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Measuring Risk:

What EU Risk Assessments and US Litigation Reveal About Meta and TikTok

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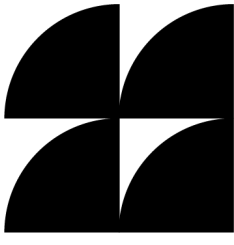

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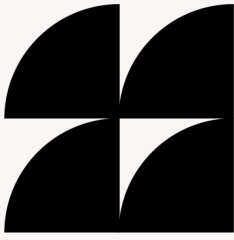

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I. Introduction

Across the United States and European Union, two influential digital governance regimes are producing new bodies of evidence about how large social media companies conceptualize, assess, and respond to potential risks associated with their platforms. Risk assessment in the EU and legal discovery in the US are revealing new insights around how platform design and recommender systems can contribute to risk and mitigation, with a particular focus on the physical and mental health of minors. This paper examines what can be learned by reading these two bodies of emerging evidence side-by-side.

In the EU, the Digital Services Act (DSA) establishes a proactive framework that requires very large online platforms to identify, assess, and mitigate defined categories of "systemic risk."[1] These obligations are process-oriented, emphasizing ongoing risk identification and mitigation. Meanwhile, in the US, a wave of consumer protection and product liability cases against large digital platforms proceeding through US courts seek to establish liability for concrete harms. Recent US litigation increasingly focuses on harms alleged to arise from platforms' design choices, including extended-use designs and highly personalized recommender systems.

Regulatory processes in the EU and legal frameworks in the US have notable differences in scope and approach. However, they converge on a key concern: potential risks to minors. DSA risk assessment and investigations as well as complaints in US courts have identified overlapping concerns related to compulsive use and addiction-like behaviors, sleep deprivation, self-harm, eating disorders, and other mental and physical health impacts for minors.[2] Each regime produces distinct evidence and disclosures, creating opportunities for cross-jurisdictional learning.

This paper compares how Meta and TikTok describe risks and mitigations in their DSA systemic risk assessments with the internal documents and expert analyses emerging from US litigation. In doing so, it reveals that DSA risk assessments remain largely descriptive in nature, whereas US litigation has started to provide far more granular insight into platform design practices and risk.

There are significant gaps between the risk mitigations that Meta and TikTok describe in their DSA risk assessments and the actual effectiveness of these measures. Internal company data released in US litigation shows that key safety mitigations – including screentime management tools, take a break reminders, parental controls, among others – suffer from extremely low adoption rates, often below 2% of minor users. Internal documents suggest the design of these features may undermine effectiveness. For instance, TikTok leadership imposed "guardrail" metrics that initially required that

[1] Regulation 2022/2065, of the European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act), article 34, 2022 O.J. (L 277) 1, https://eur-lex.europa.eu/eli/reg/2022/2065/oj/eng.
[2] European Commission, "Supervision of the designated very large online platforms and search engines under the DSA."

new screentime tools reduced usage by no more than 5%. Similarly, Meta's internal projections accurately predicted that 99% of teens would not use optional opt-in take a break features.

Litigation documents in the US show how platforms have built granular, sophisticated data tracking systems that precisely assess how specific products and features may affect minors. Internal documents speak directly to risks associated with these products, including patterns of compulsive use, late-night engagement, and unwanted contact from adult users. Yet this data remains largely absent from platform DSA risk assessments or public communications around safety tools in the US. Internal studies suggest that Meta and TikTok have each categorized millions of minor users in the US as exhibiting "objectively harmful usage" or "problematic use." But risk assessments in the EU fail to sufficiently consider how product design may actively create or exacerbate such risk.

US litigation documents underscore both the inadequacy of current DSA risk assessments and the critical need for disclosure of the internal metrics and testing that platforms conduct to evaluate risks and mitigation effectiveness. Platforms clearly possess the internal data and analytical capabilities necessary to substantiate claims about mitigation effectiveness. Making progress will require aligning public, user, and regulatory expectations with data and evaluation. Systemic risk assessments should move beyond descriptive inventories of mitigations toward transparent, metrics-driven statements of risk and mitigation effectiveness. While insights generated through US litigation are still emerging and incomplete, they highlight the types of data, methods, and benchmarks that should inform more credible, forward-looking platform governance.

II. Approaches to Platform Risk and Harm

The EU's DSA and platform litigation in the US represent distinct but adjacent approaches to governing and mitigating risks posed from digital platforms. This section outlines the DSA approach, how Meta and TikTok have articulated risks and mitigations within the DSA, and how US-based platform litigation considers risks and harms to minors.

A. The Digital Services Act

The DSA requires that covered companies assess four categories of systemic risks on an annual basis: illegal content; negative effects for the exercise of fundamental rights; risks to civic discourse, electoral processes, and public security; and protection of public health and minors, including physical and mental wellbeing.[3] The DSA expects platforms to implement effective risk mitigation measures for identified risks.

[3] Digital Services Act, article 34.

In November 2025, covered platforms released their second round of DSA risk assessments.[4] Company assessments interpret systemic risk in different ways. This section analyzes similarities and differences between Meta (Facebook and Instagram) and TikTok's assessments.[5]

Facebook and Instagram's 2025 assessments identify eight systemic risk areas and 22 "problem areas."[6] Meta organizes internal teams and policies around these problem areas, which the assessment maps to systemic risks as illustrated in Figure 1 from Meta's 2025 assessments.[7]

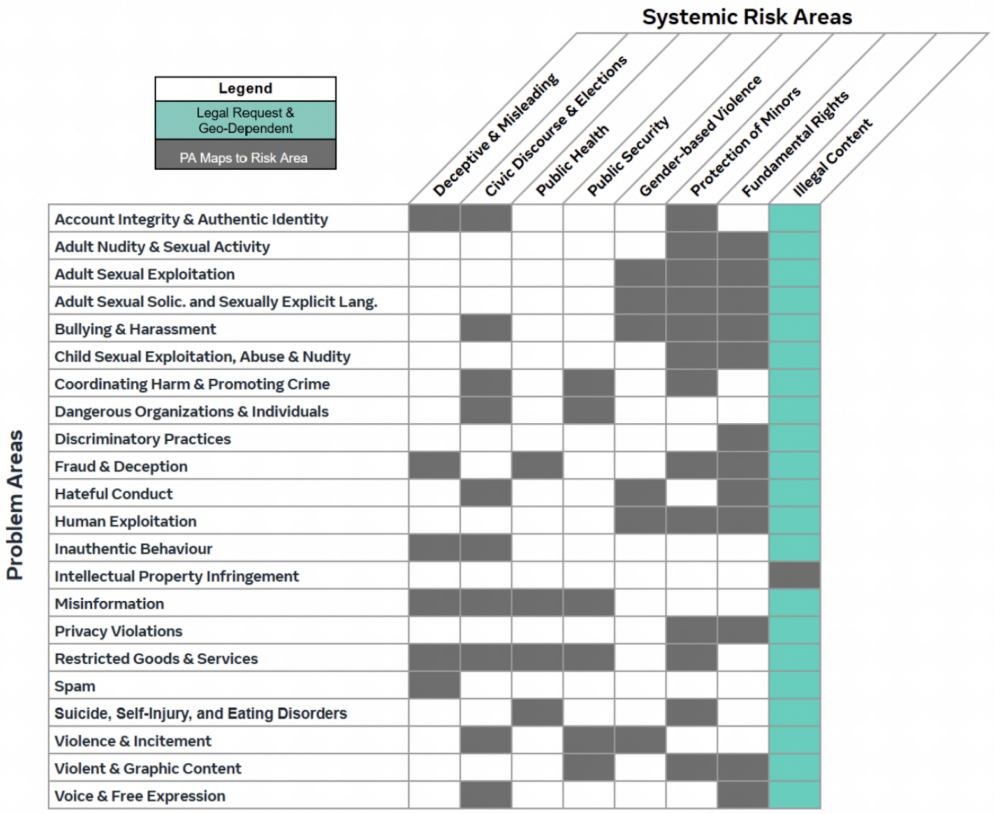

Figure 1. Meta's systemic risk table from its 2025 DSA risk assessment.[8]

TikTok's 2025 assessment is clustered around 4 categories of risk: illegal content, youth safety and online engagement, misinformation and civic integrity, and fundamental rights. Within each category, there are multiple subcategories. With youth safety, for example, there are subcategories related to age-inappropriate content, risks related to age assurance, and risks related to online engagement. Recommender systems (namely, TikTok's For You Feed) are treated as a cross module risk, cutting across the risk categories.[9]

[4] Or in some cases, third. See Hohfield, "DSA."
[5] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*; Meta, *Systemic Risk Assessment and Mitigation Report for Instagram*; TikTok, *DSA Risk Assessment Report 2025*.
[6] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 5, 14.
[7] Ibid.
[8] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook,* 14.
[9] TikTok, *DSA Risk Assessment Report 2025*, 20.

These two assessments define systemic risk in different ways, even as the assessments address similar concerns. Meta's assessment for Facebook and Instagram adopt an internally oriented framework for systemic risk. While this approach aligns neatly with how teams are structured at the company, it does not clearly link product designs to potential risk. TikTok's focus on 4 categories of risk combines both specific and cross-module risks. The assessment makes comparatively less references to the internal structure of TikTok's risk management teams. Both assessments consider the cross-cutting nature of recommender system design.

Systemic risk assessments are not merely descriptive. Article 35 of the DSA requires covered companies to adopt "reasonable, proportionate and effective mitigation measures, tailored to the specific systemic risks identified" through the risk assessment.[10] Article 35 spells out relevant mitigation strategies that platforms are to consider in reducing risk, such as changes to platform design, recommender systems, default settings, policies, or enforcement practices. The European Commission may investigate platforms for noncompliance with these expectations, and in February 2026 the Commission released preliminary findings that TikTok is in breach of the DSA in relation to addictive design, including within its risk assessment and mitigations.[11]

Nonetheless, the first two years of systemic risk assessment have largely focused on content and user-generated risks and have not included metrics for assessing effectiveness.[12] By failing to provide evidence of how particular mitigations reduce specific risks, the assessments fail to provide the necessary information for the public, users, and regulators to assess whether mitigation measures meaningfully address the underlying drivers of harm.

