

No. 21-1333

IN THE
Supreme Court of the United States

REYNALDO GONZALEZ, *et al.*,
Petitioners,

v.

GOOGLE LLC,
Respondent.

**On Writ of Certiorari to the
United States Court of Appeals
for the Ninth Circuit**

**BRIEF OF FAIRPLAY AS *AMICUS CURIAE*
IN SUPPORT OF PETITIONER
REYNOLDO GONZALEZ, ET AL.**

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<i>Air & Liquid Sys. Corp. v. DeVries</i> , 203 L. Ed. 2d 373, 139 S. Ct. 986 (2019).....	32-33
<i>Carafano v. Metrosplash.com, Inc.</i> , 339 F.3d 1119 (9th Cir. 2003).....	24
<i>Doe v. Backpage.com, LLC</i> , 817 F.3d 12 (1st Cir. 2016)	24, 25
<i>Doe v. Facebook, Inc.</i> , 142 S. Ct. 1087 (2022).....	25
<i>Doe v. MySpace, Inc.</i> , 528 F.3d 413 (5th Cir. 2008).....	25
<i>Doe #1 v. MG Freesites, LTD</i> , No. 7:21-cv-00220-LSC, 2022 WL 407147 (N.D. Ala. Feb. 9, 2022)	23
<i>Does 1-6 v. Reddit, Inc.</i> , 51 F.4th 1137 (9th Cir. 2022)	25
<i>Fair Hous. Council of San Fernando Valley v. Roommates.com, LLC</i> , 521 F.3d 1157, 1163 (9th Cir. 2008).....	22, 27
<i>Force v. Facebook, Inc.</i> , 934 F.3d 53 (2d Cir. 2019)	<i>passim</i>
<i>F.T.C. v. Accusearch Inc.</i> , 570 F.3rd 1187 (10th Cir. 2009)	32

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	Page(s)
<i>Gonzalez v. Google LLC</i> , 2 F.4th 871 (9th Cir. 2021)	14, 15, 29, 30, 31
<i>In re Facebook, Inc.</i> , 625 S.W.3d 80 (Tex. 2021)	25, 26
<i>In re Social Media Adolescent Addiction / Personal Injury Products Liability Litigation</i> , No. 4:22-md-03047-YGR (N.D. Cal.)	29, 30
<i>Lemmon v. Snap, Inc.</i> , 995 F.3d 1085 (9th Cir. 2021).....	32
<i>Malwarebytes, Inc. v. Enigma Software Grp. USA, LLC</i> , 208 L. Ed. 2d 197, 141 S. Ct. 13 (2020).....	3, 27, 32
<i>Nemet Chevrolet, Ltd. v. Consumeraffairs.com, Inc.</i> , 591 F.3d 250 (4th Cir. 2009).....	24
<i>Rodriquez v. Meta Platforms, et, al</i> , No. 3:22-cv-00401-JD (N.D. Cal.)	28, 29
<i>Universal Commc’n Sys., Inc. v. Lycos, Inc.</i> , 478 F.3d 413 (1st Cir. 2007)	24
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47 U.S.C. § 230(c)(1)	<i>passim</i>
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Petition for a Writ of Certiorari, <i>Gonzalez v. Google</i> , No. 21-1333, 2022 WL 1050223 (2021)	30
 OTHER AUTHORITIES	
141 Cong. Rec. 3,202 (Feb. 1, 1995)	23
141 Cong. Rec. 15,503 (June 9, 1995)	23
141 Cong. Rec. 22,045 (Aug. 4, 1995)	23, 24

TABLE OF AUTHORITIES—Continued

	Page(s)
<i>Among teens, sleep deprivation an epidemic</i> , Stanford News Ctr. (Oct. 8, 2015), https://med.stanford.edu/news/all-news/2015/10/among-teens-sleep-deprivati-on-an-epidemic.html	12
Anna Hartford & Dan J. Stein, <i>Attentional Harms and Digital Inequalities</i> , 9 JMIR Mental Health 2 (Feb. 11, 2022), https://pubmed.ncbi.nlm.nih.gov/35147504/	17, 18
B. F. Skinner, <i>Two Types of Conditioned Reflex: A Reply to Konorski and Miller</i> , 16 J. Gen. Psychology 272 (1937), https://doi.org/10.1080/00221309.1937.9917951 ...	16
Cecilie Schou Andreassen, Torbjørn Torsheim, Geir Scott Brunborg & Ståle Pallesen, <i>Development of a Facebook Addiction Scale</i> , 110 PSYCH. REPS. 501 (2012)	9
Chih-Hung Ko, Ju-Yu Yen, Sue-Huei Chen, Ming-Jen Yang, Huang-Chi Lin & Cheng-Fang Yen, <i>Proposed Diagnostic Criteria and the Screening and Diagnosing Tool of Internet Addiction in College Students</i> , 50 COMPR. PSYCHIATRY 378 (2009).....	9

TABLE OF AUTHORITIES—Continued

	Page(s)
Chung-Ying Lin, Anders Broström, Per Nilsen, Mark D. Griffiths & Amir H. Pakpour, <i>Psychometric Validation of the Persian Bergen Social Media Addiction Scale Using Classic Test Theory and Rasch Models</i> , 6 J. BEHAV. ADDICTIONS 620 (2017)	9-10
Clea Skopeliti, <i>'I Felt My Body Wasn't Good Enough': Teenage Troubles with Instagram</i> , The Guardian (Sept. 18, 2021), https://www.theguardian.com/society/2021/sep/18/i-felt-my-body-wasnt-good-enough-teenage-troubles-with-instagram	7
Chloe Wilkinson et al., <i>Screen Time: The Effects on Children's Emotional, Social, and Cognitive Development</i> (2021), https://informedfutures.org/wp-content/uploads/Screen-time-The-effects-on-childrens-emotional-social-cognitive-development.pdf	10
Common Sense, <i>Dealing with Devices: Parents</i> (2016), https://www.commonsensemedia.org/sites/default/files/research/report/commonsense_dealingwithdevices-topline_release.pdf	10

TABLE OF AUTHORITIES—Continued

	Page(s)
Common Sense, <i>Screens and Sleep: The New Normal: Parents, Teens, Screens, and Sleep in the United States</i> (2019), https://www.common sense media.org/site/default/files/research/report/2019-new-normal-parents-teens-screens-and-sleep-united-states-report.pdf	12
Danielle Keats Citron & Benjamin Wittes, <i>The Internet Will Not Break: Denying Bad Samaritans § 230 Immunity</i> , 86 <i>FORDHAM L. REV.</i> 401 (2017)	24
Emily A. Vogels et al., <i>Teens, Social Media and Technology 2022</i> , Pew Research Center (Aug. 10, 2022), https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022	10
Emily Weinstein & Carrie James, <i>Behind Their Screens: What Teens Are Facing (And Adults Are Missing)</i> , MIT Press (2022).....	12, 20
Fabrizio Bert et al., <i>Risks and Threats of Social Media Websites: Twitter and the Proana Movement</i> , 19 <i>Cyberpsychology, Behav. Soc. Networking</i> (Apr. 2016), https://pubmed.ncbi.nlm.nih.gov/26991868/	8
Fairplay, <i>Designing for Disorder: Instagram's Pro-eating Disorder Bubble</i> (Apr. 2022), https://fairplayforkids.org/wp-content/uploads/2022/04/designing_for_disorder.pdf ...	8

