29296-3. The cross-sectional sample included 84,011 participants. The cross-lagged estimate cited here comes from a random-intercept cross-lagged panel model covering 17,409 Understanding Society participants ages 10–21 across 52,556 measurement occasions. The path from lower-than-expected life satisfaction to higher subsequent social-media use was $b = -0.02$, 95% CI [−0.03, −0.01], SE = 0.007, $p = 0.004$, and did not vary by age or sex. The authors characterize the relationship as "bidirectional in nature." Cross-lagged paths in the other direction were predominantly nonsignificant, and the model's largest standardized coefficient was −0.13.

[31] Candice L. Odgers & Michaeline R. Jensen, *Annual Research Review: Adolescent Mental Health in the Digital Age: Facts, Fears, and Future Directions*, 61 J. CHILD PSYCHOL. & PSYCHIATRY 336 (2020), https://doi.org/10.1111/jcpp.13190.

[32] Orben *et al.*, *supra* note 30.

[33] Alina Cosma *et al.*, *Cross-National Time Trends in Adolescent Mental Well-Being from 2002 to 2018 and the Explanatory Role of Schoolwork Pressure*, 66 J. ADOLESCENT HEALTH S50 (2020), https://doi.org/10.1016/j.jadohealth.2020.02.010 (analyzing 915,054 adolescents across 36 countries). The authors report a small linear increase in psychosomatic complaints, partly explained by rising schoolwork pressure in higher-income countries, and conclude that their findings "do not provide evidence for substantial declines in mental well-being."

[34] Cosma *et al.*, *supra* note 13.

[35] Isaac Winterburn *et al.*, *The Impact of Mental Health-Related Social Media Posts on Young Adults' Mental Health Reporting: A Two-Study Experimental Investigation* (PsyArXiv preprint, Mar. 12, 2026), https://doi.org/10.31234/osf.io/msf9k_v1. In the larger experiment, which included 611 U.K. adults ages 18–24, exposure raised State-Trait Anxiety Inventory scores by 3.17 points on an 80-point scale and broadened respondents' concept of mental disorder by 0.59 points on a 10-point measure. It did not affect self-diagnosis, functional impairment, coping behavior, or total difficulties. All effect sizes ranged from $f^2 = 0.01$ to 0.04. On the underlying hypothesis, *see* Lucy Foulkes & Jack L. Andrews, *Are Mental Health Awareness Efforts Contributing to the Rise in Reported Mental Health Problems? A Call to Test the Prevalence Inflation Hypothesis*, 69 NEW IDEAS PSYCH. 101010 (2023), https://doi.org/10.1016/j.newideapsych.2023.101010.

Social media can help adolescents maintain friendships, find a sense of belonging, share humor, express creativity, explore their identities, seek help, and connect with peers who share their experiences. Adolescents themselves often describe social media in mixed terms. The Pew Research Center reported in 2025 that many teens saw benefits for connection and friendship while also reporting costs to sleep, productivity, confidence, and mental health.[36] [37]

The American Academy of Pediatrics similarly notes that social media can help adolescents feel connected, especially during periods of social isolation.[38] LGBTQ+ youth offer the clearest example. Matthew Berger and his colleagues' systematic review found that social media may support LGBTQ+ youths' mental health and well-being by fostering peer connections, helping them explore and manage their identities, and providing social support. These benefits are clinically significant. For adolescents whose identities receive little affirmation in their immediate environment, online connections can provide a major source of belonging and resilience.[39]

These benefits do not erase the risks. But they do mean that a blanket prohibition would impose certain, widely distributed costs to address risks that remain concentrated and uncertain.

D. What the Evidence Supports

Several tentative conclusions follow from the forgoing. First, the science is not settled. Effect sizes vary with model specifications but tend to be small. In main-effect studies, digital-technology use typically explains less than 1% of the variation in adolescent well-being.

Second, an effect may be statistically significant yet have little practical importance, particularly when compared with variables such as bullying or even wearing eyeglasses. Third, journals' reluctance to publish null results, combined with people's greater attention to negative information, likely draws

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[36] *See* Michelle Faverio, Monica Anderson & Eugenie Park, *Teens, Social Media and Mental Health* (Pew Rsch. Ctr. Apr. 22, 2025), https://www.pewresearch.org/internet/2025/04/22/teens-social-media-and-mental-health.

[37] International studies show similar heterogeneity. *See* Patti M. Valkenburg *et al.*, *Adolescents' Social Media Experiences and Their Self-Esteem: A Person-Specific Susceptibility Perspective*, 2 TECH. MIND & BEHAV. (2021), https://doi.org/10.1037/tmb0000037. The study collected 21,970 assessments from 300 Dutch adolescents ages 13–16 over three weeks and used dynamic structural-equation modeling to estimate a separate within-person effect for each participant. Across the 15,708 observations reporting valence, 78% of adolescents showed a positive effect of social-media experiences on self-esteem ($\beta \geq +.05$), 19% showed no or a very small effect, and 3% showed a negative effect. For time spent, 56% showed no or a very small effect, 27% showed a negative effect, and 18% showed a positive effect, with person-specific coefficients ranging from $\beta = -.31$ to $+.27$. These were the same adolescents over the same three weeks. The sign turned on which variable researchers measured. In a smaller companion study, 46% of adolescents felt better after browsing, 10% felt worse, and 44% felt no different. Ine Beyens *et al.*, *The Effect of Social Media on Well-Being Differs from Adolescent to Adolescent*, 10 SCI. REPS. 10763 (2020), https://doi.org/10.1038/s41598-020-67727-7. Those figures cover passive use in a sample of 63 adolescents over one week. Adolescents themselves describe mixed tradeoffs, reporting greater connection and stronger friendships alongside costs to sleep and productivity. *See* Faverio, Anderson & Park, *supra* note 36; Am. Acad. of Pediatrics, *Social Media and Adolescent Mental Health: Pediatric Mental Health Minute*, https://www.aap.org/en/patient-care/mental-health-minute/social-media-and-adolescent-mental-health.

[38] Am. Acad. of Pediatrics, *supra* note 37.

[39] *See* Matthew N. Berger *et al.*, *Social Media Use and Health and Well-Being of Lesbian, Gay, Bisexual, Transgender, and Queer Youth: Systematic Review*, 24 J. MED. INTERNET RSCH. e38449 (2022), https://doi.org/10.2196/38449.

disproportionate attention to small negative effects. The nature of scientific research also makes a definitive "social media is safe" paper unlikely.

Fourth, confounding factors and competing explanations, including reverse causation, further muddy the picture. Odgers and Jensen summarize the state of the evidence well:

> While future research may identify clear or stronger linkages, at present the available evidence falls short of the standard of proof required to identify digital technology use as a putative environmental cause of adolescent mental health problems.[40]

Fifth, any assessment must account for social media's general benefits and its particular importance to some vulnerable populations.

Parents and policymakers may want definitive research establishing that social-media and device use are entirely safe, but science cannot provide that assurance. It can show that researchers have not detected specific harms—or have ruled out effects above a meaningful threshold—under specified conditions. And while some studies find negative effects under certain conditions, others find much smaller effects that affect narrower groups.

Until the research converges on a consensus that social media causes serious harm, public discussion should accurately reflect the mixed evidence. Policymakers should also demand evidence that interventions work before adopting them widely. Section II turns to that question.

II. Do the Proposed Policies Work?

Despite limited and mixed evidence that device and social-media use cause substantial harm, policymakers around the world are rushing to embrace solutions. The threshold question is what problem these measures aim to solve. This section evaluates whether they produce meaningful benefits, including whether they achieve their stated objectives. Section III considers their unintended consequences.

Some states have enacted laws that restrict constitutionally protected speech. Courts have already enjoined several of these laws, while challenges to others remain pending. Section IV examines those cases and the governing constitutional precedents in greater detail. Here, we identify policies likely to face constitutional challenges in the United States, while focusing primarily on evaluating their effectiveness.

The most popular government responses include blanket age restrictions on device or social-media access, other age-based limits on the duration or timing of use, parental-consent mandates, and labeling requirements. Meanwhile, nongovernmental tools to address the public concerns include

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[40] Odgers & Jensen, *supra* note 31, at 342. The review also notes that "[a]t present, narrative reviews and meta-analytic work do not support causal claims, or even strong and consistent correlational patterns, linking adolescents' digital technology usage with mental health problems." *Id.* at 339.

apps that let parents or users impose time limits or add "friction"—such as pauses or prompts that interrupt automatic use.

Evaluating most of these policies and tools remains difficult because studies measuring their effects on adolescent health are sparse or nonexistent. Most interventions are too new, have faced legal barriers, or have been implemented too inconsistently to permit credible evaluation.[41] But even when measured against their own often-dubious premises, the evidence that government mandates work remains weak.

A. Age Restrictions and Parental Consent

Some of the most vocal proponents to "do something" about the harms attributed to social media have settled on mandatory age restrictions. Haidt, for example, advocates banning smartphones for children under 14 and social media for children under 16.[42]

The most straightforward case for these restrictions rests on two arguments. First, using the specified technology before the age cutoff is so widely harmful that narrower restrictions would not suffice. Second, voluntary parental limits face a network-effects and free-rider problem. Children may argue that barring them from smartphones or social media will isolate them because all their friends use those technologies. A mandate, in theory, relieves that pressure by imposing the same rule on everyone.

But there are strong reasons to conclude that a broad mandate would be too blunt. As the longitudinal study by Orben and her colleagues suggests, adolescent life satisfaction may be more sensitive to social-media use during certain developmental periods that differ by sex.[43]

Even if age restrictions could provide some benefits in principle, mandatory restrictions would also impose substantial costs. Indeed, the evidence discussed below suggests that they can produce the opposite of their intended effect. Rather than helping parents work with their children to manage social-media use, age bans may encourage teenagers to seek access to the forbidden fruit.

These mandates also raise serious constitutional concerns in the United States. Federal district courts in Arkansas, Louisiana, and Ohio have permanently enjoined laws requiring social-media platforms to verify users' ages and obtain parental consent before allowing minors to create accounts.[44] The laws at issue were Arkansas' Social Media Safety Act, Louisiana's Secure Online Child

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[41] Nat'l Telecomm. & Info. Admin., *Kids Online Health and Safety Task Force Research Agenda* (2024) (identifying this evidence gap and calling for longitudinal and experimental studies to evaluate regulatory effectiveness).

[42] Jonathan Haidt, *How the Great Rewiring of Childhood Impacted Everything–and What We Can Do About It*, THE ANXIOUS GENERATION, https://www.anxiousgeneration.com/parent-teacher-talk (last visited Aug. 31, 2026).

[43] Orben *et al.*, *supra* note 30.

[44] *NetChoice, LLC v. Griffin*, No. 5:23-CV-05105, 2025 WL 978607, at *8 (W.D. Ark. Mar. 31, 2025); *NetChoice, LLC v. Murrill*, 812 F. Supp. 3d 594, 646 (M.D. La. 2025); *NetChoice, LLC v. Yost*, 778 F. Supp. 3d 923, 955 (S.D. Ohio 2025), *rev'd*, 180 F.4th 268 (6th Cir. 2026).