B. Platform Litigation in the United States

In the US, hundreds of court cases against social media companies are moving through a range of courts. Many of these claims specifically allege harm to minors. A multi-district litigation (MDL) in California has consolidated federal claims from many plaintiffs against Meta, Snap, TikTok, and YouTube, including over 40 state Attorneys General, school districts, children, and families.[13] Similar state-level claims in California have been consolidated into a coordinated proceeding (known as Judicial Council Coordination Proceedings, or JCCP). Key trials began in early 2026, with Meta's Mark Zuckerberg and Instagram's Adam Mosseri testifying in the JCCP as early as February 2026.[14] Snap and TikTok settled the first case against them in the JCCP on the eve of the trial in January 2026; however, hundreds of claims against both platforms remain.[15]

[10] Digital Services Act, article 35.
[11] European Commission, "Commission preliminarily finds TikTok's addictive design in breach of the Digital Services Act."
[12] Center for Democracy & Technology, *Civil Society Responds to DSA Risk Assessment Reports*; Chapman, "Advancing Platform Accountability."
[13] United States Judicial Panel on Multidistrict Litigation, "MDL Statistics Report."
[14] Subin, "Facebook founder Zuckerberg must take witness stand at social media safety trial, judge rules."
[15] Spoto, "Snap Reaches Settlement Over Social Media Addiction Claims."

US cases broadly assert a range of claims related to specific harms to minors that arise from platform design. The JCCP and MDL allege that platforms have deliberately designed their products to promote compulsive and addictive use through features such as extended-use designs (such as infinite scroll and autoplay), broad account visibility, and engagement-optimized recommender systems. States and plaintiffs allege that these designs can cause or exacerbate serious harms to minors, including sleep deprivation, depression, self-harm, sextortion, eating disorders, and other physical and mental health impacts.

These US court claims build on a range of research connecting platform product design to user wellbeing, including in relation to minor users. Research shows that minors have unique vulnerabilities that may contribute to negative experiences online.[16] Research has focused on problematic social media use, which occurs when social media use causes dysfunctions in everyday life activities, such as attending school or sleep.[17] Problematic social media use is associated with a range of negative outcomes for minors,[18] including risks related to social comparison,[19] body image, dissatisfaction, and disordered eating,[20] displacement of healthy behaviors,[21] and broader feelings of sadness, anxiety, depression, and stress.[22]

C. Converging Risks in DSA Assessment and US Litigation

The risks identified in Meta and TikTok's DSA risk assessments and the claims related to harms to minors brought in the US have notable connections. The MDL's master complaint, for example, makes numerous claims related to the risk of abuse and compulsive use associated with social media products, including specific impacts related to physical and mental wellbeing.[23] JCCP complaints similarly allege harms from platform design, including recommender systems.[24] Claims center on specific harms related to physical and mental health, including "depression, self-harm, eating

[16] American Psychological Association, "Potential Risks of Content, Features, and Functions,"; Office of the Surgeon General, "Social Media and Youth Mental Health."
[17] Caplan, "Theory and measurement of generalized problematic Internet use."
[18] Bányai et al., "Problematic Social Media Use"; Paakkari et al., "Problematic Social Media Use and Health among Adolescents."
[19] McComb et al., "A Meta-Analysis of the Effects of Social Media Exposure to Upward Comparison Targets on Self-Evaluations and Emotions."
[20] Barakat et al., "Risk factors for eating disorders: findings from a rapid review"; Yurtdaş-Depboylu et al., "The association between social media addiction and orthorexia nervosa, eating attitudes, and body image among adolescents."
[21] Brautsch et al., "Digital media use and sleep in late adolescence and young adulthood"; Carter et al., "Association Between Portable Screen-Based Media Device Access or Use and Sleep Outcomes."
[22] National Academies of Sciences, Engineering, and Medicine, "The Relation between Social Media and Health."
[23] Including harms relating "to dissociative behavior, withdrawal symptoms, social isolation, damage to body image and self-worth, increased risky behavior, exposure to predators, sexual exploitation, and profound mental health issues for young consumers including but not limited to depression, body dysmorphia, anxiety, suicidal ideation, self-harm, insomnia, eating disorders, death, and other harmful effects." See Plaintiff's Second Amended Master Complaint, *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, No. 4:22-md-03047-YGR (Northern District of California December 15, 2023), https://www.motleyrice.com/sites/default/files/documents/social_media_addiction-redacted_master_complaint.pdf.
[24] Complaint for Wrongful Death and Survivorship, and for Violations of the California Unfair Competition Law, Business & Professional Code §§ 17200 et seq., *Rodriguez v. Meta Platforms Inc. et al*., No. 3:22-cv-00401 (Northern District of California January 20, 2022), https://socialmediavictims.org/wp-content/uploads/2022/01/Rodriguez-Complaint-FINAL-1_21_22.pdf.

disorders, suicide attempts and ideation, [] [sic] depression, and sleep deprivation."[25] Many of these risks are also explicitly referenced in Meta and TikTok's DSA risk assessments.

The following table summarizes connections across the DSA risk assessments and US complaints in two domains: protection of minors and mental health and wellbeing.

DSA Systemic Risk Area	**DSA Risk Assessments**		**US Complaints**	
	Meta	**TikTok**	**Meta**	**TikTok**
Protection of Minors	Considers risks to minors in relation to harmful content, child sexual exploitation, abuse and nudity, bullying and harassment, restricted goods and services, among other areas.[26]	Considers youth safety and online engagement risks, with specific subcategories of risks related to age-inappropriate content, age assurance, and product use.[27]	Complaints allege that Meta's design promotes compulsive or addictive use amongst minors resulting in a range of harms.[28]	Complaints allege that TikTok is designed to promote compulsive or addictive use and as a result is harmful for minors.[29]
Mental Health and Wellbeing	Considers physical and mental wellbeing as a cross-cutting risk relevant to multiple areas.[30]	Considers "Online Engagement Risks" related to mental health narratives and digital wellbeing.[31]	Complaints allege that Meta's design promotes compulsive use resulting in a range of physical and mental health impacts.[32]	Complaints allege that TikTok manipulates and compels young users to extend use in ways that impact physical and mental health.[33]

[25] Complaint for Wrongful Death and Survivorship at 1, *Rodriguez*, No. 3:22-cv-00401.
[26] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook,* 20, 27, 87.
[27] TikTok, *DSA Risk Assessment Report 2025*, 51-70.
[28] See, e.g., Complaint for Wrongful Death and Survivorship at 1, *Rodriguez*, No. 3:22-cv-00401; Plaintiff's Second Amended Master Complaint, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[29] See, e.g., Complaint, *State of Alabama et al. v. TikTok et al*., No. 03-CV-2025-900628.00 (Circuit Court of Montgomery County, Alabama April 29, 2025), https://www.alabamaag.gov/wp-content/uploads/2025/04/2-Complaint.pdf; Complaint and Jury Demand, *Commonwealth of Massachusetts v. TikTok Inc. et al*., No. 2484CV2638-BLS·1 (Massachusetts Superior Court February 3, 2025), https://www.mass.gov/doc/tiktok-complaint-unredacted/download.
[30] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 15-16.
[31] TikTok, *DSA Risk Assessment Report 2025*, 59-65.
[32] See, e.g., Complaint for Wrongful Death and Survivorship at 1, *Rodriguez*, No. 3:22-cv-00401; Plaintiff's Second Amended Master Complaint, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[33] See, e.g., Complaint, *State of Alabama et al.*, No. 03-CV-2025-900628.00; Complaint and Jury Demand, *Commonwealth of Massachusetts*, No. 2484CV2638-BLS·1.

III. Assessing the Effectiveness of Platform Mitigations

In the fall of 2025, as the latest systemic risks reports were released in Europe under the DSA, new documents were released in key US cases against Meta, TikTok, and other large platforms.[34] In late November 2025, a filing from a group of school district plaintiffs in the MDL released a range of internal company documents and excerpts.[35] Additional documents from the first cases to proceed in the JCCP were also released as the first of those cases began trial.[36]

US litigation documents speak to the effectiveness (or lack thereof) of mitigations referenced in the DSA systemic risk assessments. This section analyzes internal company documentation and expert reports from plaintiffs in US-based litigation and DSA risk assessment. Litigation documents include multiple expert reports from plaintiffs[37] as well as the defense.[38] Experts are able to review confidential documents included in discovery and the released expert reports frequently include reference and screenshots of internal company communications and studies. While expert reports and US litigation documents also include depositions of experts as well as current or former platform employees, these materials were not analyzed for the purpose of this paper.

At this stage of the litigation, released documents largely connect to arguments being made by the plaintiffs. Defendants highlight that they have not had a full opportunity to present alternative evidence, arguments, or interpretation of data.[39] Nonetheless, internal company documentation is illuminating in the context of risk mitigation and clarifies how platforms can, or could, be expected to track and report on identified risks. These documents are relevant for understanding systemic risk and mitigations in the EU as well as the verification of platform safety claims in the US.

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[34] Alter, "Court Filings Allege Meta Downplayed Risks to Children"; Horwitz, "Meta Buried 'Causal' Evidence of Social Media Harm."

[35] Plaintiffs' Corrected Omnibus Opposition to Defendants' Motions for Summary Judgment, *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, No. 4:22-md-03047-YGR (PHK) (Northern District of California November 21, 2025), https://storage.courtlistener.com/recap/gov.uscourts.cand.401490/gov.uscourts.cand.401490.2480.0_1.pdf; Plaintiff Harford County Board of Education Opposition to Defendants' Motion for Summary Judgment (Harford) (SD MSJ No. 6), *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, No. 4:22-md-3047-YGR (Northern District of California December 11, 2025), https://storage.courtlistener.com/recap/gov.uscourts.cand.401490/gov.uscourts.cand.401490.2534.0_5.pdf.

[36] See, e.g., Defendants' Notice of Lesser-Redacted Filing Regarding General Causation *Sargon* Motions, *In Re: Social Media Cases*, No. 22STCV21355 (Superior Court of California, County of Los Angeles November 14, 2025), on file with authors and available at https://www.lacourt.ca.gov/home; Expert Report of Dr. Stuart Murray, *In Re: Social Media Cases*, No. 22STCV21355 (Superior Court of California, County of Los Angeles November 14, 2025), on file with authors and available at https://www.lacourt.ca.gov/home.

[37] See, e.g., Expert Report of Dimitri A. Christakis, *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, No. 4:22-md-03047-YGR (Northern District of California December 11, 2025), https://storage.courtlistener.com/recap/gov.uscourts.cand.401490/gov.uscourts.cand.401490.2534.17.pdf.

[38] See, e.g., Expert Report of Dr. Randy Aurebach, *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, No. 4:22-md-03047-YGR (Northern District of California December 11, 2025), https://storage.courtlistener.com/recap/gov.uscourts.cand.401490/gov.uscourts.cand.401490.2537.7.pdf.

[39] Meta, "Beyond the Headlines."

This section examines the mitigations identified in TikTok and Meta's systemic risk assessments and compares them to insights garnered through US litigation.

