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11 UNITED STATES DISTRICT COURT
12 DISTRICT OF OREGON
13 EUGENE DIVISION

14 GERVAIS SCHOOL DISTRICT 1,

15 Plaintiff,

16 v.

17 META PLATFORMS, INC., FACEBOOK
18 HOLDINGS, LLC, FACEBOOK OPERATIONS,
19 LLC, META PAYMENTS INC., META
20 PLATFORMS TECHNOLOGIES, LLC,
21 INSTAGRAM, LLC, SICULUS, INC., SNAP
22 INC., TIKTOK INC., BYTEDANCE INC.,
23 ALPHABET INC., GOOGLE LLC, XXVI
24 HOLDINGS INC., and YOUTUBE, LLC,

25 Defendants.

No.

COMPLAINT

DEMAND FOR JURY TRIAL

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I. INTRODUCTION

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2 1. Meta Platforms, Inc., Facebook Holdings, LLC, Facebook Operations, LLC, Meta
3 Payments Inc., Meta Platforms Technologies LLC, Instagram, LLC, Siculus, Inc., Snap Inc.,
4 TikTok Inc., ByteDance Inc., Alphabet Inc., Google LLC, XXVI Holdings Inc., and YouTube,
5 LLC (collectively, “**Defendants**”) design, market, promote, and operate social media platforms.
6 Over the past decade, each has grown their respective platforms exponentially, from millions to
7 billions of users. And Defendants have grown not just their user bases, but the frequency with
8 which users use their platforms and the time each user spends on their platforms. Defendants’
9 growth is a product of choices they made to design and operate their platforms in ways that
10 exploit the psychology and neurophysiology of their users into spending more and more time on
11 their platforms. These techniques are both particularly effective and harmful to the youth
12 audience Defendants have intentionally cultivated, creating a mental health crisis among
13 America’s youth.

14 2. Defendants have done so for profit. Their business models are based on
15 advertisements. The more time users spend on their platforms, the more ads Defendants can sell.

16 3. Youth are central to Defendants’ business models. Youth are more likely to have
17 a phone, to use social media, and to have downtime to spend on Defendants’ social media
18 platforms. Plus, youth influence the behavior of their parents and younger siblings. As one
19 Defendant put it, “los[ing] the teen foothold in the U.S.[.]” would mean “los[ing] the pipeline”
20 for growth.¹

21 4. Defendants have maximized the time users—particularly youth—spend on their
22 platforms by purposely designing, refining, and operating them to exploit the neurophysiology of
23 the brain’s reward systems to keep users coming back, coming back frequently, and staying on
24 the respective platforms for as long as possible.

25 5. Youth are particularly susceptible to Defendants’ manipulative conduct because
26

27 ¹ Sheera Frenkel *et al.*, *Instagram Struggles with Fears of Losing Its ‘Pipeline’: Young Users*,
28 N.Y. Times (Oct. 26, 2021), <https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

1 their brains are not fully developed, and they consequently lack the same emotional maturity,
2 impulse control, and psychological resiliency as other more mature users.

3 6. Defendants have successfully exploited the vulnerable brains of youth, hooking
4 tens of millions of students across the country into positive feedback loops of excessive use and
5 abuse of Defendants' social media platforms. Worse, the content Defendants curate and direct to
6 youth is too often harmful and exploitive (e.g., promoting a "corpse bride" diet, eating 300
7 calories a day, or encouraging self-harm).

8 7. Defendants' misconduct has been a substantial factor in causing a youth mental
9 health crisis, which has been marked by higher and higher proportions of youth struggling with
10 anxiety, depression, thoughts of self-harm, and suicidal ideation. The rates at which children
11 have struggled with mental health issues have climbed steadily since 2010 and by 2018 made
12 suicide the second-leading cause of death for youth. The pandemic and the corresponding
13 increase in time youth spend on Defendants' platforms has only intensified this crisis.

14 8. The state of children's mental health led the American Academy of Pediatrics, the
15 American Academy of Child and Adolescent Psychiatry, and the Children's Hospital Association
16 to declare a national emergency, and the U.S. Surgeon General to issue an advisory "to highlight
17 the urgent need to address the nation's youth mental health crisis."²

18 9. In his 2022 State of the Union Address, President Joe Biden also called attention
19 to the harm social media has wrought on youth and implored all to "hold social media platforms
20 accountable for the national experiment they're conducting on our children for profit."³

21 10. Plaintiff Gervais School District 1 ("**Plaintiff**" or "**Gervais School District**")
22 brings this action to do just that. Youth in Plaintiff's community are experiencing the same
23

24 ² AAP-AACAP-CHA Declaration of a National Emergency in Child and Adolescent Mental
25 Health, Am. Acad. Pediatrics (Oct. 19, 2021), <https://www.aap.org/en/advocacy/child-and-adolescent-healthy-mental-development/aap-aacap-cha-declaration-of-a-national-emergency-in-child-and-adolescent-mental-health/>; U.S. Surgeon General Issues Advisory on Youth Mental
26 Health Crisis Further Exposed by COVID-19 Pandemic, U.S. Dep't Health & Hum. Servs.
27 (Dec. 7, 2021), <https://www.hhs.gov/about/news/2021/12/07/us-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic.html>.

28 ³ President Biden, State of the Union Address (Mar. 1, 2022) (transcript available at <https://www.whitehouse.gov/state-of-the-union-2022/>).

1 mental health crisis observed nationally.

2 11. Students experiencing anxiety, depression, and other mental health issues perform
3 worse in school, are less likely to attend school, more likely to engage in substance use, and to
4 act out, all of which directly affects Plaintiff's ability to fulfill its educational mission.

5 12. That is why Plaintiff, like 96 percent of other schools, provides mental health
6 services to its students. For example, Plaintiff trains its teachers and staff to screen students for
7 mental health symptoms and refer them to services. Plaintiff needs a comprehensive, long-term
8 plan and funding to drive a sustained reduction in the record rates of anxiety, depression, suicidal
9 ideation, and other tragic indices of the mental health crisis its youth are experiencing at
10 Defendants' hands.

11 13. As aptly summarized by U.S. Senator Ron Wyden from Oregon, "[s]tudents,
12 teachers and counselors across Oregon tell me just how crucial school-based mental health
13 services are to young people facing challenges at home and in the classroom—but these services
14 are stretched to the breaking point."⁴ Plaintiff, like many school districts across the state and
15 country, is at a breaking point. Meanwhile, Defendants profit tremendously from their wrongful
16 conduct. To remedy this wrong and hold Defendants accountable, Plaintiff brings this action.

17 **II. JURISDICTION AND VENUE**

18 14. This Court has subject-matter jurisdiction over this case under 28 U.S.C.
19 § 1332(a) because the amount in controversy exceeds \$75,000, and Plaintiff and Defendants are
20 residents and citizens of different states.

21 15. The Court has personal jurisdiction over Defendants because they do business in
22 the District of Oregon and have sufficient minimum contacts with the District. Defendants
23 intentionally avail themselves of the markets in this State through the promotion, marketing, and
24 operations of their platforms at issue in this lawsuit in Oregon, and by retaining the profits and
25 proceeds from these activities, to render the exercise of jurisdiction by this Court permissible

26
27 ⁴ *Wyden, Merkley: Nearly \$20 Million to Oregon School Districts to Hire More Mental Health*
28 *Providers*, Office of Senator Ron Wyden (Jan. 6, 2023),
<https://www.wyden.senate.gov/news/press-releases/wyden-merkley-nearly-20-million-to-oregon-school-districts-to-hire-more-mental-health-providers>.

1 under Oregon law and the United States Constitution.

2 16. Venue is proper in the District of Oregon pursuant to 28 U.S.C. § 1391(b)(2) and
3 (3) because a substantial part of the events or omissions giving rise to the claims at issue in this
4 Complaint arose in this District and Defendants are subject to the Court’s personal jurisdiction
5 with respect to this action.

6 **III. PARTIES**

7 **A. Plaintiff**

8 17. Plaintiff Gervais School District 1 is a school district located in Marion County,
9 Oregon. Gervais School District serves approximately 1,500 students at four schools, consisting
10 of one elementary school, one middle school, one high school, and one K-12 online charter
11 school.

12 **B. Facebook and Instagram Defendants**

13 18. Defendant Meta Platforms, Inc. (“**Meta**”), formerly known as Facebook, Inc., is a
14 Delaware corporation with its principal place of business in Menlo Park, California.

15 19. Defendant Meta develops and maintains social media platforms, communication
16 platforms, and electronic devices that are widely available to users throughout the United States.
17 The platforms developed and maintained by Meta include Facebook (including its self-titled app,
18 Marketplace, and Workplace), Messenger (including Messenger Kids), Instagram, and a line of
19 electronic virtual reality devices and services called Meta Quest (collectively, “**Meta**
20 **platforms**”).

21 20. Meta transacts or has transacted business in this District and throughout the
22 United States. At all times material to this Complaint, acting alone or in concert with its
23 subsidiaries (identified below), Meta has advertised, marketed, and distributed the Meta
24 platforms to consumers throughout the United States. At all times material to this Complaint,
25 Meta formulated, directed, controlled, had the authority to control, or participated in the acts and
26 practices set forth in this Complaint.

27 21. Defendant Meta’s subsidiaries include Facebook Holdings, LLC; Facebook
28 Operations, LLC; Meta Payments Inc.; Meta Platforms Technologies LLC; Instagram, LLC; and

1 Siculus, Inc.

2 22. Defendant Facebook Holdings, LLC (“**Facebook Holdings**”) was organized
3 under the laws of the state of Delaware on March 11, 2020, and is a wholly owned subsidiary of
4 Meta Platforms, Inc. Facebook Holdings is primarily a holding company for entities involved in
5 Meta’s supporting and international endeavors, and its principal place of business is in Menlo
6 Park, California. Defendant Meta is the sole member of Facebook Holdings.

7 23. Defendant Facebook Operations, LLC (“**Facebook Operations**”) was organized
8 under the laws of the state of Delaware on January 8, 2012, and is a wholly owned subsidiary of
9 Meta Platforms, Inc. The principal place of business of Facebook Operations is in Menlo Park,
10 California. Defendant Meta is the sole member of Facebook Operations.

11 24. Defendant Meta Payments Inc. (“**Meta Payments**”) was incorporated in Florida
12 on December 10, 2010, as Facebook Payments Inc. In July 2022, the entity’s name was amended
13 to Meta Payments Inc. Meta Payments is a wholly owned subsidiary of Meta Platforms, Inc.
14 Meta Payments manages, secures, and processes payments made through Meta, among other
15 activities, and its principal place of business is in Menlo Park, California.

16 25. Defendant Meta Platforms Technologies, LLC (“**Meta Technologies**”) was
17 organized under the laws of the state of Delaware as “Oculus VR, LLC” on March 21, 2014, and
18 acquired by Meta on March 25, 2014. In November 2018, the entity’s name was amended to
19 Facebook Technologies, LLC. In June 2022, the entity’s name was amended again, this time to
20 Meta Platforms Technologies, LLC. Meta Technologies develops Meta’s virtual and augmented
21 reality technology, such as the Meta Quest line of services, among other technologies related to
22 Meta’s platforms, and its principal place of business is in Menlo Park, California. Defendant
23 Meta is the sole member of Meta Technologies.

24 26. Defendant Instagram, LLC (“**Instagram**”) was founded by Kevin Systrom and
25 Mike Krieger in October 2010 and is a social media platform designed for photo and video
26 sharing. In April 2012, Meta purchased the company for approximately \$1 billion. Meta
27 reformed the limited liability company under the laws of the state of Delaware on April 7, 2012,
28 and the company’s principal place of business is in Menlo Park, California. Defendant Meta is

1 the sole member of Instagram.

2 27. Defendant Siculus, Inc. (“**Siculus**”) was incorporated in Delaware on October 19,
3 2011. Siculus is a wholly owned subsidiary of Meta, which supports Meta platforms by
4 constructing data facilities and other projects. Siculus’s principal place of business is in
5 Menlo Park, California.

6 **C. Snap Defendant**

7 28. Defendant Snap Inc. (“**Snap**”) is a Delaware corporation with its principal place
8 of business in Santa Monica, California. Snap transacts or has transacted business in this District
9 and throughout the United States. At all times material to this Complaint, acting alone or in
10 concert with others, Snap has advertised, marketed, and distributed the Snapchat social media
11 platform to consumers throughout the United States. At all times material to this Complaint,
12 Snap formulated, directed, controlled, had the authority to control, or participated in the acts and
13 practices set forth in this Complaint.

14 **D. TikTok Defendants**

15 29. Defendant TikTok Inc. was incorporated in California on April 30, 2015, with its
16 principal place of business in Culver City, California. TikTok Inc. transacts or has transacted
17 business in this District and throughout the United States. At all times material to this Complaint,
18 acting alone or in concert with others, TikTok Inc. has advertised, marketed, and distributed the
19 TikTok social media platform to consumers throughout the United States. At all times material to
20 this Complaint, acting alone or in concert with ByteDance Inc., TikTok Inc. formulated, directed,
21 controlled, had the authority to control, or participated in the acts and practices set forth in this
22 Complaint.

23 30. Defendant ByteDance Inc. (“**ByteDance**”) is a Delaware corporation with its
24 principal place of business in Mountain View, California. ByteDance transacts or has transacted
25 business in this District and throughout the United States. At all times material to this Complaint,
26 acting alone or in concert with others, ByteDance has advertised, marketed, and distributed the
27 TikTok social media platform to consumers throughout the United States. At all times material to
28 this Complaint, acting alone or in concert with TikTok Inc., ByteDance formulated, directed,

1 controlled, had the authority to control, or participated in the acts and practices set forth in this
2 Complaint.

3 **E. YouTube Defendants**

4 31. Defendant Alphabet Inc. is a Delaware corporation with its principal place of
5 business in Mountain View, California. Alphabet Inc. is the sole stockholder of XXVI Holdings
6 Inc.

7 32. Defendant XXVI Holdings Inc. is a Delaware corporation with its principal place
8 of business in Mountain View, California. XXVI Holdings, Inc. is a wholly owned subsidiary of
9 Alphabet Inc. and the managing member of Google LLC (“**Google**”).

10 33. Defendant Google is a limited liability company organized under the laws of the
11 state of Delaware, and its principal place of business is in Mountain View, California. Google
12 LLC is a wholly owned subsidiary of XXVI Holdings Inc., and the managing member of
13 YouTube, LLC. Google LLC transacts or has transacted business in this District and throughout
14 the United States. At all times material to this Complaint, acting alone or in concert with others,
15 Google LLC has advertised, marketed, and distributed its YouTube video sharing platform to
16 consumers throughout the United States. At all times material to this Complaint, acting alone or
17 in concert with YouTube, LLC, Google LLC formulated, directed, controlled, had the authority
18 to control, or participated in the acts and practices set forth in this Complaint.

19 34. Defendant YouTube, LLC is a limited liability company organized under the laws
20 of the state of Delaware, and its principal place of business is in San Bruno, California.
21 YouTube, LLC is a wholly owned subsidiary of Google LLC. YouTube, LLC transacts or has
22 transacted business in this District and throughout the United States. At all times material to this
23 Complaint, acting alone or in concert with Defendant Google LLC, YouTube, LLC has
24 advertised, marketed, and distributed its YouTube social media platform to consumers
25 throughout the United States. At all times material to this Complaint, acting alone or in concert
26 with Google LLC, YouTube, LLC formulated, directed, controlled, had the authority to control,
27 or participated in the acts and practices set forth in this Complaint.

28

IV. FACTUAL ALLEGATIONS

A. Millions of Youth Have Become Excessive and Problematic Users of Social Media

35. Researchers studying the effect social media⁵ has on the brain have shown that social media exploits “the same neural circuitry” as “gambling and recreational drugs to keep consumers using their products as much as possible.”⁶

36. As described below, each Defendant designed and marketed its exploitive social media platform to be extremely popular with youth. And they have all been successful. Ninety percent of children ages 13–17 use social media.⁷ Younger children also regularly use social media. One study reported 38 percent of children ages 8–12 used social media in 2021.⁸ Other studies reveal numbers as high as 49 percent of children ages 10–12 use social media and 32 percent of children ages 7–9 use social media.⁹

37. The most popular of these platforms is YouTube. A vast majority, 95 percent, of children ages 13-17 have used YouTube.¹⁰

38. TikTok has skyrocketed in popularity with teenagers since its merger with Musical.ly in 2018. As of July 2020, “TikTok classified more than a third of its 49 million *daily* users in the United States as being 14 years old or younger[,]” and that likely underestimates

⁵ The term “social media” is commonly used to refer to text, photos, videos, and ideas that are exchanged among virtual communities. The interactive technologies that allow for the virtual exchange of these media among networks of users are known as social media platforms.

⁶ *Social Media Addiction*, Addiction Ctr, <https://www.addictioncenter.com/drugs/social-media-addiction/#:~:text=Due%20to%20the%20effect%20that,when%20taking%20an%20addictive%20substance> (last visited Dec. 8, 2022).

⁷ *Social Media and Teens*, Am. Acad. Child & Adolescent Psychiatry (Mar. 2018), https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Social-Media-and-Teens-100.aspx.

⁸ Victoria Rideout *et al.*, *The Common Sense Census: Media Use by Tweens and Teens, 2021* at 5, Common Sense Media (2022), https://www.common sense media.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

⁹ *Sharing Too Soon? Children and Social Media Apps*, C.S. Mott Child.’s Hosp. Univ. Mich. Health (Oct. 18, 2021), https://mottpoll.org/sites/default/files/documents/101821_SocialMedia.pdf.

¹⁰ Emily Vogels *et al.*, *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

1 those under 14 and older teenagers (i.e., those between 15 and 18 years old) because TikTok
2 claims not to know how old a third of its daily users are.¹¹ TikTok is now the second most
3 popular social media platform with over 67 percent of children ages 13–17 having used the
4 app.¹²

5 39. Instagram’s numbers are comparable to TikTok, with 62 percent of children ages
6 13–17 reporting they have used the app.¹³

7 40. Snapchat also remains popular with youth, with 59 percent of children ages 13–17
8 reporting they have used the app.¹⁴

9 41. Facebook rounds out the five most popular social media platforms, with 32
10 percent of children ages 13–17 reporting they have used Facebook’s app or website.¹⁵

11 42. Teenagers who use these social media platforms are also likely to use them every
12 day. One study estimates that 62 percent of children ages 13–18 use social media every day.¹⁶ An
13 increasing number of younger children also use social media daily with 18 percent of children
14 ages 8–12 reporting using a social media site at least once a day.¹⁷

15 43. Daily use for many teenagers does not consist of logging onto a platform just
16 once. Rather, many teenage users check social media repeatedly throughout the day. In one
17 study, teenage users reported checking Snapchat thirty times a day on average.¹⁸

18
19
20 ¹¹ Raymond Zhong & Sheera Frenkel, *A Third of TikTok’s U.S. Users May Be 14 or Under,*
Raising Safety Questions, N.Y. Times (Sept. 17, 2020),
21 <https://www.nytimes.com/2020/08/14/technology/tiktok-underage-users-ftc.html>.

22 ¹² Emily Vogels *et al.*, *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
2022), [https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-](https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/)
23 [2022/](https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/).

24 ¹³ *Id.*

25 ¹⁴ *Id.*

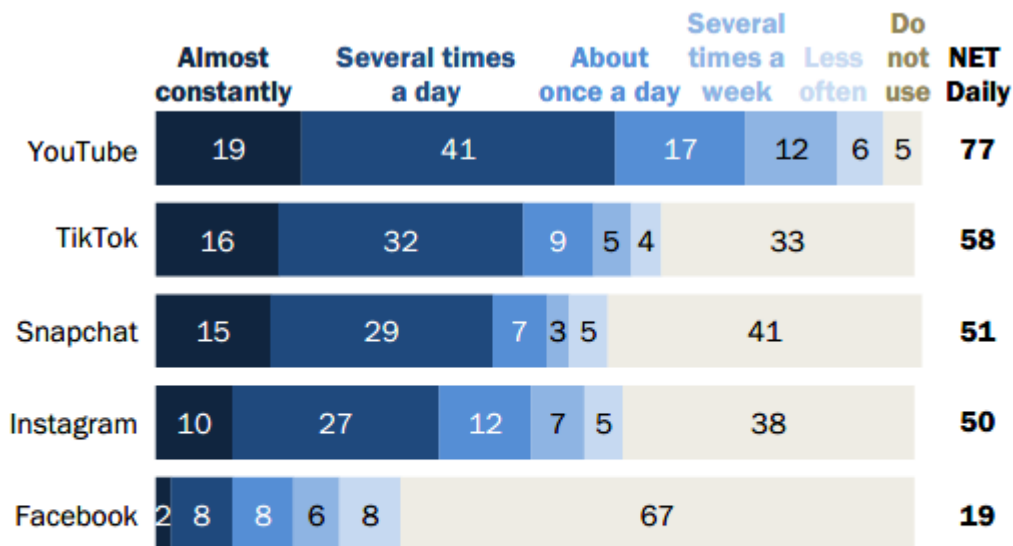
26 ¹⁵ *Id.*

27 ¹⁶ Victoria Rideout *et al.*, *The Common Sense Census: Media Use by Tweens and Teens, 2021* at
28 4, Common Sense Media (2022),
[https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-](https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf)
[report-final-web_0.pdf](https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf).

¹⁷ *Id.* at 5.

¹⁸ Erinn Murphy *et al.*, *Taking Stock with Teens, Fall 2021* at 13, Piper Sandler (2021),
[tinyurl.com/89ct4p88](https://www.pipersandler.com/insights/teens-fall-2021).

44. Even more alarming, some teenagers never stop looking at social media.¹⁹



Note: Teens refer to those ages 13 to 17. Those who did not give an answer are not shown. Figures may not add up to the NET values due to rounding. Source: Survey conducted April 14-May 4, 2022. "Teens, Social Media and Technology 2022"

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45. Nearly 20 percent of teens use YouTube almost constantly.²⁰ TikTok and Snapchat are close behind, with near constant use rates among teens at 16 percent and 15 percent respectively.²¹ Meanwhile, 10 percent of teens use Instagram almost constantly.²² And 2 percent of teens report using Facebook almost constantly.²³

46. Teenagers are aware of the grip social media has on their lives yet still cannot stop using it. Thirty-six percent of teenagers admit they spend too much time on social media.²⁴ And over half of teens say that giving up social media would be somewhat hard, with nearly one-in-five teens saying giving up social media would be very hard.²⁵ And of the subgroup of

¹⁹ Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

²⁰ *Id.*

²¹ *Id.*

²² *Id.*

²³ *Id.*

²⁴ *Id.*

²⁵ *Id.*

1 teenagers who use at least one platform “almost constantly,” 71 percent said giving up social
2 media would be hard, with 32 percent saying giving up social media would be very hard.²⁶

3 47. The more that teenagers use social media, the harder they find it to give up.
4 Teenagers who say they spend too much time on social media are almost twice as likely to say
5 that giving up social media would be hard as teens who see their social media usage as about
6 right.²⁷

7 48. Another study shows that among teenagers who regularly use social media, 32
8 percent “wouldn’t want to live without” YouTube.²⁸ Twenty percent of teenagers said the same
9 about Snapchat; 13 percent said the same about both TikTok and Instagram; and 6 percent said
10 the same about Facebook.²⁹

11 49. Despite using social media frequently, most youth do not enjoy it. Only 27
12 percent of boys and 42 percent of girls ages 8–18 reported enjoying social media “a lot” in
13 2021.³⁰

14 **B. Research Has Confirmed the Harmful Effects of Social Media on Youth**

15 50. Social media use—especially excessive use—has severe and wide-ranging effects
16 on youth mental health. Social media use is linked to increases in mental, emotional,
17 developmental, and behavior disorders. Independent research and internal data from these social
18 media platforms show social media has a direct negative impact on teenagers’ mental health on
19 various fronts.

20 51. In general, electronic screen use causes lower psychological well-being.³¹ This

21
22 ²⁶ *Id.*

23 ²⁷ *Id.*

24 ²⁸ Victoria Rideout *et al.*, *Common Sense Census: Media use by tweens and teens, 2021* at 31,
25 Common Sense Media (2022),
https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

26 ²⁹ *Id.*

27 ³⁰ *Id.* at 34.

28 ³¹ Jean M. Twenge & W. Keith Campbell, *Associations between screen time and lower psychological well-being among children and adolescents: Evidence from a population-based study*, 12 *Prev. Med. Rep.* 271–83 (2018),
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6214874/>; Ariel Shensa *et al.*, *Social Media*

1 link is especially apparent among adolescents. Those with high screen time are twice as likely to
 2 receive diagnoses of depression, anxiety, or need treatment for mental or behavior health
 3 conditions compared to low screen time users.³²

4 52. Social media specifically has a “detrimental effect on the psychological health of
 5 its users.”³³ One systematic review of 16 studies on the effects of social media on mental health
 6 found social media use increases levels of anxiety and depression.³⁴

7 53. Social media also has detrimental effects on the mental health of adolescents
 8 specifically. Increased social media use increases depressive symptoms, suicide-related
 9 outcomes, and suicide rates among adolescents.³⁵

10 54. One of the primary reasons the use of social media is associated with depressive
 11 symptoms among adolescents is because it encourages unhealthy social comparison and
 12 feedback seeking behaviors.³⁶ Because adolescents spend a majority of their time on social
 13 media looking at other users’ profiles and photos, they are likely to engage in negative
 14 comparisons with their peers.³⁷ Specifically, adolescents are likely to engage in harmful upward
 15

16 *Use and Depression and Anxiety Symptoms: A Cluster Analysis*, 42(2) *Am. J. Health Behav.*
 17 116–28 (2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5904786/>.

18 ³² Jean M. Twenge & W. Keith Campbell, *Associations between screen time and lower*
 19 *psychological well-being among children and adolescents: Evidence from a population-based*
 20 *study*, 12 *Prev. Med. Rep.* 271–83 (2018),
 21 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6214874/>.

22 ³³ Fazida Karim *et al.*, *Social Media Use and Its Connection to Mental Health: A Systemic*
 23 *Review*, *Cureus* Volume 12(6) (June 15, 2020),
 24 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7364393/>.

25 ³⁴ *Id.*

26 ³⁵ Jean M. Twenge *et al.*, *Increases in Depressive Symptoms, Suicide-Related Outcomes, and*
 27 *Suicide Rates Among U.S. Adolescents After 2010 and Links to Increased New Media Screen*
 28 *Time*, 6 *Clinical Psych. Sci.* 3–17 (2017), <https://doi.org/10.1177/2167702617723376>.

29 ³⁶ Jacqueline Nesi & Mitchell J Prinstein, *Using Social Media for Social Comparison and*
 30 *Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms*,
 31 43 *J. Abnormal Child Psych.* 1427–38 (2015),
 32 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985443/>.

33 ³⁷ *Id.*; see also Nino Gugushvili *et al.*, *Facebook use intensity and depressive symptoms: a*
 34 *moderated mediation model of problematic Facebook use, age, neuroticism, and extraversion*
 35 *at 3*, *BMC Psych.* 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7> (explaining that
 36 youth are particularly vulnerable because they “use social networking sites for construing their
 37 identity, developing a sense of belonging, and for comparison with others”).