Interaction and Age Limitation Act, and Ohio's Parental Notification by Social Media Operators Act.[45]

The district courts applied strict scrutiny, in part because the laws required parental consent before minors could access constitutionally protected, nonobscene content.[46] As Section IV discusses, the 6th U.S. Circuit Court of Appeals reversed the Ohio decision in June 2026. The Arkansas and Louisiana injunctions remain in effect.

1. Australia's Under-16 Ban

Australia's Constitution protects an implied freedom of political communication that may ultimately limit or invalidate the country's effort to restrict teenagers' access to social media.[47] Nonetheless, on Dec. 10, 2025, Australia implemented the world's first national minimum age of 16 for social-media accounts.[48]

Leaving aside the policy's broader merits and drawbacks, implementation has proved difficult. During the first month, platforms deactivated nearly 5 million accounts held by Australian minors.[49] That scale of initial compliance appears impressive—until one examines what happened next and what had come before:

- Self-reported age had already proved unreliable as an enforcement mechanism. Despite platforms' existing minimum age of 13, 84% of Australians ages 8–12 reported using social media.[50]

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[45] *See* Ark. Code Ann. § 4-88-1402; La. Stat. Ann. §§ 51:1751–1759; Ohio Rev. Code Ann. § 1349.09.

[46] *Griffin*, 2025 WL 978607, at *8; *Yost*, 778 F. Supp. 3d at 955.

[47] Writ of Summons, *The Digital Freedom Project Inc. v. Commonwealth*, No. S163/2025 (High Ct. Austl. filed Nov. 27, 2025), https://cdn.prod.website-files.com/68d2334bf5fe4689986391b0/6927e145e148f5a16dfc018e_SEALED%20Writ%20of%20Summons%20-%20DFP%20v%20Commonwealth%20of%20Australia.pdf. The challenge invokes Australia's implied freedom of political communication. The High Court referred the stated questions to the Full Court on July 29, 2026, and the case remains pending. High Ct. of Austl., *Case No. S163/2025*, https://www.hcourt.gov.au/cases-and-judgments/cases/current/case-no-s1632025 (last visited Sept. 13, 2026).

[48] Online Safety Amendment (Social Media Minimum Age) Act 2024 (Cth) (Austl.).

[49] Reuters, *Australia Social Media Ban Hits 4.7 Million Teen Accounts in First Month* (NBC News Jan. 16, 2026), https://www.nbcnews.com/world/asia/australia-social-media-ban-hits-47-million-teen-accounts-first-month-rcna254352 (reporting the eSafety Commissioner's figure). Australian platforms generally use layered age-assurance systems rather than a single uniform check. They infer age from existing account signals, deactivate, freeze, or sign out suspected under-16 accounts, and send disputed cases through more formal verification. The eSafety Commissioner maintains that platforms must take "reasonable steps" to prevent children under 16 from holding accounts. eSafety Comm'r, *Social Media Age Restrictions* (updated Apr. 2, 2026), https://www.esafety.gov.au/about-us/industry-regulation/social-media-age-restrictions.

[50] eSafety Comm'r, *Behind the Screen: The Reality of Age Assurance and Social Media Access for Young Australians* (Feb. 2025), https://www.esafety.gov.au/sites/default/files/2025-02/Behind-the-screen-transparency-report-Feb2025.pdf; *see also* Jasmine Fardouly, *Potential Effects of the Social Media Age Ban in Australia for Children Younger Than 16 Years*, 7 LANCET DIGITAL HEALTH e235 (2025), https://doi.org/10.1016/j.landig.2025.01.016.

- Virtual-private-network (VPN) use surged 170% on the ban's first day. A consistent after-school spike suggested that teenagers quickly found workarounds.[51] The Bloomsbury Intelligence and Security Institute documented teenagers retaining access through previously falsified birthdates, VPNs, and AI-generated facial images designed to defeat verification. Others migrated to less-regulated platforms outside the ban's coverage.[52]
- Current age-estimation technology has a margin of error of two to three years. Many 14- and 15-year-olds can therefore pass as 16, while many 16- and 17-year-olds may wrongly lose access.
- A June 2026 report based on an observational study of 436 Australian adolescents found that 86% of participants under 16 had accessed social-media sites covered by the ban after it took effect.[53]

Most critically, preventing young people from holding social-media accounts does not necessarily prevent them from accessing social-media content. Major platforms allow extensive browsing without an account. But logged-out users cannot use the safety features, parental controls, or restricted modes available through registered accounts.

Algorithmic ranking still operates for anonymous visitors, but their default feeds rely on popularity signals and geolocation rather than personalized, age-appropriate settings. Platform safeguards for minors—including screen-time prompts, private-by-default settings, restricted direct messaging, and sensitive-content filters—do not attach to sessions with no identified user.

Regulatory attention has begun to shift toward this gap, with some jurisdictions considering limits on anonymous browsing for all users. For now, account-level bans risk moving teenage use to the least-supervised surface of a platform. The result may be perverse: A policy intended to protect teenagers could make some of them less safe by pushing them from monitored accounts to unmonitored browsing.[54]

B. Time Limits and Digital Friction

Limits on time spent using smartphones, social media, and other online services have become popular among adults and adolescents alike. In response, entrepreneurs have developed an impressive array of friction-based tools that help users limit their overall phone use or time spent on particular apps. These tools appear effective among people who choose to use them. For example:

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[51] VPN Super, *Australia Social Media Ban: VPN Usage Surges 170% on Day One* (VPN Observatory Dec. 2025), https://vpnsuper.com/vpn-observatory/australia-social-media-ban-under-16-december-2025 (reporting the provider's connection data for Australian users connecting to servers in Singapore and the United States).

[52] Aryamehr Fattahi, *Australia's Social Media Ban: A Test for Global Digital Governance* (Bloomsbury Intel. & Sec. Inst. Dec. 15, 2025), https://bisi.org.uk/reports/australias-world-first-social-media-ban-a-test-for-global-digital-governance.

[53] Courtney Barnes *et al.*, *Assessing Early Effects of Australia's Social Media Minimum Age Act on Adolescents' Social Media Use: Observational Study*, 393 BMJ e363695 (2026), https://doi.org/10.1136/bmj-2026-363695 (enrolling 436 adolescents ages 12–17 before the Act took effect and following up with 408 three months later).

[54] Shin Ling Wu, *Implications of Australia's Under-16 Social Media Ban*, 10 NATURE HUM. BEHAV. 204 (2026), https://doi.org/10.1038/s41562-025-02378-0.

- The "one sec" app inserts a brief breathing exercise before opening a social-media app. In a six-week field study of 280 users, it reduced actual app openings by 57%.[55]
- So-called "nudge-based" interventions—including disabling nonessential notifications, switching phone displays to grayscale, and moving social-media apps off the home screen—significantly reduced problematic smartphone use, screen time, and depressive symptoms.[56] One study found that grayscale settings alone reduced daily screen time by approximately 20 minutes.[57]

These friction-based tools work by targeting the *automatic, habitual* dimension of app use. They do not restrict access or require identity verification. They simply make compulsive use less effortless. Some evidence suggests that voluntary tools can also help users experiencing mental-health challenges.[58]

But these findings cannot be generalized to all users, much less treated as evidence that mandatory time limits would work. Voluntary tools chosen by motivated users differ fundamentally from restrictions imposed on everyone.

1. China's Gaming Limits

Mandatory time limits, unlike voluntary ones, appear ineffective and may prove counterproductive. China has restricted minors' online gaming since 2019, when it limited users under 18 to 1.5 hours per day and three hours on holidays. In 2021, China tightened the restriction to just three hours per week and limited to 8 to 9 p.m. on Fridays, Saturdays, Sundays, and public holidays.[59]

One study reported a 93.6% compliance rate under the stricter regime, which China enforced through real-name verification and facial-recognition technology.[60] Yet that figure masks a more complicated reality. A survey of 430 adolescents conducted three months after the stricter limits took effect found that 17% of heavy gamers circumvented them. Of those surveyed, 3% rented other

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[55] David J. Grüning, Frederik Riedel & Philipp Lorenz-Spreen, *Directing Smartphone Use Through the Self-Nudge App One Sec*, 120 PROC. NAT'L ACAD. SCIS. e2213114120 (2023), https://doi.org/10.1073/pnas.2213114120 (reporting a six-week field study of 280 users in which participants abandoned 36% of attempts to open a target app after the pause, attempts fell 37% by week six, and actual app openings fell 57%).

[56] Jay A. Olson *et al.*, *A Nudge-Based Intervention to Reduce Problematic Smartphone Use: Randomised Controlled Trial*, 21 INT'L J. MENTAL HEALTH & ADDICTION 3842 (2023), https://doi.org/10.1007/s11469-022-00826-w.

[57] Cynthia A. Dekker & Susanne E. Baumgartner, *Is Life Brighter When Your Phone Is Not? The Efficacy of a Grayscale Smartphone Intervention Addressing Digital Well-Being*, 12 MOBILE MEDIA & COMMC'N 688 (2024), https://doi.org/10.1177/20501579231212062.

[58] Melissa G. Hunt *et al.*, *No More FOMO: Limiting Social Media Decreases Loneliness and Depression*, 37 J. SOC. & CLINICAL PSYCHOL. 751 (2018); Christoph Pieh *et al.*, *Smartphone Screen Time Reduction Improves Mental Health: A Randomized Controlled Trial*, 23 BMC MED. 107 (2025).

[59] *Stricter Limits on Minors' Online Gaming* (State Council of the People's Republic of China Aug. 31, 2021), https://english.www.gov.cn/statecouncil/ministries/202108/31/content_WS612da2a2c6d0df57f98df6bd.html.

[60] Xinyu Zhou *et al.*, *High Compliance and Reduced Online Gaming Time Among Chinese Adolescents After the 2021 Gaming Policy: Effects Across All Gamers, Not Just Heavy Users*, 14 J. BEHAV. ADDICTIONS 1119 (2025).

people's gaming accounts, and 14% used a family member's identity. Meanwhile, 59% shifted to watching short videos, which the restrictions did not cover.[61]

An analysis published in *Nature Human Behaviour* examined 7 billion hours of Tencent telemetry data—records of users' actual play—and found no credible evidence that either the 2019 or 2021 policy reduced the prevalence of minors' "heavy playtime," defined as at least four hours per day on at least six days per week.[62] What's striking about this result is that even China's authoritarian state, with its aggressive use of identity-verification and surveillance systems, could not measurably reduce heavy play in the market segment studied. Instead, the evidence suggests that some adolescents evaded the restrictions or shifted their attention to less-regulated, less-visible, and potentially more harmful activities.

China's gaming curfews represent an extreme version of the device-use and social-media restrictions now under consideration elsewhere. They also illustrate why evidence about voluntary tools cannot establish that mandates will work. Self-selected users adopt voluntary limits because they want to change their behavior. A platform-enforced cap creates different incentives and may produce evasion, displacement, and compensatory use—the substitution of one digital activity for another.