A. TikTok

User experience on TikTok is driven by the app's For You Feed, a personalized recommender system that surfaces content, creators, and topics for users.[40] TikTok's 2025 DSA systemic risk assessment considers the For You Feed across identified risk areas, including in relation to risks to minors and online engagement.[41] TikTok's DSA risk assessment primarily focuses on content-based risks – that is the risk that users are impacted by particular types of content generated by other users on the platform. But it also considers some risks specifically related to the design of the product, including in relation to extended use, concentrated content (also called filter bubbles or rabbit holes), social comparison, and dangerous online challenges.

1. Systemic Risk Assessment Mitigations

TikTok's last two years of assessments describe a range of risk mitigations. TikTok calls out a number of specific "key" mitigations that protect minors. In 2024, TikTok specifically highlighted its screentime tools and default privacy settings.[42] In 2025, the risk assessment described safety features including TikTok's Teen Safety Center, wellbeing and guardians guides, and default settings for minors.[43]

The following table summarizes key mitigation measures from TikTok's 2025 assessment in relation to recommender systems[44] and online engagement risks.[45]

Select Risk Mitigation Measures	
Account-level Privacy Settings	Providing user controls for profile, content, and following lists visibility, including default profile visibility settings for 13-15 year olds and 16-17 year olds.[46] TikTok highlights new tools including a "Manage Topics" tool as well as keyword filtering.[47]
Age Assurance and Age Gating	Age restrictions for features like LIVE (live streaming), Duet (allowing users to post video side-by-side with video from another user), and Stitch (allowing users to clip and integrate scenes from another user's video into their own).[48]

[40] TikTok, *DSA Risk Assessment Report 2025*, 20.
[41] Ibid., Section 15.
[42] TikTok, *DSA Risk Assessment Report 2024*.
[43] TikTok, *DSA Risk Assessment Report 2025*.
[44] Ibid., 6, 17.
[45] Ibid., Section 15, 59.
[46] Ibid., 21.
[47] Ibid.
[48] Ibid., 61.

Content Eligibility Standards	TikTok's Community Guidelines targeting illegal and harmful content, content eligibility standards, and age-appropriate design (namely, content created by anyone under 16 cannot be recommended in the For You Feed).[49] TikTok's Mental and Behavioural Health policy prohibits or age-restricts a range of content related to suicide and self-harm, disordered eating and body image, and dangerous activities and challenges.[50]
Dispersion Techniques	Dispersion of select topics, including borderline extreme dieting and fitness, adult nudity and sexual activity, and mental health narratives. Certain topics may be ineligible for the For You Feed.[51]
Parental Tools, including Family Pairing	Tools for parents to manage minor user settings related to content as well as screentime, including a new "Time Away" feature where parents can block minor users at a certain time.[52]
Messaging	Restrictions on direct messaging for minor users.[53]
Notifications	Restrictions on push notifications for minor users.[54]
Safety Center	Awareness-raising materials including a Teen Safety Center, digital wellbeing guide, and information about online challenges.[55]
Screentime Tools	Tools include TikTok's screentime management dashboard, digital wellbeing prompts, and the wind down feature.[56]

In describing these mitigations and awareness materials, TikTok's assessment provides few details as to effectiveness. Indeed, civil society organizations have criticized the lack of metrics to verify risk and mitigations in the first round of risk assessment.[57] TikTok's 2025 risk assessment does incorporate some additional statistics compared to that of 2024, but the metrics included are largely aggregate statistics that are impossible to interpret. For example, the report states that:

- "As of March 2025, 2,619,937 users had actively filtered hashtags/keywords in the EU,"[58] and
- "From Q3 2024 through Q1 2025, following a user report, TikTok removed 20,766 videos under its 'Mental and Behavioral Health - Suicide and Self-Harm' policy and 57,325 videos under its 'Mental and Behavioral Health - Dangerous Activity and Challenges' policy."[59]

[49] Ibid., 20-21.
[50] Ibid., 61.
[51] Ibid., 21.
[52] Ibid., 63.
[53] Ibid., 61.
[54] Ibid., 61.
[55] Ibid., 62.
[56] Ibid., 61.
[57] Center for Democracy & Technology, *Civil Society Responds to DSA Risk Assessment Reports*; Chapman, "Advancing Platform Accountability."
[58] TikTok, *DSA Risk Assessment Report 2025*, 21.
[59] TikTok, *DSA Risk Assessment Report 2025*, 64.

It is impossible to know whether these metrics suggest that the identified mitigations are working or failing. With content filters, does the 2.6 million EU users mean the tool is working effectively? More details are necessary to interpret risk and mitigation effectiveness.

2. Insights from US Litigation

Documents from US litigation offer information about risk and mitigation effectiveness. In particular, US litigation has focused on risks and mitigations related to extended use, screentime management tools, notifications, and user controls. While crosscutting recommender system risks feature in TikTok's DSA risk assessment, documents released from US litigation have not yet produced significant insights in this area.[60]

US litigation documents may also not directly speak to this year's EU risk assessments. Some of the documents and studies analyzed are from several years before TikTok's roll out of new safety features. And some of the data relates only to US users, as opposed to users in the EU. Nonetheless, litigation documents provide insights into the type of data and approaches the company uses to understand and mitigate risks. These insights can help clarify how to effectively measure and mitigate platform risk.

a. Who Uses TikTok?

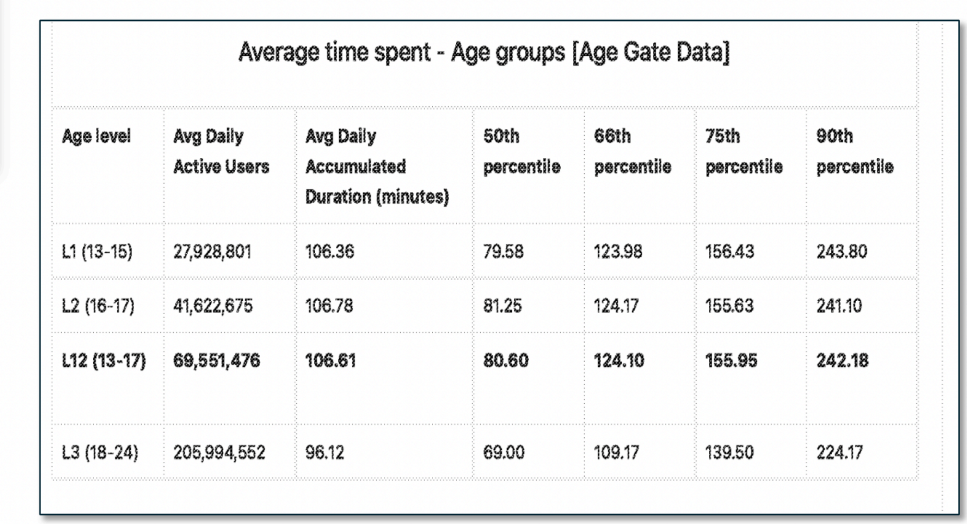
TikTok publicly communicates scant details about who uses TikTok, including in its DSA reporting.[61] Documents from US litigation, however, provide more context. Documents show that TikTok proactively targets minors. Following Musical.ly's rebrand as TikTok in 2018, minors were described internally as TikTok's "core audience."[62] Indeed, internal communications suggest that TikTok's "ideal user composition" was minors under the age of 17.[63] Documents referenced by school district plaintiffs in the US describe a deliberate and effective effort by TikTok to target minor users in the US.[64]

b. How Are Minors Using TikTok?

Documents produced through US litigation include granular data related to how minors use the platform. Released internal statistics are largely undated; however, they offer a glimpse into how TikTok users engage. Released documents include TikTok's Digital Wellbeing – Data Analysis, which found that users TikTok predicted to be under 15 were using the platform on average 1.74 hours per

[60] Covered platforms are, nonetheless, expected to report on mitigations related to recommender system design and user controls. See Knight-Georgetown Institute, "Better Feeds."
[61] TikTok, "Digital Services Act."
[62] Plaintiffs' Corrected Omnibus Opposition to Defendants' Motions for Summary Judgment at 79, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR (PHK).
[63] Defendants' Notice of Lesser-Redacted Filing Regarding General Causation *Sargon* Motions, *In Re: Social Media Cases*, No. 22STCV21355 (Superior Court of California, County of Los Angeles November 14, 2025), on file with authors and available at https://www.lacourt.ca.gov/home; Expert Report of Dr. Stuart Murray at paragraph 335, *In Re: Social Media Cases*, No. 22STCV21355 (Superior Court of California, County of Los Angeles November 14, 2025), on file with authors and available at https://www.lacourt.ca.gov/home (citing TIKTOK3047MDL-022-00522755, Slides 9-11).
[64] Plaintiffs' Corrected Omnibus Opposition to Defendants' Motions for Summary Judgment, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR (PHK).

day.[65] Users with a predicated age of 18-24 used TikTok for 1.24 hours per day on average.[66] Other documents reveal that approximately 13% of US minor users (or nearly 9 million) used TikTok for more than 3.5 hours a day, and 10% used TikTok for more than 4 hours a day.[67]



Average time spent - Age groups [Age Gate Data]

Age level	Avg Daily Active Users	Avg Daily Accumulated Duration (minutes)	50th percentile	66th percentile	75th percentile	90th percentile
L1 (13-15)	27,928,801	106.36	79.58	123.98	156.43	243.80
L2 (16-17)	41,622,675	106.78	81.25	124.17	155.63	241.10
L12 (13-17)	**69,551,476**	**106.61**	**80.60**	**124.10**	**155.95**	**242.18**
L3 (18-24)	205,994,552	96.12	69.00	109.17	139.50	224.17

Figure 2. Internal Tiktok average time spent by age group analysis from plaintiff's MDL expert report of Dimitri Christakis.[68]

The report of an expert retained by the plaintiffs incorporates a screenshot of a TikTok document summarizing "Average time spent - Age Groups," noting that such data "would be the envy of any independent scientist who has labored to estimate the amount of time teens spent on any app."[69] While the chart, Figure 2, does not describe what geographies are included, it reveals that the 90th percentile of 13-17 year olds spend more than 4 hours per day on TikTok.[70]

The disclosure of this table shows how TikTok tracks how specific user cohorts exhibit distinct patterns of use. Internal documents analyzed by another expert found that 10 million (presumably US minor) users spent more than 6 hours on TikTok per day.[71] TikTok internally categorized this pattern of use as "Objective harmful usage (6 hours+/day=99th percentile)."[72] TikTok also categorized users who spent more than 3.5 hours per day and 2 hours per night as having "unbalanced engagement."[73]

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[65] Defendants' Notice of Lesser-Redacted Filing Regarding General Causation *Sargon* Motions, *In Re: Social Media Cases*, No. 22STCV21355; Expert Report of Drew P. Cingel at paragraph 222, *In Re: Social Media Cases*, No. 22STCV21355 (Superior Court of California, County of Los Angeles November 14, 2025), on file with authors and available at https://www.lacourt.ca.gov/home.
[66] Ibid.
[67] Expert Report of Gary Goldfield at paragraph 431, *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, No. 4:22-md-03047-YGR (Northern District of California December 11, 2025), https://storage.courtlistener.com/recap/gov.uscourts.cand.401490/gov.uscourts.cand.401490.2536.3.pdf.
[68] Expert Report of Dimitri A. Christakis at paragraph 155, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[69] Ibid. at paragraph 155.
[70] Ibid.
[71] Expert Report of Drew P. Cingel at paragraph 222, In Re: Social Media Cases, No. 22STCV21355.
[72] Ibid.
[73] Expert Report of Gary Goldfield at paragraph 431, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.