TABLE OF AUTHORITIES—Continued

	Page(s)
Farhad Manjoo <i>Jurassic Web The Internet of 1996 is almost unrecognizable compared with what we have today</i> , Slate (Feb. 24, 2009). https://slate.com/technology/2009/02/the-unrecognizable-internet-of-1996.html	22
<i>Fatal Injury Reports, National, Regional and State, 1981–2020</i> , CTRS. FOR DISEASE CONTROL: WEB-BASED STAT. QUERY & REPORTING SYS., https://wisqars.cdc.gov/fatal-reports (last visited Nov. 17, 2022)....	4
GCFGlobal.org, <i>Digital Media Literacy: Why We Can't Stop Scrolling</i> , https://educfglobal.org/en/digital-media-literacy/why-we-cant-stop-scrolling/1/	19
<i>Heavy Social Media Use Linked to Poor Sleep</i> , BBC News (Oct. 23, 2019), https://www.bbc.com/news/health-50140111	12
Hunt Allcott et al., <i>The Welfare Effects of Social Media</i> , 110 <i>Econ. Rev. Am.</i> 629 (2020), https://www.aeaweb.org/articles?id=10.1257/aer.20190658	6
Hunt Allcott, Matthew Gentzkow & Lena Song, <i>Digital Addiction</i> (Nat'l Bureau of Econ. Rsch., Working Paper No. 28936, 2022)	9

TABLE OF AUTHORITIES—Continued

	Page(s)
J.C. Yau & S. M. Reich, “ <i>It's Just a Lot of Work</i> ”: <i>Adolescents' Self-Presentation Norms and Practices on Facebook and Instagram</i> , 29 <i>J. Res. on Adolescence</i> 196 (2019).....	20
J. E. Staddon & D. T. Cerutti, <i>Operant Conditioning</i> , 54 <i>Annual Review of Psychology</i> 115 (2003), https://doi.org/10.1146/annurev.psych.54.101601.145124	16
Jane Harness et al., <i>Youth Insight About Social Media Effects on Well/Ill-Being and Self-Modulating Efforts</i> , 71 <i>J. Adolescent Health</i> 324 (Sept. 1, 2022)	6
Jean M. Twenge, A. Bell Cooper, Thomas E. Joiner, Mary E. Duffy & Sarah G. Binau, <i>Age, Period, and Cohort Trends in Mood Disorder Indicators and Suicide-Related Outcomes in a Nationally Representative Dataset, 2005–2017</i> , 128 <i>J. ABNORMAL PSYCH.</i> 185 (2019)	5
Jean M. Twenge, Jonathan Haidt, Jimmy Lozano & Kevin M. Cummins, <i>Specification Curve Analysis Shows that Social Media Use Is Linked to Poor Mental Health, Especially Among Girls</i> , 224 <i>ACTA PSYCHOLOGICA</i> , Apr. 2022, Art. No. 103512	5
Jean M. Twenge & W. Keith Campbell, <i>Media Use Is Linked to Lower Psychological Well-Being: Evidence from Three Datasets</i> , 90 <i>Psychol. Q.</i> 311 (2019)	5, 7

TABLE OF AUTHORITIES—Continued

	Page(s)
Jean M. Twenge et al., <i>Increases in Depressive Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010 and Links to Increased New Media Screen Time</i> , 6 <i>Clinical Psychol. Sci.</i> 3 (2018)	6
Jeff Chester et al., <i>Big Food, Big Tech, and the Global Childhood Obesity Pandemic</i> (2021), https://www.democraticmedia.org/sites/default/files/field/public-files/2021/full_report.pdf	12
Jennifer Neda John, <i>Instagram Triggered My Eating Disorder</i> , <i>Slate</i> (Oct. 14, 2021), https://slate.com/technology/2021/10/instagram-social-media-eating-disorder-trigger.html	7
Jim Waterson & Alex Hern, <i>Instagram ‘Pushes Weight-Loss Messages to Teenagers’</i> , <i>The Guardian</i> (Jul 19, 2021, 7:01 AM), https://www.theguardian.com/society/2021/jul/20/instagram-pushes-weight-loss-messages-to-teenagers	8
K.E. Riehm et al., <i>Associations Between Time Spent Using Social Media and Internalizing and Externalizing Problems Among US Youth</i> , 76 <i>JAMA Psychiatry</i> 1266 (2019), https://doi.org/10.1001/jama-psychiatry.2019.2325	5

TABLE OF AUTHORITIES—Continued

	Page(s)
Konstantinos Ioannidis et al., <i>Cognitive Deficits in Problematic Internet Use: Meta-Analysis of 40 Studies</i> , 215 <i>British Journal of Psychiatry</i> 639, 645 (2019), https://pubmed.ncbi.nlm.nih.gov/30784392/	11
Laura MacPherson, <i>A Deep Dive into Variable Designs and How to Use Them</i> , DesignLi (Nov. 8, 2018), https://designli.co/blog/a-deep-dive-on-variable-rewards-and-how-to-use-them/	16
Lori Janjigian, <i>What I Learned After Taking Over My 13-Year-Old Sister’s Snapchat for Two Weeks</i> , <i>Business Insider</i> (Aug. 4, 2016, 11:53 AM), https://www.businessinsider.com/how-teens-are-using-snapchat-in-2016	21
Lucy Foulkes and Sarah-Jayne Blakemore, <i>Is There Heightened Sensitivity to Social Reward in Adolescence?</i> 40 <i>Current Opinion Neurobiology</i> 81 (2016).....	20
Meta, Growth, Friending + PYMK, and down-stream integrity problems, https://s3.documentcloud.org/documents/23322845/friending-and-pymk-downstream-integrity-problems.pdf (last visited Dec. 3, 2022).....	27
Meta, Integrity Glossary (“PYMK”) https://www.documentcloud.org/documents/23323294-glossary-of-integrity-terms (last visited Dec. 3, 2022).....	27

TABLE OF AUTHORITIES—Continued

	Page(s)
Meta, <i>The Power of Identities: Why Teens and Young Adults Choose Instagram</i> , https://www.documentcloud.org/documents/23322855-copy-of-copy-of-why-teens-and-young-adults-choose-insta_sanitized (last visited Dec. 3, 2022)	15, 18, 19
Michael Kaess et al., <i>Pathological Internet use among European adolescents: psychopathology and self-destructive behaviors</i> , 23 <i>Eur. Child & Adolescent Psychiatry</i> 1093 (2014), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4229646/	11
Michelle A. Miller et al., <i>Sleep Duration and Incidence of Obesity in Infants, Children, and Adolescents: A Systematic Review and Meta-Analysis of Prospective Studies</i> , 41 <i>Sleep</i> 1 (2018), https://pubmed.ncbi.nlm.nih.gov/29401314/	13
Mike Allen, Sean Parker unloads on Facebook: “God only knows what it’s doing to our children’s brains”, <i>Axios</i> (Nov. 9, 2017), https://www.axios.com/2017/12/15/sean-parker-unloads-on-facebook-god-only-knows-what-its-doing-to-our-childrens-brains-1513306792	18
Mike Brooks, <i>The “Vegas Effect” of Our Screens</i> , <i>Psychol. Today</i> (Jan. 4, 2019), https://www.psychologytoday.com/us/blog/tech-happy-life/201901/the-vegas-effect-our-screens	16, 17