In the United States, Virginia enacted Senate Bill 854, which imposed a default one-hour daily limit on social-media use by users under 16. A federal court preliminarily enjoined the law in February 2026.[63] New York[64] and Illinois[65] have also enacted laws restricting algorithmically curated feeds and nighttime notifications for minors. Both laws have drawn constitutional objections and may face legal challenges.[66]

C. School Phone Restrictions

School phone-use restrictions enjoy broad support, whether adopted by individual schools or imposed by law. Among the policies reviewed in this white paper, they are also the only measures evaluated through multiple rigorous studies conducted over different periods and in different jurisdictions. Some studies find improvements in academic performance, well-being, or both. The effects,

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[61] Xinyu Zhou *et al.*, *Compliance and Alternative Behaviors of Heavy Gamers in Adolescents to Chinese Online Gaming Restriction Policy*, 13 J. BEHAV. ADDICTIONS 687 (2024).

[62] David Zendle *et al.*, *No Evidence That Chinese Playtime Mandates Reduced Heavy Gaming in One Segment of the Video Games Industry*, 7 NATURE HUM. BEHAV. 1753 (2023).

[63] Va. Code Ann. § 59.1-577.1(A)–(B) (2026); *NetChoice, LLC v. Jones*, 822 F. Supp. 3d 656 (E.D. Va. 2026) (granting a preliminary injunction).

[64] Stop Addictive Feeds Exploitation (SAFE) for Kids Act, N.Y. Gen. Bus. Law §§ 1500–1508 (McKinney 2024); N.Y. Comp. Codes R. & Regs. tit. 13, pt. 700 (2026) (final rules published July 28, 2026, and effective Jan. 25, 2027).

[65] Children's Social Media Safety Act, H.B. 5511, 104th Gen. Assemb. (Ill. 2026) (signed July 31, 2026).

[66] *See* Robert Winterton, *New York's Final SAFE for Kids Rules Cement an Unconstitutional Censorship Regime* (NetChoice July 29, 2026), https://netchoice.org/new-yorks-final-safe-for-kids-rules-cement-an-unconstitutional-censorship-regime; Amy Bos, *NetChoice Veto Request Letter to Gov. Pritzker on Illinois HB 5511, the Children's Social Media Safety Act* (NetChoice June 5, 2026), https://netchoice.org/netchoice-veto-request-letter-to-gov-pritzker-on-illinois-hb-5511-the-childrens-social-media-safety-act.

however, are generally modest and context-dependent. It should also be noted that school phone restrictions apply to many activities beyond social media.

A 2016 study by Louis-Philippe Beland and Richard Murphy found that English schools that banned classroom phone use experienced modest improvements in test scores, with larger gains among lower-achieving students.[67] A 2025 study by David Figlio and Umut Özek likewise found small improvements in test scores at Florida schools.[68] Neither study examined mental-health effects, but a 2024 review of five studies by Kristof De Witte and Joanna Maldonado did find stronger evidence of benefits to social well-being than to academic performance.[69]

A 2025 study by Victoria Goodyear and colleagues compared 20 English secondary schools that restricted daytime phone use with 10 that permitted it. The researchers found "no differences in adolescents' self-reported mental wellbeing, anxiety, depression, problematic social media use, and their motives for using social media."[70] The restrictions also did not improve sleep duration or efficiency, physical activity, academic attainment, or disruptive classroom behavior. The authors noted that "restrictive school phone policies did not lower the overall time adolescents spent on their phones/social media."[71] Restrictive policies may nonetheless reduce the time teachers spend addressing phone-related incidents and thereby lower staff costs.[72]

A 2024 study by Sara Abrahamsson reached different conclusions. Using the staggered adoption of smartphone bans across Norwegian schools, Abrahamsson found that classroom bans reduced consultations for psychological symptoms by 60%, reduced visits to general practitioners for psychiatric conditions by 30%, and increased grade-point averages by 0.08 standard deviations among middle school girls after two years.[73] She found no significant effects from less restrictive policies and no significant effects among boys.

This mixed evidence does not support broad conclusions about the effectiveness of school phone restrictions. All that can be said is that their effects appear to be context-dependent. In some settings,

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[67] Louis-Philippe Beland & Richard Murphy, *Ill Communication: Technology, Distraction & Student Performance*, 41 LABOUR ECON. 61 (2016) (finding that average test scores rose by 0.07 standard deviations, the equivalent of adding one hour of study per week, with gains twice as large among lower-achieving students).

[68] David Figlio & Umut Özek, *The Impact of Cellphone Bans in Schools on Student Outcomes: Evidence from Florida* (Annenberg Inst., EdWorkingPaper No. 25-1315, 2025), https://doi.org/10.26300/9y5r-yx11.

[69] Kristof De Witte & Joanna Maldonado, *To Ban or Not to Ban? A Rapid Review on the Impact of Smartphone Bans in Schools on Social Well-Being and Academic Performance*, 14 EDUC. SCIS. 906 (2024), https://doi.org/10.3390/educsci14080906.

[70] Victoria A. Goodyear *et al.*, *School Phone Policies and Their Association with Mental Wellbeing, Phone Use, and Social Media Use (SMART Schools): A Cross-Sectional Observational Study*, 51 LANCET REG'L HEALTH EUR. 101211 (2025), https://doi.org/10.1016/j.lanepe.2025.101211.

[71] *Id.*

[72] Samuel J. Perry *et al.*, *Health Economics Analysis of Restrictive School Smartphone Policies in Secondary Schools in England (SMART Schools)*, 29 BMJ MENTAL HEALTH e301892 (2026), https://doi.org/10.1136/bmjment-2025-301892.

[73] Sara Abrahamsson, *Smartphone Bans, Student Outcomes and Mental Health* (Norwegian Sch. of Econ., Discussion Paper Series in Economics No. 1/2024, 2024), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4735240.

they may improve the learning environment, produce modest academic gains, and reduce staff costs. The evidence is less clear that they are effective as mental-health interventions, particularly for boys or when students compensate for reduced in-school phone use by spending more time on their phones outside school.

D. Parental Consent Mandates

Alongside phone bans and age restrictions, parental-consent mandates—which require a parent to authorize a minor's social-media account—are among the most politically popular proposals.[74] Yet our review found no study assessing whether these requirements improve adolescent mental health, reduce cyberbullying, improve sleep, or produce any other measurable health benefit.

These mandates may impose their greatest costs on young people in unsupportive households. LGBTQ+ youth who have not disclosed their identities to their parents, for example, may lose access to vital social support, information, and community resources if a parent refuses consent. Section III examines these effects in greater detail.

E. Warning Labels

California's Assembly Bill 56, which is set to take effect in January 2027, will require black-box-style health warnings on social media unless a platform determines that a user is older than 17.[75] The statute requires platforms to display a warning for at least 10 seconds, covering at least one-quarter of the screen, when a user first opens the platform each day. After three hours of use in a day, the platform must display a warning that cannot be dismissed for at least 30 seconds and covers at least three-quarters of the screen. It must repeat that warning at least once each hour thereafter.

The prescribed warning states that "the Surgeon General has warned that while social media may have benefits for some young users, social media is associated with significant mental health harms and has not been proven safe for young users." Then-U.S. Surgeon General Vivek Murthy similarly called for tobacco-style warning labels on social-media platforms in 2024.[76]

The evidence for this approach is essentially nonexistent in the social-media context. No study has evaluated whether social-media warnings improve adolescent mental-health outcomes. The analogy

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[74] In a May 26–June 1, 2026, Pew survey, 85% of U.S. adults supported requiring parental consent before minors could create social-media accounts, compared with 78% who supported age verification and 56% who supported an under-16 social-media ban. Jeffrey Gottfried & Monica Anderson, *Majority of Americans Support Banning Social Media for Kids Under 16* (Pew Rsch. Ctr. July 1, 2026), https://www.pewresearch.org/short-reads/2026/07/01/majority-of-americans-support-banning-social-media-for-kids-under-16. As discussed above, federal district courts enjoined parental-consent mandates in Arkansas and Ohio on First Amendment grounds. *See supra* note 46. The 6th Circuit has since reversed the Ohio ruling. *See infra* note 124 and accompanying text.

[75] Cal. Health & Safety Code § 28000 *et seq.* (added by A.B. 56, 2025 Cal. Stat. ch. 671).

[76] Vivek H. Murthy, Opinion, *Surgeon General: Why I'm Calling for a Warning Label on Social Media Platforms*, N.Y. TIMES (June 17, 2024), https://www.nytimes.com/2024/06/17/opinion/social-media-health-warning.html; *see also* Off. of the U.S. Surgeon Gen., *Social Media and Youth Mental Health: The U.S. Surgeon General's Advisory* (2023), https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf.

to tobacco is instructive, though perhaps not in the way advocates imagine. Tobacco warning labels accompanied a broader cultural shift in attitudes toward smoking, but little reliable evidence shows that the warnings alone changed behavior. At most, they played a minor role alongside the more substantial and observable effects of excise taxes, public-education campaigns, smoke-free workplace rules, and alternatives such as e-cigarettes and heated-tobacco products.[77]

Consumers generally pay attention to product labels when those labels provide information directly relevant to a goal they are pursuing.[78] A consumer with a gluten sensitivity, for example, may seek products labeled "gluten-free" and avoid those labeled "contains wheat" or "contains gluten." But a consumer without such a sensitivity will likely ignore those labels and choose based on price, brand, size, familiarity, or other product characteristics. Adding a warning label does not itself create the concern needed to make consumers notice or act on it.

Research also documents several ways consumers resist or disregard warnings. They may decline to read them, look away, discount the source, or treat the warning as paternalism or legal boilerplate rather than evidence of genuine risk. Some even experience reactance—a desire to resist perceived efforts to control their choices.[79] These responses are strongest among heavy users, for whom repeated warnings provide the least new information.

The indirect evidence from digital disclosures offers even less reason for confidence. In one experiment, only 7.3% of users presented with an optional terms-of-service disclosure chose to view it.

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[77] James L. Hamilton, *The Demand for Cigarettes: Advertising, the Health Scare, and the Cigarette Advertising Ban*, 54 REV. ECON. & STAT. 401 (1972); Kenneth E. Warner, *The Effects of the Anti-Smoking Campaign on Cigarette Consumption*, 67 AM. J. PUB. HEALTH 645 (1977); Kenneth E. Warner, *Effects of the Antismoking Campaign: An Update*, 79 AM. J. PUB. HEALTH 144 (1989); Eugene M. Lewit, Douglas Coate & Michael Grossman, *The Effects of Government Regulation on Teenage Smoking*, 24 J.L. & ECON. 545 (1981); Badi H. Baltagi & Dan Levin, *Estimating Dynamic Demand for Cigarettes Using Panel Data: The Effects of Bootlegging, Taxation and Advertising Reconsidered*, 68 REV. ECON. & STAT. 148 (1986); Badi H. Baltagi & Dan Levin, *Cigarette Taxation: Raising Revenues and Reducing Consumption*, 3 STRUCTURAL CHANGE & ECON. DYNAMICS 321 (1992); John A. Tauras, *Smoke-Free Air Laws, Cigarette Prices, and Adult Cigarette Demand*, 44 ECON. INQUIRY 333 (2006); Matthew C. Farrelly *et al.*, *The Impact of Tobacco Control Programs on Adult Smoking*, 98 AM. J. PUB. HEALTH 304 (2008); Melanie A. Wakefield *et al.*, *Impact of Tobacco Control Policies and Mass Media Campaigns on Monthly Adult Smoking Prevalence*, 98 AM. J. PUB. HEALTH 1443 (2008); Melanie A. Wakefield *et al.*, *Time Series Analysis of the Impact of Tobacco Control Policies on Smoking Prevalence Among Australian Adults, 2001–2011*, 92 BULL. WORLD HEALTH ORG. 413 (2014); Matthew C. Farrelly *et al.*, *Are Tobacco Control Policies Effective in Reducing Young Adult Smoking?*, 54 J. ADOLESCENT HEALTH 481 (2014); Henry Saffer *et al.*, *E-Cigarettes and Adult Smoking: Evidence from Minnesota*, 60 J. RISK & UNCERTAINTY 207 (2020); Michael F. Pesko, Charles J. Courtemanche & Joanna Catherine Maclean, *The Effects of Traditional Cigarette and E-Cigarette Tax Rates on Adult Tobacco Product Use*, 60 J. RISK & UNCERTAINTY 229 (2020); Chad Cotti *et al.*, *The Effects of E-Cigarette Taxes on E-Cigarette Prices and Tobacco Product Sales: Evidence from Retail Panel Data*, 86 J. HEALTH ECON. 102676 (2022).