The timing of use also impacts risk. Internal TikTok studies "found that 19 percent of users 13-15 and 25% of users 16-17 were active on the platform from 12 a.m. to 5 a.m."[74] Persistent nighttime use is of particular concern, as medical and public health researchers and professionals have found that insufficient sleep contributes to various health issues.[75]

Internal studies and communications also suggest that (some) TikTok employees are concerned with compulsive and problematic use. TikTok's Digital Wellbeing Product strategy describes compulsive usage as "rampant" on the platform.[76] TikTok's own records describe how it uses "powerful coercive design tactics" to extend use.[77] Internal documents state that the platform can "get people into flow – the psychological state of extreme engagement, loss of sense of time and even loss of self" including through "the variability of rewards (which is what makes the app so addictive)."[78] TikTok conducted its own internal studies which suggest time management is a pervasive risk. For example, one of the plaintiffs' experts contends that internal studies found that 50% of former users who were no longer active on the app "cited time management as an issue, while 23% reported spending too much time on the app."[79]

3. Are TikTok's Mitigations Effective?

Documents from US litigation speak directly to several mitigations identified in TikTok's DSA risk assessment. Many of these mitigations are also cited as key safety strategies in company communications in the US market.[80] This section evaluates evidence related to three elements of TikTok's mitigation strategy described in its DSA risk assessment: screentime management, take a break reminders, and notifications.

a. Screentime Tools

Screentime management tools feature prominently in TikTok's DSA risk assessment reports as well as US litigation. The forward to TikTok's 2024 systemic risk assessment describes "expanded screen time interventions" as one of two key initiatives to promote responsible digital habits.[81] The 2025 report similarly describes how screentime management tools are provided to enable users to manage time spent on the platform.[82]

US litigation is focused on problematic use, including the lack of effective TikTok tools to manage risks. TikTok staff discussed external research finding that "minors who spend more than three hours a

[74] Ibid. at paragraph 434.
[75] Paruthi et al., "Consensus Statement of the American Academy of Sleep Medicine."
[76] [External] Digital Wellbeing Product Strategy at 5, *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, No. 4:22-md-03047-YGR (Northern District of California January 20, 2026), https://storage.courtlistener.com/recap/gov.uscourts.cand.401490/gov.uscourts.cand.401490.2650.36.pdf.
[77] Expert Report of Anna Lembke at 69, *In Re: Social Media Cases*, No. 22STCV21355 (Superior Court of California, County of Los Angeles November 14, 2025), on file with authors and available at https://www.lacourt.ca.gov/home.
[78] Expert Report of Gary Goldfield at paragraph 424, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[79] Expert Report of Dr. Stuart Murray at paragraph 337, *In Re: Social Media Cases*, No. 22STCV21355.
[80] See, e.g., Keenan, "New Features for Teens and Families on TikTok."
[81] TikTok, *DSA Risk Assessment Report 2024*, 2.
[82] TikTok, *DSA Risk Assessment Report 2025*, 61-63.

day on social media double their risk of 'poor mental health outcomes, including symptoms of depression and anxiety.'"[83] TikTok's Minor Safety Strategy Paper references studies that suggest 6 or more hours a day spent on TikTok heightens depression risk.[84] Internal communications reveal that TikTok acknowledged a need to help users effectively manage their use. One internal document was blunt: "our users need better tools to understand their usage, manage it effectively, and ensure being on TikTok is time well spent."[85]

TikTok communications released in litigation call into question the effectiveness of the company's mitigation strategy in the EU. As described in TikTok's DSA risk assessment, the strategy broadly rests on giving users more controls and tools to manage their own use. This is a particularly problematic strategy for minors, with one internal TikTok document suggesting that "minors do not have executive function to [voluntarily] control their screen time."[86] Another internal document notes that minors have "minimal ability to self-regulate effectively."[87]

When developing and approving screentime management tools, TikTok leadership required that they be measured to ensure they did not impact monetization goals. Secondly, the tools were also designed in ways that resulted in very minimal user uptake.

b. Monetization Impacts

Documents released in US litigation show that TikTok leadership approved the rollout of screentime interventions only on the condition that the tools would not have significant impacts for heavy users. US plaintiffs cite internal communications from TikTok's global Research and Development Chief, suggesting that TikTok can "accept a 5% drop in stay time for Screen Time Management features for special user groups like minors and excessive users."[88]

TikTok rigorously tracked screentime tools to ensure that they did not reduce use beyond 5%. A Senior Product Manager stated that TikTok leadership required that the tools be tracked to ensure they did not have "negative impact to guardrail metrics"[89] – namely the 5% reduction in screentime and limited impacts on user retention. US litigation includes a screenshot of an internal document clarifying these "guardrails" for product teams:[90]

[83] Plaintiffs' Corrected Omnibus Opposition to Defendants' Motions for Summary Judgment at 91, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR (PHK).
[84] Ibid. at 91.
[85] Expert Report of Dimitri A. Christakis at paragraph 157, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[86] Complaint at paragraph 126, *Commonwealth of Kentucky et al. v. TokTok Inc. et al.*, No. 24-CI-00824 (Commonwealth of Kentucky Scott Circuit Court October 9, 2024), https://www.dropbox.com/scl/fi/sfxbtc79imdvm4nmnjcnz/tiktok.kentuckyAG.unredacted.complete.ANNOTATED-edited.pdf.
[87] Expert Report of Dr. Stuart Murray at paragraph 337, *In Re: Social Media Cases*, No. 22STCV21355.
[88] Complaint at paragraph 203, *Commonwealth of Kentucky*, No. 24-CI-00824.
[89] Expert Report of Drew P. Cingel at paragraph 224, *In Re: Social Media Cases*, No. 22STCV21355.
[90] Expert Report of Dimitri A. Christakis at paragraph 160, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.

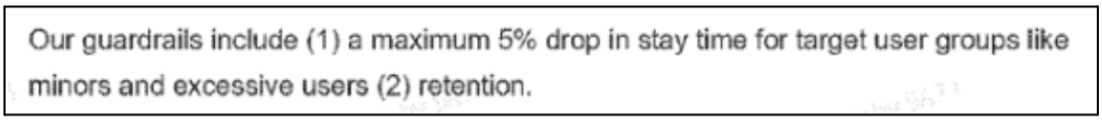

Figure 3. Internal TikTok screentime guardrail metrics from plaintiff's MDL expert report of Dimitri Christakis.[91]

In practice, this likely means TikTok leadership would not allow screentime tools to result in more than a 12-minute reduction on average amongst its heaviest minor users. Given that the 90th percentile of 13-17 year old users reportedly spent more than 242 minutes on the platform,[92] 5% would be 12 minutes. If these users reduced usage by 5% on average, they still would be using the platform for some 230 minutes, or 3 hours and 50 minutes, per day. A plaintiffs expert report describes how TikTok's screentime management tools were subject to A/B testing which found that the actual impact on minors' overall use was "about 10 minutes on weekdays and 15 minutes on weekends."[93] For the top 1% of users who TikTok reports use the platform more than 6 hours a day,[94] a 5% reduction would be an 18-minute reduction in total time spent. Thus the screentime management tools were only permitted to nudge these users from an average of 6 hours to 5 hours and 42 minutes per day.

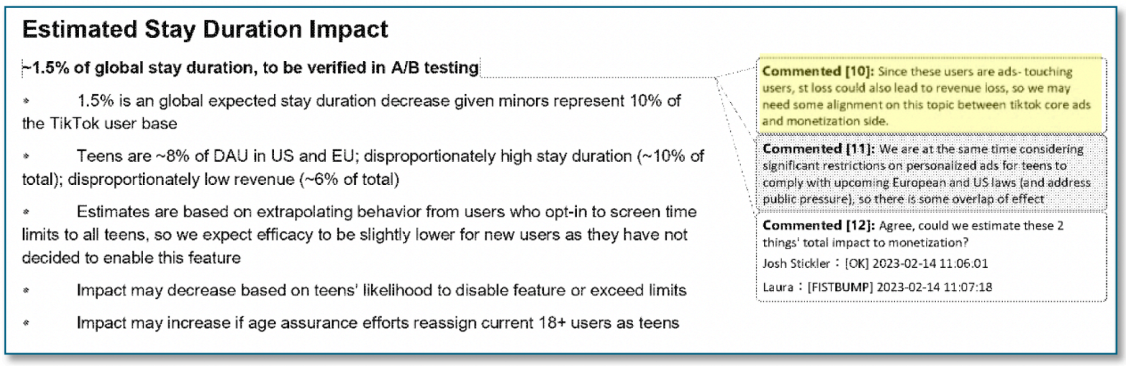

Figure 4. Internal TikTok screentime stay duration assessment strategy from plaintiff's MDL expert report of Dimitri Christakis.[95]

Unsurprisingly, the motivation for such "guardrail" metrics was potential impacts on revenue. An employee comment on the roll out of screentime A/B testing makes this point explicitly, stating "since these users are ads-touching users, it could also lead to revenue loss, so we may need some alignment … between tiktok core ads and monetization" (See Figure 4).[96]

[91] Ibid.
[92] Ibid. at paragraph 155.
[93] Ibid. at paragraph 665.
[94] Expert Report of Drew P. Cingel at paragraph 222, *In Re: Social Media Cases*, No. 22STCV21355.
[95] Expert Report of Dimitri A. Christakis at paragraph 664, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR. Image quality reflects the original document.
[96] Ibid. at paragraph 664.

c. Adoption

Screentime management tools can only be effective if they are actually used. TikTok measures the prevalence of screentime management tool use. A plaintiffs expert report cites adoption rates reported by TikTok, finding that from January 2024 to January 2025 the adoption rate for daily screentime limit reminders was between 77-91%, screentime breaks were approximately 1.5% of users, and sleep reminders between 0.7 and 1.8% of users (see Figure 5, below).[97] This data shows the power of default settings as daily screentime limits were made default for all users in 2023.[98]