1 comparisons with others they perceive to be more popular.³⁸

2 55. Clinicians have also observed a clear relationship between youth social media use
3 and disordered eating behavior.³⁹ The more social media accounts an adolescent has, the greater
4 disordered eating behaviors they exhibit. Additionally, research shows the more time young girls
5 spend on social media platforms, such as Instagram and Snapchat, the more likely they are to
6 develop disordered eating behaviors.⁴⁰

7 56. Social media use has also caused an increase in cyberbullying. The more time an
8 individual, especially males, spend on social media, the more likely they are to commit acts of
9 cyberbullying.⁴¹ Cyberbullying is now so common that most American teens, 59 percent, have
10 experienced some form of cyberbullying.⁴² This number includes 42 percent of teens
11 experiencing name calling; 32 percent being subject to false rumors; 25 percent receiving an
12 unsolicited explicit image; 21 percent being subject to online stalking; 16 percent receiving
13 physical threats online; and 7 percent having had explicit images of them shared without their
14 consent.⁴³

15 57. Social media use also contributes to sleep deprivation. Young adults who spend a
16 lot of time on social media during the day or check it frequently throughout the week are more
17 likely to suffer sleep disturbances than their peers who use social media infrequently.⁴⁴ In turn,
18 disturbed and insufficient sleep is associated with poor health outcomes.⁴⁵

19 _____
20 ³⁸ *Id.*

21 ³⁹ Simon M. Wilksch *et al.*, *The relationship between social media use and disordered eating in*
22 *young adolescents*, 53 *Int'l J. Eating Disorders* 96–106 (2020),
23 <https://pubmed.ncbi.nlm.nih.gov/31797420/>.

24 ⁴⁰ *Id.*

25 ⁴¹ Amanda Giordano *et al.*, *Understanding Adolescent Cyberbullies: Exploring Social Media*
26 *Addiction and Psychological Factors*, 7(1) *J. Child & Adolescent Counseling* 42–55 (2021),
27 <https://www.tandfonline.com/doi/abs/10.1080/23727810.2020.1835420?journalCode=ucac20>.

28 ⁴² Monica Anderson, *A Majority of Teens Have Experienced Some Form of Cyberbullying*, Pew
Rsch. Ctr. (Sept. 27, 2018), <https://www.pewresearch.org/internet/2018/09/27/a-majority-of-teens-have-experienced-some-form-of-cyberbullying/>.

⁴³ *Id.*

⁴⁴ Jessica C. Levenson *et al.*, *The Association Between Social Media Use and Sleep Disturbance*
Among Young Adults, 85 *Preventive Med.* 36–41 (Apr. 2016),
<https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025>.

⁴⁵ *Id.*

1 58. Defendants exacerbate the disruption of sleep by sending push notifications and
2 emails either at night when children should be sleeping or during school hours when they should
3 be studying, thereby prompting children to re-engage with Defendants’ platforms at times when
4 using them is harmful to their health and well-being.⁴⁶

5 59. Further, children are especially vulnerable to developing harmful behaviors
6 because their prefrontal cortex is not fully developed.⁴⁷ Consequently, they find it particularly
7 difficult to exercise the self-control required to regulate their own use of Defendants’ platforms.
8 In this regard, self-regulation allows people to delay gratification, postponing an immediate
9 reward for a better reward later. Adolescents’ low capacity for self-regulation means they are
10 particularly vulnerable to the immediately pleasurable, but ultimately harmful, effects of the
11 repeated dopamine spikes caused by an external stimulus, such as “likes” that activate the reward
12 system in the brain.⁴⁸

13 60. As discussed in further detail *infra* Section IV.D., these reward-based learning
14 systems “contribute to the maintenance of excessive usage patterns.”⁴⁹ Researchers investigating
15 the “directionality between social networking [platforms] and problematic use,” have found that
16 “increases in the intensity of use . . . predict[] problematic use.”⁵⁰ And empirical studies have
17 found that problematic use is associated with “insomnia, stress, relationship dissatisfaction,
18 anxiety, social anxiety, and depressive symptoms.”⁵¹

19 61. In this regard, adolescents are especially vulnerable to long-term harm from
20 Defendants’ platforms because excessive and problematic use can disrupt their brains’
21 development at a critical stage.

22
23 ⁴⁶ See, e.g., Beatrice Nolan, *Kids are waking up in the night to check their notifications and are*
24 *losing about 1 night’s worth of sleep a week, study suggests*, Bus. Insider (Sept. 19, 2022),
<https://www.businessinsider.com/social-media-costing-children-one-night-sleep-study-2022-9>
(approximately 12.5% of children report waking up to check social media notifications).

25 ⁴⁷ Nino Gugushvili *et al.*, *Facebook use intensity and depressive symptoms: a moderated*
26 *mediation model of problematic Facebook use, age, neuroticism, and extraversion* at 3, BMC
Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7>.

27 ⁴⁸ *Id.*

28 ⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ *Id.* (collecting sources).

1 **C. As a Result, America’s Youth are Facing a Mental Health Crisis**

2 62. The number of youth using Defendants’ social media platforms and the intensity
3 of their use has increased significantly since 2008, which has contributed to a wide range of
4 negative effects on youth mental health. Over that same time the number of youth experiencing
5 depression, contemplating suicide, seeking emergency room help for mental health issues and—
6 tragically—committing suicide has skyrocketed.

7 63. Today, one in five children ages 3–17 in the United States have a mental,
8 emotional, developmental, or behavioral disorder.⁵²

9 64. On December 7, 2021, these issues led the United States Surgeon General to issue
10 an advisory on the youth mental health crisis.⁵³ In issuing the advisory, the Surgeon General
11 noted, “[m]ental health challenges in children, adolescents, and young adults are real and
12 widespread. Even before the pandemic, an alarming number of young people struggled with
13 feelings of helplessness, depression, and thoughts of suicide — and rates have increased over the
14 past decade.”⁵⁴

15 65. While the report highlights ways in which the COVID-19 pandemic has
16 exacerbated mental health issues for American youth, it also highlights the mental health
17 challenges youth faced before the pandemic. Specifically, the report notes that before the
18 pandemic, “mental health challenges were the leading cause of disability and poor life outcomes
19 in young people.”⁵⁵

20 66. Before the pandemic, one-in-five children ages 3–17 in the United States had a
21

22 ⁵² *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by*
23 *COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 7, 2021),
24 <https://www.hhs.gov/about/news/2021/12/07/us-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic.html>.

25 ⁵³ *Protecting Youth Mental Health: The U.S. Surgeon General’s Advisory*, U.S. Dep’t Health &
26 Hum. Servs. (Dec. 7, 2021), <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf>.

27 ⁵⁴ *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by*
28 *COVID-19 Pandemic*, U.S. Dep’t Health & Hum. Servs. (Dec. 7, 2021),
<https://www.hhs.gov/about/news/2021/12/07/us-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic.html>.

⁵⁵ *Id.*

1 mental, emotional, developmental, or behavior disorder.⁵⁶

2 67. From 2009–19, the rate of high school students who reported persistent feelings
3 of sadness or hopelessness increased by 40 percent (to one out of every three kids).⁵⁷ The share
4 of kids seriously considering attempting suicide increased by 36 percent and the share creating a
5 suicide plan increased by 44 percent.⁵⁸

6 68. From 2007 to 2019, suicide rates among youth ages 10–24 in the United States
7 increased by 57 percent.⁵⁹ By 2018, suicide was the second leading cause of death for youth ages
8 10–24.⁶⁰

9 69. From 2007 to 2016, emergency room visits for youth ages 5–17 rose 117 percent
10 for anxiety disorders, 44 percent for mood disorders, and 40 percent for attention disorders.⁶¹

11 70. This and other data led the American Academy of Pediatrics, the American
12 Academy of Child and Adolescent Psychiatry, and the Children’s Hospital Association to join
13 the Surgeon General and declare a national emergency in child and adolescent mental health.⁶²

14 71. President Biden also addressed the mental health harms Defendants’ platforms
15 have caused youth in his state of the union address this year.⁶³ There he noted that children were
16 struggling from the harms of social media—even before the pandemic—and called on all to
17

18 ⁵⁶ *Id.*

19 ⁵⁷ *Protecting Youth Mental Health: The U.S. Surgeon General’s Advisory* at 8, U.S. Dep’t Health
& Hum. Servs. (Dec. 7, 2021), [https://www.hhs.gov/sites/default/files/surgeon-general-youth-
20 mental-health-advisory.pdf](https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf).

21 ⁵⁸ *Id.*

22 ⁵⁹ *Id.*

23 ⁶⁰ *AAP-AACAP-CHA Declaration of a National Emergency in Child and Adolescent Mental
Health*, Am. Acad. Pediatrics (Oct. 19, 2021), [https://www.aap.org/en/advocacy/child-and-
adolescent-healthy-mental-development/aap-aacap-cha-declaration-of-a-national-emergency-
in-child-and-adolescent-mental-health/](https://www.aap.org/en/advocacy/child-and-adolescent-healthy-mental-development/aap-aacap-cha-declaration-of-a-national-emergency-in-child-and-adolescent-mental-health/).

24 ⁶¹ Matt Richtel, *A Teen’s Journey Into the Internet’s Darkness and Back Again*, N.Y. Times
(Aug. 22, 2022), [https://www.nytimes.com/2022/08/22/health/adolescents-mental-health-
25 technology.html](https://www.nytimes.com/2022/08/22/health/adolescents-mental-health-technology.html).

26 ⁶² *AAP-AACAP-CHA Declaration of a National Emergency in Child and Adolescent Mental
Health*, Am. Acad. Pediatrics (Oct. 19, 2021), [https://www.aap.org/en/advocacy/child-and-
adolescent-healthy-mental-development/aap-aacap-cha-declaration-of-a-national-emergency-
in-child-and-adolescent-mental-health/](https://www.aap.org/en/advocacy/child-and-adolescent-healthy-mental-development/aap-aacap-cha-declaration-of-a-national-emergency-in-child-and-adolescent-mental-health/).

27 ⁶³ President Biden, State of the Union Address (Mar. 1, 2022) (transcript available at
28 <https://www.whitehouse.gov/state-of-the-union-2022/>).

1 “hold social media platforms accountable for the national experiment they’re conducting on our
2 children for profit.”⁶⁴

3 **D. Defendants Intentionally Market to, Design, and Operate Their Social Media**
4 **Platforms for Youth Users**

5 72. This mental health crisis is no accident. It is the result of the Defendants’
6 deliberate choices and affirmative actions to design and market their social media platforms to
7 attract youth.

8 73. Defendants each run and operate social media platforms. The interactive features
9 Defendants provide on their platforms are similar in many respects. For example, Facebook,
10 Instagram, Snap, TikTok, and YouTube all offer tailored “feeds” of content curated by complex
11 algorithms intended to learn your interests; ways to publicly express affirmation for such curated
12 content through “likes,” comments, and sharing or reposting the content; and, in fact, each is
13 known to copy the designs and features of one another.⁶⁵ The salient features of Defendants’
14 social media platforms are described in more detail below.

15 74. Defendants’ make money from their social media platforms by using them as
16 advertising platforms. Defendants collect data on their users’ viewing habits and behaviors and
17 use that data to sell advertisers access to their youth and other users to allow those companies to
18 promote their products. Advertisers pay a premium to target advertisements to specific categories
19 of users, including youth.

20 75. Defendants view youth, adolescent, and even pre-adolescent users as one of their
21 most valuable commodities as an audience for their advertisements. Young users are central to
22 Defendants’ business model and advertising revenue as children are more likely than adults to
23 use social media. Indeed, 95 percent of children ages 13–17 have cellphones,⁶⁶ 90 percent use
24

25 ⁶⁴ *Id.*

26 ⁶⁵ See, e.g., Kevin Hurler, *For Sites Like Instagram and Twitter, Imitation Is the Only Form of*
Flattery, Gizmodo (Aug. 16, 2022), <https://gizmodo.com/instagram-tiktok-snapchat-facebook-meta-1849395419>.

27 ⁶⁶ Emily Vogels *et al.*, *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
28 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

1 social media,⁶⁷ and 28 percent buy products and services through social media.⁶⁸

2 76. To profit from these young users, Defendants intentionally market their platforms
3 to youth and adolescents. For children under 13, the Children’s Online Privacy Protection Act
4 (“**COPPA**”)⁶⁹ regulates the conditions under which platforms, like Defendants’, can collect and
5 use their information.

6 77. COPPA requires platforms that either target children under age 13 or have actual
7 knowledge of users under age 13 to obtain “verifiable parental consent” prior to collecting and
8 using information about children under age 13.⁷⁰ Defendants have blatantly violated COPPA or
9 turned a blind eye to younger users on their platforms by leaving users to self-report their age.
10 More recently, Defendants embarked on a bolder strategy and sought to capture pre-adolescent
11 audiences by offering “kid versions” of their platforms that, while not collecting and using their
12 information, are reportedly “designed to fuel [kids’] interest in the grown-up version.”⁷¹

13 78. To maximize revenue, Defendants have intentionally designed and operated their
14 platforms to maximize users’ screen time. Defendants have done so by building features and
15 operating their platforms in a manner intended to exploit human psychology using complex
16 algorithms driven by advanced artificial intelligence and machine-learning systems. In this
17 regard, Defendants have progressively modified their platforms in ways that promote excessive
18 and problematic use and have done so in ways known to be harmful to children.

19 79. One way Defendants maximize the time users spend on their platforms involves
20 the design of feeds—whether of photos, videos, or sponsored or promoted content. Each uses
21 algorithms to serve users personalized content for them to consume ad nauseum. Google’s
22 former design ethicist, Tristan Harris, explained that this never-ending stream is designed to
23

24 ⁶⁷ *Social Media and Teens*, Am. Acad. Child & Adolescent Psychiatry (Mar. 2018),
25 https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Social-Media-and-Teens-100.aspx.

26 ⁶⁸ Erin Murphy *et al.*, *Taking Stock with Teens*, Fall 2021 at 13, Piper Sandler (2021),
27 tinyurl.com/89ct4p88.

28 ⁶⁹ See 15 U.S.C. §§ 6501-6506.

⁷⁰ *Id.*

⁷¹ Leonard Sax, *Is TikTok Dangerous for Teens?*, Inst. Fam. Stud. (Mar. 29, 2022),
<https://ifstudies.org/blog/is-tiktok-dangerous-for-teens->.

1 “keep [users] scrolling, and purposely eliminate any reason for [them] to pause, reconsider or
2 leave.”⁷² Defendants’ feeds take “an experience that was bounded and finite, and turn it into a
3 bottomless flow that keeps going.”⁷³ This “flow state,” as psychologists describe it, “fully
4 immerse[s]” users, distorts their perception of time, and “has been shown to be associated with
5 problematic use of social networking sites.”⁷⁴

6 80. A second way social media platforms manipulate users is through social
7 reciprocity. “Reciprocity,” from a psychology perspective, refers to the powerful social
8 phenomenon of how people respond to positive or, conversely, hostile actions. Reciprocity
9 means that in response to friendly actions, people respond in a friendly manner and vice versa.⁷⁵
10 Phillip Kunz best illustrated the automatic nature of reciprocity through his Christmas card
11 experiment. In the experiment, Mr. Kunz sent a group of complete strangers holiday cards with
12 pictures of his family and included a brief note.⁷⁶ Those people, whom he had never met or
13 communicated with before, reciprocated, flooding him with holiday cards.⁷⁷ The majority of the
14 responses did not even ask Mr. Kunz who he was.⁷⁸ They simply responded to his initial gesture
15 with a reciprocal action.

16 81. Reciprocity is why Facebook and Snapchat automatically tell a “sender when you
17 ‘saw’ their message, instead of letting you avoid disclosing whether you read it. As a
18
19

20 ⁷² Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int’l (July 27, 2016),
21 [https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-
1104237.html](https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html).

22 ⁷³ *Id.*

23 ⁷⁴ Gino Gugushvili *et al.*, *Facebook use intensity and depressive symptoms: a moderated
mediation model of problematic Facebook use, age, neuroticism, and extraversion* at 3, *BMC*
24 *Psych.* 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7>.

25 ⁷⁵ Ernst Fehr & Simon Gächter, *Fairness and Retaliation: The Economics of Reciprocity*, 14(3)
26 *J. Econ. Persps.* 159–81 (2000), [https://www.researchgate.net/profile/Ernst-Fehr-
2/publication/23756527_Fairness_and_Retaliation_The_Economics_of_Reciprocity/links/5eb0
24e945851592d6b87d3b/Fairness-and-Retaliation-The-Economics-of-Reciprocity.pdf](https://www.researchgate.net/profile/Ernst-Fehr-2/publication/23756527_Fairness_and_Retaliation_The_Economics_of_Reciprocity/links/5eb024e945851592d6b87d3b/Fairness-and-Retaliation-The-Economics-of-Reciprocity.pdf).

27 ⁷⁶ Phillip R. Kunz & Michael Woolcott, *Season’s Greetings: From my status to yours*, 5(3) *Soc.*
28 *Sci. Rsch.* 269–78 (Sept. 1976), [https://doi.org/10.1016/0049-089X\(76\)90003-X](https://doi.org/10.1016/0049-089X(76)90003-X).

⁷⁷ *Id.*

⁷⁸ *Id.*

1 consequence, you feel more obligated to respond[,]” immediately.⁷⁹ That keeps users on the
2 platform or, through push notifications—another insidious tool—users feel psychologically
3 compelled to return to the platform.

4 82. A third way Defendants manipulate users to keep using or coming back to their
5 platforms is through the use of intermittent variable rewards (“**IVR**”). Slot machines are a
6 frequent example of how IVR works.⁸⁰ Users pull a lever to win a prize. With each pull, the user
7 may or may not win a prize (i.e., an intermittent reward that varies in value).

8 83. IVR works by spacing out dopamine triggering stimuli with dopamine gaps—
9 allowing for anticipation and craving to develop, which strengthens the desire to engage in the
10 activity with each release of dopamine.

11 84. Defendants bake IVR into the design and operations of their respective platforms
12 by “link[ing] a user’s action (like pulling a lever) with a variable reward.”⁸¹ For example, when
13 “we swipe down our finger to scroll the Instagram feed, we’re playing a slot machine to see what
14 photo comes next.”⁸² Meta also delays the time it takes to load the feed. “This is because without
15 that three-second delay, Instagram wouldn’t feel variable.”⁸³ Without that delay, there would be
16 no time for users’ anticipation to build. In slot machine terms, there would be “no sense of *will I*
17 *win?* because you’d know instantly. So the delay isn’t the app loading. It’s the cogs spinning on
18 the slot machine.”⁸⁴ Each of the Defendants’ platforms exploits this biochemical reaction among
19 its users, typically using “likes,” “hearts,” or other forms of approval that serve as the reward.
20 *See infra* Section IV.D.1–4.

21 _____
22 ⁷⁹ Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int’l (July 27, 2016),
23 <https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

24 ⁸⁰ *See, e.g.*, Julian Morgans, *The Secret Ways Social Media is Built for Addiction*, Vice (May 17,
25 2017), <https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction>.

26 ⁸¹ Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int’l (July 27, 2016),
27 <https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

28 ⁸² *Id.*

⁸³ Julian Morgans, *The Secret Ways Social Media is Built for Addiction*, Vice (May 17, 2017),
<https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction>.

⁸⁴ *Id.*

1 85. “Everyone innately responds to social approval, but some demographics, in
2 particular teenagers, are more vulnerable to it than others.”⁸⁵

3 86. Youth are especially vulnerable both to the ways in which Defendants manipulate
4 users to maximize their “watch time,” and to the resulting harms. Children’s brains undergo a
5 fundamental shift around age 10 that makes “preteens extra sensitive to attention and admiration
6 from others.”⁸⁶ Consequently, Defendants’ use of IVR, reciprocity, and other “rewards” to
7 maximize the time users spend on their platforms exploits a vulnerability unique to youth. This
8 “extra sensitivity” also puts them at greater risk.

9 87. In adolescence, the structures of the brain “closely tied” to social media activity
10 and that drive instinctual behavior begin to change.⁸⁷ The ventral striatum is one of those
11 structures. It receives a rush of dopamine and oxytocin, known as the “happy hormones[,]”
12 whenever we experience social rewards.⁸⁸ Between the ages of 10 and 12, the receptors for those
13 happy hormones begin to multiply in this region of the brain, which makes compliments on a
14 new hairstyle, laughter from a classmate, or other social rewards “start to feel a lot more
15 satisfying.”⁸⁹

16 88. Historically, these biological changes incentivized kids and teens to develop
17 healthy social skills and connections. “But arriving at school in a new pair of designer jeans,
18 hoping your crush will smile at you in the hallway, is worlds away from posting a video on
19 TikTok that may get thousands of views and likes,” according to Mitch Prinstein, Chief Science
20 Officer for the American Psychology Association.⁹⁰

21 89. Part of what makes the “interactions so different,”⁹¹ is that they are often
22

23 ⁸⁵ Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int’l (July 27, 2016),
24 <https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

25 ⁸⁶ Zara Abrams, *Why young brains are especially vulnerable to social media*, Am. Psych. Ass’n
26 (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

27 ⁸⁷ *Id.*

28 ⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *Id.*

1 permanent and public in nature. There is no public ledger tracking the number of consecutive
2 days you have spoken to someone, like there is for Snap “streaks.” Similarly, “[a]fter you walk
3 away from a regular conversation, you don’t know if the other person liked it, or if anyone else
4 liked it[.]”⁹² Conversely, on Defendants’ platforms, kids, their friends, and even complete
5 strangers can publicly deliver or withhold social rewards in the form of likes, comments, views,
6 and follows.⁹³

7 90. These social rewards release dopamine and oxytocin in the brains of youth and
8 adults alike but there are two key differences, as Chief Science Officer Prinstein explained:
9 “First, adults tend to have a fixed sense of self that relies less on feedback from peers. Second,
10 adults have a more mature prefrontal cortex, an area that can help regulate emotional responses
11 to social rewards.”⁹⁴

12 91. Adolescents, by contrast, are in a “period of personal and social identity
13 formation,” much of which “is now reliant on social media.”⁹⁵ “Due to their limited capacity for
14 self-regulation and their vulnerability to peer pressure,” adolescents “are at greater risk of
15 developing mental disorder.”⁹⁶

16 92. Together, Meta, Snap, TikTok, and Google have designed, refined, marketed, and
17 operated their social media platforms to maximize the number of youth who use their platforms
18 and the time they spend on those platforms. Despite knowing that social media inflicts harms on
19 youth, Defendants have continued to create more sophisticated versions of their platforms with
20 features designed to keep users engaged and maximize the amount of time they spend using
21 social media. Defendants’ conduct in designing and marketing exploitive and manipulative

22 ⁹² *Id.*

23 ⁹³ *Id.*

24 ⁹⁴ *Id.*

25 ⁹⁵ Betül Keles *et al.*, *A systematic review: the influence of social media on depression, anxiety
and psychological distress in adolescents*, *Int’l J. Adolescence & Youth* (202) 25:1, 79–93
(Mar. 3, 2019),

26 [https://www.researchgate.net/publication/331947590_A_systematic_review_the_influence_of
27 social_media_on_depression_anxiety_and_psychological_distress_in_adolescents/fulltext/5c94
432345851506d7223822/A-systematic-review-the-influence-of-social-media-on-depression-
28 anxiety-and-psychological-distress-in-adolescents.pdf](https://www.researchgate.net/publication/331947590_A_systematic_review_the_influence_of_social_media_on_depression_anxiety_and_psychological_distress_in_adolescents/fulltext/5c94432345851506d7223822/A-systematic-review-the-influence-of-social-media-on-depression-anxiety-and-psychological-distress-in-adolescents.pdf).

⁹⁶ *Id.*

1 platforms, youth spend excessive amounts of time on Defendants' platforms.

2 93. Defendants' efforts worked. The majority of teenagers use the same five social
3 media platforms: YouTube, TikTok, Instagram, Snapchat, and Facebook.⁹⁷ Each of these
4 platforms individually boasts high numbers of teenage users.

5 **1. Meta Intentionally Marketed to and Designed Their Social Media Platforms**
6 **for Youth Users, Substantially Contributing to the Mental Health Crisis**

7 **a. The Meta Platform**

8 94. The Meta platform, including Facebook and Instagram, are among the most
9 popular social networking platforms in the world, with more than 3.6 billion users worldwide.⁹⁸

10 **(i) The Facebook Platform**

11 95. Facebook is a social networking platform that is one of Meta's platforms.

12 96. Facebook was founded in 2004 and has become the largest social network in the
13 world. As of October 2021, Facebook had approximately 2.9 billion monthly active users,
14 approximately 2 billion of whom use Facebook every day.⁹⁹

15 97. When Facebook was founded in 2004, only students at certain colleges and
16 universities could use the social media platform, and verification of college enrollment was
17 required to access Facebook.

18 98. In 2005, Facebook expanded and became accessible to students at more
19 universities around the world, after which Meta launched a high school version of Facebook that
20 also required an invitation to join.

21 99. Meta later expanded eligibility for Facebook to employees of several companies,
22 including Apple and Microsoft, and also added more universities to its network.

23 100. In September 2006, Facebook became available to all internet users. At the time,

24 ⁹⁷ Emily Vogels *et al.*, *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
25 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

26 ⁹⁸ Felix Richter, *Meta Reaches 3.6 Billion People Each Month*, Statista (Oct. 29, 2021),
27 <https://www.statista.com/chart/2183/facebooks-mobile-users/>.

28 ⁹⁹ *See id.*; S. Dixon, *Number of Daily Active Facebook Users Worldwide as of 3rd Quarter 2022*
(in Millions), Statista (Oct. 27, 2022), <https://www.statista.com/statistics/346167/facebook-global-dau/>.

1 Meta claimed that it was open only to persons aged 13 and older with a valid email address;
2 however, on information and belief, Meta did not in fact require verification of a user’s age or
3 identity and did not actually verify users’ email addresses, such that underage users could easily
4 register an account with and access Facebook.

5 101. Facebook then underwent a series of changes aimed at increasing user
6 engagement and platform growth, without regard to user safety, including the following changes:

- 7 • In 2009, Facebook launched the “like” button;
- 8 • In 2011, Facebook launched Messenger, its direct messaging service, and started
9 allowing people to subscribe to non-friends;
- 10 • In 2012, Facebook started showing advertisements in its news feed and launched
11 a real-time bidding system through which advertisers could bid on users based on their visits to
12 third-party websites;
- 13 • In 2014, Facebook’s facial recognition algorithm (DeepFace) reached near-human
14 accuracy in identifying faces;
- 15 • In 2015, Facebook made significant changes to its news feed algorithm to
16 determine what content to show users and launched its live-streaming service;
- 17 • In 2016, Facebook launched games for its social media platform, so that users
18 could play games without having to install new apps; and
- 19 • In 2017, Facebook launched Facebook Creator, an app for mobile video posts that
20 assists with content creation.

21 **(ii) The Instagram Platform**

22 102. Instagram is a social media platform that launched in 2010, which Meta acquired
23 for \$1 billion in April 2012.

24 103. Instagram enables users to share photos and videos with other users and to view
25 other users’ photos and videos. These photos and videos appear on users’ Instagram “feeds,”
26 which are virtually bottomless, scrollable lists of content.

27 104. After being acquired by Meta, Instagram experienced exponential user growth,
28 expanding from approximately 10 million monthly active users in September 2012 to more than

1 one billion monthly active users worldwide today, including approximately 160 million users in
2 the United States.¹⁰⁰

3 105. Instagram’s user growth was driven by design and development changes to the
4 Instagram platform that increased engagement at the expense of the health and well-being of
5 Instagram’s users—especially the children using the platform.

6 106. For example, in August 2020, Instagram began hosting and recommending short
7 videos to users, called Reels.¹⁰¹ Like TikTok, Instagram allows users to view an endless feed of
8 Reels that are recommended and curated to users by Instagram’s algorithm.

9 107. Instagram has become the most popular photo sharing social media platform
10 among children in the United States—approximately 72 percent of children aged 13–17 in the
11 United States use Instagram.¹⁰²

12 **b. Meta Markets Its Platforms to Youth**

13 108. To maximize the revenue generated from relationships with advertisers, Meta has
14 expended significant effort to attract youth, including teens and preteens, to its platforms,
15 including designing features that appeal to them. Meta also views teenagers as a way to attract
16 other potential users, such as by using teenagers to recruit parents who want to participate in
17 their children’s lives as well as younger siblings who look to older siblings as models for which
18 social media platforms to use and how to use them.¹⁰³

19 109. Meta explicitly targets teenagers. An internal Instagram marketing plan reveals,
20 Meta knows that “[i]f we lose the teen foothold in the U.S. we lose the pipeline” for growth.¹⁰⁴
21 To ensure that did not happen, Meta’s Instagram devoted almost all of its \$390 million annual
22

23 ¹⁰⁰ S. Dixon, *Number of Instagram Users Worldwide from 2020 to 2025 (in Billions)*, Statista
24 (May 23, 2022), <https://www.statista.com/statistics/183585/instagram-number-of-global-users/>.