[78] S. Ratneshwar *et al.*, *Benefit Salience and Consumers' Selective Attention to Product Features*, 14 INT'L J. RSCH. MKTG. 245 (1997); Klaus G. Grunert & Josephine M. Wills, *A Review of European Research on Consumer Response to Nutrition Information on Food Labels*, 15 J. PUB. HEALTH 385 (2007).

[79] *See, e.g.*, Seth M. Noar *et al.*, *Effects of Strengthening Cigarette Pack Warnings on Attention and Message Processing: A Systematic Review*, 94 JOURNALISM & MASS COMMC'N Q. 416, 416–42 (2017); Claudia Sillero-Rejon *et al.*, *Avoidance of Tobacco Health Warnings? An Eye-Tracking Approach*, 116 ADDICTION 1263, 1263–74 (2021); Noel T. Brewer *et al.*, *Reactance to Health Warnings Scale: Development and Validation*, 50 ANNALS BEHAV. MED. 736, 736–50 (2016); Yoo Jin Cho *et al.*, *Does Reactance Against Cigarette Warning Labels Matter? Warning Label Responses and Downstream Smoking Cessation Amongst Adult Smokers in Australia, Canada, Mexico and the United States*, 11 PLOS ONE e0159245 (2016).

Those who did kept it open for an average of 22.9 seconds—enough time to read an estimated 2.5% of the document.[80] Cookie banners required by the European Union's General Data Protection Regulation (GDPR) operate much like repeated regulatory warnings. They have produced substantial consent fatigue and habitual dismissal. Moreover, experiments show that users' responses depend heavily on a prompt's design and the effort required to respond, while audits have found widespread discrepancies between users' apparent choices and websites' actual tracking practices.[81]

A deeper problem is that much social-media use is habitual rather than deliberative. There are cues that often prompt users to open an app, while unpredictable social rewards reinforce repeated checking and continued engagement. As habits develop, behavior becomes more automatic and less dependent on conscious goals, leaving little room for the deliberative processing on which warning labels depend.[82] Research distinguishing reflective decision-making from automatic behavior predicts that warnings aimed at conscious thought will have limited effects on habitual conduct. The available evidence supports that prediction.[83]

The available evidence therefore provides little reason to expect mandatory warnings to meaningfully reduce harmful social-media use among adolescents.

F. Voluntary Tools and Mandatory Rules

While direct evaluations remain sparse, the available evidence suggests that voluntary tools—including time limits, grayscale displays, and other forms of digital friction—can help some users manage their phone, app, and social-media use. Mandatory interventions, by contrast, show little evidence of effectiveness and may prove useless or counterproductive. As Section III explains, mandates can also produce unintended consequences that cause substantial net harm.

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[80] Robert Epstein & Vanessa R. Zankich, *The Surprising Power of a Click Requirement: How Click Requirements and Warnings Affect Users' Willingness to Disclose Personal Information*, 17 PLOS ONE e0263097, at 11 (2022).

[81] *See* Christine Utz *et al.*, *(Un)informed Consent: Studying GDPR Consent Notices in the Field*, 2019 ACM SIGSAC CONFERENCE ON COMPUTER & COMMUNICATIONS SECURITY 973, 973–90 (2019); Célestin Matte, Nataliia Bielova & Cristiana Santos, *Do Cookie Banners Respect My Choice? Measuring Legal Compliance of Banners from IAB Europe's Transparency and Consent Framework*, 2020 IEEE SYMPOSIUM ON SECURITY & PRIVACY 791, 791–809 (2020); Frank Papenmeier, Josephine Halama & Carl Reichert, *Accepting Cookies: Nudging, Deceptive Patterns and Personal Preference*, 168 COMPUTERS HUM. BEHAV. 108641 (2025).

[82] *See* Ian A. Anderson & Wendy Wood, *Overestimates of Social Media Addiction Are Common but Costly*, 15 SCI. REPS. 39388 (2025); Maria T. Maza *et al.*, *Association of Habitual Checking Behaviors on Social Media with Longitudinal Functional Brain Development*, 177 JAMA PEDIATRICS 160, 160–67 (2023); Björn Lindström *et al.*, *A Computational Reward Learning Account of Social Media Engagement*, 12 NATURE COMMC'NS 1311 (2021); Katharina Lorenz-Spreen *et al.*, *Habitual Social Media and Smartphone Use Are Linked to Task Delay for Some, but Not All, Adolescents*, 28 J. COMPUTER-MEDIATED COMMC'N zmad008 (2023).

[83] *See* Theresa M. Marteau, Gareth J. Hollands & Paul C. Fletcher, *Changing Human Behavior to Prevent Disease: The Importance of Targeting Automatic Processes*, 337 SCIENCE 1492, 1492–95 (2012); Fritz Strack & Roland Deutsch, *Reflective and Impulsive Determinants of Social Behavior*, 8 PERSONALITY & SOC. PSYCH. REV. 220, 220–47 (2004); Wendy Wood & David T. Neal, *Healthy Through Habit: Interventions for Initiating & Maintaining Health Behavior Change*, 2 BEHAV. SCI. & POL'Y 71, 71–83 (2016).

III. The Unintended Costs of Mandatory Interventions

Even if policymakers could, in principle, justify an intervention as a way to reduce harms associated with adolescent social-media use, they must also account for its unintended but predictable consequences. Those consequences may diminish the intervention's benefits or make it harmful on balance.

This section examines the principal unintended effects of the mandatory interventions discussed in Section II. It demonstrates that several popular measures already impose substantial, concrete harms. These include privacy and security risks from age-verification systems, circumvention and displacement, disproportionate burdens on vulnerable groups, and compliance costs.

A. Privacy and Security Risks of Age Verification

Enforcing any age-based restriction requires some way to determine users' ages. Unfortunately, most verification methods now in use create substantial privacy and security risks. In February 2025, the European Data Protection Board warned that age-assurance systems could threaten data protection and other fundamental rights.[84] In March 2026, 405 cybersecurity experts published an open letter warning that mandatory age verification "breaks the internet's security model."[85] A 2025 data breach illustrated that risk vividly by exposing government-identification documents belonging to 70,000 Discord users.[86]

Common age-verification methods include:

- Self-declaration, which users can easily circumvent by lying about their age.
- Age estimation, which infers age from a facial image or other traits. These methods have margins of error measured in years and may require platforms or third parties to process biometric information, raising concerns about the security of data storage.
- Document-based verification, which requires users to submit personally identifiable information from a driver's license, passport, or similar document, sometimes combined with biometric authentication. Collecting and storing this information creates significant privacy and security risks.

These privacy costs fall on everyone, not just teenagers. Adults must also prove their age to access platforms covered by verification mandates. If platforms require users to establish their ages

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[84] Eur. Data Prot. Bd., *Statement 1/2025 on Age Assurance* (Feb. 11, 2025), https://www.edpb.europa.eu/our-work-tools/our-documents/statements/statement-12025-age-assurance_en.

[85] *Joint Statement of Security and Privacy Scientists and Researchers on Age Assurance* (Mar. 2, 2026), https://csa-scientist-open-letter.org/ageverif-Feb2026.

[86] Lena Cohen, *Discord Voluntarily Pushes Mandatory Age Verification Despite Recent Data Breach* (Elec. Frontier Found. Feb. 19, 2026), https://www.eff.org/deeplinks/2026/02/discord-voluntarily-pushes-mandatory-age-verification-despite-recent-data-breach (discussing the privacy, security, and anonymity risks posed by age-verification systems).

explicitly, laws intended to protect adolescents could create a universal identity-disclosure regime without any demonstrated benefit for the adolescents they seek to protect.

Privacy-preserving alternatives are possible and already exist. Zero-knowledge proofs (ZKPs), for example, can establish that a user exceeds a specified age without revealing the user's identity, birth date, or underlying personal information. Properly designed systems can also make successive proofs unlinkable, preventing websites or credential issuers from connecting separate age checks and building a record of an individual's online activity.

The European Commission has identified ZKPs as a way to provide age assurance without transmitting personal data and has incorporated them into its open-source age-verification architecture. Google has also developed ZKP technology for age assurance, initially in a partnership with Germany's Sparkasse banking network. The company also open-sourced its ZKP libraries in July 2025 so that other digital-identity and age-assurance providers could implement them. Decentralized-identity services such as zkMe likewise offer ZKP-based credentials that allow users to prove they satisfy an age threshold without disclosing the underlying identity information to the service requesting verification.[87]

Major social-media platforms do not appear to have widely adopted these tools. That limited adoption may suggest that consumers have not demanded stronger privacy protections. It could also reflect implementation costs, interoperability barriers, or platforms' limited incentives to minimize data collection. Nonadoption therefore provides little evidence about how much consumers value privacy.

B. Circumvention and Displacement

Evidence from Australia's age-based social-media restrictions, China's online-gaming limits, and school phone-use policies shows a consistent pattern: Squeeze activity in one place and it bulges out somewhere else. Australia's surge in virtual private network (VPN) use, China's rental market for gaming accounts and 59% shift to short-form video, and the SMART Schools finding that school restrictions did not reduce overall phone use all illustrate this dynamic.

Displacement is especially concerning in the social-media context because logged-out browsing deprives users of safety features, parental controls, and restricted modes. The Brookings Institution identified displacement as a principal adverse consequence of age-based bans.[88] The Organisation

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[87] *See* Eur. Comm'n, *Guidelines on Measures to Ensure a High Level of Privacy, Safety and Security for Minors Online, Pursuant to Article 28(4) of Regulation (EU) 2022/2065*, 2025 O.J. (C/5519) ¶¶ 41–42, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C_202505519; Eur. Comm'n, *Annex B–Zero Knowledge Proofs for the Age Verification Solution*, EU Age Verification Blueprint (2026).