TABLE OF AUTHORITIES—Continued

	Page(s)
N. McCrae et al., <i>Social Media and Depressive Symptoms in Childhood and Adolescence: A Systematic Review</i> , 2 <i>Adolescent Res. Rev.</i> 315 (2017), https://doi.org/10.1007/s40894-017-0053-4	5
Nicholas D. Santer et al., <i>Early Adolescents' Perspectives on Digital Privacy, Algorithmic Rights and Protections for Children</i> (2021).....	20
Nir Eyal, <i>The Hook Model: How to Manufacture Desire in 4 Steps</i> , Nir and Far, https:// www.nirandfar.com/how-to-manufacture-desire/ (last visited Dec. 2, 2022).....	17
Pixie G. Turner & Carmen E. Lefevre, <i>Instagram Use Is Linked to Increased Symptoms of Orthorexia Nervosa</i> , 22 <i>Eating Weight Disorders</i> 277 (2017).....	7
1 Restatement (Third) of Torts: Liability for Physical and Emotional Harm (2005).....	33
Restrepo et al., <i>Problematic Internet Use in Children and Adolescents: Associations with Psychiatric Disorders and Impairment</i> , 20 <i>BMC Psychiatry</i> 252 (2020), https://doi.org/10.1186/s12888-020-02640-x	11, 12

TABLE OF AUTHORITIES—Continued

	Page(s)
Rosemary Sedgwick, Sophie Epstein, Rina Dutta & Dennis Ougrin, <i>Social Media, Internet Use and Suicide Attempts in Adolescents</i> , 32 CURRENT OP. PSYCHIATRY 534 (2019).....	5
Royal Society for Public Health, <i>#StatusOfMind: Social Media and Young People’s Mental Health and Wellbeing</i> (May 2017)	6
S. Rep. No. 104-230 (1996).....	23
Simon M. Wilksch et al., <i>The Relationship Between Social Media Use and Disordered Eating in Young Adolescents</i> , 53 Int. J. Eat. Disord. 96 (2020).....	7
U.S. SURGEON GEN., ADVISORY: PROTECTING YOUTH MENTAL HEALTH (2021)	4
The Wall Street Journal, <i>Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.</i> , Facebook Paper, March 2020 (Sept. 29, 2021), https://digitalwellbeing.org/wp-content/uploads/2021/10/Facebook-Files-Teen-Girls-Body-Image-and-Social-Comparison-on-Instagram.pdf	7
The Wall Street Journal, <i>How TikTok Serves Up Sex and Drug Videos to Minors</i> (September 8, 2021).....	9

TABLE OF AUTHORITIES—Continued

	Page(s)
The Wall Street Journal, <i>'The Corpse Bride Diet': How TikTok Inundates Teens with Eating-Disorder Videos</i> (December 17, 2021).....	9
Yanhui Wu et al., <i>Short Sleep Duration and Obesity Among Children: A Systematic Review and Meta-Analysis of Prospective Studies</i> , 11 <i>Obesity Rsch. & Clinical Prac.</i> 140 (2015), https://pubmed.ncbi.nlm.nih.gov/27269366/	13

INTEREST OF AMICUS CURIAE¹

Amicus Fairplay is a fiscally sponsored organization of Third Sector New England, Inc., a 501(c)(3) non-profit that provides information and services to build the knowledge, power, and effectiveness of individuals, organizations, and groups that engage people in community and public life. Fairplay is committed to helping children thrive in an increasingly commercialized, screen-obsessed culture. Fairplay does not accept donations from technology companies or any corporation and is the only organization dedicated to ending online marketing to children. Fairplay's advocacy is grounded in the overwhelming evidence that child-targeted online marketing—and the excessive screen time it encourages—undermines healthy child development.

Amicus Fairplay is deeply interested in this case because the algorithmic recommendation systems and design features at issue in this appeal harm minors by encouraging excessive social media use and directing them to addictive, psychologically destructive, and dangerous online experiences and content. The lower court's decision to expand publisher immunity under 47 U.S.C. § 230(c)(1) to encompass online recommendation algorithms makes it more difficult to hold social media companies accountable for the harms their products inflict on America's children.

¹ No counsel for a party authored any part of this brief and no counsel or party made a monetary contribution intended to fund the preparation or submission of the brief. Only the amici and their attorneys have paid for the filing and submission of this brief. Pursuant to Rule 37.3(a), all parties have granted blanket consent to the filing of amicus curiae briefs.

SUMMARY OF ARGUMENT

Rarely in American jurisprudence has the judicial interpretation of a statute been more contrary to the statute's language and legislative history than in the case of 47 U.S.C. § 230(c)(1) (Section 230). The text simply does not support the expansive, all-encompassing immunity asserted by social media companies. Congress enacted Section 230 with the express purpose of *protecting* children from online exposure to obscene materials by granting immunity to companies who remove salacious content from their platforms. Yet lower courts have upended the salutary purpose of Section 230 by extending publisher immunity to social media companies whose algorithms (i) use psychological manipulation to addict vulnerable youth to their platforms, (ii) construct and keep children in dangerous online environments through the algorithmic feeds created by the companies, and (iii) enable child sexual abuse to flourish through their products.

The issue presented here—whether Section 230 immunizes interactive computer services when they make targeted recommendations of information provided by another content provider—has profound implications for society's ability to protect children from the manifest harms associated with social media use. For youth in particular, maximizing online time can lead to a variety of mental and physical health problems and other risks. The lower court's conclusion that social media's algorithmic recommendations are protected publishing activity erroneously assumed those algorithms merely furnish users with content they desire. In fact, the companies expressly design their algorithms to maximize the profits from their online products by creating environments that keep young users online for as long as possible so they will

see more targeted advertising. These purposes go far beyond traditional editorial functions or responding to user requests.

Amicus first explains below that social media usage has led to mental health crises among youth. Amicus then explains how algorithms actually work and why the court below erred in its understanding of algorithms. Finally, Amicus urges this Court to adopt the compelling analysis of the late Chief Judge Robert A. Katzmann in his partial dissent in *Force v. Facebook, Inc.*, 934 F.3d 53, 57 (2d Cir. 2019)—cited approvingly by Justice Thomas in *Malwarebytes, Inc. v. Enigma Software Grp. USA, LLC*, 141 S. Ct. 13, 17 (2020) (Thomas, J., statement respecting denial of certiorari)—and hold that the term “publisher” under § 230(c)(1) reaches only traditional activities of publication (such as deciding whether to publish, withdraw, or alter content) and does not include activities that promote or recommend content or connect users to each other. The Court should reject the expansive interpretation of Section 230 adopted below because it shields social media companies from liability for the harms their products inflict on young people, which is directly contrary to the language and legislative intent of Section 230.