25 ¹⁰¹ *Introducing Instagram Reels*, Instagram (Aug. 5, 2020),
<https://about.instagram.com/blog/announcements/introducing-instagram-reels-announcement>.

26 ¹⁰² Katherine Schaeffer, *7 Facts About Americans and Instagram*, Pew Rsch. Ctr. (Oct. 7, 2021),
<https://www.pewresearch.org/fact-tank/2021/10/07/7-facts-about-americans-and-instagram/>.

27 ¹⁰³ Sheera Frenkel *et al.*, *Instagram Struggles with Fears of Losing Its ‘Pipeline’: Young Users*,
N.Y. Times (Oct. 26, 2021), [https://www.nytimes.com/2021/10/16/technology/instagram-](https://www.nytimes.com/2021/10/16/technology/instagram-teens.html)
28 [teens.html](https://www.nytimes.com/2021/10/16/technology/instagram-teens.html).

¹⁰⁴ *Id.*

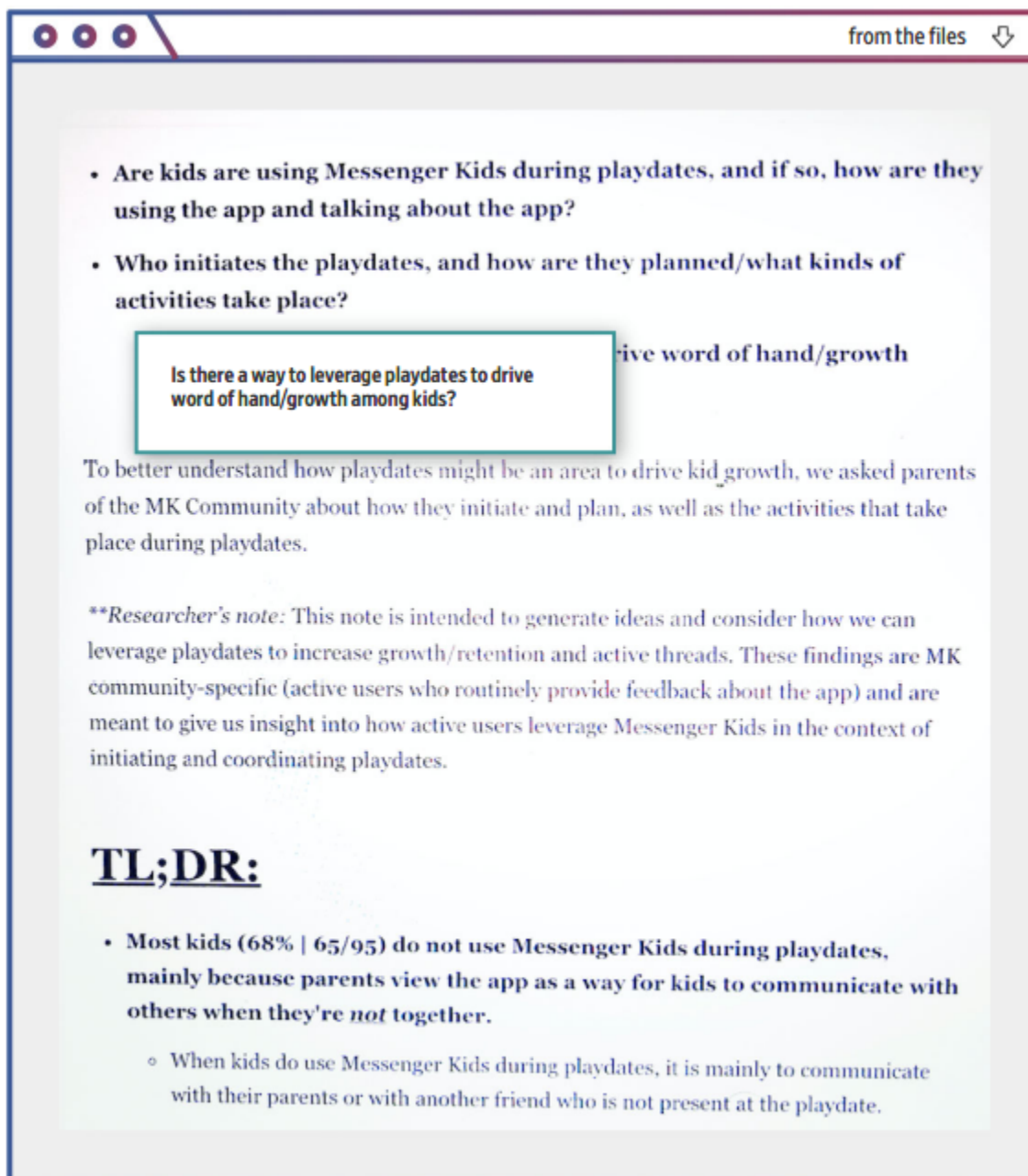
1 marketing budget for 2018 to target teenagers.¹⁰⁵

2 110. Meta also views preteens or “tweens” as a “valuable but untapped audience,”
3 even contemplating “exploring playdates as a growth lever.”¹⁰⁶ Meta formed a team to study
4 preteens, endeavored to create more products designed for them, and commissioned strategy
5 papers regarding the “business opportunities” created.¹⁰⁷

25 ¹⁰⁵ *Id.*

26 ¹⁰⁶ *Id.*

27 ¹⁰⁷ Georgia Wells & Jeff Horwitz, *Facebook’s Effort to Attract Preteens Goes Beyond Instagram*
28 *Kids, Documents Show; It has investigated how to engage young users in response to*
competition from Snapchat, TikTok; ‘Exploring playdates as a growth lever, Wall St. J. (Sept.
28, 2021), <https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667>.



111. For these reasons, the Meta platforms are designed to be used by children and are actively marketed to children throughout the Meta markets in the United States. Meta advertises to children through its own efforts as well as through advertisers that create and target advertisements to children. Internal Meta documents establish that Meta spends hundreds of millions of dollars researching, analyzing, and marketing to children to find ways to make its platforms more appealing to these age groups and to maximize the time they spend on its platforms, as these age groups are seen as essential to Meta's long-term profitability and market

1 dominance.¹⁰⁸ For instance, after Instagram’s founders left Meta in September 2018, “Facebook
2 went all out to turn Instagram into a main attraction for young audiences,” and “began
3 concentrating on the ‘teen time spent’ data point,” in order to “drive up the amount of time that
4 teenagers were on the app with features including Instagram Live, a broadcasting tool, and
5 Instagram TV, where people upload videos that run as long as an hour.”¹⁰⁹

6 112. Similarly, Instagram’s popularity among young people is the result of Meta’s
7 deliberate efforts to target children—which in turn is driven by the desire of advertisers and
8 marketers to target children on Meta’s platforms. In fact, Meta’s acquisition of Instagram was
9 primarily motivated by its desire to make up for declines in the use of Facebook by children, and
10 Meta views Instagram as central to its ability to attract and retain young audiences. A 2018
11 internal Meta marketing report is indicative of this, lamenting the loss of teenage users to
12 competitors’ platforms as “an existential threat.”¹¹⁰ In contrast, a Meta presentation from 2019
13 indicated that “Instagram is well positioned to resonate and win with young people,” and “[t]here
14 is a path to growth if Instagram can continue their trajectory.”¹¹¹

15 113. With respect to pre-teens, Meta’s policy is that they cannot register an account,
16 but it knowingly lacks effective age-verification protocols. Since at least 2011, Meta has known
17 that its age-verification protocols are largely inadequate, estimating at that time that it removed
18 20,000 children under age 13 from Facebook every day.¹¹² In 2021, Adam Mosseri, the Meta
19 executive in charge of Instagram, acknowledged users under 13 can still “lie about [their] age
20

21 ¹⁰⁸ *Id.*

22 ¹⁰⁹ Sheera Frenkel *et al.*, *Instagram Struggles with Fears of Losing Its ‘Pipeline’: Young Users*,
N.Y. Times (Oct. 26, 2021), <https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

23 ¹¹⁰ *Id.*

24 ¹¹¹ Georgia Wells *et al.*, *Facebook Knows Instagram Is Toxic for Teen Girls, Company*
Documents Show; Its own in-depth research shows a significant teen mental-health issue that
Facebook plays down in public, Wall St. J. (Sept. 14, 2021),
25 <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>.

26 ¹¹² Austin Carr, *Facebook Booting “20,000” Underage Users Per Day: Reaction to Growing*
Privacy Concerns?, Fast Co. (Mar. 22, 2011),
27 <https://www.fastcompany.com/1741875/facebook-booting-20000-underage-users-day-reaction-growing-privacy-concerns>.
28

1 now,” to register an account.¹¹³

2 114. Meta has yet to implement protocols to verify a users’ age, presumably because it
 3 has strong business incentives not to or to laxly enforce its policy. Meta also has agreements with
 4 cell phone manufacturers and/or providers and/or retailers, who often pre-install its platforms on
 5 mobile devices prior to sale and without regard to the age of the intended user of each such
 6 device. That is, even though Meta is prohibited from providing the Meta platforms to users under
 7 the age of 13, Meta actively promotes and provides underage users access to its platforms by
 8 encouraging and allowing cell phone manufacturers to pre-install the platforms on mobile
 9 devices indiscriminately. Consequently, approximately 11 percent of United States children
 10 between the ages of 9 and 11 used Instagram in 2020,¹¹⁴ despite Meta claiming to remove
 11 approximately 600,000 underage users per quarter.¹¹⁵

12 115. Meta’s efforts to attract young users have been successful. *See supra*
 13 Section IV.A. In a recent study, 62 percent of children ages 13–17 reported they have used the
 14 Instagram app and 32 percent of children ages 13–17 reported they have used the Facebook app
 15 or website.

16 **c. Meta Intentionally Maximizes the Time Users Spend on its Platforms**

17 116. The Meta platforms are designed to maximize user engagement, using features
 18 that exploit the natural human desire for social interaction and the neurophysiology of the brain’s
 19 reward systems to keep users endlessly scrolling, posting, “liking,” commenting, and counting
 20 the number of “likes” and comments to their own posts. The still-developing brains of children
 21 are particularly vulnerable to such exploitation.

22 _____
 23 ¹¹³ Georgia Wells & Jeff Horwitz, *Facebook’s Effort to Attract Preteens Goes Beyond Instagram*
 24 *Kids, Documents Show; It has investigated how to engage young users in response to*
 25 *competition from Snapchat, TikTok; ‘Exploring playdates as a growth lever*, Wall St. J. (Sept.
 26 28, 2021), <https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667>.

27 ¹¹⁴ Brooke Auxier *et al.*, *Parenting Children in the Age of Screens*, Pew Rsch. Ctr. (July 28,
 28 2020), <https://www.pewresearch.org/internet/2020/07/28/childrens-engagement-with-digital-devices-screen-time/>.

¹¹⁵ Georgia Wells & Jeff Horwitz, *Facebook’s Effort to Attract Preteens Goes Beyond Instagram*
Kids, Documents Show; It has investigated how to engage young users in response to
competition from Snapchat, TikTok; ‘Exploring playdates as a growth lever, Wall St. J. (Sept.
 28 28, 2021), <https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667>.

1 117. One of the ways in which Meta employs IVR is through its push notifications and
2 emails, which encourage habitual use and are designed to prompt users to open and be exposed
3 to content selected to maximize the use of Meta’s platforms and the ads run on them. In
4 particular, Meta spaces out notifications of likes and comments into multiple bursts rather than
5 notifying users in real time, so as to create dopamine gaps that leave users craving in anticipation
6 for more. In this regard, Meta’s push notifications and emails are specifically designed to
7 manipulate users into reengaging with Meta’s platforms to increase user engagement
8 regardless of a user’s health or wellbeing.

9 118. Meta also exploits IVR to manipulate users with one of its most defining features:
10 the “Like” button. Meta knows “Likes” are a source of social comparison harm for many users,
11 as detailed below. Several Meta employees involved in creating the Like button have since left
12 Meta and have spoken publicly about the manipulative nature of Meta’s platforms and the harm
13 they cause users.¹¹⁶

14 119. Additionally, Meta designed other features of its platforms on IVR principles,
15 such as posts, comments, tagging, and the “pull to refresh” feature (which is similar to the way
16 that slot machines work).

17 120. Other design decisions were motivated by reciprocity, such as the use of visual
18 cues to reflect that someone is currently writing a message (a feature designed to keep a user on
19 the platform until they receive the message), and alerting users when a recipient has read their
20 message (which encourages the recipient to respond and return to the platform to check for a
21 response).

22 121. The Meta platforms are designed to encourage users to post content and to like,
23 comment, and interact with other users’ posts. Each new post that appears on a user’s feed
24 functions as a dopamine-producing social interaction in the user’s brain. Similarly, likes,
25 comments, and other interactions with user’s posts function as an even stronger dopamine-

26
27 ¹¹⁶ See, e.g., Paul Lewis, *‘Our minds can be hijacked’: the tech insiders who fear a smartphone*
28 *dystopia*, Guardian (Oct. 6, 2017),
<https://www.theguardian.com/technology/2017/oct/05/smartphone-addiction-silicon-valley-dystopia>.

1 producing stimulus than does seeing new posts from other users. This in turn drives users to
2 generate content they expect will generate many likes and comments. In this regard, Meta has
3 designed its platforms to function in concert, as popular content posted by other users
4 psychologically compels users to post similar content themselves, trapping users—especially
5 youth—in endless cycles of “little dopamine loops.”¹¹⁷

6 **d. Meta’s Algorithms Are Manipulative and Harmful**

7 122. Meta also employs advanced computer algorithms and artificial intelligence to
8 make its platforms as engaging and habit forming as possible for users. For example, the Meta
9 platforms display curated content and employ recommendations that are customized to each user
10 by using sophisticated algorithms. The proprietary services developed through such algorithms
11 include News Feed (a newsfeed of stories and posts published on the platform, some of which
12 are posted by connections and others that are suggested by Meta’s algorithms), People You May
13 Know (algorithm-based suggestions of persons with common connections or background),
14 Suggested for You, Groups You Should Join, and Discover (algorithm-based recommendations
15 of groups). Such algorithm-based content and recommendations are pushed to each user in a
16 steady stream as the user navigates the platform as well as through notifications sent to the user’s
17 smartphone and email addresses when the user is disengaged with the platform.

18 123. Meta’s algorithms are not based exclusively on user requests or even user inputs.
19 Meta’s algorithms combine information entered or posted by the user on the platform with the
20 user’s demographics and other data points collected and synthesized by Meta, make assumptions
21 about that user’s interests and preferences, make predictions about what else might appeal to the
22 user, and then make very specific recommendations of posts and pages to view and groups to
23 visit and join based on rankings that will optimize Meta’s key performance indicators. In this
24 regard, Meta’s design dictates the way content is presented, such as its ranking and
25
26

27 ¹¹⁷ Allison Slater Tate, *Facebook whistleblower Frances Haugen says parents make 1 big*
28 *mistake with social media*, Today (Feb. 7, 2022),
<https://www.today.com/parents/teens/facebook-whistleblower-frances-haugen-rcna15256>.

1 prioritization.¹¹⁸

2 124. Meta’s current use of algorithms in its platforms is driven and designed to
3 maximize user engagement. Over time, Meta has gradually transitioned away from chronological
4 ranking, which organized the interface according to when content was posted or sent, to
5 prioritize Meaningful Social Interactions (“MSI”), which emphasizes users’ connections and
6 interactions such as likes and comments and gives greater significance to the interactions of
7 connections that appeared to be the closest to users. Meta thus developed and employed an
8 “amplification algorithm” to execute engagement-based ranking, which considers a post’s likes,
9 shares, and comments, as well as a respective user’s past interactions with similar content, and
10 exhibits the post in the user’s newsfeed if it otherwise meets certain benchmarks.

11 125. Meta’s algorithms covertly operate on the principle that intense reactions
12 invariably compel attention. Because these algorithms measure reactions and contemporaneously
13 immerse users in the most reactive content, these algorithms effectively work to steer users
14 toward the most negative content, because negative content routinely elicits passionate reactions.

15 126. Due to its focus on user engagement, Meta’s algorithms promote content that is
16 objectionable and harmful to many users. As set forth in greater detail below, Meta was well
17 aware of the harmful content that it was promoting but failed to change its algorithms because
18 the inflammatory content that its algorithms were feeding to users fueled their return to the
19 platforms and led to more engagement—which in turn helped Meta sell more advertisements that
20 generate most of its revenue. As such, Meta’s algorithms promote harmful content because such
21 content increases user engagement, which thereby increases its appeal to advertisers and
22 increases its overall value and profitability.

23 127. Meta’s shift from chronological ranking to algorithm-driven content and
24 recommendations has changed the Meta platforms in ways that are profoundly dangerous and
25 harmful to children, whose psychological susceptibility to habit-forming platforms put them at
26

27 ¹¹⁸ See, e.g., Adam Mosseri, *Shedding More Light on How Instagram Works*, Instagram (June 8,
28 2021), [https://about.instagram.com/blog/announcements/shedding-more-light-on-how-
instagram-works](https://about.instagram.com/blog/announcements/shedding-more-light-on-how-instagram-works).

1 great risk of harm from the Meta platforms’ exploitive and harmful features. In this regard, the
2 algorithms used by Meta’s platforms exploit child users’ diminished decision-making capacity,
3 impulse control, emotional maturity, and psychological resiliency caused by users’ incomplete
4 brain development—and Meta specifically designs its platforms with these vulnerabilities in
5 mind.

6 **e. Meta’s Harmful “Feeds”**

7 128. Both Facebook and Instagram show each user a “feed” that is generated by an
8 algorithm for that user, which consists of a series of photos and videos posted by accounts that
9 the user follows, along with advertising and content specifically selected and promoted by Meta.

10 129. These feeds are virtually bottomless lists of content that enable users to scroll
11 endlessly without any natural end points that would otherwise encourage them to move on to
12 other activities. In this regard, “[u]nlike a magazine, television show, or video game,” the Meta
13 platforms only rarely prompt their users to take a break by using “stopping cues.”¹¹⁹ Meta’s
14 “bottomless scrolling” feature is designed to encourages users to use its platforms for unlimited
15 periods of time.

16 130. Meta also exerts control over a user’s feed through certain ranking mechanisms,
17 escalation loops, and promotion of advertising and content specifically selected and promoted by
18 Meta based on, among other things, its ongoing planning, assessment, and prioritization of the
19 types of information most likely to increase user engagement.

20 131. As described above, the algorithms generating a user’s feed encourage excessive
21 use and promote harmful content, particularly where the algorithm is designed to prioritize the
22 number of interactions rather than the quality of interactions.

23 132. In this regard, Meta utilizes private information of its child users to “precisely
24 target [them] with content and recommendations, assessing what will provoke a reaction,”
25 including encouragement of “destructive and dangerous behaviors,” which is how Meta “can
26

27
28 ¹¹⁹ See Zara Abrams, *How Can We Minimize Instagram’s Harmful Effects?*, Am. Psych. Ass’n
(Dec. 2, 2021), <https://www.apa.org/monitor/2022/03/feature-minimize-instagram-effects>.

1 push teens into darker and darker places.”¹²⁰ As such, Meta’s “amplification algorithms, things
2 like engagement based ranking . . . can lead children . . . all the way from just something
3 innocent like healthy recipes to anorexia promoting content over a very short period of time.”¹²¹
4 Meta thus specifically selects and pushes this harmful content on its platforms, for which it is
5 then paid, and does so both for direct profit and also to increase user engagement, resulting in
6 additional profits down the road.

7 133. As one example, in 2021, Senators Richard Blumenthal, Marsha Blackburn and
8 Mike Lee tested and confirmed the fact that Meta’s platforms’ recommendation-based feeds and
9 features promote harmful content by opening test accounts purporting to be teenage girls.
10 Senator Blumenthal stated that, “[w]ithin an hour all our recommendations promoted pro-
11 anorexia and eating disorder content.”¹²² Likewise, Senator Lee found that an account for a fake
12 13-year-old girl was quickly “flooded with content about diets, plastic surgery and other
13 damaging material for an adolescent girl.”¹²³

14 134. Meta’s Instagram platform features a feed of “Stories,” which are short-lived
15 photo or video posts that are accessible only for 24 hours. This feature encourages constant,
16 repeated, and compulsive use of Instagram, so that users do not miss out on content before it
17 disappears. As with other feeds, the presentation of content in a user’s Stories is generated by an
18 algorithm designed by Meta to maximize the amount of time a user spends on the app.

19 135. Instagram also features a feed called “Explore,” which displays content posted by
20 users not previously “followed.” The content in “Explore” is selected and presented by an
21 algorithm designed by Meta to maximize the amount of time a user spends on the app. As with

22 ¹²⁰ See *Facebook Whistleblower Frances Haugen Testifies on Children & Social Media Use: Full Senate Hearing Transcript* at 09:02, Rev (Oct. 5, 2021),
23 <https://www.rev.com/blog/transcripts/facebook-whistleblower-frances-haugen-testifies-on-children-social-media-use-full-senate-hearing-transcript> (statement by Mr. Chairman
24 Blumenthal).

25 ¹²¹ *Id.* at 37:34 (statement by Ms. Frances Haugen).

26 ¹²² Vanessa Romo, *4 Takeaways from Senators' Grilling of Instagram's CEO About Kids and Safety*, NPR (Dec. 8, 2021, 10:13 PM),
27 <https://www.npr.org/2021/12/08/1062576576/instagrams-ceo-adam-mosseri-hears-senators-brush-aside-his-promises-to-self-poli>.

28 ¹²³ *Id.*

1 other feeds, the Explore feature may be scrolled endlessly, and its algorithm will continually
2 generate new recommendations, encouraging users to use the app for unlimited periods of time.

3 136. Instagram also features a feed called “Reels,” which presents short video posts by
4 users not previously followed. These videos play automatically, without input from the user,
5 encouraging the user to stay on the app for indefinite periods of time. As with other feeds, Reels
6 content is selected and presented by an algorithm designed by Meta to maximize the amount of
7 time a user spends on the app.

8 **f. For Years, Meta Has Been Aware That Its Platforms Harm Children**

9 137. In an internal slide presentation in 2019, Meta’s own researchers studying
10 Instagram’s effects on children concluded that “[w]e make body image issues worse for one in
11 three teen girls[.]”¹²⁴ This presentation was one of many documents leaked by former Meta
12 employee Frances Haugen to journalists at the *Wall Street Journal* and federal regulators in
13 2021.¹²⁵ The *Wall Street Journal*’s reporting on the documents began in September 2021 and
14 caused a national and international uproar.

15 138. The leaked documents confirmed what social scientists have long suspected, that
16 social media platforms like Meta’s—and Instagram in particular—can cause serious harm to the
17 mental and physical health of children. Moreover, this capacity for harm is by design—what
18 makes the Meta platforms profitable is precisely what harms its young users.

19 139. Upon information and belief, at least as far back as 2019, Meta initiated a
20 Proactive Incident Response experiment, which began researching the effect of Meta on the
21

22 ¹²⁴ Georgia Wells *et al.*, *Facebook Knows Instagram Is Toxic for Teen Girls, Company*
23 *Documents Show; Its own in-depth research shows a significant teen mental-health issue that*
24 *Facebook plays down in public*, *Wall St. J.* (Sept. 14, 2021),
[https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-](https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739)
[documents-show-11631620739](https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739).

25 ¹²⁵ The *Wall Street Journal* and *Digital Wellbeing* published several of these documents in
26 November 2021. See Paul Marsden, *The ‘Facebook Files’ on Instagram Harms—All Leaked*
27 *Slides on a Single Page*, *Digit. Wellbeing* (Oct. 20, 2021), [https://digitalwellbeing.org/the-](https://digitalwellbeing.org/the-facebook-files-on-instagram-harms-all-leaked-slides-on-a-single-page/)
28 [facebook-files-on-instagram-harms-all-leaked-slides-on-a-single-page/](https://digitalwellbeing.org/the-facebook-files-on-instagram-harms-all-leaked-slides-on-a-single-page/). Gizmodo also started
publishing these documents in November 2021. See Dell Cameron *et al.*, *Read the Facebook*
Papers for Yourself, *Gizmodo* (Apr. 18, 2022), [https://gizmodo.com/facebook-papers-how-to-](https://gizmodo.com/facebook-papers-how-to-read-1848702919)
[read-1848702919](https://gizmodo.com/facebook-papers-how-to-read-1848702919).

1 mental health of today’s children.¹²⁶ Meta’s own in-depth analyses show significant mental-
2 health issues stemming from the use of Instagram among teenage girls, many of whom linked
3 suicidal thoughts and eating disorders to their experiences on the app.¹²⁷ In this regard, Meta’s
4 researchers have repeatedly found that Instagram is harmful for a sizable percentage of teens that
5 use the platform.¹²⁸

6 140. In particular, the researchers found that “[s]ocial comparison,” or peoples’
7 assessment of their own value relative to that of others, is “worse on Instagram” for teens than on
8 other social media platforms.¹²⁹ One in five teens reported that Instagram “makes them feel
9 worse about themselves.”¹³⁰ Roughly two in five teen users reported feeling “unattractive,” while
10 one in 10 teen users reporting suicidal thoughts traced them to Instagram.¹³¹ Teens “consistently”
11 and without prompting blamed Instagram “for increases in the rate of anxiety and depression.”¹³²
12 And although teenagers identify Instagram as a source of psychological harm, they often lack the
13 self-control to use Instagram less. Also, according to Meta’s own researchers, young users are
14 not capable of controlling their Instagram use to protect their own health.¹³³ Such users “often
15 feel ‘addicted’ and know that what they’re seeing is bad for their mental health but feel unable to
16 stop themselves.”¹³⁴

17 141. Similarly, in a March 2020 presentation posted to Meta’s internal message board,
18 researchers found that “[t]hirty-two percent of teen girls said that when they felt bad about their
19

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21 ¹²⁶ See *Facebook Whistleblower Testifies on Protecting Children Online*, C-SPAN (Oct. 5,
22 2021), <https://www.c-span.org/video/?515042-1/whistleblower-frances-haugen-calls-congress-regulate-facebook>.

23 ¹²⁷ See Georgia Wells *et al.*, *Facebook Knows Instagram Is Toxic for Teen Girls*, *Company*
24 *Documents Show*, Wall St. J. (Sept. 14, 2021, 7:59 AM),
https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739?mod=hp_lead_pos7&mod=article_inline.