[88] Nicol Turner Lee, Josie Stewart & Carolina Oxenstierna, *How Will Bans on Social Media Affect Children?* (Brookings Inst. Dec. 9, 2025), https://www.brookings.edu/articles/how-will-bans-on-social-media-affect-children.

for Economic Co-operation and Development (OECD) reached a similar conclusion, noting that restrictive policies may paradoxically increase exposure to harmful content rather than reduce it.[89]

Snapchat's early growth illustrates how school restrictions can produce unintended consequences. Evan Spiegel and Bobby Murphy launched the disappearing-photo app in 2011, but it initially attracted little attention. Spiegel's mother then told his cousin, a student at a high school in Southern California, about the app. The school had blocked established social networks, including Facebook, but had not yet discovered Snapchat. Students adopted it as a workaround—a way to exchange virtual notes, photos, and jokes during class without leaving a lasting trail for teachers or parents.[90]

The app then spread through other Southern California high schools. Its daily active users rose from about 3,000 to 30,000 in one month in early 2012.[91] By February 2013, users were sending more than 60 million messages through the app each day.[92]

C. Disproportionate Burdens on Vulnerable Youth

Broad access restrictions impose their greatest burdens on those young people who benefit most from online social connection and support. Research consistently finds that social media provides important benefits to LGBTQ+ youth, although it can also expose some users to harm. In a 2024 survey of 406 people ages 14–18 who identified as LGBTQ+, Celia Fisher and colleagues found that social media served as both a vital resource and a source of risk. The benefits centered on identity exploration and community connection.[93] A 2025 review by Carolyn Bacaj and colleagues discussed studies showing that social media provides access to identity-affirming content, peer support, role models, and mental-health resources that may be unavailable in local communities.[94]

An earlier systematic review of 26 studies likewise found that social media supported LGBTQ+ youths' mental health and well-being through peer connection and identity management.[95] The authors explained:

> LGBTQ youths negotiated and explored identity and obtained support from peers on social media. Instagram, Tumblr, and Twitter were commonly used to access LGBTQ

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[89] Org. for Econ. Coop. & Dev., *Too Young to Scroll? Why Governments Are Cracking Down on Social Media Age Limits* (June 2025), https://www.oecd.org/en/blogs/2025/06/too-young-to-scroll-why-governments-are-cracking-down-on-social-media-age-limits.html [hereinafter OECD].

[90] Paresh Dave & David Pierson, *There's One Part of Snapchat That Facebook Can't Copy: CEO Evan Spiegel*, L.A. TIMES (Mar. 1, 2017), https://www.latimes.com/business/technology/la-fi-tn-evan-spiegel-20170228-htmlstory.html.

[91] Jenna Wortham, *A Growing App Lets You See It, Then You Don't*, N.Y. TIMES (Feb. 8, 2013), https://www.nytimes.com/2013/02/09/technology/snapchat-a-growing-app-lets-you-see-it-then-you-dont.html.

[92] *Id.*

[93] Celia B. Fisher, Xiangyu Tao & Madeline Ford, *Social Media: A Double-Edged Sword for LGBTQ+ Youth*, 156 COMPUTERS HUM. BEHAV. 108194 (2024).

[94] Carolyn Bacaj *et al.*, *Review of Current Trends in LGBTQ+ Youth and Social Media: Implications for Mental Health, Identity Development, and Civic Engagement*, 13 CURRENT PEDIATRICS REPS. 3 (2025), https://doi.org/10.1007/s40124-024-00338-2.

[95] Berger *et al.*, *supra* note 39 (reviewing 26 studies).

> content owing to ease of anonymity. Identity management was the most studied social media affordance, important to LGBTQ youths for strategic disclosure. Key strategies for managing identities included being anonymous, censoring locations or content, restricting audiences, and using multiple accounts.[96]

These benefits can be substantial. For young people whose offline environments are unsupportive or openly hostile, online communities may provide the only reliable sources of accurate health information, crisis support, and peer recognition. They also offer civic infrastructure through which LGBTQ+ youth can find mentors, legal resources, and pathways to adulthood.

Parental-consent mandates pose a particular threat to LGBTQ+ youth who are not out to their families. Requiring parental authorization gives unsupportive parents effective veto power over a child's access to community resources. The burden falls most heavily on young people with the fewest alternative sources of offline support. For this reason, LGBTQ+ advocacy organizations, including The Trevor Project and GLAAD, along with civil-liberties groups such as the American Civil Liberties Union, have opposed broad restrictions that threaten LGBTQ+ youths' access to affirming online resources.[97]

Other vulnerable groups face similar risks. Young people in rural areas, those with disabilities or living in abusive households, and those in undocumented families may lose disproportionately from blunt access restrictions.[98] Research indicates that many neurodivergent adolescents and young adults—particularly those with autism and, to a lesser but growing extent, those with attention-deficit/hyperactivity disorder (ADHD)—use Discord, Reddit, and specialized forums for social connection, peer support, and interest-based communities.[99] These forums can also offer asynchronous communication, lower sensory demands, and greater control over social interactions that may be less available in offline peer settings.

Access regimes that treat all minors as uniformly at risk can impose especially steep costs on these users. The U.S. Surgeon General's advisory acknowledges such benefits but offers no framework for preserving them within restrictive regulatory systems.

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[96] *Id.*

[97] LGBT Tech, *Coalition Statement in Opposition to Age-Minimum Social Media Bans* (Mar. 24, 2026), https://www.lgbttech.org/post/lgbt-tech-leads-coalition-statement-in-opposition-to-age-minimum-social-media-bans.

[98] *See* Turner Lee, Stewart & Oxenstierna, *supra* note 88 (documenting the disproportionate burdens that age-based social-media bans impose on LGBTQ+, low-income, and other marginalized young people).

[99] Elizabeth McGhee Hassrick *et al.*, *Benefits and Risks: A Systematic Review of Information and Communication Technology Use by Autistic People*, 3 AUTISM ADULTHOOD 72, 72–84 (2021); Michal Alon-Tirosh & Naama Meir, *Use of Social Network Sites Among Adolescents with Autism Spectrum Disorder: A Qualitative Study*, 14 FRONTIERS PSYCHOL. 1192475 (2023); Mitzi J. Ritzman & Roma Subramanian, *Voices from a Pandemic: Understanding How Young Adults on the Autism Spectrum Use Computer-Mediated Communication*, 28 AUTISM 381, 381–89 (2024); Catherine J. Crompton *et al.*, *Autistic Peer-to-Peer Information Transfer Is Highly Effective*, 24 AUTISM 1704, 1704–12 (2020); Callie M. Ginapp *et al.*, *The Experiences of Adults with ADHD in Interpersonal Relationships and Online Communities: A Qualitative Study*, 3 SSM—QUALITATIVE RSCH. HEALTH 100223 (2023); Sihan Jian, Saptarshi Bhowmik & Bret Staudt Willet, *Coping with ADHD in College: Topic Modeling and Sentiment Analysis of Online Peer Discussions on Reddit* (Int'l Educ. Data Mining Soc'y, Poster Paper No. 267, 2025).

D. Compliance Costs and Incumbent Advantage

Developing, enacting, implementing, and litigating laws governing phone and social-media access consumes legislative resources and public attention that could support policies with clearer net benefits. Even measures that courts later enjoin or invalidate force device makers and social-media platforms to devote resources to compliance and litigation. Those resources could instead support product improvements, including features that make phones and platforms safer for adolescents.

Implementation costs are also easy to underestimate. Platform-level compliance costs can be difficult to measure, but they can be substantial, particularly for smaller firms. The EU's GDPR, for example, imposed fixed costs that fell disproportionately on businesses with fewer resources. After the GDPR took effect, hundreds of U.S. websites—including many news sites—blocked European visitors rather than incur those costs. Some remained unavailable in Europe for months or years.[100]

The OECD warns that disproportionate compliance burdens may weaken competition and entrench incumbent platforms.[101] The GDPR experience illustrates that risk. Using data from 1,084 online firms, Samuel Goldberg and colleagues estimated that EU page views and revenue each fell by approximately 12% after the regulation took effect. Smaller e-commerce sites experienced a 16.7% decline in recorded revenue, compared with 7.9% among larger sites.[102]

The political economy of social-media regulation presents a related concern. Supporters may form a modern "Baptists and bootleggers" coalition, in which groups with sincere public-interest motives align with actors that stand to benefit materially from the same restrictions. The "Baptists" include parents, pediatricians, educators, mental-health advocates, and child-safety organizations who argue that platforms expose minors to addictive design, harmful content, privacy intrusions, and developmental risks.

The "bootleggers," in this analogy, are not necessarily illicit actors. They are parties whose private interests align with regulation for other less public-regarding reasons. They may include incumbent platforms that can absorb compliance costs more easily than smaller competitors, vendors that sell mandated age-verification and monitoring tools, legacy media companies and other businesses competing for users' attention, and political actors seeking greater control over online-speech infrastructure.

This does not mean that social-media regulation is unjustified, nor does it imply that supporters of the proposed regulations act in bad faith. The point is to show how broad regulatory coalitions can combine genuine protective motives with private economic or institutional incentives. Policymakers

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[100] Neil Thurman *et al.*, *Forbidden Fruit or Soured Grapes? Long-Term Effects of the Temporary Unavailability and Rationing of US News Websites on Their Consumption from the European Union*, 84 INT'L COMMC'N GAZETTE 698 (2022), https://doi.org/10.1177/17480485221111312.

[101] *See* OECD, *supra* note 89 (noting that disproportionate compliance burdens may entrench incumbent platforms).

[102] Samuel G. Goldberg, Garrett A. Johnson & Scott K. Shriver, *Regulating Privacy Online: An Economic Evaluation of the GDPR*, 16 AM. ECON. J.: ECON. POL'Y 325, 327–28, 354 (2024).

should therefore examine not only a law's stated purpose, but who gains power, revenue, or competitive advantage from its implementation.

E. Reactance and the Forbidden-Fruit Effect

Human fascination with that which is forbidden goes back to the origin of the species, at least by some accounts. The notion of "forbidden fruit" comes from the biblical account of Adam and Eve, but modern researchers across disciplines have documented the same basic tendency. Restrictions can make the prohibited object or activity more appealing.

Psychologists call one version of this response reactance. Efforts to control people's behavior by forcing or preventing an action can provoke resistance and strengthen the desire to do what has been forbidden.[103] Scarcity can likewise increase an object's perceived value.[104]

Outside the psychology laboratory, these dynamics may help explain the so-called "Streisand effect." The term arose after Barbra Streisand sued to suppress an aerial photograph of her Malibu home, causing public interest in the image to surge. Evidence from Australia and China reflects a similar pattern. When governments restrict access to social media or video games by age or time of day, adolescents find workarounds such as VPNs, borrowed credentials, or rented accounts.

These mechanisms suggest one reason age-based social-media restrictions could backfire. For some adolescents, making social media explicitly off-limits may increase its appeal and strengthen their motivation to circumvent the restriction.

People generally expect some control over their choices, including what to read and how to spend their free time. Parents spend much of the children's youth helping their kids to develop the skills and judgment needed to govern themselves most effectively. Evidence on parental strategies for guiding social-media use suggests that guidance and support, combined with trust and progressively greater age-appropriate autonomy, tend to produce better outcomes for young users.