ARGUMENT

I. AMERICAN YOUTH ARE EXPERIENCING MENTAL HEALTH CRISES RESULTING FROM PRODUCTS AND PRACTICES EMPLOYED BY SOCIAL MEDIA COMPANIES

A. Social Media and Youth Mental Health

In December 2021, United States Surgeon General Vivek Murthy issued an advisory, *Protecting Youth Mental Health*, warning of a mental health crisis

among children and young adults caused in part by their overuse of social media. The Surgeon General reported:

From 2009 to 2019, the proportion of high school students reporting persistent feelings of sadness or hopelessness increased by 40%; the share seriously considering attempting suicide increased by 36%; and the share creating a suicide plan increased by 44%. Between 2011 and 2015, youth psychiatric visits to emergency departments for depression, anxiety, and behavioral challenges increased by 28%. Between 2007 and 2018, suicide rates among youth ages 10-24 in the US increased by 57%.

U.S. SURGEON GEN., ADVISORY: PROTECTING YOUTH MENTAL HEALTH 8 (2021). During the same period, the rates of suicide among 12- to 16-year-olds in the United States increased 146%.²

In explaining the crisis' origins, Dr. Murthy noted a "growing concern about the impact of digital technologies, particularly social media, on the mental health and wellbeing of children and young people" and called for greater accountability from social media companies. *Id.* at 25.

Business models are often built around maximizing user engagement as opposed to safeguarding users' health and ensuring that users engage with one another in safe and healthy ways. **This translates to**

² *Fatal Injury Reports, National, Regional and State, 1981–2020*, CTRS. FOR DISEASE CONTROL: WEB-BASED STAT. QUERY & REPORTING SYS., <https://wisqars.cdc.gov/fatal-reports> (last visited Nov. 17, 2022).

technology companies focusing on maximizing time spent, not time well spent.

Id. (emphasis in original).

The Surgeon General’s findings are based on an extensive body of research documenting physical and mental health harms to young people resulting from social media use. Many authorities have found a causal relationship between social media and teen suicide,³ and the relationship between social media and other severe mental health outcomes among teens is widely accepted among behavioral health researchers.⁴ Of particular concern is a large and growing body of research indicating a strong link between time spent on social media and serious mental health challenges.⁵

³ See, e.g., Jean M. Twenge, A. Bell Cooper, Thomas E. Joiner, Mary E. Duffy & Sarah G. Binau, *Age, Period, and Cohort Trends in Mood Disorder Indicators and Suicide-Related Outcomes in a Nationally Representative Dataset, 2005–2017*, 128 J. ABNORMAL PSYCH. 185, 196–97 (2019); Rosemary Sedgwick, Sophie Epstein, Rina Dutta & Dennis Ougrin, *Social Media, Internet Use and Suicide Attempts in Adolescents*, 32 CURRENT OP. PSYCHIATRY 534, 535, 537, 540 (2019).

⁴ See, e.g., Jean M. Twenge, Jonathan Haidt, Jimmy Lozano & Kevin M. Cummins, *Specification Curve Analysis Shows that Social Media Use Is Linked to Poor Mental Health, Especially Among Girls*, 224 ACTA PSYCHOLOGICA, Apr. 2022, at 8–10, Art. No. 103512; Jean M. Twenge & W. Keith Campbell, *Media Use Is Linked to Lower Psychological Well-Being: Evidence from Three Datasets*, 90 Psychol. Q. 311 (2019) (heavy users of digital media are more likely to be unhappy, to be depressed, or to have attempted suicide).

⁵ See, e.g., K.E. Riehm et al., *Associations Between Time Spent Using Social Media and Internalizing and Externalizing Problems Among US Youth*, 76 JAMA Psychiatry 1266 (2019), <https://doi.org/10.1001/jamapsychiatry.2019.2325>; N. McCrae et al., *Social Media and Depressive Symptoms in Childhood and Adolescence: A Systematic Review*, 2 Adolescent Res. Rev. 315 (2017), <https://doi.org/10.1007/s12187-017-9188-8>.

Two nationally representative surveys of U.S. adolescents in grades 8 through 12 revealed a clear pattern linking screen activities with higher levels of depressive symptoms and suicide-related outcomes and non-screen activities than with lower levels.⁶ The researchers reported that suicide-related outcomes became elevated after two hours or more a day of electronic device usage, and that, among teens who used electronic devices five or more hours a day, a staggering 48% exhibited at least one suicide risk factor.⁷ Other research associates longer and more frequent social media use with depression,⁸ anxiety,⁹ and suicide risk factors.¹⁰

B. Eating Disorders

Design features that maximize time spent on social media lead to heightened exposure to negative body image and, consequently, eating disorders. A recent study of content 7th and 8th graders “suggest[ed] that [social media], particularly platforms with a strong

doi.org/10.1007/s40894-017-0053-4; Hunt Allcott et al., *The Welfare Effects of Social Media*, 110 Am. Econ. Rev. 629 (2020), <https://www.aeaweb.org/articles?id=10.1257/aer.20190658>.

⁶ Jean M. Twenge et al., *Increases in Depressive Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010 and Links to Increased New Media Screen Time*, 6 Clinical Psychol. Sci. 3, 9 (2018). See also Jane Harness et al., *Youth Insight About Social Media Effects on Well/ Ill-Being and Self-Modulating Efforts*, 71 J. Adolescent Health 324-333 (Sept. 1, 2022).

⁷ *Id.*

⁸ Twenge & Campbell, *supra* note 4, at 312.

⁹ Royal Society for Public Health, *#StatusOfMind: Social Media and Young People’s Mental Health and Wellbeing* 8 (May 2017).

¹⁰ Twenge & Campbell, *supra* note 4.

focus on image posting and viewing, is associated with elevated [disordered eating] cognitions and behaviors in young adolescents.”¹¹ In another study, researchers found a positive correlation between higher use of Instagram and orthorexia nervosa diagnoses.¹² Personal stories from sufferers of eating disorders have highlighted the link to social media.¹³

Time spent on social media can harm minors’ body image and increase their susceptibility to disordered eating in multiple ways. *First*, visual social media triggers social comparison as minors compare their appearance to others, including influencers. An internal Meta study concluded that 66% of teen girls on Instagram experienced negative social comparison, and 52% of that group attributed that experience to viewing beauty-related images on Instagram.¹⁴ *Second*, the companies’ recommendation systems

¹¹ Simon M. Wilksch et al., *The Relationship Between Social Media Use and Disordered Eating in Young Adolescents*, 53 Int. J. Eat. Disord. 96, 104 (2020).

¹² Pixie G. Turner & Carmen E. Lefevre, *Instagram Use Is Linked to Increased Symptoms of Orthorexia Nervosa*, 22 Eating Weight Disorders 277, 281 (2017).

¹³ See, e.g., Jennifer Neda John, *Instagram Triggered My Eating Disorder*, Slate (Oct. 14, 2021), <https://slate.com/technology/2021/10/instagram-social-media-eating-disorder-trigger.html>; Clea Skopeliti, *‘I Felt My Body Wasn’t Good Enough’: Teenage Troubles with Instagram*, The Guardian (Sept. 18, 2021), <https://www.theguardian.com/society/2021/sep/18/i-felt-my-body-wasnt-good-enough-teenage-troubles-with-instagram>.