25 ¹²⁸ *Id.*

26 ¹²⁹ *Id.*

27 ¹³⁰ *Id.*

28 ¹³¹ *Id.*

¹³² *Id.*

¹³³ *Id.*

¹³⁴ *Id.*

bodies, Instagram made them feel worse.”¹³⁵ Sixty-six percent of teen girls and 40 percent of teen boys have experienced negative social comparison harms on Instagram.¹³⁶ Further, approximately 13 percent of teen-girl Instagram users say the platform makes thoughts of “suicide and self harm” worse, and 17 percent of teen-girl Instagram users say the platform makes “[e]ating issues” worse.¹³⁷ Meta’s researchers also acknowledged that “[m]ental health outcomes” related to the use of Instagram “can be severe,” including “Body Dissatisfaction,” “Body Dysmorphia,” “Eating Disorders,” “Loneliness,” and “Depression.”¹³⁸

142. Not only is Meta aware of the harmful nature of the Meta platforms, the leaked documents reveal that Meta is aware of the specific design features that lead to excessive use and harm to children. For instance, Meta knows that Instagram’s Explore, Feed, and Stories features contribute to social comparison harms “in different ways.”¹³⁹ Moreover, specific “[a]spects of Instagram exacerbate each other to create a perfect storm” of harm to users, and that the “social comparison sweet spot”—a place of considerable harm to users, particularly teenagers and teen

¹³⁵ *Id.*; *Teen Girls Body Image and Social Comparison on Instagram—An Exploratory Study in the U.S.*, Wall St. J. (Sept. 29, 2021), <https://digitalwellbeing.org/wp-content/uploads/2021/10/Facebook-Files-Teen-Girls-Body-Image-and-Social-Comparison-on-Instagram.pdf>; see also *Hard Life Moments-Mental Health Deep Dive* at 14, Facebook (Nov. 2019), <https://about.fb.com/wp-content/uploads/2021/09/Instagram-Teen-Annotated-Research-Deck-1.pdf>; Paul Marsden, *The ‘Facebook Files’ on Instagram arms – all leaked slides on a single page* at slide 14, Dig. Wellbeing (Oct. 20, 2021) <https://digitalwellbeing.org/the-facebook-files-on-instagram-harms-all-leaked-slides-on-a-single-page> (hard life moment – mental health deep dive).

¹³⁶ *Teen Girls Body Image and Social Comparison on Instagram—An Exploratory Study in the U.S.* at 9, Wall St. J. (Sept. 29, 2021), <https://digitalwellbeing.org/wp-content/uploads/2021/10/Facebook-Files-Teen-Girls-Body-Image-and-Social-Comparison-on-Instagram.pdf>.

¹³⁷ *Hard Life Moments-Mental Health Deep Dive* at 14, Facebook (Nov. 2019), <https://about.fb.com/wp-content/uploads/2021/09/Instagram-Teen-Annotated-Research-Deck-1.pdf>; Paul Marsden, *The Facebook Files’ on Instagram arms – all leaked slides on a single page* at slide 14, Dig. Wellbeing (Oct. 20, 2021), <https://digitalwellbeing.org/the-facebook-files-on-instagram-harms-all-leaked-slides-on-a-single-page>.

¹³⁸ *Teen Girls Body Image and Social Comparison on Instagram—An Exploratory Study in the U.S.* at 34, Wall St. J. (Sept. 29, 2021), <https://digitalwellbeing.org/wp-content/uploads/2021/10/Facebook-Files-Teen-Girls-Body-Image-and-Social-Comparison-on-Instagram.pdf>.

¹³⁹ *Id.* at 31.

1 girls—lies at the center of Meta’s model and platforms’ features.¹⁴⁰ In this regard, Meta’s
 2 researchers wrote that “[s]ocial comparison and perfectionism are nothing new, but young people
 3 are dealing with this on an unprecedented scale,” and “[c]onstant comparison on Instagram is
 4 ‘the reason’ why there are higher levels of anxiety and depression in young people.”¹⁴¹

5 **2. Snapchat Intentionally Marketed to and Designed Its Social Media Platform**
 6 **for Youth Users, Substantially Contributing to the Mental Health Crisis**

7 **a. The Snapchat Platform**

8 143. Snapchat was created in 2011 by Stanford University students Evan Spiegel and
 9 Bobby Murphy, who serve as Snap Inc.’s CEO and CTO respectively.¹⁴²

10 144. Snapchat started as a photo sharing platform that allows users to form groups and
 11 share photos, known as “snaps,” that disappear after being viewed by the recipients. Snapchat
 12 became well known for this self-destructing content feature. But Snapchat quickly evolved from
 13 a simple photo-sharing app, as Snap made design changes and rapidly developed new features
 14 aimed at and ultimately increasing Snapchat’s popularity among teenage users.

15 145. In 2012, Snap added video sharing capabilities, pushing the number of “snaps” to
 16 50 million per day.¹⁴³ A year later, Snap added the “Stories” function, which allows users to
 17 upload a rolling compilation of snaps that the user’s friends can view for 24 hours.¹⁴⁴ The
 18 following year, Snap added a feature that enabled users to communicate with one another in real
 19 time via text or video.¹⁴⁵ It also added the “Our Story” feature, expanding on the original stories

20 _____
 21 ¹⁴⁰ *Id.* at 33.

22 ¹⁴¹ See *Hard Life Moments-Mental Health Deep Dive* at 53, Facebook (Nov. 2019),
 23 <https://about.fb.com/wp-content/uploads/2021/09/Instagram-Teen-Annotated-Research-Deck-1.pdf>.

24 ¹⁴² Katie Benner, *How Snapchat is Shaping Social Media*, N.Y. Times (Nov. 30, 2016),
 25 <https://www.nytimes.com/2016/11/30/technology/how-snapchat-works.html>.

26 ¹⁴³ J.J. Colao, *Snapchat Adds Video, Now Seeing 50 Million Photos A Day*, Forbes (Dec. 14,
 27 2012), <https://www.forbes.com/sites/jjcolao/2012/12/14/snapchat-adds-video-now-seeing-50-million-photos-a-day/?sh=55425197631b>.

28 ¹⁴⁴ Ellis Hamburger, *Snapchat’s Next Big Thing: ‘Stories’ That Don’t Just Disappear*, Verge (Oct. 3, 2013), <https://www.theverge.com/2013/10/3/4791934/snapchats-next-big-thing-stories-that-dont-just-disappear>.

¹⁴⁵ Romain Dillet, *Snapchat Adds Ephemeral Text Chat and Video Calls*, TechCrunch (May 1, 2014), <https://techcrunch.com/2014/05/01/snapchat-adds-text-chat-and-video-calls/>.

1 function by allowing users in the same location to add their photos and videos to a single
2 publicly viewable content stream.¹⁴⁶ At the same time, Snap gave users the capability to add
3 filters and graphic stickers onto photos indicating a user’s location, through a feature it refers to
4 as “Geofilters.”¹⁴⁷

5 146. In 2015, Snap added a “Discover” feature that promotes videos from news outlets
6 and other content creators.¹⁴⁸ Users can watch that content by scrolling through the Discover
7 feed. After the selected video ends, Snapchat automatically plays other video content in a
8 continuous stream unless or until a user manually exits the stream.

9 147. In 2020, Snap added the “Spotlight” feature through which it serves users “an
10 endless feed of user-generated content” Snap curates from the 300 million daily Snapchat
11 users.¹⁴⁹

12 148. Today, Snapchat is one of the largest social media platforms in the world. By its
13 own estimates, Snapchat has 363 million daily users, including 100 million daily users in North
14 America.¹⁵⁰ Snapchat reaches 90 percent of people ages 13–24 in over twenty countries and
15 reaches nearly half of all smartphone users in the United States.¹⁵¹

16 **b. Snap Markets Its Platform to Youth**

17 149. Snapchat’s commercial success is due to its advertising. In 2014, Snap began
18 running advertisements on Snapchat.¹⁵² Since then, Snapchat’s business model has revolved
19 around its advertising revenue, which has boomed. Snap now expects to generate \$4.86 billion in

20 ¹⁴⁶ Laura Stampler, *Snapchat Just Unveiled a New Feature*, Time (June 17, 2014),
21 <https://time.com/2890073/snapchat-new-feature/>.

22 ¹⁴⁷ Angela Moscaritolo, *Snapchat Adds ‘Geofilters’ in LA*, New York, PC Mag. (July 15, 2014),
<https://www.pcmag.com/news/snapchat-adds-geofilters-in-la-new-york>.

23 ¹⁴⁸ Steven Tweedie, *How to Use Snapchat’s New ‘Discover’ Feature*, Bus. Insider (Jan. 27,
2015), <https://www.businessinsider.com/how-to-use-snapchat-discover-feature-2015-1>.

24 ¹⁴⁹ Salvador Rodriguez, *Snap is launching a competitor to TikTok and Instagram Reels*, CNBC
25 (Nov. 23, 2020), <https://www.cnbc.com/2020/11/23/snap-launching-a-competitor-to-tiktok-and-instagram-reels.html>.

26 ¹⁵⁰ *October 2022 Investor Presentation* at 5, Snap Inc. (Oct. 20, 2022),
<https://investor.snap.com/events-and-presentations/presentations/default.aspx>.

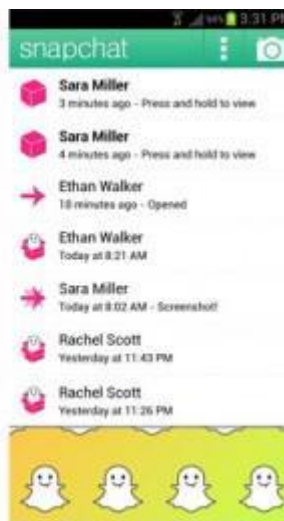
27 ¹⁵¹ *Id.* at 6–7.

28 ¹⁵² Sara Fischer, *A timeline of Snap’s advertising, from launch to IPO*, Axios (Feb. 3, 2017),
<https://www.axios.com/2017/12/15/a-timeline-of-snaps-advertising-from-launch-to-ipo-1513300279>.

1 Snapchat advertising revenue for 2022.¹⁵³

2 150. Snap specifically markets Snapchat to children ages 13–17 because they are a key
3 demographic for Snap’s advertising business. Internal documents describe users between the
4 ages of 13–34 as “critical” to Snap’s advertising success because of the common milestones
5 achieved within that age range.¹⁵⁴

6 151. While Snap lumps teenagers in with younger adults in its investor materials, Snap
7 marketing materials featuring young models reveal its priority market:



152. In addition to its marketing, Snap has targeted a younger audience by designing
Snapchat in a manner that older individuals find hard to use.¹⁵⁵ The effect of this design is that

¹⁵³ Bhanvi Staija, *TikTok's ad revenue to surpass Twitter and Snapchat combined in 2022*, Reuters (Apr. 11, 2022), <https://www.reuters.com/technology/tiktoks-ad-revenue-surpass-twitter-snapchat-combined-2022-report-2022-04-11/>.

¹⁵⁴ *October 2022 Investor Presentation at 27*, Snap Inc. (Oct. 20, 2022), <https://investor.snap.com/events-and-presentations/presentations/default.aspx>.

¹⁵⁵ See Hannah Kuchler & Tim Bradshaw, *Snapchat's Youth Appeal Puts Pressure on Facebook*, Fin. Times (Aug. 21, 2017), <https://www.ft.com/content/07e4dc9e-86c4-11e7-bf50-e1c239b45787>.

1 Snapchat is a platform where its young users are insulated from older users including their
2 parents. As Snap’s CEO explained, “[w]e’ve made it very hard for parents to embarrass their
3 children[.]”¹⁵⁶

4 153. Snap also designed Snapchat as a haven for young users to hide content from their
5 parents by ensuring that photos, videos, and chat messages quickly disappear. This design further
6 insulates children from adult oversight.

7 154. Moreover, Snap added as a feature the ability for users to create cartoon avatars
8 modeled after themselves.¹⁵⁷ By using an artform generally associated with and directed at
9 younger audiences, Snap further designed Snapchat to entice teenagers and younger children.

10 155. In 2013, Snap also marketed Snapchat specifically to kids under 13 through a
11 feature it branded “SnapKidz.”¹⁵⁸ This feature—part of the Snapchat platform—allowed children
12 under 13 to take photos, draw on them, and save them locally on the device.¹⁵⁹ Kids could also
13 send these images to others or upload them to other social media sites.¹⁶⁰

14 156. While SnapKidz feature was later discontinued and Snap purports to now prohibit
15 users under the age of 13, its executives have admitted that its age verification “is effectively
16 useless in stopping underage users from signing up to the Snapchat app.”¹⁶¹

17 157. Snap’s efforts to attract young users have been successful. *See supra*
18 Section IV.A. Teenagers consistently name Snapchat as a favorite social media platform. The
19 latest figures show 13 percent of children ages 8–12 used Snapchat in 2021,¹⁶² and almost 60

20 ¹⁵⁶ Max Chafkin & Sarah Frier, *How Snapchat Built a Business by Confusing Olds*, Bloomberg
21 (Mar. 3, 2016), <https://www.bloomberg.com/features/2016-how-snapchat-built-a-business/>.

22 ¹⁵⁷ Kif Leswing, *Snapchat just introduced a feature it paid more than \$100 million for*, Bus.
23 Insider (July 19, 2016), [https://www.businessinsider.com/snapchat-just-introduced-a-feature-it-](https://www.businessinsider.com/snapchat-just-introduced-a-feature-it-paid-more-than-100-million-for-2016-7)
24 [paid-more-than-100-million-for-2016-7](https://www.businessinsider.com/snapchat-just-introduced-a-feature-it-paid-more-than-100-million-for-2016-7).

25 ¹⁵⁸ Larry Magid, *Snapchat Creates SnapKidz – A Sandbox for Kids Under 13*, Forbes (June 23,
26 2013), [https://www.forbes.com/sites/larrymagid/2013/06/23/snapchat-creates-snapkidz-a-](https://www.forbes.com/sites/larrymagid/2013/06/23/snapchat-creates-snapkidz-a-sandbox-for-kids-under-13/?sh=7c682a555e5a)
27 [sandbox-for-kids-under-13/?sh=7c682a555e5a](https://www.forbes.com/sites/larrymagid/2013/06/23/snapchat-creates-snapkidz-a-sandbox-for-kids-under-13/?sh=7c682a555e5a).

28 ¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

¹⁶¹ Isobel Asher Hamilton, *Snapchat admits its age verification safeguards are effectively
26 useless*, Bus. Insider (Mar. 19, 2019), [https://www.businessinsider.com/snapchat-says-its-age-](https://www.businessinsider.com/snapchat-says-its-age-verification-safeguards-are-effectively-useless-2019-3)
27 [verification-safeguards-are-effectively-useless-2019-3](https://www.businessinsider.com/snapchat-says-its-age-verification-safeguards-are-effectively-useless-2019-3).

¹⁶² Victoria Rideout *et al.*, *Common Sense Census: Media use by tweens and teens, 2021* at 5,
Common Sense Media (2022),

1 percent of children ages 13–17 use Snapchat.¹⁶³

2 **c. Snap Intentionally Maximizes the Time Users Spend on its Platform**

3 158. Snap promotes excessive use of its platform through design features and
4 manipulative algorithms intended to maximize users’ screen time.

5 159. Snap has implemented inherently and intentionally exploitive features into
6 Snapchat, including “Snapstreaks,” various trophies and reward systems, quickly disappearing
7 (“ephemeral”) messages, and filters. Snap designed these features, along with others, to
8 maximize the amount of time users spend on Snapchat.

9 160. Snaps are intended to manipulate users by activating the rule of reciprocation.¹⁶⁴
10 Whenever a user gets a snap, they feel obligated to send a snap back. And Snapchat tells users
11 each time they receive a snap by pushing a notification to the recipient’s cellphone. These
12 notifications are designed to prompt users to open Snapchat and view content, increasing the
13 amount of time users spend on Snapchat. Further, because snaps disappear within ten seconds of
14 being viewed, users feel compelled to reply immediately. This disappearing nature of snaps is a
15 defining characteristic of Snapchat and intended keep users on the platform.

16 161. Snap also keeps users coming back to the Snapchat platform through the
17 “Snapstreaks” feature.¹⁶⁵ A “streak” is a counter within Snapchat that tracks how many
18 consecutive days two users have sent each other snaps. If a user fails to snap the other user
19 within 24 hours, the streak ends. Snap adds extra urgency by putting an hourglass emoji next to a

20 https://www.common sense media.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf.

21 ¹⁶³ Emily Vogels *et al.*, *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10,
22 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

23 ¹⁶⁴ Nir Eyal, *The Secret Psychology of Snapchat*, Nir & Far (Apr. 14, 2015),
24 <https://www.nirandfar.com/psychology-of-snapchat/>.

25 ¹⁶⁵ See Avery Hartmans, *These are the sneaky ways apps like Instagram, Facebook, Tinder lure you in and get you ‘addicted’*, Bus. Insider (Feb. 17 2018),
26 <https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-keep-you-hooked-13>; see generally Virginia Smart &
27 Tyana Grundig, *‘We’re designing minds’: Industry insider reveals secrets of addictive app trade*, CBC (Nov. 3, 2017), <https://www.cbc.ca/news/science/marketplace-phones-1.4384876>;
28 Julian Morgans, *The Secret Ways Social Media is Built for Addiction*, Vice (May 17, 2017), <https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction>.

1 friend's name if a Snapchat streak is about to end.¹⁶⁶ This design implements a system where a
2 user must "check constantly or risk missing out."¹⁶⁷ And this feature is particularly effective on
3 teenage users. "For teens in particular, streaks are a vital part of using the app, and of their social
4 lives as a whole."¹⁶⁸ Some children become so obsessed with maintaining a Snapstreak that they
5 give their friends access to their accounts when they may be away from their phone for a day or
6 more, such as on vacation.¹⁶⁹

7 162. Snap also designed features that operate on IVR principles to maximize the time
8 users are on its platform. The "rewards" come in the form of a user's "Snapscore," and other
9 signals of recognition similar to "likes" used in other platforms. For example, a Snapscore
10 increases with each snap a user sends and receives. The increase in score and other trophies and
11 charms users can earn by using the app operate on variable reward patterns. Like Snapstreaks,
12 these features are designed to incentivize sending snaps and increase the amount of time users
13 spend on Snapchat.

14 163. Snap also designs photo and video filters and lenses, which are central to
15 Snapchat's function as a photo and video sharing social media platform. Snap designed its filters
16 and lenses in a way to further maximize the amount of time users spend on Snapchat. One way
17 Snap uses its filters to hook young users is by creating temporary filters that impose a sense of
18 urgency to use them before they disappear. Another way Snap designed its filters to increase
19

20 ¹⁶⁶ Lizette Chapman, *Inside the Mind of a Snapchat Streaker*, Bloomberg (Jan. 30, 2017),
21 <https://www.bloomberg.com/news/features/2017-01-30/inside-the-mind-of-a-snapchat-streaker>.

22 ¹⁶⁷ *Id.*

23 ¹⁶⁸ Avery Hartmans, *These are the sneaky ways apps like Instagram, Facebook, Tinder lure you*
24 *in and get you 'addicted'*, Bus. Insider (Feb. 17 2018), [https://www.businessinsider.com/how-](https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-keep-you-hooked-13)
25 [app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-](https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-keep-you-hooked-13)
26 [keep-you-hooked-13](https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-keep-you-hooked-13); see generally Cathy Becker, *Experts warn parents how Snapchat can*
27 *hook in teens with streaks*, ABC News (July 27, 2017),
28 [https://abcnews.go.com/Lifestyle/experts-warn-parents-snapchat-hook-teens-](https://abcnews.go.com/Lifestyle/experts-warn-parents-snapchat-hook-teens-streaks/story?id=48778296)
[streaks/story?id=48778296](https://abcnews.go.com/Lifestyle/experts-warn-parents-snapchat-hook-teens-streaks/story?id=48778296).

29 ¹⁶⁹ Caroline Knorr, *How to resist technology addiction*, CNN (Nov. 9, 2017),
30 <https://www.cnn.com/2017/11/09/health/science-of-tech-obsession-partner/index.html>; Jon
31 Brooks, *7 Specific Tactics Social Media Companies Use to Keep You Hooked*, KQED (June 9,
32 2017), [https://www.kqed.org/futureofyou/397018/7-specific-ways-social-media-companies-](https://www.kqed.org/futureofyou/397018/7-specific-ways-social-media-companies-have-you-hooked)
[have-you-hooked](https://www.kqed.org/futureofyou/397018/7-specific-ways-social-media-companies-have-you-hooked).

1 screen use is by gamification. Many filters include games,¹⁷⁰ creating competition between users
2 by sending each other snaps with scores. Further, Snap tracks data on the most commonly used
3 filters and develops new filters based on this data.¹⁷¹ And Snap personalizes filters to further
4 entice individuals to use Snapchat more.¹⁷² Snap designs and modifies these filters to maximize
5 the amount of time users spend on Snapchat.

6 **d. Snapchat’s Algorithms Are Manipulative and Harmful**

7 164. Snap also uses complex algorithms to suggest friends to users and recommend
8 content in order to keep users using Snapchat.

9 165. Snap notifies users based on an equation Snap uses to determine whether someone
10 should add someone else as a friend on Snapchat. This is known as “Quick Add.” By using an
11 algorithm to suggest friends to users, Snapchat increases the odds users will add additional
12 friends, send additional snaps, and spend more time on the app.

13 166. Snapchat also contains “Discover” and “Spotlight” features that use algorithms to
14 recommend content to users. The Discover feature includes content from news and other media
15 outlets.¹⁷³ A user’s Discover page is populated by an algorithm and constantly changes
16 depending on how a user interacts with the content.¹⁷⁴ Similarly, the Spotlight feature promotes
17 popular videos from other Snapchat users and is based on an algorithm that determines whether a
18 user has positively or negatively engaged with similar content.¹⁷⁵ Snap programs its algorithms
19 to push content to users that will keep them engaged on Snapchat and, thereby, increase the
20 amount of time users spend on Snapchat, worsening their mental health.

21
22 ¹⁷⁰ Josh Constine, *Now Snapchat Has ‘Filter Games’*, TechCrunch (Dec. 23, 2016),
<https://techcrunch.com/2016/12/23/snapchat-games/>.

23 ¹⁷¹ *How We Use Your Information*, Snap Inc., <https://snap.com/en-US/privacy/your-information>
24 (last visited Dec. 8, 2022).

25 ¹⁷² *Id.*

26 ¹⁷³ Steven Tweedie, *How to Use Snapchat’s New ‘Discover’ Feature*, Bus. Insider (Jan. 27,
2015), <https://www.businessinsider.com/how-to-use-snapchat-discover-feature-2015-1>.

27 ¹⁷⁴ *How We Use Your Information*, Snap Inc., <https://snap.com/en-US/privacy/your-information>
28 (last visited Dec. 8, 2022).

¹⁷⁵ Sara Fischer, *Snapchat launches Spotlight, a TikTok competitor*, Axios (Nov. 23, 2020),
[https://www.axios.com/2020/11/23/snapchat-launches-spotlight-tiktok-competitor](https://www.axios.com/2020/11/23/snapchat-launches-spotlight-tiktok-competitor;);
<https://snap.com/en-US/privacy/your-information>.

e. **Snap’s Conduct in Designing and Operating Its Platform Has Harmed Youth Mental Health**

167. The way in which Snap has designed and operated Snapchat has caused youth to suffer increased anxiety, depression, disordered eating, cyberbullying, and sleep deprivation.

168. Snap knows Snapchat is harming youth because, as alleged above, Snap intentionally designed Snapchat to maximize engagement by preying on the psychology of children through its use of algorithms and other features including Snapstreaks, various trophies and reward systems, quickly disappearing messages, filters, and games.

169. Snap should know that its conduct has negatively affected youth. Snap’s conduct has been the subject of inquiries by the United States Senate regarding Snapchat’s use “to promote bullying, worsen eating disorders, and help teenagers buy dangerous drugs or engage in reckless behavior.”¹⁷⁶ Further, Senators from across the ideological spectrum have introduced bills that would ban many of the features Snapchat uses, including badges and other awards recognizing a user’s level of engagement with the platform.¹⁷⁷ Despite these calls for oversight from Congress, Snap has failed to curtail its use of streaks, badges, and other awards that recognize users’ level of engagement with Snapchat.

170. Snap also knows or should know of Snapchat’s other negative effects on youth because of published research findings. For instance, the Journal of the American Medical Association has recognized that Snapchat’s effect on how young people view themselves is so severe, that it named a new disorder, “Snapchat dysmorphia,” after the platform.¹⁷⁸ This disorder describes people, usually young women, seeking plastic surgery to make themselves look like

¹⁷⁶ Bobby Allyn, *4 Takeaways from the Senate child safety hearing with YouTube, Snapchat and TikTok*, Nat’l Pub. Radio (Oct. 26, 2021), <https://www.npr.org/2021/10/26/1049267501/snapchat-tiktok-youtube-congress-child-safety-hearing>.

¹⁷⁷ See Abigail Clukey, *Lawmaker Aims To Curb Social Media Addiction With New Bill*, Nat’l Pub. Radio (Aug. 3, 2019), <https://www.npr.org/2019/08/03/747086462/lawmaker-aims-to-curb-social-media-addiction-with-new-bill>; *Social Media Addiction Reduction Technology Act*, S. 2314, 116th Cong. (2019); *Kids Internet Design and Safety Act*, S. 2918, 117th Cong. (2021).

¹⁷⁸ ‘Snapchat Dysmorphia’: When People Get Plastic Surgery To Look Like A Social Media Filter, WBUR (Aug 29, 2018), <https://www.wbur.org/hereandnow/2018/08/29/snapchat-dysmorphia-plastic-surgery>.

1 the way they do through Snapchat filters.¹⁷⁹ The rationale underlying this disorder is that beauty
 2 filters on social media, like Snapchat, create a “sense of unattainable perfection” that is
 3 alienating and damaging to a person’s self-esteem.¹⁸⁰ One social psychologist summed the effect
 4 as “the pressure to present a certain filtered image on social media can certainly play into
 5 [depression and anxiety] for younger people who are just developing their identities.”¹⁸¹

6 171. Despite knowing Snapchat harms its young users, Snap continues to update and
 7 add features intentionally designed to maximize the amount of time users spend on Snapchat.
 8 Snap continues its harmful conduct because its advertising revenue relies on Snapchat’s users
 9 consuming large volumes of content on its platform.

10 **3. TikTok Intentionally Marketed to and Designed Its Social Media Platform**
 11 **for Youth Users, Substantially Contributing to the Mental Health Crisis**

12 **a. TikTok’s Platform**

13 172. TikTok is a social media platform that describes itself as “the leading destination
 14 for short-form mobile video.”¹⁸² According to TikTok, it is primarily a platform where users
 15 “create and watch short-form videos.”¹⁸³

16 173. TikTok’s predecessor, Musical.ly, launched in 2014 as a place where people
 17 could create and share 15-second videos of themselves lip-syncing or dancing to their favorite
 18 music.¹⁸⁴

19 174. In 2017, ByteDance launched an international version of a similar platform that
 20
 21

22 ¹⁷⁹ *Id.*

23 ¹⁸⁰ Nathan Smith & Allie Yang, *What happens when lines blur between real and virtual beauty*
 24 *through filters*, ABC News (May 1, 2021), <https://abcnews.go.com/Technology/lines-blur-real-virtual-beauty-filters/story?id=77427989>.

25 ¹⁸¹ *Id.*

26 ¹⁸² *About: Our Mission*, TikTok, <https://www.tiktok.com/about> (last visited Dec. 8, 2022).

27 ¹⁸³ *Protecting Kids Online: Snapchat, TikTok, and YouTube: Hearing Before the Subcomm. On*
 28 *Consumer Protection, Product Safety, and Data Security*, 117 Cong. (2021) (statement of
 Michael Beckerman, VP and Head of Public Policy, Americas, TikTok).

¹⁸⁴ Biz Carson, *How a failed education startup turned into Musical.ly, the most popular app*
you’ve probably never heard of, Bus. Insider (May, 28, 2016),
<https://www.businessinsider.com/what-is-musically-2016-5>.

1 also enabled users to create and share short lip-syncing videos that it called TikTok.¹⁸⁵

2 175. That same year, ByteDance acquired Musical.ly to leverage its young user base in
3 the United States, of almost 60 million monthly active users.¹⁸⁶

4 176. Months later, the apps were merged under the TikTok brand.¹⁸⁷

5 177. Since then, TikTok has expanded the length of time for videos from 15-seconds to
6 up to 10 minutes;¹⁸⁸ created a fund that was expected to grow to over \$1 billion within three
7 years to incentivize users to create videos that even more people will watch;¹⁸⁹ and had users
8 debut their own songs, share comedy skits,¹⁹⁰ and “challenge” others to perform an activity.¹⁹¹

9 178. The videos users create on TikTok are only one part of the equation.