F. The Costs of Broad Restrictions

Taken together, these unintended consequences weaken the case for broad restrictions on adolescents' access to smartphones and social media. Age-verification mandates can impose privacy and security costs on all users. Restrictions may displace use rather than eliminate it and may deprive vulnerable young people of especially valuable connection and support. Fixed compliance costs can

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[103] JACK W. BREHM, A THEORY OF PSYCHOLOGICAL REACTANCE (1966); Brad J. Bushman & Angela D. Stack, *Forbidden Fruit Versus Tainted Fruit: Effects of Warning Labels on Attraction to Television Violence*, 2 J. EXPERIMENTAL PSYCH.: APPLIED 207 (1996), https://doi.org/10.1037/1076-898X.2.3.207; Kate A. Varava & Brian L. Quick, *Adolescents and Movie Ratings: Is Psychological Reactance a Theoretical Explanation for the Forbidden Fruit Effect?*, 59 J. BROAD. & ELEC. MEDIA 149 (2015), https://doi.org/10.1080/08838151.2014.998224.

[104] Stephen Worchel, Jerry Lee & Akanbi Adewole, *Effects of Supply and Demand on Ratings of Object Value*, 32 J. PERSONALITY & SOC. PSYCH. 906 (1975), https://doi.org/10.1037/0022-3514.32.5.906.

burden smaller competitors while entrenching incumbent platforms. Restrictions may also provoke circumvention and reactance, making prohibited technologies more attractive rather than less.

IV. First Amendment Limits on Social-Media Restrictions

Most of the mandates evaluated in Section II restrict access to speech. They condition a user's ability to create a social-media account—and thus to speak, publish, and receive information—on age, parental consent, or the presentation of identifying documents. In the United States, such laws must survive review under the First Amendment, and many have not.

This section explains the constitutional framework that courts apply to these laws and that determines which laws survive. It also shapes how much legislative effort, litigation expense, and compliance cost go toward laws that courts ultimately invalidate.

When a law restricting speech is challenged, a court first determines the applicable "level of scrutiny," meaning the strength of the justification the government must provide. That choice often drives the outcome. Courts apply three principal levels of scrutiny:

- Rational-basis review governs most economic and social regulations that do not burden speech or another fundamental right. A law survives if it bears a rational relationship to a legitimate government purpose. In practice, courts uphold nearly every law reviewed under this standard.[105]
- Intermediate scrutiny often applies to, among other things, regulations that do not target speech based on its content. The government must nonetheless show that the law advances an important interest and does not burden substantially more speech than necessary. It need not, however, adopt the least restrictive alternative.[106]
- Strict scrutiny applies to laws that restrict speech based on its content. The government must prove that the law advances a compelling interest and is narrowly tailored to that end, using the least restrictive means available.[107]

Constitutional scholar Gerald Gunther famously described strict scrutiny as "'strict' in theory and fatal in fact."[108] That is an exaggeration, but not a large one. In a broad empirical study, Adam Winkler of the University of California, Los Angeles examined federal court decisions applying strict

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[105] *See, e.g.*, *Williamson v. Lee Optical Co.*, 348 U.S. 483, 487–88 (1955); *FCC v. Beach Commc'ns, Inc.*, 508 U.S. 307, 313–15 (1993) (explaining that a classification subject to rational-basis review "must be upheld . . . if there is any reasonably conceivable state of facts that could provide a rational basis" for it).

[106] *See United States v. O'Brien*, 391 U.S. 367, 377 (1968); *Ward v. Rock Against Racism*, 491 U.S. 781, 798–99 (1989) (explaining that intermediate scrutiny does not require "the least restrictive or least intrusive means" of advancing the government's interest).

[107] *See Reed v. Town of Gilbert*, 576 U.S. 155, 163 (2015) (holding that content-based laws are "presumptively unconstitutional"); *United States v. Playboy Ent. Grp., Inc.*, 529 U.S. 803, 813 (2000) ("If a less restrictive alternative would serve the Government's purpose, the legislature must use that alternative.").

[108] Gerald Gunther, *The Supreme Court, 1971 Term—Foreword: In Search of Evolving Doctrine on a Changing Court: A Model for a Newer Equal Protection*, 86 HARV. L. REV. 1, 8 (1972).

scrutiny from 1990 through 2003. He found that challenged laws survived about 30% of the time overall and about 22% of the time in free-speech cases.[109]

The Supreme Court recently made the point even more forcefully. "In the First Amendment context," the Court explained, "we have held only once that a law triggered but satisfied strict scrutiny—to uphold a federal statute that prohibited knowingly providing material support to a foreign terrorist organization."[110]

The central question in litigation over social-media restrictions is therefore which level of scrutiny applies. The answer depends on what speech the law reaches and whose access it burdens.

A. The Government's Interest and Minors' Rights

Two well-established principles stand in tension. On one hand, the Supreme Court has repeatedly recognized the government's compelling interest in protecting minors' physical and psychological well-being.[111] On the other, minors have constitutional rights of their own. As the Court reiterated in *Brown v. Entertainment Merchants Ass'n*, "minors are entitled to a significant measure of First Amendment protection." The government may bar the dissemination of protected material to them only in narrow, well-defined circumstances.[112]

The most important exception concerns sexual material that is obscene as to minors. Under *Ginsberg v. New York*, a state may prohibit the sale to minors of sexual material that remains protected for adults.[113]

The level of scrutiny applied to a particular law depends on how these principles interact. The Supreme Court's 2025 decision in *Free Speech Coalition, Inc. v. Paxton* illustrates the distinction.[114] Texas required age verification on commercial websites where more than one-third of the content consisted of "sexual material harmful to minors." Because the law restricted minors' access only to material

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[109] Adam Winkler, *Fatal in Theory and Strict in Fact: An Empirical Analysis of Strict Scrutiny in the Federal Courts*, 59 VAND. L. REV. 793 (2006) (finding that laws subject to strict scrutiny in published federal decisions from 1990 through 2003 survived about 30% of applications overall and 22% of free-speech challenges).

[110] *Free Speech Coal., Inc. v. Paxton*, 606 U.S. 461, 484 (2025).

[111] *Sable Commc'ns of Cal., Inc. v. FCC*, 492 U.S. 115, 126 (1989) ("[T]here is a compelling interest in protecting the physical and psychological well-being of minors."); *see also Free Speech Coalition*, 606 U.S. at 496 ("Texas's interest in shielding children from sexual content is important, even 'compelling.'").

[112] *Brown v. Ent. Merchs. Ass'n*, 564 U.S. 786, 794–95 (2011) (quoting *Erznoznik v. City of Jacksonville*, 422 U.S. 205, 212–13 (1975)).

[113] *Ginsberg v. New York*, 390 U.S. 629 (1968).

[114] *Free Speech Coalition*, 606 U.S. at 461.

unprotected as to them and burdened adults' access to protected speech only incidentally, the Court applied intermediate scrutiny and upheld the statute.[115]

Most of the social-media laws surveyed in Section II differ in critical respects. They restrict minors' access to entire platforms, where the overwhelming majority of content is protected speech for minors and adults alike. They also typically require adults to verify their age or identity before speaking or receiving information.

Courts have generally subjected laws of this kind to strict scrutiny. The government must establish a compelling interest and show that the law is narrowly tailored, including that no less restrictive alternative would achieve its purpose. The precedents discussed below explain why courts often find both the evidentiary justification and the tailoring inadequate.

B. Evidence and Less Restrictive Alternatives

In *Brown*, California defended its ban on selling violent video games to minors with psychological studies that purported to link violent games to aggression. The Court found the evidence insufficient to establish a compelling interest. The studies did "not prove that violent video games cause minors to act aggressively," and the measured effects were "both small and indistinguishable from effects produced by other media," including television cartoons that the law left untouched.[116]

The parallel to the evidence reviewed in Section I is difficult to miss. The main-effects literature on social media and adolescent mental health reports small, contested associations that typically explain less than 1% of the variation in well-being. The research also leaves plausible roles for reverse causation and confounding. A state defending a social-media restriction must do more than assert that platforms harm children. It must demonstrate causation with evidence of a kind that, so far, does not exist.

Even if a court accepts the state's interest as compelling, the state must show that its law is narrowly tailored and uses the least speech-restrictive means available. In *Ashcroft v. American Civil Liberties Union*,[117] the Supreme Court affirmed a preliminary injunction against the federal Child Online Protection Act. The law required age verification for commercial websites carrying material harmful to minors. The Court found that blocking and filtering software, which parents could adopt voluntarily, was less restrictive and, on the record before it, likely more effective.[118]

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[115] *See id.* at 478 (holding that Texas H.B. 1181 "is an exercise of Texas's traditional power to prevent minors from accessing speech that is obscene from their perspective" and only incidentally affects speech protected for adults, so intermediate scrutiny applies).

[116] *Brown*, 564 U.S. at 800–01.

[117] *Ashcroft v. ACLU*, 542 U.S. 656 (2004).

[118] *See id.* at 666–70.

That reasoning applies directly to social-media mandates. The parental controls, device-level settings, and friction-based tools described in Section II are precisely the kind of less restrictive alternatives that can prove fatal under strict scrutiny.

Brown identified another tailoring defect. California's law was overinclusive because it restricted minors whose parents did not object to the material. It was also underinclusive because it ignored other media presenting similar content. A state may not abridge speech merely to enforce what it "thinks parents ought to want."[119]

The 9th U.S. Circuit Court of Appeals applied similar reasoning in 2024 to California's Age-Appropriate Design Code Act. The court held that requiring covered businesses to assess and mitigate children's exposure to "harmful" content effectively "deputizes covered businesses into serving as censors for the State."[120]

1. Diverging Lower-Court Decisions

Lower-court decisions have largely followed this framework. Federal district courts permanently enjoined social-media age-verification and parental-consent laws in Arkansas, Ohio, and Louisiana and preliminarily enjoined similar laws in Utah, Virginia, and Georgia. Those courts generally applied strict scrutiny and relied on *Brown* and *Ashcroft* in evaluating the laws' evidentiary support and tailoring.[121] An appellate court later reversed the Ohio judgment.

In August 2025, the Supreme Court declined to block Mississippi's age-verification law while litigation continued. That procedural decision did not resolve the merits. Justice Brett Kavanaugh nevertheless wrote separately that the challengers were "likely to succeed on the merits" because the law was "likely unconstitutional" under existing precedent.[122]

The appellate picture has since become less uniform. In November 2025, a divided panel of the 11th U.S. Circuit Court of Appeals stayed an injunction against Florida's law restricting social-media accounts for children under 14 while the state appealed. At that preliminary stage, the majority

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[119] *Brown*, 564 U.S. at 804 (emphasis in original).

[120] *NetChoice, LLC v. Bonta*, 113 F.4th 1101, 1118 (9th Cir. 2024) (preliminarily enjoining the California Age-Appropriate Design Code Act's data-protection-impact-assessment provisions).

[121] *Griffin*, 2025 WL 978607 (permanently enjoining Arkansas' Social Media Safety Act); *Yost*, 778 F. Supp. 3d 923, *rev'd*, 180 F.4th 268 (6th Cir. 2026); *Murrill*, 812 F. Supp. 3d 594 (permanently enjoining Louisiana Act 456); *NetChoice, LLC v. Reyes*, 748 F. Supp. 3d 1105 (D. Utah 2024) (preliminarily enjoining Utah's law requiring platforms to disable certain social-media functions for minors); *Jones*, 822 F. Supp. 3d 656 (preliminarily enjoining Virginia's social-media-time-limit law); *NetChoice, LLC v. Carr*, 789 F. Supp. 3d 1200 (N.D. Ga. 2025) (preliminarily enjoining Georgia's social-media age-verification and parental-consent law).