¹⁴ The Wall Street Journal, *Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the U.S.*, Facebook Paper, March 2020 (Sept. 29, 2021), <https://digitalwellbeing.org/wp-content/uploads/2021/10/Facebook-Files-Teen-Girls-Body-Image-and-Social-Comparison-on-Instagram.pdf>.

create “bubbles” or “rabbit holes” that funnel users to increasingly extreme content on a given topic¹⁵—topics chosen by the social media company, not by the user. This has proven true for negative body image and eating disorder content.¹⁶

Research shows social media’s algorithms have pushed disordered eating and harmful diet techniques to teenage girls.¹⁷ Adolescent girls who express an interest in innocuous topics like fitness tips, general recipes, and healthy eating are bombarded with content targeted to what the algorithms identify as potential insecurities to more extreme content, such as pro-anorexia posts and videos, users, and user groups focused on encouraging others to engage in self-harm and disordered eating. Because the algorithms designed and operated by these companies learn which groups disproportionately engage with this type of content¹⁸ (in this case, female minors), the algorithms generate feeds and recommend connections to young females who do *not* express any interest in them in order to serve the *companies’* business purpose of keeping the user online and engaged with the product and advertising. There are multiple examples of third parties

¹⁵ Fairplay, *Designing for Disorder: Instagram’s Pro-eating Disorder Bubble* at 1 (Apr. 2022), https://fairplayforkids.org/wp-content/uploads/2022/04/designing_for_disorder.pdf.

¹⁶ *Id.* at 6-7.

¹⁷ See generally *id.*; Jim Waterson & Alex Hern, *Instagram ‘Pushes Weight-Loss Messages to Teenagers’*, *The Guardian* (Jul 19, 2021, 7:01 AM), <https://www.theguardian.com/society/2021/jul/20/instagram-pushes-weight-loss-messages-to-teenagers>.

¹⁸ See Fabrizio Bert et al., *Risks and Threats of Social Media Websites: Twitter and the Proana Movement*, 19 *Cyberpsychology, Behav. Soc. Networking* (Apr. 2016), <https://pubmed.ncbi.nlm.nih.gov/26991868/>.

registering TikTok accounts to fictitious children (as young as 13 to 15), who are then quickly placed in dangerous online experiences by being fed massive amounts of harmful and disturbing content, including paid advertisements targeted by TikTok in a discriminatory manner.¹⁹

C. Social Media Addiction

Medical professionals observed the addictive potential of social media as early as 2009.²⁰ Subsequent research confirmed an addictive paradigm in many social media users' behavior, particularly adolescents.²¹ The Bergen Social Media Addiction Scale²² is now widely used by researchers and mental health professionals to identify and quantify addictive social media behavior.²³ Maximizing time and activities online also

¹⁹ See, e.g., The Wall Street Journal, *How TikTok Serves Up Sex and Drug Videos to Minors* (September 8, 2021); The Wall Street Journal, *'The Corpse Bride Diet': How TikTok Inundates Teens with Eating-Disorder Videos* (December 17, 2021).

²⁰ See, e.g., Chih-Hung Ko, Ju-Yu Yen, Sue-Huei Chen, Ming-Jen Yang, Huang-Chi Lin & Cheng-Fang Yen, *Proposed Diagnostic Criteria and the Screening and Diagnosing Tool of Internet Addiction in College Students*, 50 COMPREHENSIVE PSYCHIATRY 378 (2009).

²¹ Hunt Allcott, Matthew Gentzkow & Lena Song, *Digital Addiction* 29 (Nat'l Bureau of Econ. Rsch., Working Paper No. 28936, 2022) (finding that "self-control problems magnified by habit formation might be responsible for 31 percent of social media use").

²² Cecilie Schou Andreassen, Torbjørn Torsheim, Geir Scott Brunborg & Ståle Pallesen, *Development of a Facebook Addiction Scale*, 110 PSYCH. REPS. 501 (Apr. 2012), <https://pubmed.ncbi.nlm.nih.gov/22662404/>.

²³ See, e.g., Chung-Ying Lin, Anders Broström, Per Nilsen, Mark D. Griffiths & Amir H. Pakpour, *Psychometric Validation of the Persian Bergen Social Media Addiction Scale Using Classic*

fosters “problematic internet use”—psychologists’ term for excessive internet activity that exhibits addiction, impulsivity, or compulsion.²⁴

A 2016 nationwide survey found 61% of teens thought they spent too much time on their mobile devices, and 50% felt “addicted” to them.²⁵ In a 2022 Pew Research survey, 35% of teens said they are on YouTube, TikTok, Instagram, Snapchat, or Facebook “almost constantly.”²⁶ Over half of teens who describe being online “almost constantly” acknowledged they use social media products too much.²⁷

D. Depression

Problematic internet use is linked to a host of additional problems. For example, in one study of 7 to 15-year-olds, researchers found problematic internet use was positively associated with depressive disorders, Attention Deficit Hyperactivity Disorder, general

Test Theory and Rasch Models, 6 J. BEHAV. ADDICTIONS 620 (Dec. 2017), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6034942/>.

²⁴ Chloe Wilkinson et al., *Screen Time: The Effects on Children’s Emotional, Social, and Cognitive Development* at 6 (2021), <https://informedfutures.org/wp-content/uploads/Screen-time-The-effects-on-childrens-emotional-social-cognitive-development.pdf>.

²⁵ Common Sense, *Dealing with Devices: Parents* 10-11 (2016), https://www.common sensemedia.org/sites/default/files/research/report/commonsense_dealingwithdevices-topline_release.pdf.

²⁶ Emily A. Vogels et al., *Teens, Social Media and Technology* 2022, Pew Research Center (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022>.

²⁷ *Id.*

impairment, and increased sleep disturbances.²⁸ A meta-analysis of peer-reviewed studies involving cognitive findings associated with problematic internet use in both adults and adolescents found “firm evidence that [problematic internet use] . . . is associated with cognitive impairments in motor inhibitory control, working memory, Stroop attentional inhibition and decision-making.”²⁹ Another study of over 11,000 European adolescents found that, among teens exhibiting problematic internet use, 33.5% reported moderate to severe depression, 22.2% reported self-injurious behaviors such as cutting, and 42.3% reported suicidal ideation.³⁰ The incidence of attempted suicide was ten times higher for teens exhibiting problematic internet use than for their peers who exhibited healthy internet use.³¹

E. Sleep Deprivation

Maximizing minors’ time online at the expense of sleep or movement also harms minors’ physical health. Minors who exhibit problematic internet use often

²⁸ Restrepo et al., *Problematic Internet Use in Children and Adolescents: Associations with Psychiatric Disorders and Impairment*, 20 *BMC Psychiatry* 252 (2020), <https://doi.org/10.1186/s12888-020-02640-x>.

²⁹ Konstantinos Ioannidis et al., *Cognitive Deficits in Problematic Internet Use: Meta-Analysis of 40 Studies*, 215 *British Journal of Psychiatry* 639, 645 (2019), <https://pubmed.ncbi.nlm.nih.gov/30784392/>.