10 179. “[O]ne of the defining features of the TikTok platform,” is its “For You” feed.¹⁹²
11 There, users are served with an unending stream of videos TikTok curates for them based on
12 complex, machine-learning algorithms intended to keep users on its platform. TikTok itself
13 describes the feed as “central to the TikTok experience and where most of our users spend their
14 time.”¹⁹³ *The New York Times* described it this way:

15 _____
16 ¹⁸⁵ Paresh Dave, *China’s ByteDance scrubs Musical.ly brand in favor of TikTok*, Reuters (Aug.
17 1, 2018), [https://www.reuters.com/article/us-bytedance-musically/chinas-bytedance-scrubs-](https://www.reuters.com/article/us-bytedance-musically/chinas-bytedance-scrubs-musical-ly-brand-in-favor-of-tiktok-idUSKBN1KNOBW)
18 [musical-ly-brand-in-favor-of-tiktok-idUSKBN1KNOBW](https://www.reuters.com/article/us-bytedance-musically/chinas-bytedance-scrubs-musical-ly-brand-in-favor-of-tiktok-idUSKBN1KNOBW).

19 ¹⁸⁶ Liza Lin & Rolfe Winkler, *Social-Media App Musical.ly Is Acquired for as Much as \$1*
20 *Billion; With 60 million monthly users, startup sells to Chinese maker of news app Toutiao*,
21 Wall St. J. (Nov. 10, 2017), [https://www.wsj.com/articles/lip-syncing-app-musical-ly-is-](https://www.wsj.com/articles/lip-syncing-app-musical-ly-is-acquired-for-as-much-as-1-billion-1510278123)
22 [acquired-for-as-much-as-1-billion-1510278123](https://www.wsj.com/articles/lip-syncing-app-musical-ly-is-acquired-for-as-much-as-1-billion-1510278123).

23 ¹⁸⁷ Paresh Dave, *China’s ByteDance scrubs Musical.ly brand in favor of TikTok*, Reuters (Aug.
24 1, 2018), [https://www.reuters.com/article/us-bytedance-musically/chinas-bytedance-scrubs-](https://www.reuters.com/article/us-bytedance-musically/chinas-bytedance-scrubs-musical-ly-brand-in-favor-of-tiktok-idUSKBN1KNOBW)
25 [musical-ly-brand-in-favor-of-tiktok-idUSKBN1KNOBW](https://www.reuters.com/article/us-bytedance-musically/chinas-bytedance-scrubs-musical-ly-brand-in-favor-of-tiktok-idUSKBN1KNOBW).

26 ¹⁸⁸ Andrew Hutchinson, *TikTok Confirms that 10 Minute Video Uploads are Coming to All*
27 *Users*, SocialMediaToday (Feb. 28, 2022), [https://www.socialmediatoday.com/news/tiktok-](https://www.socialmediatoday.com/news/tiktok-confirms-that-10-minute-video-uploads-are-coming-to-all-users/619535/)
28 [confirms-that-10-minute-video-uploads-are-coming-to-all-users/619535/](https://www.socialmediatoday.com/news/tiktok-confirms-that-10-minute-video-uploads-are-coming-to-all-users/619535/).

¹⁸⁹ Vanessa Pappas, *Introducing the \$200M TikTok Creator Fund*, TikTok (July 29, 2021),
<https://newsroom.tiktok.com/en-us/introducing-the-200-million-tiktok-creator-fund>.

¹⁹⁰ Joseph Steinberg, *Meet Musical.ly, the Video Social Network Quickly Capturing the Tween*
and Teen Markets, Inc. (June 2, 2016), [https://www.inc.com/joseph-steinberg/meet-musically-](https://www.inc.com/joseph-steinberg/meet-musically-the-video-social-network-quickly-capturing-the-tween-and-teen-m.html)
[the-video-social-network-quickly-capturing-the-tween-and-teen-m.html](https://www.inc.com/joseph-steinberg/meet-musically-the-video-social-network-quickly-capturing-the-tween-and-teen-m.html).

¹⁹¹ John Herrman, *How TikTok is Rewriting the World*, N.Y. Times (Mar. 10, 2019),
<https://www.nytimes.com/2019/03/10/style/what-is-tik-tok.html>.

¹⁹² *How TikTok recommends videos #ForYou*, TikTok (June 18, 2020),
<https://newsroom.tiktok.com/en-us/how-tiktok-recommends-videos-for-you>.

¹⁹³ *Id.*

1 It's an algorithmic feed based on videos you've interacted with, or
2 even just watched. It never runs out of material. It is not, unless you
3 train it to be, full of people you know, or things you've explicitly
4 told it you want to see. It's full of things that you seem to have
demonstrated you want to watch, no matter what you actually say
you want to watch.¹⁹⁴

5 180. The "For You" feed has quickly garnered TikTok hundreds of millions of users.
6 Since 2018, TikTok has grown from 271 million global users to more than 1 billion global
7 monthly users as of September 2021.¹⁹⁵

8 **b. TikTok Markets Its Platform to Youth**

9 181. TikTok, like the other Defendants' platforms, has built its business plan around
10 advertising revenue, which has boomed. In 2022, TikTok is projected to receive \$11 billion in
11 advertising revenue, over half of which (i.e., \$6 billion) is expected to come from the United
12 States.¹⁹⁶

13 182. TikTok, since its inception as Musical.ly, has been designed and developed with
14 youth in mind.

15 183. Alex Zhu and Louis Yang, the other co-founder of Musical.ly, raised \$250,000 to
16 build an app that experts could use to create short three- to five-minute videos explaining a
17 subject.¹⁹⁷ The day they released the app, Zhu said they knew "[i]t was doomed to be a failure,"
18 because "[i]t wasn't entertaining, and it didn't attract teens."¹⁹⁸

19 184. According to Zhu, he stumbled upon the idea that would become known as
20 TikTok while observing teens on a train, half of whom were listening to music while the other
21

22 _____
23 ¹⁹⁴ John Herrman, *How TikTok is Rewriting the World*, N.Y. Times (Mar. 10, 2019),
<https://www.nytimes.com/2019/03/10/style/what-is-tik-tok.html>.

24 ¹⁹⁵ Jessica Bursztynsky, *TikTok says 1 billion people use the app each month*, CNBC (Sept. 27,
2021), <https://www.cnbc.com/2021/09/27/tiktok-reaches-1-billion-monthly-users.html>.

25 ¹⁹⁶ Bhanvi Staija, *TikTok's ad revenue to surpass Twitter and Snapchat combined in 2022*,
26 Reuters (Apr. 11, 2022), [https://www.reuters.com/technology/tiktoks-ad-revenue-surpass-
twitter-snapchat-combined-2022-report-2022-04-11/](https://www.reuters.com/technology/tiktoks-ad-revenue-surpass-twitter-snapchat-combined-2022-report-2022-04-11/).

27 ¹⁹⁷ Biz Carson, *How a failed education startup turned into Musical.ly, the most popular app
you've probably never heard of*, Bus. Insider (May 28, 2016),
28 <https://www.businessinsider.com/what-is-musically-2016-5>.

¹⁹⁸ *Id.*

1 half took selfies or videos and shared the results with friends.¹⁹⁹ “That’s when Zhu realized he
2 could combine music, videos, and a social network to attract the early-teen demographic.”²⁰⁰

3 185. Zhu and Yang thereafter developed the short-form video app that is now known
4 as TikTok, which commentators have observed “encourages a youthful audience in subtle and
5 obvious ways.”²⁰¹

6 186. Among the more subtle ways the app was marketed to youth, are its design and
7 content. For example, the Federal Trade Commission (“FTC”) alleged that the app initially
8 centered around a child-oriented activity (i.e., lip syncing); featured music by celebrities that
9 then appealed primarily to teens and tweens, such as Selena Gomez and Ariana Grande; labelled
10 folders with names meant to appeal to youth, such as “Disney” and “school”; included songs in
11 such folders related to Disney television shows and movies, such as “Can You Feel the Love
12 Tonight” from the movie “The Lion King” and “You’ve Got a Friend in Me” from the movie
13 “Toy Story” and songs covering school-related subjects or school-themed television shows and
14 movies.²⁰²

15 187. The target demographic was also reflected in the sign-up process. In 2016, the
16 birthdate for those signing up for the app defaulted to the year 2000 (i.e., 16 years old).²⁰³

17 188. TikTok also cultivated a younger demographic in unmistakable, albeit concealed,
18 ways. In 2020, the *Intercept* reported on a document TikTok prepared for its moderators. In the
19 document, TikTok instructs its moderators that videos of “senior people with too many wrinkles”
20 are disqualified for the “For You” feed because that would make “the video . . . much less
21

22 ¹⁹⁹ *Id.*

23 ²⁰⁰ *Id.*

24 ²⁰¹ John Herrman, *Who’s Too Young for an App? Musical.ly Tests the Limits*, N.Y. Times (Sept.
25 16, 2016), [https://www.nytimes.com/2016/09/17/business/media/a-social-network-frequented-
by-children-tests-the-limits-of-online-regulation.html](https://www.nytimes.com/2016/09/17/business/media/a-social-network-frequented-by-children-tests-the-limits-of-online-regulation.html).

26 ²⁰² Complaint for Civil Penalties, Permanent Injunction, and Other Equitable Relief (“**Musical.ly
Complaint**”) at p. 8, ¶¶ 26–27, *United States v. Musical.ly*, 2:19-cv-01439-ODW-RAO (C.D.
27 Cal. Feb. 27, 2019), ECF No. 1.

28 ²⁰³ Melia Robinson, *How to use Musical.ly, the app with 150 million users that teens are obsessed
with*, Bus. Insider (Dec. 7, 2016), [https://www.businessinsider.com/how-to-use-musically-app-
2016-12](https://www.businessinsider.com/how-to-use-musically-app-2016-12).

1 attractive [and] not worth[] . . . recommend[ing.]”²⁰⁴

2 189. In December 2016, Zhu confirmed the company had actual knowledge that “a lot
3 of the top users are under 13.”²⁰⁵

4 190. The FTC alleged that despite the company’s knowledge of these and a
5 “significant percentage” of other users who were under 13, the company failed to comply with
6 the COPPA.²⁰⁶

7 191. TikTok settled those claims in 2019 by agreeing to pay what was then the largest
8 ever civil penalty under COPPA and to several forms of injunctive relief.²⁰⁷

9 192. In an attempt to come into compliance with the consent decree and COPPA,
10 TikTok made available to users under 13 what it describes as a “limited, separate app
11 experience.”²⁰⁸ The child version of TikTok restricts users from posting videos through the app.
12 Children can still, however, record and watch videos on TikTok.²⁰⁹ For that reason, experts fear
13 the app is “designed to fuel [kids’] interest in the grown-up version.”²¹⁰

14 193. These subtle and obvious ways TikTok markets to and obtained a young userbase
15 are manifestations of Zhu’s views about the importance of user engagement to growing TikTok.
16 Zhu explained the target demographic to the *New York Times*: “[T]eenage culture doesn’t exist”
17 in China because “teens are super busy in school studying for tests, so they don’t have the time
18

19 _____
20 ²⁰⁴ Sam Biddle *et al.*, *Invisible Censorship: TikTok Told Moderators to Suppress Posts by*
21 *“Ugly” People and the Poor to Attract New Users*, Intercept (Mar. 15, 2020),
<https://theintercept.com/2020/03/16/tiktok-app-moderators-users-discrimination/>.

22 ²⁰⁵ Jon Russell, *Muscal.ly defends its handling of young users, as it races past 40M MAUs at*
23 *8:58–11:12*, TechCrunch (Dec. 6, 2016), <https://techcrunch.com/2016/12/06/musically-techcrunch-disrupt-london/>.

24 ²⁰⁶ *See generally Musical.ly Complaint*, *supra* note 202.

25 ²⁰⁷ Lesley Fair, *Largest FTC COPPA settlement requires Musical.ly to change its tune*, FTC
(Feb. 27, 2019), <https://www.ftc.gov/business-guidance/blog/2019/02/largest-ftc-coppa-settlement-requires-musically-change-its-tune>.

26 ²⁰⁸ Dami Lee, *TikTok stops young users from uploading videos after FTC settlement*, Verge (Feb.
27 *27, 2019*), <https://www.theverge.com/2019/2/27/18243510/tiktok-age-young-user-videos-ftc-settlement-13-childrens-privacy-law>.

28 ²⁰⁹ *Id.*

²¹⁰ Leonard Sax, *Is TikTok Dangerous for Teens?*, Inst. Fam. Stud. (Mar. 29, 2022),
<https://ifstudies.org/blog/is-tiktok-dangerous-for-teens->

1 and luxury to play social media apps.”²¹¹ By contrast, Zhu describes “[t]eenagers in the U.S. [as]
2 a golden audience.”²¹²

3 194. TikTok’s efforts to attract young users have been successful. *See supra*
4 Section IV.A. Over 66 percent of children ages 13–17 report having used the TikTok app.

5 **c. TikTok Intentionally Maximizes the Time Users Spend on its**
6 **Platform**

7 195. TikTok employs design elements and complex algorithms to simulate variable
8 reward patterns in a flow-inducing stream of short-form videos intended to captivate its user’s
9 attention well after they are satiated.

10 196. Like the other Defendants’ social media platforms, TikTok developed features
11 that exploit psychological phenomenon such as IVR and reciprocity to maximize the time users
12 spend on its platform.

13 197. TikTok drives habitual use of its platform using design elements that operate on
14 principles of IVR. For example, TikTok designed its platform to allow users to like and reshare
15 videos. Those features serve as rewards for users who create content on the platform. Receiving
16 a like or reshare indicates that others approve of that user’s content and satisfies their natural
17 desire for acceptance.²¹³ Studies have shown that “likes” activate the reward region of the
18 brain.²¹⁴ The release of dopamine in response to likes creates a positive feedback loop.²¹⁵ Users
19 will use TikTok—again and again—in hope of another pleasurable experience.²¹⁶

20 198. TikTok also uses reciprocity to manipulate users to use the platform. TikTok

21 _____
22 ²¹¹ Paul Mozur, *Chinese Tech Firms Forced to Choose Market: Home or Everywhere Else*, N.Y.
23 Times (Aug. 9, 2016), <https://www.nytimes.com/2016/08/10/technology/china-homegrown-internet-companies-rest-of-the-world.html>.

24 ²¹² *Id.*

25 ²¹³ See, e.g., Lauren E. Sherman *et al.*, *The Power of the Like in Adolescence: Effects of Peer Influence on Neural and Behavioral Responses to Social Media*, 27(7) Psych. Sci. 1027–35 (July 2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999/>.

26 ²¹⁴ *Id.*

27 ²¹⁵ Rasan Burhan & Jalal Moradzadeh, *Neurotransmitter Dopamine (DA) and its Role in the Development of Social Media Addiction*, 11(7) J. Neurology & Neurophysiology 507 (2020), <https://www.iomeworld.org/open-access/neurotransmitter-dopamine-da-and-its-role-in-the-development-of-social-media-addiction.pdf>.

28 ²¹⁶ *Id.*

1 invokes reciprocity through features like “Duet.” The Duet feature allows users to post a video
2 side-by-side with a video from another TikTok user. Users use Duet as a way to react to the
3 videos of TikTok content creators. The response is intended to engender a reciprocal response
4 from the creator of the original video.

5 199. TikTok, like Snapchat, offers video filters, lenses, and music, which are intended
6 to keep users on its platform. Also, like Snapchat, TikTok has gamified its platform through
7 “challenges.” These challenges are essentially campaigns in which users compete to perform a
8 specific task. By fostering competition, TikTok incentivizes users to use its platform.

9 200. TikTok’s defining features, its “For You” feed, is a curated, never-ending stream
10 of short-form videos intended to keep users on its platform. In that way, TikTok feeds users
11 beyond the point they are satiated. The ability to scroll ad infinitum, coupled with the variable
12 reward pattern of TikTok induces a flow-like state for users that distorts their sense of time.²¹⁷
13 That flow is yet another way TikTok increases the time users spend on its platform.

14 **d. TikTok’s Algorithms are Manipulative**

15 201. The first thing a user sees when they open TikTok is the “For You” feed, even if
16 they have never posted anything, followed anyone, or liked a video.²¹⁸

17 202. The “For You” page presents users with a “stream of videos” TikTok claims are
18 “curated to [each user’s] interests.”²¹⁹

19 203. According to TikTok, it populates each user’s “For You” feed by “ranking videos
20 based on a combination of factors,” that include, among others, any interests expressed when a
21 user registers a new account, videos a user likes, accounts they follow, hashtags, captions,
22 sounds in a video they watch, and certain device settings, such as their language preferences and
23

24 ²¹⁷ Christian Montag *et al.*, *Addictive Features of Social Media/Messenger Platforms and*
25 *Freemium Games against the Background of Psychological and Economic Theories*, 16(14)
26 *Int’l J. Env’t Rsch. & Pub. Health* 2612 (July 23, 2019),
27 <https://doi.org/10.3390/ijerph16142612>.

28 ²¹⁸ Brian Feldman, *TikTok is Not the Internet’s Eden*, N.Y. Mag. (Mar. 16, 2020),
<https://nymag.com/intelligencer/2020/03/tiktok-didnt-want-you-to-see-ugly-or-poor-people-on-its-app.html>.

²¹⁹ *How TikTok recommends videos #ForYou*, TikTok (June 18, 2020),
<https://newsroom.tiktok.com/en-us/how-tiktok-recommends-videos-for-you>.

1 where they are located.²²⁰

2 204. Critically, some factors weigh heavier than others. To illustrate, TikTok explains
3 that an indicator of interest, such as “whether a user finishes watching a longer video from
4 beginning to end, would receive greater weight than a weak indicator, such as whether the
5 video’s viewer and creator are both in the same country.”²²¹

6 205. TikTok claims it ranks videos in this way because the length of time a user spends
7 watching a video is a “strong indicator of interest[.]”²²²

8 206. But Zhu offered a different explanation, he repeatedly told interviewers that he
9 was “focused primarily on increasing the engagement of existing users.”²²³ “Even if you have
10 tens of millions of users,” Zhu explained, “you have to keep them *always* engaged.”²²⁴

11 207. The decisions TikTok made in programming its algorithms are intended to do just
12 that, as TikTok candidly explained in an internal document titled, “TikTok Algo 101.” The
13 document, which TikTok has confirmed is authentic, “explains frankly that in the pursuit of the
14 company’s ‘ultimate goal’ of adding daily active users, it has chosen to optimize for two closely
15 related metrics in the stream of videos it serves: ‘retention’ — that is, whether a user comes back
16 — and ‘time spent.’”²²⁵

17 208. “This system means that watch time is key.”²²⁶ Guillaume Chaslot, the founder of
18 Algo Transparency, who reviewed the document at the request of the *New York Times*, explained
19 that “rather than giving [people] what they really want,” TikTok’s “algorithm tries to get people
20 addicted[.]”²²⁷

21 ²²⁰ *Id.*

22 ²²¹ *Id.*

23 ²²² *Id.*

24 ²²³ Joseph Steinberg, *Meet Musical.ly, the Video Social Network Quickly Capturing the Tween
and Teen Markets*, Inc. (June 2, 2016), [https://www.inc.com/joseph-steinberg/meet-musically-
the-video-social-network-quickly-capturing-the-tween-and-teen-m.html](https://www.inc.com/joseph-steinberg/meet-musically-the-video-social-network-quickly-capturing-the-tween-and-teen-m.html).

25 ²²⁴ Biz Carson, *How a failed education startup turned into Musical.ly, the most popular app
you’ve probably never heard of*, Bus. Insider (May 28, 2016),
26 <https://www.businessinsider.com/what-is-musically-2016-5> (emphasis added).

27 ²²⁵ Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021),
<https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html>.

28 ²²⁶ *Id.*

²²⁷ *Id.*

1 209. Put another way, the algorithm, coupled with the design elements, condition users
2 through reward-based learning processes to facilitate the formation of habit loops that encourage
3 excessive use.

4 210. The end result is that TikTok uses “a machine-learning system that analyzes each
5 video and tracks user behavior so that it can serve up a continually refined, never-ending stream
6 of TikToks optimized to hold [user’s] attention.”²²⁸

7 **e. TikTok’s Conduct in Designing and Operating its Platform Has**
8 **Harmed Youth Mental Health**

9 211. TikTok’s decision to program its algorithm to prioritize user engagement causes
10 harmful and exploitive content to be amplified to the young market it has cultivated.

11 212. The Integrity Institute, a nonprofit of engineers, product managers, data scientists,
12 and others, has demonstrated how prioritizing user engagement amplifies misinformation on
13 TikTok (and other platforms).²²⁹ That pattern, the Integrity Institute notes, is “true for a broad
14 range of harms,” such as hate speech and self-harm content, in addition to misinformation.²³⁰

15 213. The Integrity Institute’s analysis builds on a premise Mark Zuckerberg described
16 as the “Natural Engagement Pattern.”²³¹

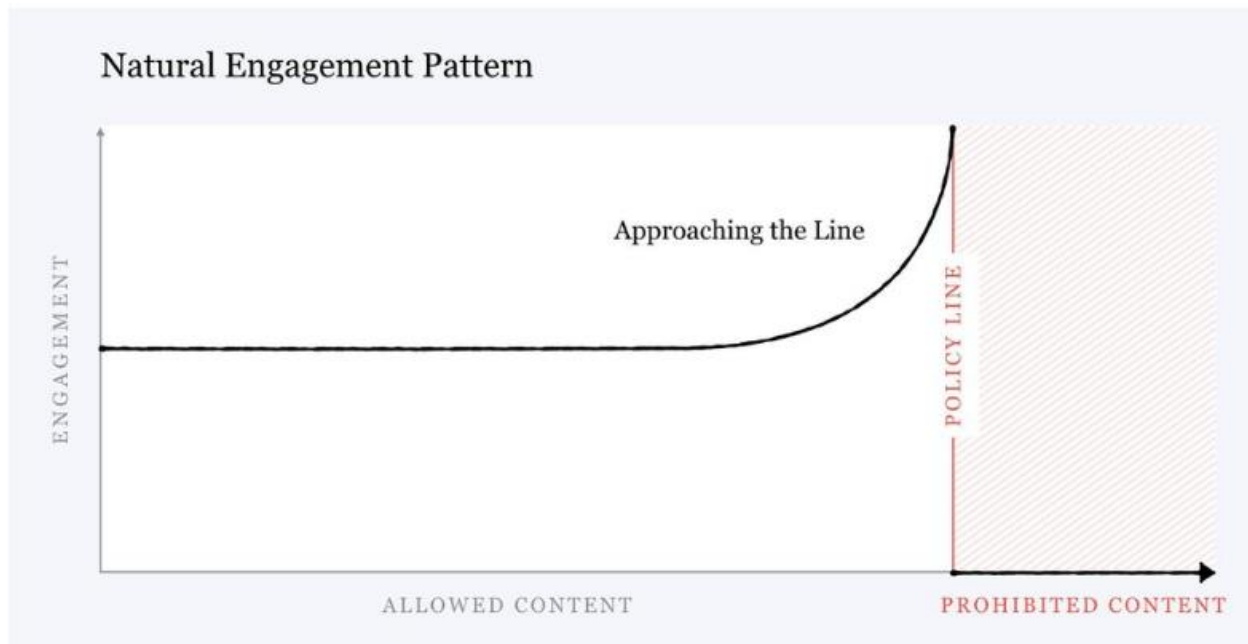
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22 ²²⁸ Jia Tolentino, *How TikTok Holds Our Attention*, New Yorker (Sept. 30, 2019),
<https://www.newyorker.com/magazine/2019/09/30/how-tiktok-holds-our-attention>.

23 ²²⁹ *Misinformation Amplification Analysis and Tracking Dashboard*, Integrity Inst. (Oct. 13,
2022), [https://integrityinstitute.org/our-ideas/hear-from-our-fellows/misinformation-](https://integrityinstitute.org/our-ideas/hear-from-our-fellows/misinformation-amplification-tracking-dashboard)
24 [amplification-tracking-dashboard](https://integrityinstitute.org/our-ideas/hear-from-our-fellows/misinformation-amplification-tracking-dashboard); see also Steven Lee Myers, *How Social Media Amplifies*
25 *Misinformation More Than Information*, N.Y. Times (Oct. 13, 2022),
[https://www.nytimes.com/2022/10/13/technology/misinformation-integrity-institute-](https://www.nytimes.com/2022/10/13/technology/misinformation-integrity-institute-report.html)
26 [report.html](https://www.nytimes.com/2022/10/13/technology/misinformation-integrity-institute-report.html).

27 ²³⁰ *Misinformation Amplification Analysis and Tracking Dashboard*, Integrity Inst. (Oct. 13,
2022), [https://integrityinstitute.org/our-ideas/hear-from-our-fellows/misinformation-](https://integrityinstitute.org/our-ideas/hear-from-our-fellows/misinformation-amplification-tracking-dashboard)
28 [amplification-tracking-dashboard](https://integrityinstitute.org/our-ideas/hear-from-our-fellows/misinformation-amplification-tracking-dashboard).

²³¹ Mark Zuckerberg, *A Blueprint for Content Governance and Enforcement*, Facebook (May 5,
2021), <https://www.facebook.com/notes/751449002072082/>.

214. This chart shows that as content gets closer and closer to becoming harmful, on average, it gets more engagement.



215. According to Zuckerberg “no matter where we draw the lines for what is allowed, as a piece of content gets close to that line, people will engage with it more on average[.]”²³²

216. This has important implications for platform design, as the Integrity Institute explains:

when platforms use machine learning models to predict user engagement on content, we should expect the predicted engagement to follow the actual engagement. When those predictions are used to rank and recommend content, specifically when a higher predicted engagement score means the content is more likely to be recommended or placed at the top of feeds, then we expect that misinformation will be preferentially distributed and amplified on the platform.²³³

217. Put differently, if you use past engagement to predict future engagement, as TikTok does, you are most likely to populate users “For You” feed with harmful content.

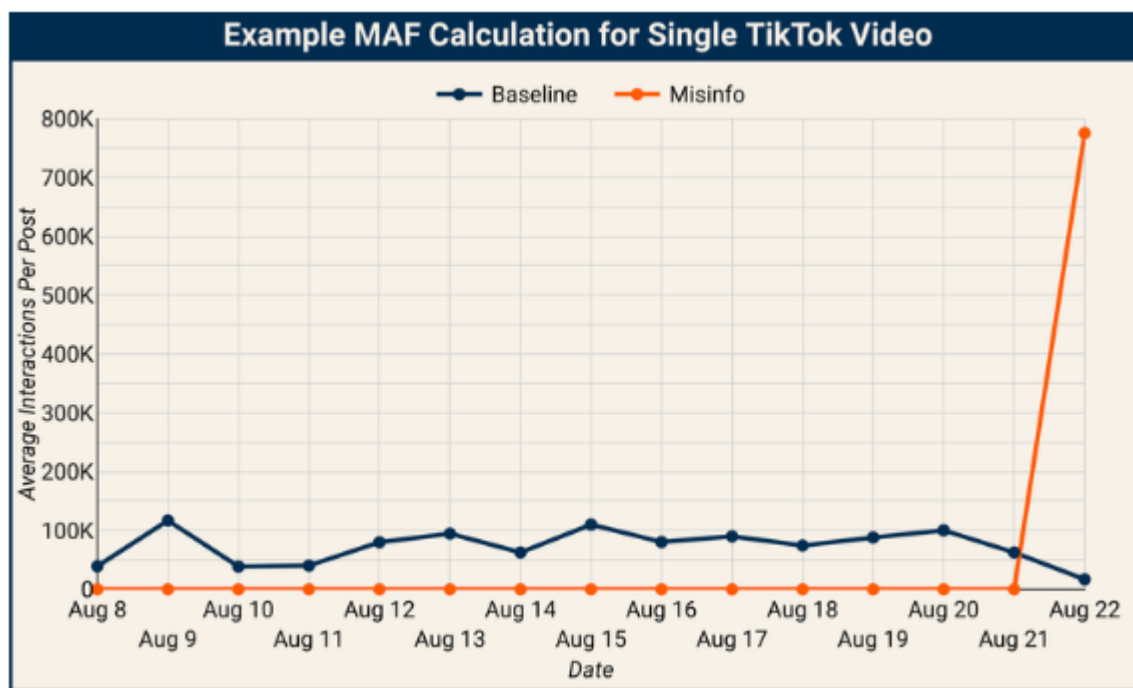
218. The Integrity Institute tested its theory by analyzing a category of harmful

²³² *Id.*

²³³ *Misinformation Amplification Analysis and Tracking Dashboard*, Integrity Inst. (Oct. 13, 2022), <https://integrityinstitute.org/our-ideas/hear-from-our-fellows/misinformation-amplification-tracking-dashboard>.