[122] *NetChoice, LLC v. Fitch*, 145 S. Ct. 2658, 2658 (2025) (Kavanaugh, J., concurring in the denial of an application to vacate a stay) (noting that seven federal district courts had enjoined similar laws and that Mississippi's statute is "likely unconstitutional" under the Court's precedents).

treated the law as regulating addictive design features rather than speech based on its content, and therefore applied intermediate scrutiny. [123]

In June 2026, the 6th U.S. Circuit Court of Appeals reversed the permanent injunction against Ohio's parental-consent requirement. The court did not categorically hold the requirement constitutional. Instead, a panel majority concluded that NetChoice could not assert minors' First Amendment rights and had not carried the demanding burden required to establish that the law was facially invalid. Two months later, the same circuit vacated a decision denying a preliminary injunction against Tennessee's social-media age-verification and parental-consent law. It remanded the case for consideration of NetChoice's likelihood of success without deciding the merits. [124]

These decisions have produced divergent outcomes, but largely under different statutes and at different procedural stages. Courts have not yet settled when an age-verification or parental-consent law regulates protected speech based on its content. The Supreme Court may eventually need to clarify that question. For now, most laws restricting access to protected speech remain enjoined. The principal departures have arisen when courts characterized a law as regulating design features or resolved the case on standing or the demanding standard governing facial challenges.

For policymakers, the interventions with the weakest evidence of effectiveness—blanket age bans, universal verification requirements, and parental-consent mandates—also face the greatest constitutional risk. The connection is direct. Under strict scrutiny, a state must show that its law works and that less speech-restrictive alternatives wouldn't work as well. Litigation also consumes legislative and judicial resources for years, while platforms incur compliance costs even if a court ultimately invalidates the law. Legally vulnerable mandates may also crowd out more effective and constitutionally sound approaches. Section V turns to those alternatives.

V. Better Alternatives to Government Mandates

As Section I explained, social media is neither an unalloyed good nor uniformly harmful. For adolescents in particular, the challenge is to preserve its beneficial uses while limiting potential harms. This white paper has questioned many of the most politically popular interventions. Section II found little evidence that top-down mandates produce meaningful benefits. Section III showed that these interventions often cause unintended harms. Section IV examined one such harm in greater detail—the burden on constitutionally protected speech.

Broad mandates perform poorly, the consequences of other compulsory interventions are difficult to predict, and users' experiences vary widely. These uncertainties call for epistemic humility—

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[123] *Comput. & Commc'ns Indus. Ass'n v. Uthmeier*, No. 25-11881, 2025 WL 3458571 (11th Cir. Nov. 25, 2025) (staying the preliminary injunction against Florida H.B. 3 pending appeal).

[124] *Yost*, 180 F.4th 268 (holding that NetChoice lacked third-party standing to assert minors' First Amendment rights and that the parental-consent requirement survived a facial challenge); *but see NetChoice, LLC v. Skrmetti*, No. 25-5660, 2026 WL 2546423 (6th Cir. Aug. 28, 2026) (vacating the denial of a preliminary injunction against Tennessee's social-media age-verification and parental-consent law and remanding for consideration of NetChoice's likelihood of success on the merits).

recognition of the limits of what policymakers can know in advance. They also support a decentralized approach that proceeds cautiously and adapts to evidence and feedback.

This section considers steps that users, parents, schools, platforms, and other organizations can take to help adolescents use smartphones and social media more safely and productively. Some measures address devices and apps directly. Others seek to restore opportunities for independent activity, in-person interaction, and other forms of socialization that have declined in recent decades.

A. Clarifying the Risks and Benefits

Before turning to specific actions, it is worth considering the context in which they would operate. In recent years, a small number of highly visible researchers have focused public attention on the challenges associated with smartphones and social media. Their questions and concerns are important, and they deserve credit for raising them.

Some of these researchers have also become vocal proponents of the simplistic, one-size-fits-all policies discussed in Sections II and III—policies that often prove ineffective, counterproductive, or harmful. This advocacy has contributed to skewed reporting and public confusion about the nature and scale of the problems. The first step, then, is to describe the risks, benefits, and underlying causes more accurately.

With a clearer understanding of those tradeoffs, users, parents, educators, and other caregivers will be better equipped to decide how and in what contexts these technologies should be used—and which restrictions are most likely to work.

B. Parent-Guided Tools and User Controls

Within this framework, parents can work with their children to modify how they use devices and social media. If particular features disproportionately reinforce habitual use, for example, parents can encourage adolescents to disable those features without abandoning the platform. This targeted approach can help adolescents regulate their use, reduce harmful experiences, and preserve beneficial ones.

Every major platform has introduced safety tools for teenage users, including Meta's Family Center, TikTok's private-by-default accounts for minors, YouTube's supervised experience, and Snapchat's Family Center. Platforms developed these features in response to pressure from parents, advocacy organizations, and the media, which made teenage safety a point of competition.

Third-party developers have also created tools designed to reduce harmful or excessive device use. The one sec app, for example, introduces friction by requiring users to pause before opening selected apps. Operating systems offer additional controls, including app-specific time limits, blue-light reduction, and grayscale displays. As Section II explained, substantial evidence indicates that friction-based tools such as one sec and grayscale settings can reduce app use.

More can still be done. The next subsection considers mechanisms that could encourage further innovation in tools that help adolescents and their parents manage technology use.

C. Reputation, Standards, and Certification

New third-party apps and platform-design changes are promising, but several factors may inhibit the development of more and better apps and design changes. Ironically, one may be a consequence of public confusion driven by overstated claims from some proponents of government interventions. Parents who believe that denying adolescents access to devices is the only solution are less likely to help them develop healthier habits or to demand tools that support those habits.

A more fundamental obstacle is information. Most users lack the expertise needed to evaluate how particular devices, platforms, and design features affect attention, habits, and well-being. It is unrealistic to expect more than a small minority to acquire that expertise. The practical challenge is therefore to translate expert knowledge into signals that users can readily understand and trust.

Society has faced this problem before with other technologies that consumers didn't fully understand. The established responses include brand reputation, industry standards, and independent standards and certification.

1. Brand Reputation and Product Design

Brands communicate a range of product qualities to consumers. Because brands depend on reputation, their owners have strong incentives to protect users and preserve trust. For operating systems, social-media platforms, and third-party apps, that means designing products that users associate with well-being and control rather than manipulation or compulsive use.

If users, parents, schools, and employers come to view a "healthy digital experience" as an element of product quality, companies will have a reputational incentive to provide meaningful screen-time controls, friction before endless scrolling, clearer notification settings, age-appropriate defaults, more transparent recommendation systems, and tools that help users identify and limit harmful patterns.

This incentive may be especially strong for social-media platforms. A reputation for exploiting attention, amplifying harmful content, or mistreating vulnerable users can erode public trust, invite scrutiny, and weaken long-term loyalty. A reputation for respecting users' time and well-being can, by contrast, become a competitive advantage.

2. Industry Standards for Responsible Design

Industry standards could establish shared expectations for responsible digital design across operating systems, social-media platforms, and app ecosystems. Such standards might identify best practices for notification defaults, parental controls, transparency in recommendation systems, age-appropriate design, avoidance of dark patterns (interfaces that manipulate users into unwanted choices), app-store labeling, and tools that let users set and enforce personal usage goals across multiple apps.

Clear standards can reduce uncertainty for developers by defining good practices. They may also help smaller third-party developers by providing a design framework that makes their apps more acceptable to platforms, advertisers, schools, families, and enterprise customers.

3. Independent Certification and Trust Marks

Independent organizations with relevant expertise could develop standards for evaluating device designs, social-media platforms, and third-party apps. Historically, trusted seals developed by organizations such as Underwriters Laboratories (UL) and Good Housekeeping have proven effective in helping consumers identify products that meet defined quality or safety standards.[125]

A similar certification system could independently signal that a digital product has satisfied established criteria for user well-being, safety, transparency, and control. For operating systems, certification could assess whether users have effective cross-app controls over notifications, usage limits, privacy, and age-appropriate settings. For social-media apps, it could evaluate recommendation systems, reporting tools, content controls, protections for teenagers, crisis-response pathways, and features that encourage repeated or prolonged use. For third-party apps, certification could recognize products that respect users' attention, work with device-level controls, and disclose features designed to influence behavior.

Certification would make responsible design visible and marketable. Certified products could distinguish themselves from competitors, while users, parents, schools, employers, app stores, and regulators might scrutinize uncertified products more closely.

A consumer-facing seal would become valuable if users wanted a simple way to identify apps, platforms, and devices designed to support healthier digital experiences. Most users cannot realistically inspect a product's recommendation system, notification architecture, privacy practices, or behavioral-design choices before adopting it. A trusted seal could reduce that burden. Parents selecting apps for children, adults seeking to curb compulsive use, schools choosing educational tools, and employers purchasing workplace software could favor products carrying a recognizable mark of quality and trust. As more buyers relied on the seal, developers and platforms would gain stronger incentives to earn it, advertise it, and maintain compliance.

Insurers could provide another source of demand. They might encourage or require certified digital products when certification reduces the risk of claims involving workplace harm, youth-safety incidents, data misuse, or other costly outcomes. Schools, employers, health systems, youth organizations, and app platforms might receive better insurance terms for using products that meet recognized safety and risk-management standards. Certification would also document due diligence by showing that an organization selected tools reviewed against accepted criteria rather than relying

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[125] Julian Morris, *Consumer Protection in the 21st Century* (Int'l Ctr. for L. & Econ. Feb. 24, 2023), https://laweconcenter.org/resources/consumer-protection-in-the-21st-century.

solely on vendor assurances. Over time, certification could become a practical market requirement in higher-risk settings, much as UL marks became important for products involving electrical risks.

This approach offers several advantages. Voluntary standards can adapt as the evidence develops, while statutes are difficult to amend. Certification also poses fewer constitutional concerns because it neither restricts speech nor mandates identity disclosure. Finally, market incentives may produce more valuable design improvements than a minimum-compliance regime. Platforms seeking certification would have reason to exceed baseline requirements rather than merely satisfy them.

D. Collaborative Parental Guidance

Another promising alternative to legislative mandates is for parents to work with their children to implement solutions that respect both parental authority and adolescent development. Platforms would then have incentives to adapt their offerings to the expressed needs of parents and adolescents.

Platform-level parental controls already give parents meaningful authority over younger children's experiences with smartphones and social media. Opt-in time limits, notification controls, usage dashboards, and content filters can also support constructive conversations with adolescents about healthier use. Meta's Family Center, TikTok's private-by-default accounts for minors, and various third-party apps represent steps in this direction. Still, adoption and effectiveness vary, and independent evaluation remains limited.