Table 6: Adoption Rates of Daily Screen Time, Screen Time Breaks, and Sleep Reminders on TikTok's Platform between January 2024 and January 2025

DATE	Daily Screen Time	Screen Time Breaks	Sleep Reminders
January 2024	77.5%	1.4%	0.7%
February 2024	77.3%	1.5%	0.7%
March 2024	86.0%	1.5%	0.8%
April 2024	91.2%	1.5%	0.8%
May 2024	90.6%	1.5%	0.8%
June 2024	89.8%	1.5%	0.8%
July 2024	88.4%	1.5%	0.8%
August 2024	86.8%	1.5%	0.9%
September 2024	85.9%	1.5%	0.9%
October 2024	85.7%	1.5%	0.9%
November 2024	85.5%	1.5%	1.8%
December 2024	85.0%	1.5%	0.9%
January 2025	83.8%	1.4%	0.9%

Figure 5. Summary of internal TikTok screentime adoption rates from plaintiff's MDL expert report of Dimitri Christakis.[99]

The limited use of screentime breaks and sleep reminders was a stark contrast to the 20-59% of users that reported to TikTok they wanted more screentime management tools[100] and 37% of users who TikTok determined were aware of the existence of screentime tools.[101] A plaintiffs' expert contends that this is by design. TikTok's suite of time management tools were not all turned on by default, and the expert report identified seven steps necessary to adjust the settings, showing significant friction in activating the tools.[102]

[97] Ibid. at paragraph 570.
[98] Ibid. at paragraph 567.
[99] Ibid. at paragraph 570, Table 6.
[100] Ibid. at paragraph 664. See also Expert Report of Anna Lembke at 76, *In Re: Social Media Cases*, No. 22STCV21355. Note Christakis's report says 20-43%, while Anna Lembke's report says 59%. This reference incorporates this full range.
[101] Expert Report of Drew P. Cingel at paragraph 224, *In Re: Social Media Cases*, No. 22STCV21355.
[102] Expert Report of Anna Lembke at 77-78, *In Re: Social Media Cases*, No. 22STCV21355.

Internal documents demonstrate that TikTok is tracking a range of granular data that is essential for understanding the effectiveness of mitigations related to screentime management. Internal data and studies related to adoption, effectiveness, and impact are all internally available and can help verify whether screentime tools as designed are in fact an effective mitigation for problematic use.

d. Take a Break

Within its screentime management tools, in 2022, TikTok also introduced prompts for minors to "take a break" from extended platform use.[103] Like the broader screentime tools, TikTok's internal data showed that these tools had minimal impacts in actually empowering users to control their use. Internal research from TikTok suggested the tool was ineffective, because of the "very low friction" which "allow[ed] users to easily skip past" the Take a Break video.[104] Indeed an undated internal study found that "91% of users watch less than 5 seconds of the [Take a Break] videos, so most people are not actually taking a break and reflecting on their screen time."[105] These tools are used by a tiny fraction of minor users. One internal document reported that just 0.62% of minor users had turned on take a break videos.[106] Figure 5, above, summarizes internal TikTok data of adoption rates of TikTok's screentime tools between January 2024 to January 2025, finding that just 1.4-1.5% of all users had adopted screentime breaks during this period.[107]

These internal documents similarly demonstrate how TikTok tracks impact. If TikTok describes Take a Break as core to its strategy to reduce risks of extended use, metrics related to adoption, effectiveness, and impact are necessary to determine whether the tool is fact effective for particular user groups.

e. Notifications

Notifications are a ubiquitous feature of current digital platforms.[108] TikTok's DSA risk assessment considers the role notifications may play in extended use, and the 2025 assessment describes how restrictions on push notifications for minor users are part of TikTok's strategy to prevent and mitigate online engagement risks.[109] TikTok provides other tools to restrict notifications, and beginning in 2023, TikTok started restricting push notifications for 13-15 year olds after 9pm and for 16-17 year olds after 10pm. TikTok also offers parents controls to mute push notifications.[110] TikTok does not have defaults in relation to push notifications during school hours.

US litigation focuses on the role of notifications in relation to risks to minors, including through extended use.[111] Internal TikTok documents released in litigation describe the goal of push

[103] TikTok, "Investing in Our Community's Digital Well-Being."
[104] Expert Report of Dr. Stuart Murray at paragraph 339, *In Re: Social Media Cases*, No. 22STCV21355.
[105] Ibid. at paragraph 339, footnote 417.
[106] Expert Report of Gary Goldfield at paragraph 434, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[107] Expert Report of Dimitri A. Christakis at paragraph 570, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[108] Radesky et al., *Constant Companion*.
[109] TikTok, *DSA Risk Assessment Report 2025*, 61.
[110] Keenan, "New Features for Teens and Families on TikTok."
[111] See generally Complaint, *Commonwealth of Kentucky et al.*, No. 24-CI-00824.

notifications as to "Activate & Engage users with the right content at the right time, to encourage users to open the App more and stay longer."[112] The internal document in Figure 6 spells out two specific goals for interest and ops pushes.[113]

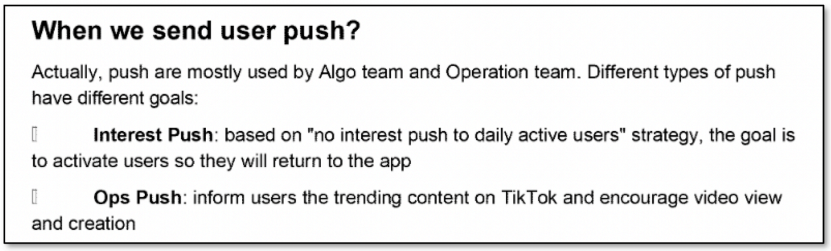

Figure 6. Internal TikTok description of push notification goals from plaintiff's MDL expert report of Dimitri Christakis.[114]

Unsurprisingly, internal documentation shows that TikTok evaluates the performance of notifications to maximize effectiveness in getting users to open the app and stay longer (see Figure 7).[115]

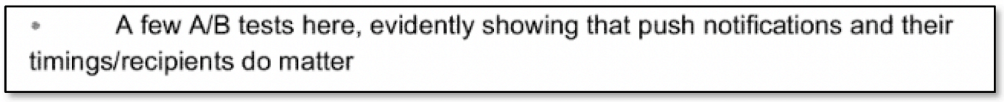

Figure 7. Internal TikTok reference to existing push notifications evaluations from plaintiff's MDL expert report of Dimitri Christakis.[116]

These tests purportedly track the impact of push notification restrictions in relation to the core "business metrics" for the platform – presumably time spent and user retention.[117] US litigation nor systemic risk assessment have included any findings from these tests nor the metrics of success. Such high-level findings, disaggregated by different user cohorts, would be critical for assessing the effectiveness of mitigation measures in this domain.

B. Facebook and Instagram

User experiences on Facebook and Instagram are shaped by a suite of algorithmic recommender systems that curate and suggest content, accounts, and interactions across feeds, Stories, Reels, Search, and account recommendation surfaces. Meta's 2025 systemic risk assessment considers recommender systems as cross-cutting "influencing factors" across identified risk areas, including

[112] Ibid. at paragraph 181; see also Expert Report of Gary Goldfield at paragraph 424, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[113] Expert Report of Dimitri A. Christakis at paragraph 240, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[114] Ibid. at paragraph 240.
[115] Ibid. at paragraph 240.
[116] Ibid. at paragraph 240.
[117] Plaintiffs' Corrected Omnibus Opposition to Defendants' Motions for Summary Judgment at 109, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR (PHK).

risks to minors and to mental and physical wellbeing.[118] Meta's assessment places significant emphasis on content-based risks, particularly harms associated with exposure to certain categories of user-generated content.[119] The assessment also considers a small selection of risks arising from platform design.[120]

1. Systemic Risk Assessment Mitigations

Meta's public risk assessment reports for Facebook and Instagram describe an "ecosystem of controls" to mitigate risks.[121] This section analyzes mitigation measures from Meta's 2025 risk assessments in relation to recommender systems (an "influencing factor" for risk)[122] and protection of minors.[123] The following table summarizes mitigations referenced by Meta in these two areas:

Select Risk Mitigation Measures	
Account-level Privacy Settings	Facebook and Instagram default users under the age of 16 into more private settings,[124] including default restricted location settings.[125]
Account Recommendations	Facebook deploys "specialized tooling" to "identify suspicious actors and take appropriate action" and allows users to block users or remove People You May Know account recommendations.[126] Instagram describes similar tools for their Accounts You May Follow recommendations.[127]
Ad Restrictions for Minors	Facebook and Instagram have minor-specific restrictions on ad targeting.[128]
Age Identification and Verification	Users should be 13 years old to use Facebook or Instagram.[129] Instagram and Facebook have specific teen accounts.[130]
Family Center and Screentime Tools	Facebook and Instagram enable customizable features, screentime insights,[131] and parental supervision tools through a Family Center.[132] While not referenced in Meta's DSA risk assessment, the platform also

[118] Meta, Systemic Risk Assessment and Mitigation Report for Facebook, 26.
[119] Ibid.
[120] Ibid.
[121] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 42.
[122] Ibid., 26-27.
[123] Ibid., 26-27.
[124] Meta, "Protecting Teens and Their Privacy on Facebook and Instagram."
[125] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 70; Meta, *Systemic Risk Assessment and Mitigation Report for Instagram*, 23.
[126] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 27.
[127] Meta, *Systemic Risk Assessment and Mitigation Report for Instagram*, 27.
[128] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 45; Meta, *Systemic Risk Assessment and Mitigation Report for Instagram*, 45.
[129] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 23; Meta, *Systemic Risk Assessment and Mitigation Report for Instagram*, 64.
[130] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 4; Meta, *Systemic Risk Assessment and Mitigation Report for Instagram*, 22.
[131] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 48.
[132] Meta, "Family Center"; Meta, *Systemic Risk Assessment and Mitigation Report for Instagram*, 58.

	offers tools for break reminders.[133]
Political Content Controls	Meta provides tools that enable users to adjust whether Facebook or Instagram recommends political content.[134]
Recommender System Mitigations	The DSA assessments reference multiple recommender system mitigations for users including: ● Recommendation Guidelines that prohibit content that violates Meta's Community Standards.[135] ● Meta states that it does not amplify low-quality, objectionable, or particularly sensitive content, even if it does not violate the Community Standards.[136] ● Meta limits shares for sensitive topics as well as visibility in search results.[137] ● Meta offers user controls in several of its recommender systems. ● Meta's Transparency Center includes recommender system model cards.[138]
User Reporting	Facebook and Instagram provide tools for users to report violating content.[139]

Meta's systemic risk assessments offer limited details assessing mitigation effectiveness. For example, Meta's reports include statistics related to orders against illegal content, namely that Meta received 502 "Authority Orders" related to illegal content.[140] In regards to protection of minors, Meta reports that in the first quarter of 2025, Facebook removed 4.6 million pieces of content for violating its Child Sexual Exploitation Policy, noting that almost 96% of removed content was surfaced through proactive detection.[141] Meta also reports that in the first quarter of 2025, Facebook removed 6.8 million pieces of content that violated its Suicide, Self-Injury, and Eating Disorder Community Standard, with 98.9% removed through proactive detection.[142]

How are users, the public, and regulators to interpret these numbers? Is 4.6 or 6.8 million pieces of content a lot or a little? How prevalent is this content? What are the downstream effects of this mitigation, and mitigations of other harms on these platforms? Instagram and Facebook are now each estimated to have more than 3 billion global monthly active users.[143] To understand how policies and mitigations are working, regulators, users, and the public need more data and information than is currently provided in the risk assessment reports.