1 content: misinformation. Specifically, the Integrity Institute compared the amount of engagement
 2 (e.g., number of views) a post containing misinformation received as compared to prior posts
 3 from the same content creator.²³⁴

4 219. For example, a TikTok user’s historical posts received on average 75,000 views.
 5 When that same user posted a false statement (as determined by the International Fact Checking
 6 Network), the post received 775,000 views. In this case, TikTok amplified the misinformation 10
 7 times more than this user’s typical content.²³⁵



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19 220. After analyzing many other posts from other users, the Integrity Institute found
 20 that TikTok on average amplified misinformation 29 times more than other content.²³⁶

21 221. A separate investigation by *NewsGuard* found TikTok’s search algorithm
 22 similarly amplified misinformation. TikTok’s search engine, like its “For You” feed, is a favorite
 23 among youth, with 40 percent preferring it (and Instagram) over Google.²³⁷ Unfortunately,
 24 *NewsGuard* found that 1 in 5 of the top 20 TikTok search results on prominent news topics, such

25 ²³⁴ *Id.*

26 ²³⁵ *Id.*

27 ²³⁶ *Id.*

28 ²³⁷ Wanda Pogue, *Move Over Google. TikTok is the Go-To Search Engine for Gen Z*, Adweek (Aug. 4, 2022), <https://www.adweek.com/social-marketing/move-over-google-tiktok-is-the-go-to-search-engine-for-gen-z/>.

1 as school shootings and COVID vaccines, contain misinformation.²³⁸

2 222. Misinformation is just one type of harmful content TikTok amplifies to its young
3 users. Investigations by the *Wall Street Journal* found TikTok inundated young users with videos
4 about depression, self-harm, drugs, and extreme diets, to name a few.

5 223. In one investigation, the *Wall Street Journal* found TikTok’s algorithm quickly
6 pushed users down rabbit holes where they were more likely to encounter harmful content. The
7 *Wall Street Journal* investigated how TikTok’s algorithm chose what content to promote to users
8 by having 100 bots scroll through the “For You” feed.²³⁹ Each bot was programmed with
9 interests, such as extreme sports, forestry, dance, astrology, and animals.²⁴⁰ Those interests were
10 not disclosed in the process of registering their accounts.²⁴¹ Rather, the bots revealed their
11 interests through their behaviors, specifically the time they spent watching the videos TikTok
12 recommended to them. Consistent with TikTok’s internal “Algo 101” document, the *Wall Street*
13 *Journal* found that time spent watching videos to be “the most impactful data on [what] TikTok
14 serves you.”²⁴²

15 224. Over the course of 26 minutes, one bot watched 224 videos, lingering over videos
16 with hashtags for “depression” or “sad.”²⁴³ From then on, 93 percent of the videos TikTok
17 showed this account were about depression or sadness.²⁴⁴

18 225. That is not an outlier. Guillaume Chaslot, a former engineer for Google who
19 worked on the algorithm for YouTube and the founder of Algo Transparency, explained that 90–
20 95 percent of the content users see on TikTok is based on its algorithm.²⁴⁵

21 226. “Even bots with general mainstream interests got pushed to the margin as
22

23 ²³⁸ *Misinformation Monitor*, NewsGuard (Sept. 2022),

24 <https://www.newsguardtech.com/misinformation-monitor/september-2022/>.

25 ²³⁹ *Inside TikTok’s Algorithm: A WSJ Video Investigation*, Wall St. J. (July 21, 2021),

26 <https://www.wsj.com/articles/tiktok-algorithm-video-investigation-11626877477>.

27 ²⁴⁰ *Id.*

28 ²⁴¹ *Id.*

²⁴² *Id.*

²⁴³ *Id.*

²⁴⁴ *Id.*

²⁴⁵ *Id.*

1 recommendations got more personalized and narrow.”²⁴⁶ Deep in these rabbit holes, the *Wall*
 2 *Street Journal* found “users are more likely to encounter potential harmful content.”²⁴⁷ For
 3 example, one video the *Wall Street Journal* encountered encouraged suicide, reading “Just go.
 4 Leave. Stop trying. Stop pretending. You know it and so do they. Do Everyone a favor and
 5 leave.”²⁴⁸

6 227. Chaslot explained why TikTok feeds users this content:

7 [T]he algorithm is able to find the piece of content that you’re
 8 vulnerable to. That will make you click, that will make you watch,
 9 but it doesn’t mean you really like it. And that it’s the content that
 10 you enjoy the most. It’s just the content that’s most likely to make
 11 you stay on the platform.²⁴⁹

12 228. A follow-up investigation by the *Wall Street Journal* using bots found “that
 13 through its powerful algorithms, TikTok can quickly drive minors—among the biggest users of
 14 the app—into endless spools of content about sex and drugs.”²⁵⁰

15 229. The bots in this investigation were registered as users aged 13 to 15 and, as
 16 before, programmed to demonstrate interest by how long they watched the videos TikTok’s
 17 algorithms served them.²⁵¹ Videos that did not match their interests, the bots scrolled through
 18 without pausing.²⁵² The bots lingered on videos that matched any of their programmed
 19 interests.²⁵³

20 230. Every second the bot hesitated or re-watched a video again proved key to what
 21 TikTok recommended to the accounts, which the *Wall Street Journal* found was used to “drive
 22 users of any age deep into rabbit holes of content[.]”²⁵⁴

23 ²⁴⁶ *Id.*

24 ²⁴⁷ *Id.*

25 ²⁴⁸ *Id.*

26 ²⁴⁹ *Id.*

27 ²⁵⁰ Rob Barry *et al.*, *How TikTok Serves up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8,
 28 2021), https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944?st=e92pu5734lvc7ta&reflink=desktopwebshare_permalink.

²⁵¹ *Id.*

²⁵² *Id.*

²⁵³ *Id.*

²⁵⁴ *Id.*

1 231. For example, one bot was programmed to pause on videos referencing drugs,
2 among other topics. The first day on the platform, the “account lingered on a video of a young
3 woman walking through the woods with a caption” referencing “stoner girls.”²⁵⁵ The following
4 day the bot viewed a video of a “marijuana-themed cake.”²⁵⁶ The “majority of the next thousand
5 videos” TikTok directed at the teenage account “tout[ed] drugs and drug use, including
6 marijuana, psychedelics and prescription medication.”²⁵⁷

7 232. TikTok similarly zeroed in on and narrowed the videos it showed accounts
8 whether the bot was programmed to express interest in drugs, sexual imagery, or a multitude of
9 interests. In the first couple of days, TikTok showed the bots a “high proportion of popular
10 videos.”²⁵⁸ “But after three days, TikTok began serving a high number of obscure videos.”²⁵⁹

11 233. For example, a bot registered as a 13-year-old was shown a series of popular
12 videos upon signing up.²⁶⁰ The bot, which was programmed to demonstrate interest in sexual text
13 and imagery, also watched sexualized videos. Later, “[i]t experienced one of the most extreme
14 rabbit holes among the *Wall Street Journal’s* accounts. Many videos described how to tie knots
15 for sex, recover from violent sex acts and discussed fantasies about rape.”²⁶¹ At one point, “more
16 than 90 percent of [one] account’s video feed was about bondage and sex.”²⁶²

17 234. At least 2,800 of the sexualized videos that were shown to the *Wall Street*
18 *Journal’s* bots were labeled as being for adults only.²⁶³ Yet, TikTok directed these videos to the
19 minor accounts because, as TikTok told the *Wall Street Journal*, it does not “differentiate
20 between videos it serves to adults and minors.”²⁶⁴

21 235. TikTok also directed a concentrated stream of videos at accounts programmed to
22

23 ²⁵⁵ *Id.*

24 ²⁵⁶ *Id.*

25 ²⁵⁷ *Id.*

26 ²⁵⁸ *Id.*

27 ²⁵⁹ *Id.*

28 ²⁶⁰ *Id.*

²⁶¹ *Id.*

²⁶² *Id.*

²⁶³ *Id.*

²⁶⁴ *Id.*

1 express interest in a variety of topics. One such account was programmed to linger over hundreds
2 of Japanese film and television cartoons. “In one streak of 150 videos, all but four” of the videos
3 TikTok directed at the account, “featured Japanese animation—many with sexual themes.”²⁶⁵

4 236. The relentless stream of content intended to keep users engaged “can be
5 especially problematic for young people,” because they may lack the capability to stop watching,
6 says David Anderson, a clinical psychologist at the nonprofit mental health care provider, The
7 Child Mind Institute.²⁶⁶

8 237. In a similar investigation, the *Wall Street Journal* found TikTok “flood[ed] teen
9 users with videos of rapid-weight-loss competitions and ways to purge food that health
10 professionals say contribute to a wave of eating-disorder cases spreading across the country.”²⁶⁷

11 238. In this investigation, the *Wall Street Journal* analyzed the tens of thousands of
12 videos TikTok recommended to a dozen bots registered as 13-year-olds. As before, the bots were
13 given interests. Bots scrolled quickly through videos that did not match their interests and
14 lingered on videos that did.²⁶⁸ The accounts registered as 13-year-olds were programmed at
15 different times to display interests in weight loss, gambling, and alcohol.²⁶⁹

24 ²⁶⁵ *Id.*

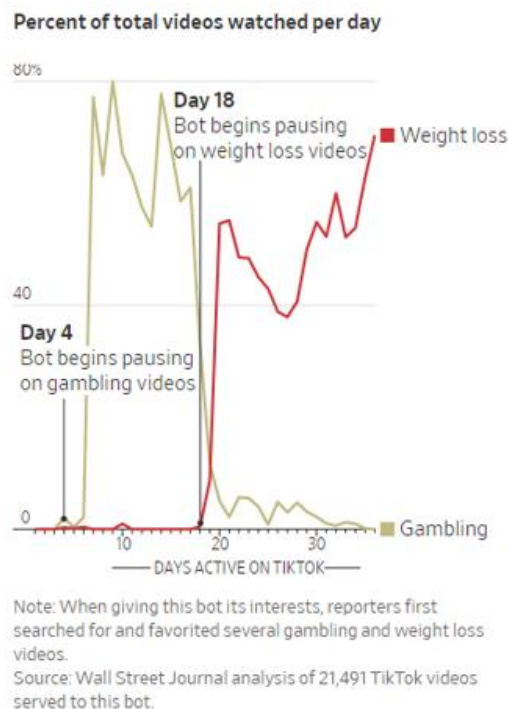
25 ²⁶⁶ *Id.*

26 ²⁶⁷ Tawnell D. Hobbs *et al.*, *The Corpse Bride Diet: How TikTok Inundates Teens with Eating-*
27 *Disorder Videos*, Wall St. J. (Dec. 17, 2021), [https://www.wsj.com/articles/how-tiktok-](https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848)
28 [inundates-teens-with-eating-disorder-videos-11639754848](https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848) (some of the accounts performed
searches or sent other, undisclosed signals indicating their preferences).

²⁶⁸ *Id.*

²⁶⁹ *Id.*

1 239. “TikTok’s algorithm quickly g[a]ve[] users the content they’ll watch, for as long
 2 as they’ll watch it.”²⁷⁰ For example, TikTok streamed gambling videos to a bot registered to a
 3 13-year-old after it first searched for and favorited several such videos.²⁷¹ When the bot began
 4 demonstrating interest in weight loss videos, the algorithm adapted quickly, as this chart
 5 demonstrates.²⁷²



17 240. After the change in programming, weight-loss videos accounted for well over 40
 18 percent of the content TikTok’s algorithm recommended to the user.²⁷³

19 241. The other accounts were also flooded with weight-loss videos. Over the course of
 20 about 45 days, TikTok inundated the accounts with more than 32,000 such videos, “many
 21 promoting fasting, offering tips for quickly burning belly fat and pushing weight-loss detox
 22 programs and participation in extreme weight-loss competitions.”²⁷⁴ Some encouraged purging,
 23 eating less than 300 calories a day, consuming nothing but water some days, and other hazardous
 24

25
 26 ²⁷⁰ *Id.*

27 ²⁷¹ *Id.*

28 ²⁷² *Id.*

²⁷³ *Id.*

²⁷⁴ *Id.*

1 diets.²⁷⁵

2 242. According to Alyssa Moukheiber, a treatment center dietitian, TikTok’s powerful
3 algorithm and the harmful streams of content it directs at young users can tip them into unhealthy
4 behaviors or trigger a relapse.²⁷⁶

5 243. Unfortunately, it has for the several teenage girls interviewed by the *Wall Street*
6 *Journal*, who reported developing eating disorders or relapsing after being influenced by the
7 extreme diet videos TikTok promoted to them.²⁷⁷

8 244. They are not alone. Katie Bell, a co-founder of the Healthy Teen Project, “said the
9 majority of her 17 teenage residential patients told her TikTok played a role in their eating
10 disorders.”²⁷⁸

11 245. Others, like Stephanie Zerwas, an associate professor of psychiatry at the
12 University of North Carolina at Chapel Hill, could not recount how many of her young patients
13 told her that “I’ve started falling down this rabbit hole, or I got really into this or that influencer
14 on TikTok, and then it started to feel like eating-disorder behavior was normal, that everybody
15 was doing that.”²⁷⁹

16 246. This trend extends nationwide. The National Association of Anorexia Nervosa
17 and Associated Disorders has fielded 50 percent more calls to its hotline since the pandemic
18 began, most of whom it says are from young people or parents on their behalf.²⁸⁰

19 247. Despite the ample evidence that TikTok’s design and operation of its platform
20 harms the tens of millions of youth who use it, TikTok continues to manipulate them into
21 returning to the platform again and again so that it may serve them ads in between the exploitive
22 content it amplifies.

25 ²⁷⁵ *Id.*

26 ²⁷⁶ *Id.*

27 ²⁷⁷ *Id.*

27 ²⁷⁸ *Id.*

28 ²⁷⁹ *Id.*

²⁸⁰ *Id.*

1 **4. YouTube Intentionally Marketed to and Designed Its Social Media Platform**
2 **for Youth Users, Substantially Contributing to the Mental Health Crisis**

3 **a. The YouTube Platform**

4 248. YouTube is a platform where users can post, share, view, and comment on videos
5 related to a vast range of topics. The platform became available publicly in December 2005, and
6 was acquired by Google in 2006.

7 249. YouTube reports that today it has over 2 billion monthly logged-in users.²⁸¹ Even
8 more people use YouTube each month because consumers do not have to register an account to
9 view a video on YouTube. As a result, anyone can view most content on YouTube—regardless
10 of age.

11 250. Users, whether logged in or not, watch *billions of hours of videos every day*.²⁸²

12 251. Users with accounts can post their own videos, comment on others, and since
13 2010 express their approval of videos through “likes.”²⁸³

14 252. Beginning in 2008 and through today, YouTube has recommended videos to
15 users.²⁸⁴ Early on, the videos YouTube recommended to users were the most popular videos
16 across the platform.²⁸⁵ YouTube admits “[n]ot a lot of people watched those videos[,]” at least
17 not based on its recommendation.²⁸⁶

18 253. Since then, YouTube has designed and refined its recommendation system using
19 machine learning algorithms that today take into account a user’s “likes,” time spent watching a
20 video, and other behaviors to tailor its recommendations to each user.²⁸⁷

21 254. YouTube automatically plays those recommendations for a user after they finish
22 watching a video. This feature, known as “autoplay,” was implemented in 2015. YouTube turns

23 _____
24 ²⁸¹ YouTube for Press, YouTube, <https://blog.youtube/press/> (last visited Dec. 8, 2022).

25 ²⁸² *Id.*

26 ²⁸³ Josh Lowensohn, *YouTube’s big redesign goes live to everyone*, CNET (Mar. 31, 2010),
<https://www.cnet.com/culture/youtubes-big-redesign-goes-live-to-everyone/>.

27 ²⁸⁴ Cristos Goodrow, *On YouTube’s recommendation system*, YouTube (Sept. 15, 2021),
<https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

28 ²⁸⁵ *Id.*

²⁸⁶ *Id.*

²⁸⁷ *Id.*

1 the feature on by default, which means videos automatically and continuously play for users
2 unless they turn it off.²⁸⁸

3 255. YouTube purports to disable by default its autoplay feature for users aged 13–
4 17.²⁸⁹ But, as mentioned above, YouTube does not require users to log in or even have an
5 account to watch videos. For them or anyone who does not self-report an age between 13 and 17,
6 YouTube defaults to automatically playing the videos its algorithm recommends to the user.

7 **b. YouTube Markets Its Platform to Youth**

8 256. The primary way YouTube makes money is through advertising and made \$19
9 billion in ad revenue in 2021 alone.²⁹⁰

10 257. “In 2012, YouTube concluded that the more people watched, the more ads it
11 could run[.]”²⁹¹ “So YouTube . . . set a company-wide objective to reach one billion hours of
12 viewing a day[.]”²⁹²

13 258. “[T]he best way to keep eyes on the site,” YouTube realized, was “recommending
14 videos, alongside a clip or after one was finished.”²⁹³ That is what led to the development of its
15 recommendation algorithm and autoplay feature described above. *See supra* Section IV.D.4.a.

16 259. YouTube has long known youth use its platforms in greater proportion than older
17 demographics.

18 260. Yet, YouTube has not implemented even rudimentary protocols to verify the age
19 of users. Anyone can watch a video on YouTube without registering an account or reporting their
20 age.

21 _____
22 ²⁸⁸ Autoplay videos, YouTube Help,
23 <https://support.google.com/youtube/answer/6327615?hl=en#:~:text=For%20users%20aged%2013%2D17,turned%20off%20Autoplay%20for%20you> (last visited Dec. 8, 2022).

24 ²⁸⁹ *Id.*

25 ²⁹⁰ Alphabet Inc., Annual Report, Form 10-k at 60 (2021),
<https://www.sec.gov/ix?doc=/Archives/edgar/data/1652044/000165204422000019/goog-20211231.htm>.

26 ²⁹¹ Mark Bergen, *YouTube Executive Ignores Warnings, Letting Toxic Videos Run Rampant*,
27 Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant?leadSource=uverify%20wall>.

28 ²⁹² *Id.*

²⁹³ *Id.*

1 261. Instead, YouTube leveraged its popularity among youth to increase its revenue
2 from advertisements by marketing its platform to popular brands of children’s products. For
3 example, Google pitched Mattel, the maker of Barbie and other popular kids’ toys, by telling its
4 executives that “YouTube is today’s leader in reaching children age 6–11 against top TV
5 channels.”²⁹⁴ When presenting to Hasbro, the maker of Play-Doh, My Little Pony, and other
6 kids’ toys, Google touted that “YouTube was unanimously voted as the favorite website for kids
7 2-12,” and that “93% of tweens visit YouTube to watch videos.”²⁹⁵ In a different presentation to
8 Hasbro, YouTube was referred to as “[t]he new ‘Saturday Morning Cartoons,’” and claimed that
9 YouTube was the “#1 website regularly visited by kids” and “the #1 source where children
10 discover new toys + games.”²⁹⁶

11 262. In addition to turning a blind eye towards underage users of its platform,
12 YouTube developed and marketed a version of YouTube specifically for children under the age
13 of 13.

14 263. YouTube’s efforts to attract young users have been successful. *See supra*
15 Section IV.A. A vast majority, 95 percent, of children ages 13–17 have used YouTube.²⁹⁷

16 **c. YouTube Intentionally Maximizes the Time Users Spend on its**
17 **Platform**

18 264. Google designed YouTube to maximize user engagement, predominantly through
19 the amount of time users spend watching videos. To that end, Google employs design elements
20 and complex algorithms to create a never-ending stream of videos intended to grip user’s
21 attention.

22 265. Like the other Defendants’ social media platforms, Google developed features
23 that exploit psychological phenomenon such as IVR to maximize the time users spend on
24 YouTube.

26 ²⁹⁴ Complaint for Permanent Injunction, Civil Penalties, and Other Equitable Relief, Exhibit A,
27 *FTC v. Google LLC et al.*, No. 1-19-cv-02642-BAH (D.D.C. Sept. 4, 2019), ECF No. 1-1.

27 ²⁹⁵ *Id.* Exhibit B.

28 ²⁹⁶ *Id.* Exhibit C.

²⁹⁷ *Id.*

1 266. YouTube uses design elements that operate on principles of IVR to drive both
 2 YouTube content creators and YouTube viewers into habitual, excessive use. Google designed
 3 YouTube to allow users to like, comment, and share videos and to subscribe to content creator’s
 4 channels. These features serve as rewards for users who create and upload videos to YouTube.
 5 As described above, receiving a like indicates others’ approval and activates the reward region of
 6 the brain.²⁹⁸ The use of likes, therefore, encourages users to use YouTube over and over, seeking
 7 future pleasurable experiences.

8 267. YouTube also uses IVR to encourage users to view others content. One of the
 9 ways Google employs IVR into YouTube’s design is through subscriber push notifications and
 10 emails, which are designed to prompt users to watch YouTube content and encourages excessive
 11 use of the platform. When a user “subscribes” to another user’s channel, they receive
 12 notifications every time that user uploads new content, prompting them to open YouTube and
 13 watch the video.²⁹⁹

14 268. One of YouTube’s defining features is its panel of recommended videos.
 15 YouTube recommends videos to users on both the YouTube home page and on every individual
 16 video page in an “Up Next” panel.³⁰⁰ This list automatically populates next to the video a user is
 17 currently watching. This recommended video list is a never-ending feed of videos intended to
 18 keep users on the app watching videos without having to affirmatively click or search for other
 19 videos. This constant video stream, comprised of videos recommended by YouTube’s
 20 algorithms, is the primary way Google increases the time users spend on YouTube.

21 **d. YouTube’s Algorithms are Manipulative**

22 269. Google uses algorithms throughout YouTube to recommend videos to users.
 23 These algorithms select videos that populate the YouTube homepage, rank results in user

24 ²⁹⁸ See, e.g., Lauren E. Sherman *et al.*, *The Power of the Like in Adolescence: Effects of Peer*
 25 *Influence on Neural and Behavioral Responses to Social Media*, 27(7) *Psych. Sci.* 1027–35
 (July 2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999/>.

26 ²⁹⁹ *Manage YouTube Notifications*, YouTube,
 27 <https://support.google.com/youtube/answer/3382248?hl=en&co=GENIE.Platform%3DDesktop>
 (last visited Dec. 8, 2022).

28 ³⁰⁰ *Recommended Videos*, YouTube, <https://www.youtube.com/howyoutubeworks/product-features/recommendations/> (last visited Dec. 8, 2022).

1 searches, and suggest videos for viewers to watch next. These algorithms are manipulative by
2 design and increase the amount of time users spend on YouTube.

3 270. Google began building the YouTube recommendation system in 2008.³⁰¹ When
4 Google initially developed its recommendation algorithms, the end goal was to maximize the
5 amount of time users spend watching YouTube videos. A YouTube spokesperson admitted as
6 much, saying YouTube’s recommendation system was initially set up to “optimize” the amount
7 of time users watch videos.³⁰²

8 271. Former YouTube engineer Guillame Chaslot has also stated that when he worked
9 for YouTube designing its recommendation algorithm, the priority was to keep viewers on the
10 site for as long as possible to maximize “watch time.”³⁰³ Chaslot further stated that “[i]ncreasing
11 users’ watch time is good for YouTube’s business model” because the more people watch
12 videos, the more ads they see and YouTube’s advertising revenue increases.³⁰⁴

13 272. Early on, one of the primary metrics behind YouTube’s recommendation
14 algorithm was clicks. As YouTube describes, “[c]licking on a video provides a strong indication
15 that you will also find it satisfying.”³⁰⁵ But as YouTube learned, clicking on a video does not
16 mean a user actually watched it. Thus, in 2012, YouTube also started tracking watch time—the
17 amount of time a user spends watching a video.³⁰⁶ YouTube made this switch to keep people
18
19
20

21 ³⁰¹ Cristos Goodrow, *On YouTube’s recommendation system*, YouTube (Sept. 15, 2021),
22 <https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

23 ³⁰² Ben Popken, *As algorithms take over, YouTube’s recommendations highlight a human
24 problem*, NBC (Apr. 19, 2018), [https://www.nbcnews.com/tech/social-media/algorithms-take-
25 over-youtube-s-recommendations-highlight-human-problem-n867596](https://www.nbcnews.com/tech/social-media/algorithms-take-over-youtube-s-recommendations-highlight-human-problem-n867596).

26 ³⁰³ William Turton, *How YouTube’s algorithm prioritizes conspiracy theories*, Vice (Mar. 5,
27 2018), [https://www.vice.com/en/article/d3w9ja/how-youtubes-algorithm-prioritizes-
28 conspiracy-theories](https://www.vice.com/en/article/d3w9ja/how-youtubes-algorithm-prioritizes-conspiracy-theories).

³⁰⁴ Jesselyn Cook & Sebastian Murdock, *YouTube is a Pedophile’s Paradise*, Huffington Post
(Mar. 20, 2020), [https://www.huffpost.com/entry/youtube-pedophile-
paradise_n_5e5d79d1c5b6732f50e6b4db](https://www.huffpost.com/entry/youtube-pedophile-paradise_n_5e5d79d1c5b6732f50e6b4db).

³⁰⁵ Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021),
<https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

³⁰⁶ *Id.*

1 watching for as long as possible.³⁰⁷ In YouTube’s own words, this switch was successful. “These
2 changes have so far proved very positive -- primarily less clicking, more watching. We saw the
3 amount of time viewers spend watching videos across the site increase immediately[.]”³⁰⁸ And in
4 2016, YouTube started measuring “valued watchtime” via user surveys to ensure that viewers are
5 satisfied with their time spent watching videos on YouTube.³⁰⁹ All of these changes to
6 YouTube’s algorithms were made to ensure that users spend more time watching videos and ads.

7 273. YouTube’s current recommendation algorithm is based on deep-learning neural
8 networks that retune its recommendations based on the data fed into it.³¹⁰ While this algorithm is
9 incredibly complex, its process can be broken down into two general steps. First, the algorithm
10 compiles a shortlist of several hundred videos by finding videos that match the topic and other
11 features of the video a user is currently watching.³¹¹ Then the algorithm ranks the list according
12 to the user’s preferences, which the algorithm learns by tracking a user’s clicks, likes, and other
13 interactions.³¹² In short, the algorithms track and measure a user’s previous viewing habits and
14 then finds and recommends other videos the algorithm thinks will hold the consumer’s attention.

15 274. YouTube’s recommendation system “is constantly evolving, learning every day
16
17

18 ³⁰⁷ Dave Davies, *How YouTube became one of the planet’s most influential media businesses*,
19 NPR (Sept. 8, 2022), [https://www.npr.org/2022/09/08/1121703368/how-youtube-became-one-
of-the-planets-most-influential-media-businesses](https://www.npr.org/2022/09/08/1121703368/how-youtube-became-one-of-the-planets-most-influential-media-businesses).

20 ³⁰⁸ Eric Meyerson, *YouTube Now: Why We Focus on Watch Time*, YouTube (Aug. 10, 2012),
21 <https://blog.youtube/news-and-events/youtube-now-why-we-focus-on-watch-time/>.