Highly restrictive parental mediation warrants caution. Restriction alone does not provide the education, social support, and emotional guidance associated with lower rates of habitual smartphone use. Evidence also associates highly restrictive approaches with problematic online behavior and suggests that they may sometimes contribute to it.[126]

E. Building Skills and Resilience

Beyond platform design and family tools, several interventions show promise for reducing social-media harms by strengthening adolescents' skills and resilience. A recent review concluded:

> Programs that teach adolescents cognitive or behavioral strategies to engage with social media in a healthy manner appear to be more effective at improving long-term well-being than interventions that completely restrict social media use or warn adolescents of its negative effects. Tailoring interventions to the specific contextual factors salient to an individual or group may maximize the effectiveness and long-term impact of reducing [problematic social media use] and improving overall well-being.[127]

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[126] Hagit Sasson & Gustavo Mesch, *Parental Mediation, Peer Norms and Risky Online Behavior Among Adolescents*, 33 COMPUT. HUM. BEHAV. 32, 32–38 (2014), https://doi.org/10.1016/j.chb.2013.12.025.

[127] Jason M. Nagata *et al.*, *Problematic Social Media Use Interventions for Mental Health Outcomes in Adolescents*, 27 CURRENT PSYCHIATRY REPS. 491 (2025), https://doi.org/10.1007/s11920-025-01619-3.

School-based media-literacy programs have produced modest improvements in adolescents' ability to evaluate online content critically, particularly among girls and younger adolescents.[128] Regular, vigorous exercise may also reduce phone use while improving executive function—the skills involved in planning, focus, and impulse control.[129]

Researchers studying social-media use have not adequately answered a more basic question—why adolescents spend so much time on their phones generally and social media specifically. One possibility is that some adolescents lack the confidence, skills, or opportunities to interact in person and therefore default to social media, where interaction may feel less risky.

F. Restoring In-Person Socialization

As discussed above, reduced attention spans and adolescent mental-health issues often correlate with device use. But that use may partly reflect a deeper problem—inadequate opportunities for in-person socialization. Children develop social competence by interacting with their peers. When they lack opportunities to learn how to behave with other children during crucial periods of neuro-cognitive development, they may enter adolescence less prepared for face-to-face interaction and more likely to default to device-based interactions.

Because screen-mediated interaction doesn't provide all the rewards of in-person connection, this reliance can become self-reinforcing. Adolescents who feel uncomfortable interacting in person may retreat further into online communication, gaining still less experience with face-to-face relationships.

Many adolescents and young adults now spend less time socializing in person, in part because the environments in which children traditionally developed social competence have eroded. These environments include unstructured play, independent movement through neighborhoods, gathering in public places, and strong community institutions. Time-use data illustrate the shift. Among people ages 15–24, in-person time with friends fell by nearly 70% from 2003 to 2020. U.S. social engagement with friends, family, and others also declined during that period.[130]

Several factors may have contributed:

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[128] Chloe S. Gordon *et al.*, *Outcomes of a Cluster Randomized Controlled Trial of the SoMe Social Media Literacy Program for Improving Body Image-Related Outcomes in Adolescent Boys and Girls*, 13 NUTRIENTS 3825 (2021), https://doi.org/10.3390/nu13113825.

[129] Amanda C.Y. Tang, C.P. Wong & Louisa H.T. Louie, *Effectiveness of Exercise in Reducing Mobile Phone Addiction in Adolescents: A Systematic Review and Meta-Analysis*, 14 FRONTIERS PSYCHOL. 1294116 (2023); Yun Li *et al.*, *Intervention Measures for Mobile Phone Addiction in Teenagers: A Network Meta-Analysis*, 16 FRONTIERS PSYCHIATRY 1629251 (2025).

[130] Off. of the U.S. Surgeon Gen., *Our Epidemic of Loneliness and Isolation: The U.S. Surgeon General's Advisory on the Healing Effects of Social Connection and Community* 13 (2023); Viji Diane Kannan & Peter J. Veazie, *U.S. Trends in Social Isolation, Social Engagement, and Companionship–Nationally and by Age, Sex, Race/Ethnicity, Family Income, and Work Hours, 2003–2020*, 21 SSM—POPULATION HEALTH 101331 (2023).

- The long decline of child-directed free play, through which young people practice making rules, resolving conflicts, regulating emotions, building friendships, and interacting as equals.[131]
- Greater pressure from school, homework, college admissions, and résumé building, which converts time with peers into performance time and is associated with adolescent depression and anxiety.[132]
- Parental and institutional anxiety about safety, which limits children's independent mobility, especially unsupervised activity outside the home.[133]
- Car-dependent or heavily policed built environments with too few accessible "third places"—public spaces outside the home and school where people can gather. Research links walkable neighborhoods and third places to social capital, sociability, community belonging, and support for young people.[134]

On this account, screen and social-media use expands to fill a void. When adolescents lack freedom to play, physical autonomy, welcoming public spaces, and strong intergenerational community institutions, screen-mediated connection becomes a substitute for missing in-person opportunities rather than the root cause of isolation. Restricting or banning smartphones and social media without restoring the connections they replace could therefore leave adolescents even more isolated.

For the next generation of adolescents, the solution must include rebuilding the skills, culture, institutions, and physical environments that enable children and teenagers to form and sustain healthy human social connection.

VI. Conclusion

Drawing the preceding analysis together, we assess each major approach against four criteria: evidence that it reduces the targeted harms, the probability and severity of adverse consequences, legal durability in the United States, and its likely net benefits. Table 1 summarizes that assessment.

The approaches with the strongest net-benefit case share three characteristics:

- **They target specific mechanisms.** They address particular features of devices or apps that may cause harm in particular circumstances rather than restricting access broadly.

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[131] Peter Gray, *The Decline of Play and the Rise of Psychopathology in Children and Adolescents*, 3 AM. J. PLAY 443, 443–44, 458–59 (2011).

[132] Thomas Steare *et al.*, *The Association Between Academic Pressure and Adolescent Mental Health Problems: A Systematic Review*, 339 J. AFFECTIVE DISORDERS 302, 302–17 (2023).

[133] Sarah Foster *et al.*, *The Impact of Parents' Fear of Strangers and Perceptions of Informal Social Control on Children's Independent Mobility*, 26 HEALTH & PLACE 60, 60–68 (2014).

[134] Kevin M. Leyden, *Social Capital and the Built Environment: The Importance of Walkable Neighborhoods*, 93 AM. J. PUB. HEALTH 1546, 1546–51 (2003); Danielle M. Littman, *Third Places, Social Capital, and Sense of Community as Mechanisms of Adaptive Responding for Young People Who Experience Social Marginalization*, 69 AM. J. COMMUNITY PSYCH. 436, 436–50 (2022).

- **They preserve users' rights.** They require neither universal identity checks nor restrictions on protected speech or state-mandated surveillance of family relationships.
- **They can be evaluated and adapted.** They allow users and, in some cases, parents to monitor effectiveness and make adjustments. They also encourage app developers, device manufacturers, and platform operators to improve their tools over time.

The approaches with the weakest net-benefit case—minimum-age bans, parental-consent mandates, and mandatory warning labels—share the opposite characteristics. They apply generic rules to diverse users and circumstances. Access mandates intrude directly on privacy and speech, while warning mandates risk habituation and compelled speech. All three are difficult to adapt as evidence changes.

TABLE 2: Net-Benefit Assessment of Major Approaches to Adolescent Device and Social-Media Use

Approach/Policy	Effectiveness Evidence	Adverse Consequence Risk	Legal Durability (US)	Net-Benefit Judgment
Third-party apps, safety certification, and voluntary design standards	Low–moderate (friction-based tools show promise; no policy-level evaluation)	Low (voluntary; no identity checks)	High (not government-mandated)	POSITIVE
Time-limit defaults/sleep-focused tools	Low–moderate (short-term RCT evidence; no policy-level evaluation)	Low if opt-in; high if mandatory quotas	Moderate	CONDITIONAL
School device restrictions	Mixed (test-score gains; null well-being results)	Moderate (staff burden; displacement)	Moderate	CONDITIONAL
Warning labels	Very low (no social media-specific evidence)	Low (habituation risk)	Low–moderate	NEGATIVE
Parental consent mandates	Very low (no outcome evaluations)	Medium–high (equity, privacy, verification burden)	Low	NEGATIVE
Minimum-age bans	Very low (Australia too early; compliance questionable)	High (privacy, circumvention, loss of safety features)	Low (US)	NEGATIVE

The evidence supports three broad conclusions.

First, the most politically popular interventions have the weakest evidentiary support and the greatest potential to impose costs far in excess of their benefits. Researchers have not shown that age bans, universal age verification, or mandatory time limits improve adolescent outcomes. Their documented or foreseeable costs include privacy risks, circumvention, displacement, disproportionate effects on vulnerable young people, and serious constitutional challenges in the United States.

Second, approaches that empower users, parents, schools, and other organizations are more likely to reduce harm. Independent certification, privacy protections, family tools, and optional friction-based design changes address how people experience platforms rather than determining who may use them. These approaches can adapt as the evidence develops and avoid many of the legal, privacy,

and equity costs associated with top-down mandates. They may attract less political attention, but they are more likely to produce useful improvements.

Third, the limited evidence demands humility. Evaluations of most interventions rely on thin evidence of effectiveness. Every approach, whether legislative or market-driven, should include mechanisms for measuring outcomes and changing course as evidence accumulates. Legislative mandates warrant particular caution because they can entrench ineffective interventions, create new harms, and foreclose more promising alternatives. Australia's social-media ban and China's gaming curfews provide cautionary examples.

Finally, as noted in Section V, some of the most effective responses may not regulate smartphones or social media directly. They may instead remove barriers that prevent children and adolescents from engaging in unstructured play, independent travel, and in-person community life. If online life has expanded partly because offline life has contracted, restoring those opportunities may do more for adolescent well-being than restricting screens alone.

Epilogue: A Negotiated Design Framework

As this white paper was being completed, Meta and a bipartisan coalition of 51 attorneys general agreed to a proposed consent judgment in the social-media multidistrict litigation. The agreement, which remains subject to court approval, would operate for 10 years without requiring Meta to admit liability or wrongdoing.[135]

The agreement would establish a negotiated, court-enforced compliance framework rather than a generally applicable statutory mandate. It would require Meta to adopt an age-assurance system with quantified accuracy standards. Commercially available methods must keep the agreement-defined error rate at or below 10% for users ages 16–17 and 3% for those ages 13–15. Meta's proprietary methods would initially face higher limits that tighten after two years.

The agreement would also impose a default two-hour cumulative daily-use limit and restrict access between midnight and 6 a.m. It would disable most nighttime and school-hour notifications, offer teenagers a nonpersonalized chronological feed, hide like and reaction counts by default, prohibit cosmetic-procedure filters, maintain age-appropriate privacy settings, and expand parental-supervision tools. Those tools would notify supervising parents when teenagers repeatedly search for terms related to suicide, self-harm, or eating disorders. An independent auditor would oversee compliance.[136]

It's possible that these design changes will produce benefits. They are more targeted, adaptable, and open to evaluation than the blunt policies many governments have adopted or proposed. Their actual effects on adolescent behavior and well-being, age-assurance errors, privacy, and

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[135] *In re Social Media Adolescent Addiction/Personal Injury Prods. Liab. Litig.*, MDL No. 3047, No. 4:22-md-03047-YGR (N.D. Cal.).

[136] *Id.*

circumvention remain uncertain and should be independently evaluated. That uncertainty reinforces this white paper's central lesson. Interventions should target specific mechanisms, measure real outcomes, and adapt as the evidence develops.