³⁰ Michael Kaess et al., *Pathological Internet use among European adolescents: psychopathology and self-destructive behaviors*, 23 *Eur. Child & Adolescent Psychiatry* 1093, 1096 (2014), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4229646/>.

³¹ *Id.*

suffer from sleep problems.³² Teenagers who use social media more than five hours per day are about 70% more likely to stay up late on school nights.³³ One-third of teens say that, at least once per night, they wake up and check their phones for something other than the time, such as to check their notifications or social media.³⁴ Some teens set alarms in the middle of the night to remind them to check their notifications or complete video game tasks available only for a limited time.³⁵

Sleep deprivation in teenagers is linked to inability to concentrate, poor grades, drowsy-driving incidents, anxiety, depression, suicidal thoughts, and even suicide attempts.³⁶ The increase in time spent online by minors in recent decades has corresponded with increases in youth obesity rates, which in turn increases their risk of serious illnesses like diabetes, high blood pressure, heart disease, and depression.³⁷

³² Restrepo et al., *supra* note 28.

³³ *Heavy Social Media Use Linked to Poor Sleep*, BBC News (Oct. 23, 2019), <https://www.bbc.com/news/health-50140111>.

³⁴ Common Sense, *Screens and Sleep: The New Normal: Parents, Teens, Screens, and Sleep in the United States* at 7 (2019), <https://www.commonsensemedia.org/sites/default/files/research/report/2019-new-normal-parents-teens-screens-and-sleep-united-states-report.pdf>.

³⁵ Emily Weinstein & Carrie James, *Behind Their Screens: What Teens Are Facing (And Adults Are Missing)*, MIT Press, at 38 (2022).

³⁶ *Among teens, sleep deprivation an epidemic*, Stanford News Ctr. (Oct. 8, 2015), <https://med.stanford.edu/news/all-news/2015/10/among-teens-sleep-deprivation-an-epidemic.html>.

³⁷ Jeff Chester et al., *Big Food, Big Tech, and the Global Childhood Obesity Pandemic* at 3 (2021), https://www.democraticmedia.org/sites/default/files/field/public-files/2021/full_report.pdf.

Sleep deprivation increases the risk of childhood obesity by 20%.³⁸

F. Algorithms Create Mental Health Harms

The youth mental health crisis associated with the rise in social media usage among young Americans is neither an accident nor a coincidence. Rather, as argued below, the harm social media inflicts on young people arises from algorithmic design decisions made by social media companies to maximize minors' engagement with their products. Until social media companies are held accountable for the harms created by their unreasonably dangerous algorithms, this crisis will continue unabated.

³⁸ Yanhui Wu et al., *Short Sleep Duration and Obesity Among Children: A Systematic Review and Meta-Analysis of Prospective Studies*, 11 *Obesity Rsch. & Clinical Prac.* 140, 148 (2017), <https://pubmed.ncbi.nlm.nih.gov/27269366/>; Michelle A. Miller et al., *Sleep Duration and Incidence of Obesity in Infants, Children, and Adolescents: A Systematic Review and Meta-Analysis of Prospective Studies*, 41 *Sleep* 1, 15 (2018), <https://pubmed.ncbi.nlm.nih.gov/29401314/>.

II. SOCIAL MEDIA COMPANIES DESIGN AND OPERATE THEIR ALGORITHMS TO USE PSYCHOLOGICAL MANIPULATION TO MAXIMIZE ENGAGEMENT AMONG YOUNG USERS, DIRECTING THEM TO HARMFUL CONTENT THEY DO NOT WANT TO SEE

A. The Ninth Circuit's Assumption that Algorithmic Recommendation Systems Are Based on User Preferences Misapprehends How Algorithms Actually Work

The Ninth Circuit's holding below—that the algorithmic recommendations online products send to their users are protected publishing activity under Section 230—is premised on the assumption that these recommendations merely furnish users with content they desire:

[A] user's voluntary actions inform Google about that user's preferences for the types of videos and advertisements *the user would like to see*. . . . Google matches what it knows about users based on their historical actions and *sends third-party content to users that Google anticipates they will prefer*. This system is certainly more sophisticated than a traditional search engine, which requires users to type in textual queries, but the core principle is the same: Google's algorithms select the particular content provided to a user based on that user's inputs.

Gonzalez v. Google LLC, 2 F.4th 871, 895 (9th Cir. 2021) (emphasis added). That description betrays a fundamental misunderstanding of how social media algorithms work and impact young users. As Judge

Berzon recognized in her concurrence, “algorithms on social media sites do not offer just one or two suggestions; they operate cumulatively and dominate the user experience. ‘The cumulative effect of recommend[at]ions] . . . envelops the user, immersing her in an entire universe filled with people, ideas, and events she may never have discovered on her own.’” *Id.* at 917 (quoting Chief Judge Katzmann).

Algorithms that drive social media products are explicitly designed, programmed, and operated for the singular purpose of enhancing revenue by maximizing minor users’ engagement with the products. Minors are highly coveted by advertisers and social media is designed to increase the critical commodities of time and activity of minor users.³⁹ For these reasons, user behavior is best understood not as an expression of a user’s preference—as the lower court appears to have believed—but as the product of the sophisticated manipulation techniques described throughout this brief. Specifically, content based not on whether a young user will enjoy it, but on whether it will optimize their algorithms feed social media time and activity. To accomplish this pecuniary purpose, companies design and program their products to push content and experiences that trigger a dopamine response in a minor’s underdeveloped brain to

³⁹ *See, e.g.*, The Power of Identities: Why Teens and Young Adults Choose Instagram, p. 30 (internal Meta documents identifying and explaining that the “4M teens that start using the internet each year” are the only source for “significant [monthly active user] growth in the US.”), https://www.documentcloud.org/documents/23322855-copy-of-copy-of-why-teens-and-young-adults-choose-insta_sanitized (last visited Dec. 3, 2022).

maximize their engagement.⁴⁰ Further, as a matter of basic neurology, content that is dangerous or psychologically discordant triggers a greater dopamine reaction in young users than content that is joyful or benign.⁴¹ Three of the multitude of design features social media companies use to achieve this purpose—low-friction rewards, navigation manipulation, and social manipulation—are discussed below.

B. Predominant Algorithmic Design Features

1. Low-Friction Rewards

Low-friction variable rewards are highly effective at maximizing the time young users spend on social media products. This operant conditioning technique⁴² is based on experiments by psychologist B.F. Skinner.⁴³ Research by Skinner and others revealed that, when test subjects are rewarded unpredictably for a given action, they will engage in the action for longer than if the reward is predictable.⁴⁴ This is because the brain

⁴⁰ Wayne Unger, *How the Poor Data Privacy Regime Contributes to Misinformation Spread and Democratic Erosion*, 22 Colum. Sci. & Tech. L. Rev. 308, 323 (2021).

⁴¹ *Id.*; see also Ronald J. Deibert, *The Road to Digital Unfreedom: Three Painful Truths About Social Media*, J. Democracy, Jan. 2019, at 25, 29–30.

⁴² J. E. Staddon & D. T. Cerutti, *Operant Conditioning*, 54 Annual Review of Psychology 115–144 (2003), <https://doi.org/10.1146/annurev.psych.54.101601.145124>.