22 ³⁰⁹ Cristos Goodrow, *On YouTube’s recommendation system*, YouTube (Sept. 15, 2021),
23 <https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

24 ³¹⁰ Alexis C. Madrigal, *How YouTube’s Algorithm Really Works*, Atl. (Nov. 8, 2018),
25 [https://www.theatlantic.com/technology/archive/2018/11/how-youtubes-algorithm-really-
works/575212/](https://www.theatlantic.com/technology/archive/2018/11/how-youtubes-algorithm-really-works/575212/); Paul Covington *et al.*, *Deep Neural Networks for YouTube Recommendations*,
26 Google (2016), [https://storage.googleapis.com/pub-tools-public-publication-
data/pdf/45530.pdf](https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf).

27 ³¹¹ Karen Hao, *YouTube is experimenting with ways to make its algorithm even more addictive*,
28 MIT Tech. Rev. (Sept. 27, 2019),
[https://www.technologyreview.com/2019/09/27/132829/youtube-algorithm-gets-more-
addictive/](https://www.technologyreview.com/2019/09/27/132829/youtube-algorithm-gets-more-addictive/); Paul Covington *et al.*, *Deep Neural Networks for YouTube Recommendations*,
Google (2016), [https://storage.googleapis.com/pub-tools-public-publication-
data/pdf/45530.pdf](https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf).

³¹² *Id.*

1 from over 80 billion pieces of information.”³¹³ Some of the information the recommendation
2 algorithm relies on to deliver recommended videos to users includes users’ watch and search
3 history, channel subscriptions, clicks, watch time, survey responses, shares, likes, dislikes, users’
4 location (country) and the time of day.³¹⁴

5 275. The recommendation algorithm can determine what “signals” or factors are more
6 important to individual users.³¹⁵ For example, if a user shares every video they watch, including
7 videos the user gives a low rating, the algorithm learns not to heavily factor the user’s shares
8 when recommending content.³¹⁶ Thus, the recommendation algorithm “develops dynamically” to
9 individual user’s viewing habits and makes highly specific recommendations to keep individual
10 users watching videos.³¹⁷

11 276. In addition to the algorithm’s self-learning, Google engineers consistently update
12 YouTube’s recommendation and ranking algorithms, making several updates every month,
13 according to YouTube Chief Product Officer Neal Mohan.³¹⁸ The end goal is to increase the
14 amount of time users spend watching content on YouTube.

15 277. Because Google has designed and refined its algorithms to be manipulative, these
16 algorithms are incredibly successful at getting users to view content based on the algorithm’s
17 recommendation. Mohan stated in 2018 that YouTube’s AI-driven recommendations are
18 responsible for 70 percent of the time users spend on YouTube.³¹⁹ In other words, 70 percent of
19 all YouTube content that users watch was recommended to users by YouTube’s algorithms as
20 opposed to users purposely searching for and identifying the content they watch.

21 ³¹³ Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021),
22 <https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

23 ³¹⁴ *Recommended Videos*, YouTube, <https://www.youtube.com/howyoutubeworks/product-features/recommendations/#signals-used-to-recommend-content> (last visited Dec. 8, 2022).

24 ³¹⁵ *Id.*

25 ³¹⁶ *Id.*

26 ³¹⁷ *Id.*

27 ³¹⁸ Nilay Patel, *YouTube Chief Product Officer Neal Mohan on The Algorithm, Monetization,*
28 *and the Future for Creators*, Verge (Aug. 3, 2021),
<https://www.theverge.com/22606296/youtube-shorts-fund-neal-mohan-decoder-interview>.

³¹⁹ Joan E. Solsman, *YouTube’s AI is the puppet master over most of what you watch*, CNET
(Jan. 20, 2018), <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/>.

1 278. Mohan also stated that recommendations keep mobile device users watching
2 YouTube for more than 60 minutes at a time on average.³²⁰

3 279. Given that people watch more than one billion hours of YouTube videos daily,³²¹
4 YouTube's recommendation algorithms are responsible for hundreds of millions of hours that
5 users spend watching videos on YouTube.

6 **e. YouTube's Conduct in Designing and Operating its Platform Has**
7 **Harmed Youth Mental Health**

8 280. By designing YouTube's algorithms to prioritize and maximize the amount of
9 time users spend watching videos, Google has harmed youth mental health. In particular,
10 YouTube has harmed youth mental health by recommending content to youth through its
11 algorithms.

12 281. YouTube's algorithms push its young users down rabbit holes where they are
13 likely to encounter content that is violent, sexual, or encourages self-harm, among other types of
14 harmful content.

15 282. Research by the Tech Transparency Project ("**TTP**") shows that YouTube Kids
16 fed children content that involved drug culture, guns, and beauty and diet tips that could lead to
17 harmful body image issues.³²² Among the videos TTP found were step-by-step instructions on
18 how to conceal a gun, guides on how to bleach one's face at home, and workout videos
19 emphasizing the importance of burning calories and telling kids to "[w]iggle your jiggle."³²³ This
20 research shows that YouTube Kids not only lets inappropriate content slip through its
21 algorithmic filters, but actively directed the content to kids through its recommendation engine.

22 283. Similar examples abound. Amanda Kloer, a campaign director with the child
23

24 ³²⁰ *Id.*

25 ³²¹ Shira Ovide, *The YouTube Rabbit Hole is Nuanced*, N.Y. Times (Apr. 21, 2022),
<https://www.nytimes.com/2022/04/21/technology/youtube-rabbit-hole.html>.

26 ³²² Alex Hern, *YouTube Kids shows videos promoting drug culture and firearms to toddlers*,
Guardian (May 5, 2022), <https://www.theguardian.com/technology/2022/may/05/youtube-kids-shows-videos-promoting-drug-culture-firearms-toddlers>.

27 ³²³ *Guns, Drugs, and Skin Bleaching: YouTube Kids Poses Risks to Children*, Tech Transparency
28 Project (May 5, 2022), <https://www.techtransparencyproject.org/articles/guns-drugs-and-skin-bleaching-youtube-kids-still-poses-risks-children>.

1 safety group ParentsTogether, spent an hour on her child’s YouTube Kids profile and found
2 videos “encouraging kids how to make their shirts sexier, a video in which a little boy pranks a
3 girl over her weight, and a video in which an animated dog pulls objects out of an unconscious
4 animated hippo’s butt.”³²⁴ Another parent recounted that YouTube Kids’ autoplay function led
5 her 6-year-old daughter to an animated video that encouraged suicide.³²⁵

6 284. Other youth are fed content by YouTube’s algorithms that encourages self-harm.
7 As reported by PBS Newshour, a middle-schooler named Olivia compulsively watched YouTube
8 videos every day after she came home from school.³²⁶ Over time she became depressed and
9 started searching for videos on how to commit suicide. Similar videos then gave her the idea of
10 overdosing. Weeks later she was in the hospital after “downing a bottle of Tylenol.”³²⁷
11 Ultimately, she was admitted into rehab for digital addiction because of her compulsive
12 YouTube watching.³²⁸

13 285. According to the Pew Research Center, 46 percent of parents say their child has
14 encountered inappropriate videos on YouTube.³²⁹ And children are not encountering these videos
15 on their own volition. Rather, they are being fed harmful and inappropriate videos through
16 YouTube’s algorithms. Again, YouTube’s AI-driven recommendations are responsible for 70
17 percent of the time users spend on YouTube.³³⁰

18 286. Other reports have also found that YouTube’s recommendation algorithm
19 suggests a wide array of harmful content, including videos that feature misinformation, violence,
20

21 ³²⁴ Rebecca Heilweil, *YouTube’s kids app has a rabbit hole problem*, Vox (May 12, 2021),
22 <https://www.vox.com/recode/22412232/youtube-kids-autoplay>.

23 ³²⁵ *Id.*

24 ³²⁶ Lesley McClurg, *After compulsively watching YouTube, teenage girl lands in rehab for*
‘digital addiction’, PBS (May 16, 2017), [https://www.pbs.org/newshour/health/compulsively-](https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction)
[watching-youtube-teenage-girl-lands-rehab-digital-addiction](https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction).

25 ³²⁷ *Id.*

26 ³²⁸ *Id.*

27 ³²⁹ Brooke Auxier *et al.*, *Parenting Children in The Age of Screens*, Pew Rsch. Ctr. (July 28,
2020), <https://www.pewresearch.org/internet/2020/07/28/parental-views-about-youtube/>.

28 ³³⁰ Joan E. Solsman, *YouTube’s AI is the puppet master over most of what you watch*, CNET
(Jan. 20, 2018), [https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-](https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/)
[mohan/](https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/).

1 and hate speech, along with other content that violates YouTube’s policies.³³¹ A 2021
2 crowdsourced investigation from the Mozilla Foundation involving 37,000 YouTube users
3 revealed that 71 percent of all reported negative user experiences came from videos
4 recommended by YouTube to users.³³² And users were 40 percent more likely to report a
5 negative experience with a video recommended by YouTube’s algorithm than with a video they
6 searched for.³³³

7 287. The inappropriate and disturbing content YouTube’s algorithms expose children
8 to have adverse effects on mental health. Mental health experts have warned that YouTube is a
9 growing source of anxiety and inappropriate sexual behavior among kids under the age of 13.³³⁴

10 288. Further the harmful content YouTube’s algorithms expose children to harm brain
11 development. “Children who repeatedly experience stressful and/or fearful emotions may under
12 develop parts of their brain’s prefrontal cortex and frontal lobe, the parts of the brain responsible
13 for executive functions, like making conscious choices and planning ahead,” according to
14 “Donna Volpitta, Ed.D., founder of The Center for Resilient Leadership.”³³⁵

15 289. Even though much of the content YouTube’s algorithms feed to youth is harmful,
16 it triggers chemical reactions that encourage youth to spend more time watching videos on
17 YouTube. According to Dr. Volpita, watching “fear-inducing videos cause the brain to receive a
18 small amount of dopamine,” which acts as a reward and creates a desire to do something over
19 and over.³³⁶ This dopaminergic response is in addition to the reward stimulus YouTube provides
20 users through IVR.

21 290. Mental health professionals across the country have seen an increase in children
22

23 ³³¹ Brandy Zadrozny, *YouTube’s recommendations still push harmful videos, crowdsourced*
24 *study finds*, NBC News (July 17, 2021), [https://www.nbcnews.com/tech/tech-news/youtubes-](https://www.nbcnews.com/tech/tech-news/youtubes-recommendations-still-push-harmful-videos-crowdsourced-study-rcna1355)
25 [recommendations-still-push-harmful-videos-crowdsourced-study-rcna1355](https://www.nbcnews.com/tech/tech-news/youtubes-recommendations-still-push-harmful-videos-crowdsourced-study-rcna1355).

26 ³³² *Id.*

27 ³³³ *Id.*

28 ³³⁴ Josephine Bila, *YouTube’s dark side could be affecting your child’s mental health*, CNBC
(Feb. 13, 2018), [https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-](https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html)
[sexualization-in-young-children.html](https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html).

³³⁵ *Id.*

³³⁶ *Id.*

1 experiencing mental health issues because of YouTube. Natasha Daniels, a child psychotherapist
 2 in Arizona, has said she has seen a rise in cases of children suffering from anxiety because of
 3 videos they watched on YouTube.³³⁷ Because of their anxiety, these children “exhibit loss of
 4 appetite, sleeplessness, crying fits, and fear.”³³⁸

5 291. In addition to causing anxiety, watching YouTube is also associated with
 6 insufficient sleep.³³⁹ In one study on the effect of app use and sleep, YouTube was the only app
 7 consistently associated with negative sleep outcomes.³⁴⁰ For every 15 minutes teens spent
 8 watching YouTube, they had a 24 percent greater chance of getting fewer than seven hours of
 9 sleep.³⁴¹ YouTube is particularly problematic on this front because of YouTube’s
 10 recommendation and autoplay feature make it “so easy to finish one video” and watch the next,
 11 said Dr. Alon Avidan, director of the UCLA Sleep Disorders Center.³⁴² In turn, insufficient sleep
 12 is associated with poor health outcomes.³⁴³ Thus, YouTube exacerbates an array of youth mental
 13 health issues by contributing to sleep deprivation.

14 292. Despite the vast evidence that YouTube’s design and algorithms harms millions
 15 of youth, Google continues to manipulate them into staying on the platform and watching more
 16 and more videos so that it can increase its ad revenue.

17 **E. The Effect of Social Media Use on Schools**

18 293. School districts are uniquely harmed by the current youth mental health crisis.
 19 This is because schools are one of the main providers for mental health services for school-aged

21 ³³⁷ *Id.*

22 ³³⁸ *Id.*

23 ³³⁹ Meg Pillion *et al.*, *What’s ‘app’-ning to adolescent sleep? Links between device, app use, and*
sleep outcomes, 100 *Sleep Med.* 174–82 (Dec. 2022),

24 <https://www.sciencedirect.com/science/article/abs/pii/S1389945722010991?via%3Dihub>.

25 ³⁴⁰ *Id.*

26 ³⁴¹ *Id.*

27 ³⁴² Cara Murez, *One App is Especially Bad for Teens’ Sleep*, U.S. News (Sept. 13, 2022),

28 <https://www.usnews.com/news/health-news/articles/2022-09-13/one-app-is-especially-bad-for-teens-sleep>.

³⁴³ Jessica C. Levenson *et al.*, *The Association Between Social Media Use and Sleep Disturbance*
Among Young Adults, 85 *Preventive Med.* 36–41 (Apr. 2016),

<https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025>.

1 children.³⁴⁴ Indeed, over 3.1 million children ages 12–17 received mental health services through
 2 an education setting in 2020, more than any other non-specialty mental health service setting.³⁴⁵

3 294. Most schools offer mental health services to students. In the 2021–22 school year,
 4 96 percent of public schools reported offering at least one type of mental health service to their
 5 students.³⁴⁶ But 88 percent of public schools did not strongly agree that they could effectively
 6 provide mental health services to all students in need.³⁴⁷ The most common barriers to providing
 7 effective mental health services are (1) insufficient number of mental health professionals; (2)
 8 inadequate access to licensed mental health professionals; and (3) inadequate funding.³⁴⁸ Student
 9 opinions also reflect that schools are unable to provide adequate mental health services. Less
 10 than a quarter of students in grades 6–12 report accessing counseling or psychological services
 11 when they are upset, stressed, or having a problem.³⁴⁹ And of the students who access mental
 12 health services, only 41 percent of middle schoolers and 36 percent of high schoolers are
 13 satisfied with the services they receive.³⁵⁰

14 295. In part, schools are struggling to provide adequate mental health services because
 15 of the increase in students seeking these services. More than two-thirds of public schools
 16 reported an increase in the percent of students seeking mental health services from school since
 17 the start of the pandemic.³⁵¹

18 296. During this same period, adolescents increased their social media use, also raising
 19

20 ³⁴⁴ *National Survey on Drug Use and Health*, SAMHSA (2019 & 1st & 4th Qs. 2020),
 21 <https://www.samhsa.gov/data/report/2020-nsduh-detailed-tables>.

22 ³⁴⁵ *Id.*

23 ³⁴⁶ *Roughly Half of Public Schools Report That They Can Effectively Provide Mental Health
 Services to All Students In Need*, Nat'l Ctr. Educ. Stat. (May 31, 2022),
 24 https://nces.ed.gov/whatsnew/press_releases/05_31_2022_2.asp.

25 ³⁴⁷ *Id.*

26 ³⁴⁸ *Id.*

27 ³⁴⁹ *Insights From the Student Experience, Part I: Emotional and Mental Health* at 2, YouthTruth
 28 (2022), [https://youthtruthsurvey.org/wp-
 content/uploads/2022/10/YouthTruth_EMH_102622.pdf](https://youthtruthsurvey.org/wp-content/uploads/2022/10/YouthTruth_EMH_102622.pdf).

³⁵⁰ *Id.*

³⁵¹ *Roughly Half of Public Schools Report That They Can Effectively Provide Mental Health
 Services to All Students In Need*, Nat'l Ctr. Educ. Stat. (May 31, 2022),
https://nces.ed.gov/whatsnew/press_releases/05_31_2022_2.asp.

1 levels of excessive and problematic use of digital media.³⁵² And these higher rates of social
 2 media use are related to higher “ill-being.”³⁵³ Thus, the increase in adolescent social media use
 3 during the pandemic has caused an increase in adolescents experiencing mental health problems.

4 297. That relationship is reflected in reports from public schools. Over 75 percent of
 5 public schools reported an increase in staff expressing concerns about student depression,
 6 anxiety, and other disturbances since the start of the pandemic.³⁵⁴ Students receiving mental
 7 health services in educational settings predominately do so because they “[f]elt depressed,”
 8 “[t]hought about killing [themselves] or tried to” or “[f]elt very afraid and tense.”³⁵⁵

9 298. Anxiety disorders are also up, affecting 31.9 percent of adolescents between 13
 10 and 18 years old.³⁵⁶ “Research shows that untreated teenagers with anxiety disorders are at
 11 higher risk to perform poorly in school, miss out on important social experiences, and engage in
 12 substance abuse.”³⁵⁷

13 299. Schools are struggling not only to provide students with mental health services
 14 but also to deliver an adequate education because of the youth mental health crisis. Students in
 15 grades 6–12 identify depression, stress, and anxiety as the most prevalent obstacles to
 16 learning.³⁵⁸ Most middle school and high school students also fail to get enough sleep on school
 17

18 ³⁵² Laura Marciano *et al.*, *Digital Media Use and Adolescents' Mental Health During the Covid-*
 19 *19 Pandemic: A Systematic Review and Meta-Analysis*, *Frontiers Pub. Health* (Feb. 2022),
 20 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8848548/>.

21 ³⁵³ *Id.*

22 ³⁵⁴ *Roughly Half of Public Schools Report That They Can Effectively Provide Mental Health*
Services to All Students In Need, *Nat'l Ctr. Educ. Stat.* (May 31, 2022),
 23 https://nces.ed.gov/whatsnew/press_releases/05_31_2022_2.asp.

24 ³⁵⁵ Rachel N. Lipari *et al.*, *Adolescent Mental Health Service Use and Reasons for Using*
Services in Specialty, Educational, and General Medical Settings, SAMHSA (May 5, 2016),
 25 [https://www.samhsa.gov/data/sites/default/files/report_1973/ShortReport-1973.html#:~:text=The percent20Substance percent20Abuse percent20and percent20Mental,273 percent20TALK percent20\(8255\)](https://www.samhsa.gov/data/sites/default/files/report_1973/ShortReport-1973.html#:~:text=The percent20Substance percent20Abuse percent20and percent20Mental,273 percent20TALK percent20(8255)).

26 ³⁵⁶ *Anxiety Disorders: Facts and Statistics*, Anxiety & Depression Ass'n Am.,
 27 <https://adaa.org/understanding-anxiety/facts-statistics> (last visited Dec. 8, 2022).

28 ³⁵⁷ *Id.*

³⁵⁸ *Insights From the Student Experience, Part I: Emotional and Mental Health* at 2–3,
 YouthTruth (2022), https://youthtruthsurvey.org/wp-content/uploads/2022/10/YouthTruth_EMH_102622.pdf.

1 nights, which contributes to poor academic performance.³⁵⁹ These negative mental health
2 outcomes are also the most common symptoms of excessive social media use.

3 300. The youth mental health crisis has also caused a wide range of other behavioral
4 issues among students that interfere with schools' ability to teach. In 2022, 61 percent of public
5 schools saw an increase in classroom disruptions from student misconduct compared to school
6 years before the pandemic.³⁶⁰ Fifty-eight percent of public schools also saw an increase in
7 rowdiness outside of the classroom, 68 percent saw increases in tardiness, 27 percent saw
8 increases in students skipping classes, 55 percent saw increases in the use of electronic devices
9 when not permitted, 37 percent saw an increase in bullying, 39 percent saw an increase in
10 physical fights between students, and 46 percent saw an increase in threats of fights between
11 students.³⁶¹

12 301. Further exacerbating school's struggle to teach is the fact students are not
13 showing up to school. Indeed, student absenteeism has greatly increased. In the 2021–22 school
14 year, 39 percent of public schools experienced an increase in chronic student absenteeism
15 compared to the 2020–21 school year, and 72 percent of public schools saw increased chronic
16 student absenteeism compared to school years before the pandemic.³⁶² Following suit, vandalism
17 has increased in 2022, with 36 percent of public schools reporting increased acts of student
18 vandalism on school property.³⁶³

19 302. School districts have borne increased costs and expenses in response to the youth
20 mental health crisis. These costs include:

- 21 • hiring additional mental health personnel (41 percent of public schools added staff
22 to focus on student mental health);³⁶⁴

23
24 ³⁵⁹ Anne G. Wheaton *et al.*, *Short Sleep Duration Among Middle School and High School*
25 *Students-United States, 2015*, 67(3) *Morbidity & Mortality Wkly. Rpt.* 85–90 (Jan. 26, 2018),
<http://dx.doi.org/10.15585/mmwr.mm6703a1>.

26 ³⁶⁰ *2022 School Pulse Panel*, U.S. Dep't Educ., Inst. Educ. Sci. (2022),
<https://ies.ed.gov/schoolsurvey/spp/>.

27 ³⁶¹ *Id.*

28 ³⁶² *Id.*

³⁶³ *Id.*

³⁶⁴ *Id.*

- 1 • developing additional mental health resources (46 percent of public schools
2 created or expanded mental health programs for students, 27 percent added
3 student classes on social, emotional, and mental health and 25 percent offered
4 guest speakers for students on mental health);³⁶⁵
- 5 • training teachers to help students with their mental health (56 percent of public
6 schools offered professional development to teachers on helping students with
7 mental health);³⁶⁶
- 8 • increasing disciplinary services and hiring additional personnel for disciplinary
9 services in response to increased bullying and harassment over social media;
- 10 • addressing property damaged as a result of students acting out because of mental,
11 social, and emotional problems Defendants' conduct caused;
- 12 • diverting time and resources from instruction activities to notify parents and
13 guardians of students' behavioral issues and attendance;
- 14 • investigating and responding to threats made against schools and students over
15 social media;
- 16 • updating its student handbook to address use of Defendants' platforms; and
- 17 • updating school policies to address use of Defendants' platforms.

18 **F. Impact of Social Media Use on Plaintiff**

19 303. Plaintiff Gervais School District is a public school district in Marion County
20 Oregon, the fifth most populous county in Oregon. Gervais School District operates four schools,
21 serving approximately 1,500 students.³⁶⁷ Gervais School District includes one high school, one
22 middle school, one elementary school, and one K-12 charter school.

23 304. Gervais School District has been directly impacted by the mental health crisis
24 among youth in its community.

25 305. There has been a surge in the proportion of youth in Plaintiff's community who
26 say they cannot stop or control their anxiety, who feel so sad and hopeless that they stop doing
27 the activities that they used to love, who are considering suicide, who made plans to commit

28 ³⁶⁵ *Id.*

³⁶⁶ *Id.*

³⁶⁷ *Gervais School District 1*, U.S. News & World Rep.,
<https://www.usnews.com/education/k12/oregon/districts/gervais-sd-1-107648> (last visited Mar.
22, 2023).

1 suicide, and who have attempted to commit suicide.

2 306. Across Oregon, more and more children and youth are experiencing anxiety and
3 depression. In 2016, an estimated 11.5 percent of children in Oregon had anxiety or
4 depression.³⁶⁸ By 2020, this number had increased 40 percent to over 16 percent of Oregon
5 children (117,000) experiencing anxiety or depression.³⁶⁹

6 307. In 2020, suicide was the second leading cause of death among Oregon youth
7 under 25 years old.³⁷⁰ Suicidal ideation and attempts also remained high among school-aged
8 children. Indeed, ten percent of sixth graders, 14 percent of eighth graders, and 17 percent of
9 eleventh graders reported seriously considering attempting suicide.³⁷¹ And three percent of sixth
10 graders, six percent of eighth graders, and five percent of eleventh graders reported attempting
11 suicide at least once.³⁷²

12 308. The numbers are even higher in Marion County, where Plaintiff is located. In
13 2020, over 25 percent of eighth graders and nearly 20 percent of eleventh graders in Marion
14 County reported engaging in self-harm.³⁷³ Additionally, nearly 18 percent of eighth graders and
15 17 percent of eleventh graders reported seriously considering attempting suicide.³⁷⁴ Even worse,
16 roughly 6 percent of eighth and eleventh graders attempted suicide at least once.³⁷⁵

17 309. Anxiety is also rampant in Marion County. In 2020, over 57 percent of eighth
18 graders and over 70 percent of eleventh graders reported experiencing anxiety at least several
19

20 ³⁶⁸ Jamie Diep, *Children's Wellness Report Reveals 'Mental Health Pandemic,'* Or. Pub. Broad.
21 (Aug. 8, 2022), <https://www.opb.org/article/2022/08/08/children-mental-health-pandemic-oregon-usa/>.

22 ³⁶⁹ *Id.*

23 ³⁷⁰ *2021 Youth Suicide Intervention and Prevention Plan Annual Report* 39, Or. Health Auth.
(Mar. 2022),

24 https://sharedsystems.dhs.oha.state.or.us/DHSForms/Served/le8874_2021.pdf?utm_medium=email&utm_source=govdelivery.

25 ³⁷¹ *Id.* at 49.

26 ³⁷² *Id.* at 49.

27 ³⁷³ *2020 Oregon Student Health Survey: Marion County* at 47, Or. Health Auth. (2021),

28 <https://www.oregon.gov/oha/PH/BIRTHDEATHCERTIFICATES/SURVEYS/Documents/SHS/2020/Reports/County/Marion%20County.pdf>.

³⁷⁴ *Id.* at 49.

³⁷⁵ *Id.* at 49.

1 days a week.³⁷⁶

2 310. Like students across the county and state, Plaintiff's students suffer from suicidal
3 ideation and self-harm. In 2020, over 25 percent of sixth and eighth graders and 20 percent of
4 eleventh graders reported performing self-harm in the past year. Even worse, 16 percent of sixth
5 graders, 21 percent of eighth graders, and ten percent of eleventh graders reported seriously
6 attempting suicide, with ten percent of sixth graders and nearly eight percent of eighth and
7 eleventh graders actually attempting suicide at least once.

8 311. Anxiety is also a prevalent issue among Plaintiff's students. In 2020, over 50
9 percent of eighth graders and nearly 70 percent of eleventh graders reported feeling anxious
10 during the past thirty days.

11 312. Despite students' increased needs for services to treat anxiety and depression,
12 large swaths of students are unable to receive mental healthcare. In 2020, 14.5 percent of Oregon
13 eighth graders reported having unmet emotional or mental healthcare needs due to being unable
14 to access a healthcare provider.³⁷⁷ A lack of access to mental healthcare is especially acute in
15 low-income communities like Plaintiff's, where students' families lack insurance or otherwise
16 cannot afford mental healthcare. Plaintiff's students face an additional barrier in accessing
17 mental healthcare because there are no providers in the city of Gervais. As a result of these
18 barriers, 15 percent of eighth graders and nearly 40 percent of eleventh graders in Gervais School
19 District reported unmet emotional or mental healthcare needs.

20 313. The increases in anxiety, depression, and suicidal behavior among Plaintiff's
21 students have contributed to students' increased behavior problems in Plaintiff's schools. Over
22 the last two years, an increased number of students in Plaintiff's schools have been reported or
23 disciplined for disruptive conduct.

24 314. In turn, much of the disruptive conduct in Plaintiff's schools occurs on or is

25 ³⁷⁶ *Id.* at 46.

26 ³⁷⁷ *2022 KIDS COUNT National Report and Oregon State Data Cards Release: Oregon's*
27 *Progress on Child Well-Being Sees Some Improvement, but Many Children and Youth are*
28 *Experiencing Mental Health Challenges*, Our Child. Or. (Aug. 8, 2022),
<https://ourchildrenoregon.org/2022-kids-count-national-report-and-oregon-state-data-cards-release/>.