[133] Meta, "Safety Center."
[134] Facebook, "About Political Content Control on Facebook"; Meta, *Systemic Risk Assessment and Mitigation Report for Instagram*, 26.
[135] Facebook, "About Recommendations on Facebook."
[136] Ibid.
[137] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 26-27.
[138] Meta, "Our Approach To Explaining Ranking."
[139] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 23; Meta, *Systemic Risk Assessment and Mitigation Report for Instagram*, 23.
[140] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 15.
[141] Ibid., 23.
[142] Ibid., 90.
[143] Vanian, "Instagram Now Has 3 Billion Monthly Active Users."

2. Insights from US Litigation

Documents released in US litigation speak to the mitigations Meta describes in its systemic risk assessment reports, including in relation to platform design, account recommendations, algorithmic recommendations, and broader safety features. As with TikTok, documents from US litigation primarily focus on US users. While the date and timing of internal studies mean that some statistics released in US litigation are from before Meta's adoption of particular mitigations or features, data released in litigation nonetheless provides insight into how Meta uses data to understand risk and the effectiveness of mitigations.

a. Who Uses Facebook and Instagram?

Meta releases limited public detail about who uses Facebook and Instagram, but recent documents produced in US litigation have provided further context, particularly with respect to minors. Internal materials indicate that Meta is aware that many of its users begin using Instagram in middle school, around ages 11-12.[144] Further company documentation suggests that Meta is aware that under-13 users routinely misrepresent their age to access Meta's platforms.[145] Meta internally estimated that millions of under-13 users are active on Instagram[146] and identified substantial usage among children ages 9-12 across both Facebook and Instagram.[147] Meta's own research further described "tweens" (approximately ages 10-12) as a uniquely valuable cohort, associated with the highest long-term retention of any age group.[148] Other internal materials reflect exploratory discussions of products and growth strategies involving users well below Meta's stated minimum age.[149] At the same time, internal documents suggest that Meta was aware of significant gaps in age assurance and enforcement, including incomplete age data[150] and limited mechanisms to prevent under-13 users from accessing the platforms.[151]

Internal documents also highlight a distinct pattern of intensive use among a small subset of users. One internal Instagram document describes the upper tail of usage, noting that on a given day, 0.1% of daily active people spend more than 6.83 hours on the platform, and that within a given month, 0.1% of monthly active people spent more than 127 total hours – averaging over 4.5 hours per day across the entire month.[152] While this represents a small share of users, it underscores the presence of a population of highly engaged *super-users* on Meta's platforms.

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[144] Plaintiffs' Corrected Omnibus Opposition to Defendants' Motions for Summary Judgment at 63, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR (PHK).
[145] Ibid. at 63.
[146] "[T]here were 4M people under 13 in 2015 on [Instagram]." Ibid. at 63.
[147] Ibid. at 63.
[148] "Tweens (approximately age 10 to 12) are special. People who join[] Facebook as tweens have the highest long-term retention out of all age groups." Ibid. at 64.
[149] Ibid. at 64-65.
[150] Ibid. at 65.
[151] Ibid. at 65.
[152] Tech and Society Lab at NYU Stern, "Exhibit 34."

b. How Are Minors Using Meta Platforms?

Documents produced in US litigation include granular data describing how minors use Facebook and Instagram. Although these internal statistics are not presented by Meta as part of a comprehensive public dataset, they provide insight into how youth engage with Meta's platforms and how risks associated with problematic use are identified internally (See Figure 8). These materials are particularly useful for understanding patterns of duration, timing, and intensity of use that are relevant to assessing risk and mitigation.[153]

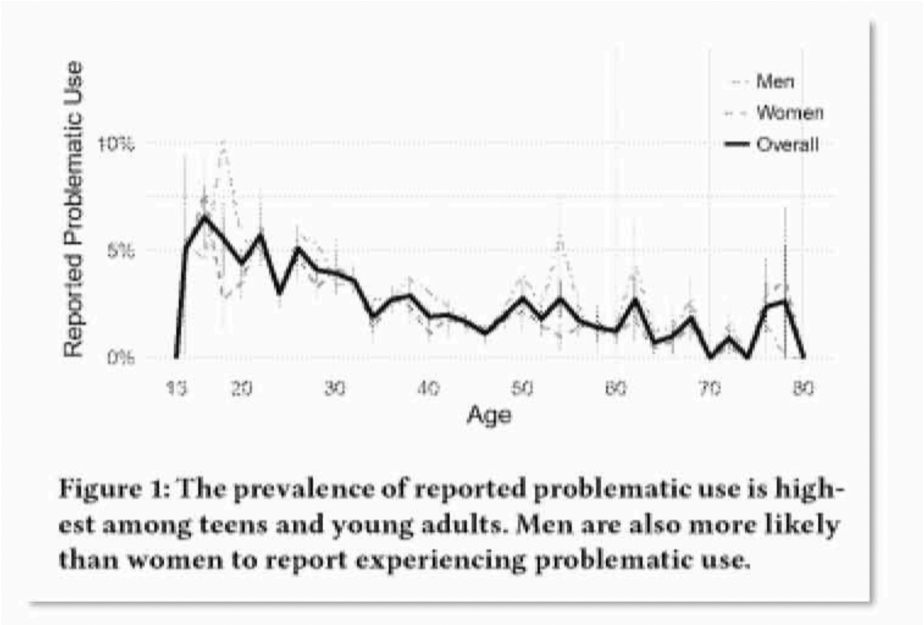

Figure 8. Internal Meta estimates of problematic use prevalence from plaintiff's MDL expert report of Dimitri Christakis.[154]

Plaintiffs' experts reviewed internal Meta research related to time spent, problematic use, and late-night engagement among teens.[155] Internal understanding of risk has not necessarily translated into product change, with one plaintiff's expert reviewing internal documentation suggesting that "Meta's awareness of 'Problematic Use' (aka social media addiction) is 'High,' while their 'Product investment' is 'Mid-Low.'"[156]

Internal studies show that minors' weekday use follows a distinct daily pattern, with usage peaking between 9pm and 12am,[157] a period associated with sleep disruption and reduced parental supervision. Internal Meta documents define late-night use as activity occurring between midnight and

[153] Plaintiffs' Corrected Omnibus Opposition to Defendants' Motions for Summary Judgment at 23, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR (PHK).
[154] Expert Report of Dimitri A. Christakis at paragraph 145, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR. Image quality reflects the original document.
[155] Expert Report of Anna Lembke at 38-47, *In Re: Social Media Cases*, No. 22STCV21355.
[156] Ibid. at 47.
[157] Tech and Society Lab at NYU Stern, "Exhibit 38."

4am and identify multiple behavioral proxies (described below) for problematic use during this window.[158]

Meta's internal documents describe that many users fall into Meta's definition of "problematic use." One internal Instagram presentation found that 11.7% US teen users – approximately 1.5 million people – exhibited at least one late night problematic use behavioral proxy.[159] These proxies included repeated short sessions, rapid session restarting, frequent notification checking, and product switching.[160] Meta documents further suggest that more than 12% of global Facebook users self-report problematic use.[161] The Instagram presentation found that 33% of teen sessions between 12am and 4am were triggered by a notification,[162] and that 26% of minor users during this period received and clicked notifications after midnight.[163] These findings highlight the role of notifications in sustaining overnight engagement.

Internal Meta research also documents high intensity use, especially among minors. An internal Instagram study details the number of US users spending more than four hours per day on the platform, showing that hundreds of thousands of teen users fall into the 4-5 hour and 5+ hour daily use categories.[164] As shown in Figure 9, below, millions of teens spend substantial time per week on Instagram. While undated, Figure 9 reveals that more than a million US teens spend 14-21 hours, nearly 430,000 US teens spend 21-28 hours, and 407,000 US teens spend more than 28 hours per week on Instagram.[165]

[158] Trial Report of Mitch Prinstein at paragraph 53, *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, No. 4:22-md-03047-YGR (Northern District of California December 11, 2025), https://storage.courtlistener.com/recap/gov.uscourts.cand.401490/gov.uscourts.cand.401490.2537.2.pdf.
[159] Ibid. at paragraph 53.
[160] Ibid. at paragraph 53.
[161] Ibid. at paragraph 53.
[162] Ibid. at paragraph 53.
[163] Ibid. at paragraph 53.
[164] Tech and Society Lab at NYU Stern, "Exhibit 34."
[165] Expert Report of Dimitri A. Christakis at paragraph 136, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.