⁴³ B. F. Skinner, *Two Types of Conditioned Reflex: A Reply to Konorski and Miller*, 16 J. Gen. Psychology 272-279 (1937), <https://doi.org/10.1080/00221309.1937.9917951>.

⁴⁴ Laura MacPherson, *A Deep Dive into Variable Designs and How to Use Them*, DesignLi (Nov. 8, 2018), <https://designli.co/blog/a-deep-dive-on-variable-rewards-and-how-to-use-them/>; Mike Brooks, *The “Vegas Effect” of Our Screens*, Psychol. Today (Jan.

generates more dopamine in response to an uncertain reward than in response to an expected and reliable one.⁴⁵ The tendency of variable rewards to drive compulsive behavior—often referred to as the “Vegas Effect”—is the primary mechanism used in slot machines, keeping players sitting in front of machines for hours.⁴⁶

For years, social media companies have refined and incorporated variable reward designs to drive engagement. As noted psychology expert Nir Eyal has explained, “[v]ariable schedules of reward are one of the most powerful tools that companies use to hook users.”⁴⁷ Meta’s first President, Sean Parker, described the design as follows:

God only knows what it’s doing to our children’s brains. The thought process that went into building these applications, Facebook being the first of them, . . . was all about: “How do we consume as much of your time and conscious attention as possible?” And that means that we need to sort of give you a little dopamine hit every once in a while, because someone liked or commented on a

4, 2019), <https://www.psychologytoday.com/us/blog/tech-happy-life/201901/the-vegas-effect-our-screens>.

⁴⁵ Anna Hartford & Dan J. Stein, *Attentional Harms and Digital Inequalities*, 9 *JMIR Mental Health* 2, 3 (Feb. 11, 2022), <https://pubmed.ncbi.nlm.nih.gov/35147504/> (“At the level of our neural reward system, an uncertain reward generates a more significant dopamine response than those generated by a reliable reward.”).

⁴⁶ Brooks, *supra* note 44.

⁴⁷ Nir Eyal, *The Hook Model: How to Manufacture Desire in 4 Steps*, Nir and Far, <https://www.nirandfar.com/how-to-manufacture-desire/> (last visited Dec. 2, 2022).

photo or a post or whatever. And that's going to get you to contribute more content, and that's going to get you . . . more likes and comments. It's a social-validation feedback loop . . . exactly the kind of thing that a hacker like myself would come up with, because you're exploiting a vulnerability in human psychology. The inventors, creators . . . understood this consciously. And we did it anyway.⁴⁸

Today, social media products use machine learning to fine-tune variable rewards, thereby ensuring maximum appeal to each user.⁴⁹ More importantly, social media companies *know* children are more vulnerable to these designs and manipulation techniques, including because of developmental differences. For example, in a document entitled *The Power of Identities: Why Teens and Young Adults Choose Instagram*, Meta explains that,

The teenage brain is usually about 80% mature. The remaining 20% rests in the frontal cortex . . . At this time teens are highly dependent on their temporal lobe where emotions, memory, and learning, and the reward system reign supreme . . . Teens' decisions and behavior are mainly driven by emotion, the intrigue of novelty and reward . . . While these all seem positive, they make teens very vulnerable at the elevated levels on which they operate. Especially in the absence of a mature frontal

⁴⁸ Mike Allen, Sean Parker unloads on Facebook: "God only knows what it's doing to our children's brains", *Axios* (Nov. 9, 2017), <https://www.axios.com/2017/12/15/sean-parker-unloads-on-facebook-god-only-knows-what-its-doing-to-our-childrens-brains-1513306792>.

⁴⁹ Hartford & Stein, *supra* note 45.

cortex to help impose limits on the indulgence in these.⁵⁰

A common example of variable rewards is the endless scroll mechanism deployed across social media products. Endless scrolls continuously feed users more content, with no endpoint, as they scroll down a feed or page, and users can never predict what will come next or how interesting it will be. The user is rewarded at unpredictable intervals and levels with content they find funny, entertaining, or otherwise interesting.⁵¹

2. Navigation Manipulation

Online products use various tools to manipulate navigation and prolong user engagement—impeding young users’ ability to navigate a website or app to their desired destination. Some design features manipulate navigation to make it harder for a user to leave the service. Others undermine user autonomy by manipulating navigation to encourage users to continue certain activities that are beneficial for the product, such as watching advertisements users did not select and otherwise would not watch. These product designs are implemented to maximize user time and activity at the expense of user safety.

Common examples of navigation manipulation include autoplay and strategically timed advertisements. These techniques make it hard for minors to navigate the online website or service because they either keep the minor on one content stream (increasing time on a

⁵⁰ See, *supra*, note 39, at p. 49-74 (section of Meta PowerPoint titled “Teen Fundamentals”).

⁵¹ GCFGlobal.org, *Digital Media Literacy: Why We Can’t Stop Scrolling*, <https://edu.gcfglobal.org/en/digital-media-literacy/why-we-cant-stop-scrolling/1/> (last visited Dec. 2, 2022).

device (autoplay) so as to exclude other content), or they make it difficult, even impossible, for the user to move forward without viewing advertisements. Such navigation manipulation forces users to watch videos or otherwise engage with advertisements either without users' knowledge or irrespective of their preference.

3. Social Manipulation

Manipulative design features that leverage young users' desire for social acceptance are particularly prevalent in social media products. Adolescents have developmental needs for social connectedness and are particularly attuned to social validation.⁵² This can "lead to greater relinquishing of security in certain arenas to gain social validation and belonging—for example, disclosing publicly to participate in online communities and accrue large amounts of likes, comments, and followers."⁵³ Many socially manipulative design features induce anxiety in minors, who come to believe they are not as popular their peers.⁵⁴ As a result, minors obsess over the popularity of theirs and others' posts. These factors create a feedback loop: Minors crave this social reinforcement, seek it out, and ultimately are ill equipped to protect themselves

⁵² Nicholas D. Santer et al., *Early Adolescents' Perspectives on Digital Privacy*, Algorithmic Rights and Protections for Children (2021) at 6, 30.

⁵³ *Id.* at 6 (citing J.C. Yau & S. M. Reich, "It's Just a Lot of Work": Adolescents' Self-Presentation Norms and Practices on Facebook and Instagram, 29 *J. Res. on Adolescence* 196, 196-209 (2019)).

⁵⁴ Weinstein & James, *supra* note 35, at 33 (citing Lucy Foulkes and Sarah-Jayne Blakemore, *Is There Heightened Sensitive to Social Reward in Adolescence?* 40 *Current Opinion Neurobiology* 81 (2016)).

against the allure of “rewards” these social media designs promise.