1 related to Defendants' platforms. A common pattern of disruptive conduct at Plaintiff's schools
2 is that students will film or photograph other students without their permission and post videos or
3 photos on Defendants' platforms. As a result, students cannot concentrate on schoolwork
4 because of anxiety from being bullied and harassed online. And administrators and teachers
5 cannot focus on educating. Rather, they spend increasingly more time investigating and resolving
6 disciplinary issues tied to Defendants' platforms and fielding complaints from students and
7 parents alike.

8 315. The increase in students who report suffering from anxiety and depression and the
9 increase in behavioral issues—and the connection to Defendants' platforms—have not gone
10 unnoticed. Gervais School District counselors estimate that 50 percent of student counseling is
11 related to social media. The common themes of these counseling sessions are that students feel
12 unable to manage their time and unable to control their impulse to use social media, and they
13 express fear and anxiety about what other students post about them on social media.

14 316. In addition to increased disciplinary incidents and counseling, Plaintiff also faces
15 attendance challenges. An increasing number of students are late to class, admitting they are late
16 because they stayed up the previous night watching videos and other content on Defendants'
17 platforms. Even worse, students are missing school and failing classes for the same reason.

18 317. The COVID-19 pandemic and corresponding increase in time youth spend on
19 Defendants' platforms have only intensified the crisis. Since the pandemic began, Plaintiff has
20 observed a marked increase in the number of Plaintiff's students acting out and in need of mental
21 health services.

22 318. In an attempt to address the decline in students' mental, emotional, and social
23 health, Plaintiff has been forced to divert resources and expend additional resources to:

- 24 a. hire additional personnel, including counselors and medical professionals to
25 address mental, emotional, and social health issues;
- 26 b. develop additional resources to address mental, emotional, and social health
27 issues;
- 28 c. increase training for teachers and staff to identify students exhibiting mental,

1 emotional, and social distress;

2 d. educate teachers, staff, and members of the community about the harms caused by
3 Defendants' wrongful conduct;

4 e. develop lesson plans to teach students about the dangers of using Defendants'
5 platforms;

6 f. educate students about the dangers of using Defendants' platforms;

7 g. update its student handbook to address use of Defendants' platforms; and

8 h. update school policies to address use of Defendants' platforms.

9 319. Additionally, more students have been involved in disciplinary incidents as a
10 result of the decline in students' mental, emotional, and social health caused by Defendants. As a
11 result, Plaintiff has been forced to divert resources and expend additional resources to:

12 a. repair property damaged as a result of the exploitive and harmful content
13 Defendants directed to students;

14 b. increase disciplinary services and time spent addressing bullying, harassment, and
15 threats;

16 c. confiscate devices on which students were compelled by Defendants' conduct to
17 use while in class or on school campuses to access Defendants' platforms;

18 d. meet with students and the parents of students caught using Defendants' platforms
19 at school;

20 e. divert time and resources from instruction activities to notify parents and
21 guardians of students' behavioral issues and attendance; and

22 f. investigate and respond to threats made against schools and students over social
23 media.

24 320. As of the 2022-23 school year, Plaintiff employs five counselors across the
25 district. Two counselors work at Gervais Elementary and three counselors that work at both
26 Gervais Middle School and Gervais High School. Many students rely on these counselors as
27 their only form of mental healthcare. Indeed, Plaintiff is in an under-resourced community,
28 meaning many of its students have low access to healthcare or lack insurance altogether. Despite

1 being the only mental health provider for many students, the counselors at Plaintiff's schools are
 2 unable to meet the increased need for mental health services resulting from students' use of
 3 Defendants' platforms.

4 321. As a result, Plaintiff has had to seek partnerships with third parties to provide
 5 additional mental health services for its students. In previous years, Plaintiff had partnered with
 6 Marion County for additional mental health services in the form of a part-time social worker. But
 7 the County has not been able to provide these services over the past two years because of its own
 8 staffing shortages. Similarly, a private provider that Plaintiff contacted could not offer its
 9 services because the increase in demand for mental health services has overloaded its own staff.

10 322. With these limited resources, Plaintiff cannot keep up with its students' increased
 11 need for mental health services to address the youth mental health crisis caused by social media.

12 323. As a result, the rest of Plaintiff's staff must fill in the cracks to help students with
 13 mental health concerns. While this is admirable, teachers and other support staff cannot replace
 14 the role of certified counselors.

15 324. And while some school districts have received desperately needed grant funding
 16 to address mental health,³⁷⁸ others, like Plaintiff, remain left to fend for themselves. But the
 17 funding needed to address these harms should not fall at the foot of the public. Rather,
 18 Defendants should bear the burden of remedying their wrongs.

19 325. Ultimately, Plaintiff requires significantly greater and longer-term funding to
 20 address the nuisance Defendants have created, along with abatement and injunctive relief. It is
 21 time, as President Biden declared, to get "all Americans the mental health services they need."³⁷⁹

22 **V. SECTION 230 IS NO SHIELD FOR DEFENDANTS' CONDUCT**

23 326. Plaintiff anticipates that Defendants will raise section 230 of the Communications
 24 Decency Act, 47 U.S.C. § 230(c)(1), as a shield for their conduct. But section 230 is no shield for

25 _____
 26 ³⁷⁸ *Douglas ESD Receives \$7 Million to Expand School-Based Mental Health Services*, KPIC
 News (Jan. 20, 2023), [https://kpic.com/news/local/douglas-esd-receives-7-million-to-expand-
 school-based-mental-health-services](https://kpic.com/news/local/douglas-esd-receives-7-million-to-expand-school-based-mental-health-services).

27 ³⁷⁹ President Biden, State of the Union Address (Mar. 1, 2022) (transcript available at
 28 <https://www.whitehouse.gov/state-of-the-union-2022/>).

1 Defendants' own acts in designing, marketing, and operating social media platforms that are
2 harmful to youth.

3 327. Section 230 provides immunity from liability only to “(1) a provider or user of an
4 interactive computer service (2) whom a plaintiff seeks to treat, under a state law cause of action,
5 as a publisher or speaker (3) of information provided by another information content provider.”
6 *Barnes v. Yahoo!, Inc.*, 570 F.3d 1096, 1100–01 (9th Cir. 2009), *as amended* (Sept. 28, 2009).

7 328. Publication generally involves traditional editorial functions, such as reviewing,
8 editing, and deciding whether to publish or to withdraw from publication third-party content.
9 *Lemmon v. Snap, Inc.*, 995 F.3d 1085, 1091 (9th Cir. 2021).

10 329. Publication does not, however, include duties related to designing and marketing
11 a social media platform. *See id.* at 1092–93.

12 330. Plaintiff expressly disavows any claims or allegations that attempt to hold
13 Defendants liable as the publisher or speaker of any information provided by third parties.

14 331. Section 230 does not shield Defendants' conduct because, among other
15 considerations: (1) Defendants are liable for their own affirmative conduct in recommending and
16 promoting harmful content to youth; (2) Defendants are liable for their own actions designing
17 and marketing their social media platforms in a way that causes harm; (3) Defendants are liable
18 for the content they create that causes harm; and (4) Defendants are liable for distributing,
19 delivering, and/or transmitting material that they know or have reason to know is harmful,
20 unlawful, and/or tortious.

21 332. First, Plaintiff is not alleging Defendants are liable for what third parties have said
22 on Defendants' platforms but, rather, for Defendants' own conduct. As described above,
23 Defendants affirmatively recommend and promote harmful content to youth, such as pro-
24 anorexia and eating disorder content. Recommendation and promotion of damaging material is
25 not a traditional editorial function and seeking to hold Defendants liable for these actions is not
26 seeking to hold them liable as a publisher or speaker of third-party content.

27 333. Second, Plaintiff's claims arise from Defendants' status as designers and
28 marketers of dangerous social media platforms that have injured the health, comfort, and repose

1 of its community. The nature of Defendants’ platforms centers around Defendants’ use of
2 algorithms and other designs features that encourage users to spend the maximum amount of
3 time on their platforms—not on particular third-party content. The algorithms Defendants
4 employ adapt to the social media activity of individual users to promote whatever content will
5 trigger a particular user’s attention and maximize their screen time. That is, Defendants’
6 algorithms are user-focused rather than content-based and are indifferent to the nature and type
7 of content they promote to users, provided that such content increases the time users spend on
8 their platforms. In that respect, they are content neutral.

9 334. Third, Defendants are liable for the content they create. In addition to content
10 such as Snapchat filters which promote body dysmorphia, Defendants send emails and
11 notifications to youth including material they create which often promotes certain harmful
12 content.

13 335. Fourth, Plaintiff does not seek to hold Defendants liable as publishers or speakers
14 of information provided by other content providers, but instead Plaintiff seeks to hold them liable
15 for distributing material they know or should know is harmful or unlawful. *See Malwarebytes,*
16 *Inc. v. Enigma Software Grp. USA, LLC*, 141 S. Ct. 13 (2020) (statement of Justice Thomas
17 respecting denial of certiorari discussing the distinction between distributor and publisher
18 liability); *cf. Restatement (Second) of Torts* § 581 (Am. Law Inst. 1977) (“[O]ne who only
19 delivers or transmits defamatory matter published by a third person is subject to liability if, but
20 only if, he knows or has reason to know of its defamatory character.”).

21 336. Ultimately, Plaintiff’s claim is not predicated on information provided by another
22 information content provider. Rather, Plaintiff’s claim rests on Defendants’ conduct which has
23 resulted in the current public health crisis among youth mental health.

24 VI. CAUSES OF ACTION

25 COUNT I—PUBLIC NUISANCE

26 337. Plaintiff incorporates by reference all preceding paragraphs.

27 338. Plaintiff brings this claim under Oregon public nuisance law as to all Defendants.
28

1 339. Under Oregon law, a public nuisance is an unreasonable interference with a right
2 which is common to the public, including acts that significantly interfere with public health,
3 safety, and welfare.

4 340. Defendants have created a mental health crisis in Plaintiff's schools, substantially
5 interfering with the public health and safety in Plaintiff's community and interfering with the
6 operations and learning environment of the Gervais School District.

7 341. Plaintiff and its students have a right to be free from conduct that endangers their
8 health, safety, and welfare. Yet Defendants have engaged in conduct which unreasonably and
9 substantially interferes with the public health and safety in Plaintiff's community by designing,
10 marketing, and operating their respective social media platforms for use by students in the
11 Gervais School District, in a manner that substantially interferes with the functions and
12 operations of Plaintiff's schools and with the public health, safety, and welfare of Plaintiff's
13 community.

14 342. Each Defendant has created or assisted in the creation of a condition that is
15 injurious to the health, safety, and welfare of Plaintiff's community.

16 343. The health and safety of the students and employees of the Gervais School
17 District, including those who use, have used, or will use Defendants' platforms, as well as those
18 affected by others' use of their platforms, are matters of substantial public interest and of
19 legitimate concern to Plaintiff.

20 344. Defendants' conduct has affected and continues to affect a substantial number of
21 people within the Gervais School District and is likely to continue causing significant harm.

22 345. Defendants' conduct has directly caused a severe disruption of the public health,
23 order, and safety. Defendants' conduct is ongoing and continues to produce permanent and long-
24 lasting damage.

25 346. This harm to youth mental health and the corresponding impacts on the public
26 health, safety, and welfare of Plaintiff's community outweighs any social utility of Defendants'
27 wrongful conduct.

28 347. The rights, interests, and inconvenience to Plaintiff's community far outweighs

1 the rights, interests, and inconvenience to Defendants, who have profited tremendously from
2 their wrongful conduct.

3 348. But for Defendants' actions, Plaintiff's students would not use social media
4 platforms as frequently or continuously as they do today or be deluged with exploitive and
5 harmful content to the same degree, and the public health crisis that currently exists as a result of
6 Defendants' conduct would have been averted.

7 349. Logic, common sense, justice, policy, and precedent indicate Defendants' unfair
8 and deceptive conduct has caused the damage and harm complained of herein. Defendants knew
9 or reasonably should have known that their design, promotion, and operation of their platforms
10 would cause students to use their platforms excessively, that their marketing methods were
11 designed to appeal to youth, and that their active efforts to increase youth use of their platforms
12 were causing harm to youth and to schools, including youth in Plaintiff's schools.

13 350. Thus, the public nuisance caused by Defendants was reasonably foreseeable,
14 including the financial and economic losses incurred by Plaintiff.

15 351. Alternatively, Defendants' conduct was a substantial factor in bringing about the
16 public nuisance even if a similar result would have occurred without it. By designing, marketing,
17 promoting, and operating their platforms in a manner intended to maximize the time youth spend
18 on their respective platforms—despite knowledge of the harms to youth from their wrongful
19 conduct—Defendants directly facilitated the widespread, excessive, and habitual use of their
20 platforms and the public nuisance effecting Plaintiff's schools. By seeking to capitalize on their
21 success by refining their platforms to increase the time youth spend on their platforms,
22 Defendants directly contributed to the public health crisis and the public nuisance affecting
23 Plaintiff's schools.

24 352. Defendants' conduct is especially injurious to Plaintiff because, as a direct and
25 proximate cause of Defendants' conduct creating or assisting in the creation of a public nuisance,
26 Plaintiff and its students and employees have sustained and will continue to sustain substantial
27 injuries.

28 353. Plaintiff has had to take steps to mitigate the harm and disruption caused by

1 Defendants' conduct, including the following:

- 2 a. hiring additional personnel to address mental, emotional, and social health issues;
- 3 b. developing additional resources to address mental, emotional, and social health
4 issues;
- 5 c. increasing training for teachers and staff to identify students exhibiting symptoms
6 affecting their mental, emotional, and social health;
- 7 d. training teachers, staff, and members of the community about the harms caused by
8 Defendants' wrongful conduct;
- 9 e. developing lesson plans to teach students about the dangers of using Defendants'
10 platforms;
- 11 f. educating students about the dangers of using Defendants' platforms;
- 12 g. addressing property damaged as a result of students acting out because of mental,
13 social, and emotional problems Defendants' conduct is causing;
- 14 h. increasing disciplinary services and time spent addressing bullying, harassment,
15 and threats;
- 16 i. confiscating devices on which students use Defendants' platforms while in class
17 or on Plaintiff's school campuses;
- 18 j. meeting with students and the parents of students caught using Defendants'
19 platforms at school or other disciplinary matters related to students' use of Defendants'
20 platforms;
- 21 k. diverting time and resources from instruction activities to notify parents and
22 guardians of students' behavioral issues and attendance;
- 23 l. investigating and responding to threats made against Plaintiff's schools and
24 students over social media;
- 25 m. updating its student handbook to address use of Defendants' platforms; and
- 26 n. updating school policies to address use of Defendants' platforms.

27 354. Fully abating the nuisance resulting from Defendants' conduct will require much
28 more than these steps.

1 355. As detailed herein, Plaintiff has suffered special damage different in kind or
2 quality from that suffered by the public in common. The damages suffered by Plaintiff have been
3 greater in degree and different in kind than those suffered by the general public including, but
4 not limited to, costs arising from: expending, diverting and increasing personnel to provide
5 mental health services; expending, diverting and increasing resources to address mental health
6 issues; expending, diverting and increasing staff time to confiscate cell phones and other devices;
7 expending, diverting and increasing staff time to communicate and engage with parents;
8 expending, diverting and increasing staff time associated with student discipline; expending,
9 diverting and increasing staff time associated with routing students to counselors; expending,
10 diverting and increasing staff time to train staff to identify students exhibiting symptoms
11 affecting their mental health; expending, diverting and increasing resources for modifications to
12 mental health curriculum; expending, diverting and increasing resources to repair property
13 damages as a result of the exploitive and harmful content Defendants directed to students; and
14 expending, diverting and increasing resources to investigate and respond to threats made against
15 schools and students over social media.

16 356. As a result of Defendant's conduct, Plaintiff has incurred damages and is entitled
17 to compensation therefor. Plaintiff requests all the relief to which it is entitled in its own right
18 and relating to the special damage or injury it has suffered, and not in any representative or
19 *parens patriae* capacity on behalf of students, including actual and compensatory damages in an
20 amount to be determined at trial and an order providing for the abatement of the public nuisance
21 that Defendants have created or assisted in the creation of, and enjoining Defendants from future
22 conduct contributing to the public nuisance described above.

23 357. Defendants are jointly and severally liable because they have acted in concert
24 with each other and because Plaintiff is not at fault.

25 358. Defendants' conduct, as described above, was intended to serve their own
26 interests despite having reason to know and consciously disregarding a substantial risk that their
27 conduct might significantly injure the rights of others, including Plaintiff, and/or Defendants
28 consciously pursued a course of conduct knowing that it created a substantial risk of significant

1 harm to others, including Plaintiff. Defendants regularly risk the health of users of their
2 platforms with full knowledge of the dangers of their platforms. Defendants consciously decided
3 not to redesign, warn, or inform the unsuspecting public, including Plaintiff's students or
4 Plaintiff. Defendants' reckless and outrageous indifference to a highly unreasonable risk of harm
5 and conscious indifference to the health, safety, and welfare of others warrants an award of
6 punitive damages.

7 **COUNT II—NEGLIGENCE**

8 359. Plaintiff incorporates by reference all preceding paragraphs.

9 360. Defendants owed Plaintiff a duty to not expose Plaintiff to an unreasonable risk of
10 harm, and to act with reasonable care as a reasonably careful person and/or company would act
11 under the circumstances.

12 361. At all times relevant to this litigation, Defendants owed a duty to users and the
13 general public, including Plaintiff, to exercise reasonable care in the design, research,
14 development, testing, marketing, supply, promotion, advertisement, operation, and distribution of
15 Defendants social media platforms, including the duty to take all reasonable steps necessary to
16 design, research, market, advertise, promote, operate, and/or distribute their platforms in a way
17 that is not unreasonably dangerous to users, including children.

18 362. At all times relevant to this litigation, Defendants owed a duty to users and the
19 general public, including Plaintiff, to exercise reasonable care in the design, research,
20 development, testing, marketing, supply, promotion, advertisement, operation, and distribution of
21 their social media platforms, including the duty to provide accurate, true, and correct information
22 about the risks of using Defendants' platforms; and appropriate, complete, and accurate warnings
23 about the potential adverse effects of extended social media use, in particular, social media
24 content Defendants directed via their algorithms to users.

25 363. At all times relevant to this litigation, Defendants knew or, in the exercise of
26 reasonable care, should have known of the hazards and dangers of their respective social media
27 platforms and specifically, the health hazards their platforms posed to youth in particular,
28

1 especially extended or problematic use of such platforms.

2 364. Accordingly, at all times relevant to this litigation, Defendants knew or, in the
3 exercise of reasonable care, should have known that use of Defendants' social media platforms
4 by youth could cause Plaintiff's injuries and thus created a dangerous and unreasonable risk of
5 injury to Plaintiff.

6 365. Defendants also knew or, in the exercise of reasonable care, should have known
7 that users of Defendants' social media platforms were unaware of the risks and the magnitude of
8 the risks associated with the use of Defendants' platforms including but not limited to the risks of
9 extended or problematic social media use and the likelihood that algorithm-based
10 recommendations would expose child and adolescent users to content that is violent, sexual, or
11 encourages self-harm, among other types of harmful content.

12 366. As such, Defendants, by action and inaction, representation and omission,
13 breached their duty of reasonable care, failed to exercise ordinary care, and failed to act as a
14 reasonably careful person and/or company would act under the circumstances in the design,
15 research, development, testing, marketing, supply, promotion, advertisement, operation, and
16 distribution of their social media platforms, in that Defendants designed, researched, developed,
17 tested, marketed, supplied, promoted, advertised, operated, and distributed social media
18 platforms that Defendants knew or had reason to know would negatively impact the mental
19 health of users, particularly youth, and failed to prevent or adequately warn of these risks and
20 injuries.

21 367. Despite their ability and means to investigate, study, and test their social media
22 platforms and to provide adequate warnings, Defendants have failed to do so. Defendants have
23 wrongfully concealed information and have made false and/or misleading statements concerning
24 the safety and use of Defendants' social media platforms.

25 368. Defendants breached their duty of care by:

26 a. Designing, researching, developing, marketing, supplying, promoting,
27 advertising, operating, and distributing their social media platforms without thorough and
28 adequate pre- and post-market testing; design, research, development, testing, marketing, supply,

1 promotion, advertisement, operation, and distribution;

2 b. Failing to sufficiently study and conduct necessary tests to determine whether or
3 not their social media platforms were safe for youth users;

4 c. Failing to use reasonable and prudent care in the research, design, development,
5 testing, marketing, supply, promotion, advertisement, operation, and distribution of their social
6 media platforms so as to avoid the risk encouraging extended social media use;

7 d. Designing their social media platforms to maximize the amount of time users
8 spend on the platform and causing excessive and problematic use of their platforms, particularly
9 among youth, through the use of algorithm-based feeds, social reciprocity, and IVR;

10 e. Failing to implement adequate safeguards in the design and operation of their
11 platforms to ensure they would not encourage excessive and problematic use of their platforms;

12 f. Designing and manufacturing their platforms to appeal to minors and young
13 people who lack the same cognitive development as adults and are particularly vulnerable to
14 social rewards like IVR and social reciprocity;

15 g. Failing to take adequate steps to prevent their platforms from being promoted,
16 distributed, and used by minors under the age of 13;

17 h. Failing to provide adequate warnings to child and adolescent users or parents who
18 Defendants could reasonably foresee would use their platforms;

19 i. Failing to disclose to, or warn, Plaintiff, users, and the general public of the
20 negative mental health consequences associated with social media use, especially for children
21 and adolescents;

22 j. Failing to disclose to Plaintiff, users, and the general public that Defendants'
23 platforms are designed to maximize the time users, particularly youth, spend on Defendants'
24 platforms and cause negative mental health consequences;

25 k. Representing that Defendants' platforms were safe for child and adolescent users
26 when, in fact, Defendants knew or should have known that the platforms presented acute mental
27 health concerns for young users;

28 l. Failing to alert users and the general public, including students at Plaintiff's

1 schools of the true risks of using Defendants' platforms;

2 m. Advertising, marketing; and recommending Defendants' platforms while
3 concealing and failing to disclose or warn of the dangers known by Defendants to be associated
4 with, or caused by, youth use of Defendants' platforms;

5 n. Continuing to design, research, develop, market, supply, promote, advertise,
6 operate, and distribute Defendants' platforms with knowledge that Defendants' platforms are
7 unreasonably unsafe, addictive, and dangerous to youth mental health;

8 o. Failing to modify Defendants' algorithms, which are used to recommend content
9 to users, in a manner that would no longer prioritize maximizing the amount of time users spend
10 on Defendants' platforms over the safety of its youth users;

11 p. Failing to adequately modify Defendants' algorithm-based recommendations to
12 filter out content that expose child and adolescent users to content that is violent, sexual, or
13 encourages self-harm, among other types of harmful content; and

14 q. Committing other failures, acts, and omissions set forth herein.

15 369. Defendants knew or should have known that it was foreseeable that Plaintiff, as
16 the primary and sometimes only mental health service provider for many its students, would
17 suffer injuries as a result of Defendants' failure to exercise reasonable care in designing,
18 researching, developing, testing, marketing, supplying, promoting, advertising, operating, and
19 distributing Defendants' platforms, particularly when Defendants' platforms were designed,
20 developed, operated and marketed to maximize the time youth spend on Defendants' platforms.

21 370. Plaintiff did not know and could not have known the nature and extent of the
22 injuries that could result from the intended use of Defendants' social media platforms by
23 Plaintiff's students.

24 371. Defendants' negligence helped to and did produce, and was the proximate cause
25 of, the injuries, harm, and economic losses that Plaintiff suffered and will continue to suffer, as
26 detailed in paragraphs 319-320. Such injuries, harm, and economic losses would not have
27 happened without Defendants' negligence as described herein.

28 372. The mental health crisis caused and/or significantly contributed to by Defendants

1 has caused a major disruptive behavioral situation in Plaintiff's schools, and Plaintiff has had to
2 take steps to mitigate the harm and disruption caused by Defendants' conduct, including the
3 following:

- 4 a. Hiring additional personnel to address mental, emotional, and social health issues;
- 5 b. Developing additional resources to address mental, emotional, and social health
6 issues;
- 7 c. Increasing training for teachers and staff to identify students exhibiting symptoms
8 affecting their mental, emotional, and social health;
- 9 d. Training teachers, staff, and members of the community about the harms caused
10 by Defendants' wrongful conduct;
- 11 e. Developing lesson plans to teach students about the dangers of using Defendants'
12 platforms;
- 13 f. Educating students about the dangers of using Defendants' platforms;
- 14 g. Addressing property damaged as a result of students acting out because of mental,
15 social, and emotional problems Defendants' conduct is causing;
- 16 h. Increasing disciplinary services and time spent addressing bullying, harassment,
17 and threats;
- 18 i. Confiscating devices on which students use Defendants' platforms while in class
19 or on Plaintiff's school campuses;
- 20 j. Meeting with students and the parents of students caught using Defendants'
21 platforms at school or other disciplinary matters related to students' use of Defendants'
22 platforms;
- 23 k. Diverting time and resources from instruction activities to notify parents and
24 guardians of students' behavioral issues and attendance;
- 25 l. Investigating and responding to threats made against Plaintiff's schools and
26 students over social media;
- 27 m. Updating its student handbook to address use of Defendants' platforms; and
- 28 n. Updating school policies to address use of Defendants' platforms.

1 373. As a result of Defendants’ negligence, Plaintiff suffered harm to their real and
2 personal property along with other economic losses in an amount to be proven at trial.

3 **COUNT III—GROSS NEGLIGENCE**

4 374. Plaintiff incorporates by reference all preceding paragraphs.

5 375. Defendants knew of the substantial risk of harm that their platforms posed to
6 users’ mental health, particularly children and adolescents.

7 376. Defendants’ conduct, as described above, was intended to serve their own
8 interests despite having reason to know and consciously disregarding a substantial risk that their
9 conduct might significantly injure the rights of others, including Plaintiff, and/or Defendants
10 consciously pursued a course of conduct knowing that it created a substantial risk of significant
11 harm to others, including Plaintiff. Defendants regularly risk the health of users of their
12 platforms with full knowledge of the significant dangers of their platforms. Defendants
13 consciously decided not to redesign, warn, or inform the unsuspecting public, including
14 Plaintiff’s students or Plaintiff.

15 377. Defendants’ gross negligence caused or was a substantial factor in causing
16 foreseeable harm to Plaintiff’s real and personal property and other economic losses in an
17 amount to be proven at trial.

18 378. Defendants’ reckless and outrageous indifference to a highly unreasonable risk of
19 harm and conscious indifference to the health, safety, and welfare of others warrants an award of
20 punitive damages.

21 **VII. PRAYER FOR RELIEF**

22 WHEREFORE, Plaintiff prays for judgment as follows:

23 379. Entering an Order that the conduct alleged herein constitutes a public nuisance
24 under Oregon law;

25 380. Entering an Order that Defendants are jointly and severally liable;

26 381. Entering an Order requiring Defendants to abate the public nuisance described
27 herein and to deter and/or prevent the resumption of such nuisance;
28

1 382. Enjoining Defendants from engaging in further actions causing or contributing to
2 the public nuisance as described herein;

3 383. Awarding equitable relief to fund prevention education and treatment for
4 excessive and problematic use of social media;

5 384. Awarding actual, compensatory, and punitive damages;

6 385. Awarding reasonable attorneys' fees and costs of suit;

7 386. Awarding pre-judgment and post-judgment interest; and

8 387. Such other and further relief as the Court deems just and proper under the
9 circumstances.

10 **VIII. JURY TRIAL DEMAND**

11 388. Plaintiff hereby demands a trial by jury.

12 RESPECTFULLY SUBMITTED this 30th day of March, 2023.

13
14 /s/ Yoona Park

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