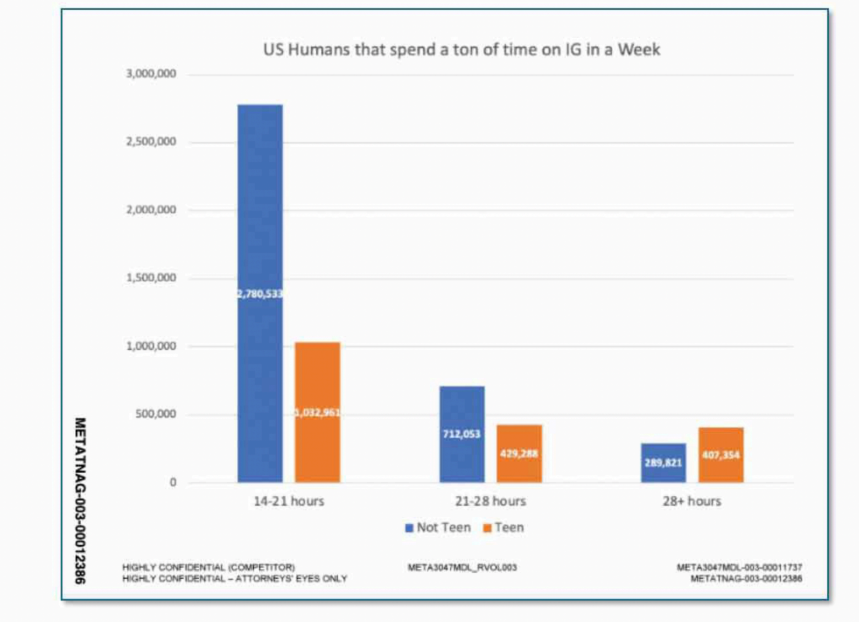

Figure 9. Internal Meta overview of US Instagram use from plaintiff's MDL expert report of Dimitri Christakis.[166]

Meta's internal estimates of problematic use, as defined by the company itself, show that its youngest users are at greatest risk.[167] Internal figures illustrate that the prevalence of problematic use is highest among teens and young adults and declines with age (See Figure 8). Meta internally categorizes "Types of Problematic Use" across multiple dimensions, including: sleep disruption, fear of missing out, diminished control over time spent, impacts on productivity and relationships, and overall negative life impact.[168]

Taken together, these materials show that Meta tracks detailed patterns of engagement, including when minors use the platform, how long they use it, and how these patterns vary by age. These patterns provide important context for evaluating the effectiveness of Meta's mitigations, discussed in the following section.

3. Are Meta's Mitigations Effective?

Meta captures significant data related to risk and mitigations. Documents released in US litigation demonstrate how Meta could more effectively communicate with users, the public, and regulators regarding risks and the ways specific product features contribute to, or mitigate, this risk. This section reviews data and documents from US litigation that is relevant to select mitigations from Meta's DSA risk assessment reports. Specifically, this section examines US litigation evidence related to account recommendations, family center and screentime tools, notifications, and Meta's recommender system mitigations.

[166] Ibid. at paragraph 145.
[167] Ibid.
[168] Ibid. at paragraphs 141-142.

a. Account Recommendations

Instagram and Facebook both proactively recommend accounts to users. Facebook and Instagram's DSA risk assessments state that these features could "connect bad actors to minors."[169] To mitigate these risks, both Facebook and Instagram's reports describe how the company deploys "specialized tooling" to "identify suspicious actors and take appropriate action" while also allowing users to block users or remove Facebook's People You May Know[170] (PYMK) and Instagram's Accounts You May Follow (AYMF) recommendations.[171] Previously, in 2022, Meta also announced that minors would not be included in the PYMK recommendations.[172]

Documents from US litigation are relevant in demonstrating how Meta's product designs connect to risk. These documents provide evidence that Meta has historically connected minors and unknown adults, including many adults intent on targeting minors. Plaintiffs cite internal Instagram statistics which purportedly show that in 2023 the AYMF product feature recommended adult groomers to nearly 2 million minors in just 3 months, and that 22% of the AYMF recommendations resulted in a follow request.[173] This would mean that nearly half a million requests were made by minors to follow adult groomers in a period of just 3 months because Meta recommended the specific adult groomer accounts. A further internal audit from 2022 revealed that over the course of just one day the AYMF feature recommended to minor users 1.4 million adult accounts suspected to have had inappropriate interactions with children.[174]

Company documents suggest that Facebook's PYMK feature is also purportedly a source of risk. Internal documents from 2023 suggest that Facebook was aware that PYMK was "recommending minors to potentially suspicious adults and vice versa."[175] An internal report further suggests that PYMK was "responsible for 80% of [all] violating adult/minor connection" on the platform.[176] In addition to these statistics, plaintiffs' filings describe internal Meta deliberations as to the risks of minor account visibility and the potential "growth and engagement knock-on effects" of adopting more private default settings.[177] Specific business risks included "friending losses" and "engagement declines."[178]

Meta's DSA risk assessment report has a section devoted to Child Sexual Exploitation, Abuse, and Nudity which highlights Meta's policies related to this problem area.[179] The documents released in US

[169] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 27; Meta, *Systemic Risk Assessment and Mitigation Report for Instagram*, 27.
[170] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 27.
[171] Meta, *Systemic Risk Assessment and Mitigation Report for Instagram*, 27.
[172] Meta, "Protecting Teens and Their Privacy on Facebook and Instagram."
[173] Plaintiffs' Corrected Omnibus Opposition to Defendants' Motions for Summary Judgment at 53, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR (PHK).
[174] Ibid.
[175] Ibid.
[176] Ibid. at 54.
[177] Ibid. at 57.
[178] Ibid.
[179] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 71; Meta, *Systemic Risk Assessment and Mitigation Report for Instagram*, 72.

litigation and referenced above underscore the degree to which Meta's own design may contribute to risk in these areas. Specific metrics related to proactive recommendations, as detailed for AYMF and PYMK, are critical for understanding the prevalence of risk and the effectiveness of Meta's mitigations.

b. Family Center and Screentime Controls

Meta's DSA risk assessments highlight Family Center as a way for parents to customize features, view minor screentime habits, and exert parental supervision on Facebook and Instagram.[180] The assessments do not provide insight as to the adoption rates or impact of these tools.

Discovery in US litigation provides relevant data points. One expert cites statements from Meta that as of March 24, 2025, only 0.38% of youth users "predicted to reside in the U.S. [sic] were enrolled in Supervision through Family Center on Instagram."[181] Plaintiffs' experts cite internal statistics as to Facebook as well, finding that only 0.15% of minors are enrolled in parental supervision tools.[182] Further documents reveal that Meta reported that just 0.0038% of Instagram users had adopted parental controls as of March 2025,[183] but the document does not specify the percentage of parents or minors enrolled.

According to US plaintiffs, these levels of adoption are by design. Meta introduced friction by requiring those with parental responsibility and minors to proactively navigate several steps to opt into the insights and controls.[184] Litigation also suggests Meta supported efforts that allowed minors to circumvent the Family Center through increasing access to "Finsta" or fake Instagram.[185] The platform provided options for teens to create fake profiles and "use the multi-account switcher" which could circumvent parental controls on their primary account.[186]

While Meta's DSA risk assessments do not reference its tools for users to set reminders to take a break from the platform,[187] the efficacy of such tools in managing problematic use features in US litigation. Like the features in Family Center, Meta's Take a Break tool was an opt-in feature. Internal documents reveal that Meta assessed the opt-in feature as likely having no "ecosystem impact" on user time spent, revenue, or impressions on Stories.[188] Leading up to launch, Meta predicted that 99%

[180] Meta, "Family Center"; Meta, *Systemic Risk Assessment and Mitigation Report for Instagram*, 58.
[181] Expert Report of Dimitri A. Christakis at paragraph 627, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[182] Plaintiffs' Corrected Omnibus Opposition to Defendants' Motions for Summary Judgment at 66-67, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR (PHK).
[183] Expert Report of Dimitri A. Christakis at paragraph 572, table 8, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[184] Plaintiffs' Corrected Omnibus Opposition to Defendants' Motions for Summary Judgment at 66, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR (PHK).
[185] Expert Report of Dimitri A. Christakis at paragraph 625, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[186] Ibid. at 626.
[187] Meta, "Safety Center."
[188] Plaintiffs' Corrected Omnibus Opposition to Defendants' Motions for Summary Judgment at 45, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR (PHK).

of teens would not use the feature, which was largely correct, with only 0.4% opting to activate the feature.[189]

This stands in stark contrast to Meta's own research on the risks their users' experience. A survey of Instagram users in 9 countries found that 38% of respondents "feel they have spent more [time] than they've liked on Instagram."[190] Nearly 20% reported that "they have a problem controlling their time."[191] An internal survey of American and British Instagram users reported that "the amount of time they spend on Instagram as one of the 'worst' aspects of their relationship to the app."[192] Another internal survey of Instagram users in the US, Japan, Brazil, Indonesia, Turkey, and India found that problematic use was a priority concern for both teen boys and girls:[193]

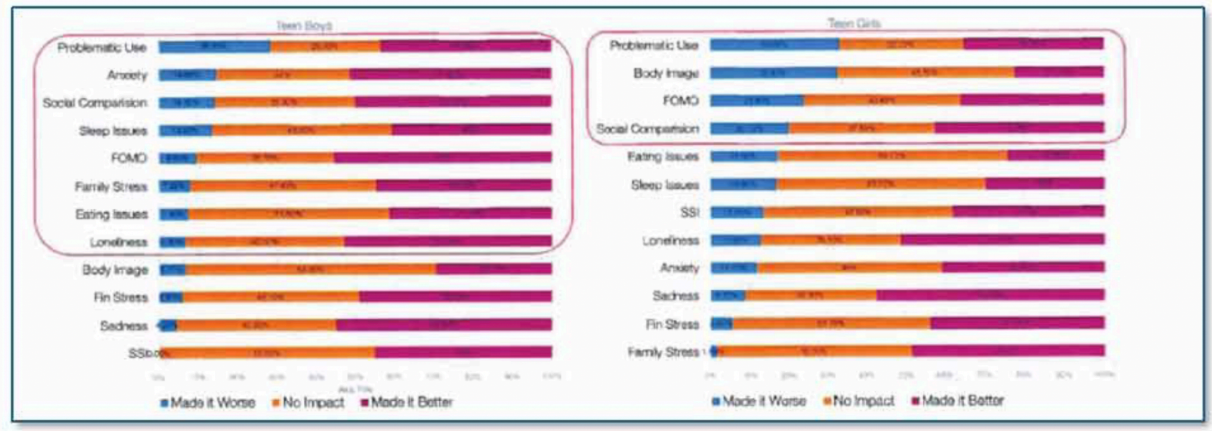

Figure 10. Internal findings from Meta 6 country survey from plaintiff's MDL expert report of Dimitri Christakis.[194]

Internal documents demonstrate how Meta is tracking the efficacy of its parental and screentime tools through behavioral data as well as surveys. Meta maintains specific and granular data related to adoption and impact. These data are central for any meaningful assessment of whether parental and screentime tools are in fact effective at mitigating specific risks.

c. Notifications

Meta's systemic risk assessments do not include a focus on whether notifications could link to extended or problematic use. Academic and civil society research, however, connects notifications to extended use.[195] And other platform systemic risk assessments, including TikTok, discuss the risks of extended use that could arise from notifiactions.[196]

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[189] Ibid. at 45.
[190] Trial Report of Mitch Prinstein at paragraph 38, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[191] Ibid. at paragraph 38.
[192] Ibid. at paragraph 39.
[193] Expert Report of Dimitri A. Christakis at paragraph 67, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[194] Ibid. at paragraph 67. Image quality reflects the original document.
[195] Radesky et al., *Constant Companion*.
[196] TikTok, *DSA Risk Assessment Report 2025*, 61.

Documents released in litigation reveal that notifications are intertwined with Instagram's strategies to increase or maintain usage. Instagram's monitoring of the "success rate" of notifications finds that minors in particular are susceptible to push notifications:

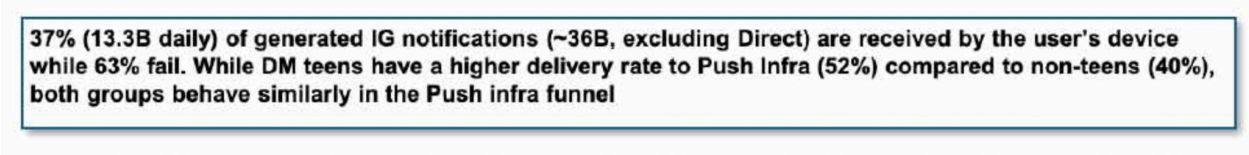

Figure 11. Internal Meta findings from Instagram notification studies from plaintiff's MDL expert report of Dimitri Christakis.[197]

US litigation includes a focus on the role of notifications, particularly in relation to overnight use. A plaintiffs' expert report cites an internal Instagram presentation focused on "Late Night Use," defined as use between 12-4am.[198] The presentation stated that approximately 1.5 million US teen users, or 11.7% of teen users, exhibit one problematic use behavioral proxy, defined as:

> "1. No-engagement late night session; 2. Late night high-volume product switching; 3. No-engagement repeat sessions (Less than 10 min from end of prior session); 4. High volume of short sessions (< 15 sec); 5. High Frequency notifications checking."[199]

When combined with overall nighttime use, the internal presentation estimates "that 18.3% of IG [Instagram] teen users exhibit behavior associated with problematic use."[200] The presentation further highlights the role of notifications, stating that 33% of all minor sessions between 12-4am start with a notification,[201] and more than a quarter of minor users between 12-4am receive and click on notifications after midnight.[202]

Such internal data offers a glimpse into how users, the public, and regulators could understand whether notifications are raising specific risks to minors and, if so, how Meta's mitigations address risks.

d. Recommender System Mitigations

Meta's assessments reference multiple mitigations to address potential risks associated with Facebook and Instagram's recommender systems. Approaches include Recommendation Guidelines that call for removing content that violates Meta's Community Standards, steps to reduce the spread of problematic content that does not violate the Community Standards, and tools for providing context

[197] Expert Report of Dimitri A. Christakis at paragraph 201, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[198] Trial Report of Mitch Prinstein at paragraph 53, footnote 85, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.
[199] Ibid. at paragraph 53, footnote 85.
[200] Ibid. at paragraph 53, footnote 85.
[201] Ibid. at paragraph 53.
[202] Ibid. at paragraph 53.

to users.[203] This includes limiting shares for sensitive topics as well as visibility in search results.[204] Meta offers some users with options to influence several recommender systems, including Most Recent, Favorites, Feed, and Content Controls. Meta's Transparency Center includes recommender system cards.[205]

Materials released in US litigation provide granular detail related to the design of Meta's algorithmic recommender systems. Documents reveal that these systems are primarily focused on maximizing user engagement.[206] Documents referenced by the plaintiffs explicitly connect algorithmic design to risks of extended use and addition. Plaintiffs point to internal communications suggesting that the "advanced forms of AI that Facebook were using … to optimize for engagement" raised the "risk that that might supercharge problems of addiction."[207] Meta's DSA risk assessments are, however, largely silent on engagement optimization when considering physical and mental health risks for minors.

Internal documents suggest that the design of Meta's recommender system may be a source of risk. One internal Meta document referenced by plaintiffs notes that engagement-optimization "very frequently creates/exacerbates integrity problems."[208] Meta reportedly treats signals for increasing engagement as more important than what "users like, want, or value."[209] One document states "even Mark [Zuckerberg] himself has suggested that the anger reaction is a reasonable way to express that you don't like a piece of content, even as we count it as 4x more important as a less ambiguous 'like' for giving you more such content."[210]

Internal documents suggest that algorithmic risks are amplified for minor users. Plaintiffs cite technical documentation revealing that "changes to ranking algorithm [sic] [were] allowed to regress safety by 0.24% for Teens but only 0.1% for the general population."[211] Taken on its face, this would mean the company has or had a greater tolerance for maintaining algorithmic changes that reduce teen safety as compared to the safety of the full user base. One internal presentation revealed minors were exposed to greater risks stating that "Bullying and Harassment (B&H), Suicide and Self Injury (SSI), and Violence and Incitement (V&I)…are all >2x higher prevalence for teens than the average user."[212]

Meta also points to user controls for several recommender systems as a core risk mitigation strategy.[213] This includes the "Not Interested" feature that was launched by Instagram in January 2023 which allows for users to communicate to Instagram content they do not wish to see across several

[203] Facebook, "About Recommendations on Facebook."
[204] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 26-27.
[205] Meta, "Our Approach To Explaining Ranking."
[206] Plaintiffs' Corrected Omnibus Opposition to Defendants' Motions for Summary Judgment at 37, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR (PHK).
[207] Ibid.
[208] Ibid. at 38.
[209] Ibid.
[210] Ibid.
[211] Ibid. at 42.
[212] Ibid. at 38.
[213] Meta, *Systemic Risk Assessment and Mitigation Report for Facebook*, 27.

surfaces.[214] Internal data released in litigation, however, shows that users do not regularly use this risk mitigation tool. Indeed, from November 2023 to April 2024, Meta reported that just 0.029% of users used this feature.[215]

Internal documents released in US litigation give an indication of how Meta is tracking the performance of its recommender systems, including through behavioral data as well as user surveys. This data is central for assessing the risks raised by recommender systems as well as designs that promote effective risk mitigations.

IV. Towards Risk Assessment and Mitigation Grounded in Evidence and Data

The evidence emerging from DSA systemic risk assessments and US platform litigation underscores a central gap in current approaches to platform governance: risks are increasingly well-described, but mitigations are rarely communicated using rigorous, outcome-oriented data and evidence.

While the DSA has created an obligation for platforms to identify and mitigate systemic risks, the first two years of risk assessments show that companies continue to rely heavily on high-level descriptions of policies, tools, and user controls. Assessments provide extremely limited detail into whether any of these interventions meaningfully reduce harm, particularly for minors. In short, they communicate stated policies, but they do not assess. By contrast, US litigation is surfacing previously unreleased internal platform data, experiments, and deliberations that reveal how platforms internally measure risk and define acceptable trade-offs related to risk, engagement, and revenue. But US litigation is largely reactive and limited to the facts of each specific case.

This divergence points to a clear opportunity. Risk mitigation requires more than merely the existence of safety features. Effective mitigation requires clearly defined metrics and evaluation methods capable of understanding change over time. Internal documents released through US litigation show that platforms possess the data and technical capacity to conduct such analyses. Indeed, platforms are already evaluating their product decisions in these ways. Yet such evidence is almost entirely absent from public-facing communications, including DSA risk assessments or safety communications in the US market. This inhibits the ability of users, parents, the public, researchers, and regulators from actually understanding whether platforms and their mitigations present benefits with acceptable risks.

Addressing this gap will require aligning platform expectations with rigorous research and evaluation. Systemic risk assessments in the EU should move beyond descriptive inventories of mitigations toward transparent, metrics-driven statements of risk and mitigation effectiveness. While insights

[214] Meta, “Instagram Sleep Mode.”
[215] Expert Report of Dimitri A. Christakis at paragraph 572, table 8, *In Re: Social Media Adolescent Addiction*, No. 4:22-md-03047-YGR.

generated through litigation are still emerging and incomplete, they highlight the types of data, methods, and benchmarks that should inform more credible, forward-looking platform governance. US litigation can continue to be a source of evidence and accountability for users, parents, and the public.

Grounding risk assessment and mitigation in evidence and data is essential for ensuring that platforms meaningfully reduce risk of harm, rather than merely documenting corporate policies or intent.

Appendix A. Relevant Legal Documents

[External] Digital Wellbeing Product Strategy, *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, https://storage.courtlistener.com/recap/gov.uscourts.cand.401490/gov.uscourts.cand.401490.2650.36.pdf.

Complaint, *Commonwealth of Kentucky et al. v. TokTok Inc. et al.*, https://www.dropbox.com/scl/fi/sfxbtc79imdvm4nmnjcnz/tiktok.kentuckyAG.unredacted.complete.ANNOTATED-edited.pdf.

Complaint, *State of Alabama et al. v. TikTok et al*., https://www.alabamaag.gov/wp-content/uploads/2025/04/2-Complaint.pdf.

Complaint and Jury Demand, *Commonwealth of Massachusetts v. TikTok Inc. et al*., https://www.mass.gov/doc/tiktok-complaint-unredacted/download.

Complaint for Wrongful Death and Survivorship, and for Violations of the California Unfair Competition Law, Business and Professional Code §§ 17200 et seq., *Rodriguez v. Meta Platforms Inc. et al*., https://socialmediavictims.org/wp-content/uploads/2022/01/Rodriguez-Complaint-FINAL-1_21_22.pdf.

Defendants' Notice of Lesser-Redacted Filing Regarding General Causation *Sargon* Motions, *In Re: Social Media Cases*, on file with authors and available at https://www.lacourt.ca.gov/home.

Document 14, *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, https://storage.courtlistener.com/recap/gov.uscourts.cand.401490/gov.uscourts.cand.401490.2534.17.pdf.

Expert Report of Anna Lembke, *In Re: Social Media Cases*, on file with authors and available at https://www.lacourt.ca.gov/home.

Expert Report of Dimitri A. Christakis, *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, https://storage.courtlistener.com/recap/gov.uscourts.cand.401490/gov.uscourts.cand.401490.2534.17.pdf.

Expert Report of Dr. Randy Aurebach, *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, https://storage.courtlistener.com/recap/gov.uscourts.cand.401490/gov.uscourts.cand.401490.2537.7.pdf.

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Expert Report of Drew P. Cingel, *In Re: Social Media Cases*, on file with authors and available at https://www.lacourt.ca.gov/home.

Expert Report of Gary Goldfield, *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, https://storage.courtlistener.com/recap/gov.uscourts.cand.401490/gov.uscourts.cand.401490.2536.3.pdf.

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Plaintiffs' Corrected Omnibus Opposition to Defendants' Motions for Summary Judgment, *In Re: Social Media Adolescent Addiction/Personal Injury Products Liability Litigation*, https://storage.courtlistener.com/recap/gov.uscourts.cand.401490/gov.uscourts.cand.401490.2480.0_1.pdf.

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