One way social media products use social manipulation to increase minor users’ engagement is through quantified popularity metrics. These design features gamify popularity by displaying (publicly, privately, or both) the number of friends or connections a user has and the number of interactions their content has received. Such tallies act as quantified proof of popularity and exploit minors’ natural tendency to pursue social relevance. The Snapchat “streaks” feature, for example, displays a graphic measurement of young users’ level of social interaction on their profiles. Encouraging minors to enlarge their “streaks” by increasing the time spent online generates harmful social pressure and anxiety.⁵⁵

III. ALGORITHMIC RECOMMENDATION SYSTEMS DESIGNED TO MAXIMIZE MINORS’ ENGAGEMENT THROUGH PSYCHOLOGICAL MANIPULATION ARE NOT PROTECTED PUBLISHING ACTIVITY

A. As Its Text and History Show, Section 230 Was Enacted to *Protect* Minors From Harmful Exposures to Online Content

The Communication Decency Act (CDA) was enacted in 1996 when just seven percent of Americans had access to the Internet, Netscape was the dominant search engine, Google did not exist, and Facebook’s

⁵⁵ Lori Janjigian, *What I Learned After Taking Over My 13-Year-Old Sister’s Snapchat for Two Weeks*, Business Insider (Aug. 4, 2016), <https://www.businessinsider.com/how-teens-are-using-snapchat-in-2016>.

launch was eight years away.⁵⁶ Entitled “Protection for private blocking and screening of offensive material,” Section 230 reflected a Congressional finding that “it is the policy of the United States to remove disincentives for the development and utilization of blocking and filtering technologies that empower parents to restrict their children’s access to objectionable or inappropriate online material.” 47 U.S.C. § 230(b)(4). In furtherance of this policy, Section 230(c)—entitled “Protection for ‘Good Samaritan’ blocking and screening of offensive material”—provides that “[n]o provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider.” 47 U.S.C. § 230(c)(1). This nuanced text simply does not bear the weight that many courts have given to it. It certainly cannot be read to provide overarching immunity for social media products.

Nor does Section 230’s history support disregarding the plain text. Quite the contrary. The late Chief Judge Katzmann observed that “[t]he text and legislative history of [§ 230(c)(1)] shout to the rafters Congress’s focus on reducing children’s access to adult material.” *Force*, 934 F.3d at 88 (Katzmann, C.J., dissenting in part); *see also Fair Hous. Council of San Fernando Valley v. Roommates.com, LLC*, 521 F.3d 1157, 1163 (9th Cir. 2008) (en banc) (Section 230 was enacted to protect interactive content providers who *restrict* access to objectionable material). Senator Exon introduced Section 230 to reduce the proliferation of pornography and other obscene material online

⁵⁶ Farhad Manjoo *Jurassic Web The Internet of 1996 is almost unrecognizable compared with what we have today*, Slate (Feb. 24, 2009). <https://slate.com/technology/2009/02/the-unrecognizable-internet-of-1996.html>.

by subjecting to civil and criminal penalties those who use interactive computer services to make, solicit, or transmit offensive material. 141 Cong. Rec. 3,202 (Feb. 1, 1995). He explained that “[t]he heart and the soul” of the amendment was “protection for families and children.” *Id.* at 15,503 (June 9, 1995). In the House, the Cox-Wyden “Online Family Empowerment” Amendment sought to empower interactive computer service providers to self-regulate, and to provide tools for parents to regulate, children’s access to inappropriate material. *See* S. Rep. No. 104-230, at 194 (1996) (Conf. Rep.); 141 Cong. Rec. 22,045 (Aug. 4, 1995). Congressman Cox explained that, “[a]s the parent of two, I want to make sure that my children have access to this future and that I do not have to worry about what they might be running into online. I would like to keep that out of my house and off my computer.” 141 Cong. Rec. 22,045 (Aug. 4, 1995). Likewise, (then) Congressman Wyden related that “[w]e are all against smut and pornography, and, as the parents of two small computer-literate children, my wife and I have seen our kids find their way into these chat rooms that make their middle-aged parents cringe.” *Id.*

In passing Section 230, “Congress was focused squarely on protecting minors from offensive online material, and that it sought to do so by ‘empowering parents to determine the content of communications their children receive through interactive computer services.’” *Force*, 934 F.3d at 80 (Katzmann, C.J., dissenting in part) (*quoting* legislative history.) Put another way, “Congress enacted Section 230. . . to incentivize [interactive computer service providers] to *protect* children, not immunize them for intentionally or recklessly harming them.” *Doe #1 v. MG Freesites, LTD*, No. 7:21-cv-00220-LSC, 2022 WL 407147, at *22 (N.D. Ala. Feb. 9, 2022) (citing 47 U.S.C. § 230(b)(4)) (emphasis in original).

B. Expansive Interpretation of Section 230(c)(1) Subverts its Statutory Purpose to Protect Children from Online Abuse

Numerous federal and state courts have misinterpreted Section 230 by “constru[ing it] broadly in favor of immunity.” *Force*, 934 F.3d at 64; *see, e.g., Nemet Chevrolet, Ltd. v. Consumeraffairs.com, Inc.*, 591 F.3d 250, 254 (4th Cir. 2009) (“courts have generally accorded Section 230 immunity a broad scope.”); *Universal Commc’n Sys., Inc. v. Lycos, Inc.*, 478 F.3d 413, 419 (1st Cir. 2007) (“Section 230 immunity should be broadly construed.”); *Carafano v. Metrosplash.com, Inc.*, 339 F.3d 1119, 1123 (9th Cir. 2003) (“reviewing courts have treated § 230(c) immunity as quite robust.”). As two leading scholars have noted, these holdings have “produced an immunity from liability that is far more sweeping than anything the law’s words, context, and history support.”⁵⁷ Through this incorrect, broad construction, internet providers “have been protected from liability even though they republished content knowing it might violate the law, encouraged users to post illegal content, [and] changed their design and policies for the purpose of enabling illegal activity.” *Id.*

This overly expansive application of Section 230 also has impeded efforts to combat online exploitation and abuse of vulnerable children. A stark example is *Doe v. Backpage.com, LLC*, 817 F.3d 12 (1st Cir. 2016), which involved a lawsuit by three women who, beginning at age 15, were sex trafficked through advertisements posted on the “Adult Entertainment” section of the Backpage website. These advertisements

⁵⁷ Danielle Keats Citron & Benjamin Wittes, *The Internet Will Not Break: Denying Bad Samaritans § 230 Immunity*, 86 FORDHAM L. REV. 401, 408 (2017) (emphasis added).

included photographs of the plaintiffs and coded terminology such as “brly legal” or “high schl” meant to refer to underage girls. *Id.* at 16-17. Backpage argued that, because the plaintiffs’ harms arose from publication of the sex traffickers’ content on its platform, their claims were barred by Section 230. Regrettably, the First Circuit agreed, reasoning that the sex trafficking victims sought to hold Backpage liable for “choices about what content can appear on the website and in what form,” which are “editorial choices that fall within the purview of traditional publisher functions.” *Id.* at 21. Similarly, in *Doe v. MySpace, Inc.*, 528 F.3d 413 (5th Cir. 2008), a minor sexually assaulted by a predator she met through the defendant’s product argued that Myspace “fail[ed] to implement basic safety measures to protect minors” from online predators. *Id.* at 418–20. In holding the child’s claims were barred under Section 230(c)(1), the Fifth Circuit characterized her failure to protect claims as “merely another way of claiming that [the website operator] was liable for publishing . . . online third party-generated content.” *Id.* at 420.⁵⁸

Last year, in *In re Facebook, Inc.*, 625 S.W.3d 80 (Tex. 2021), *cert. denied sub nom. Doe v. Facebook, Inc.*, 142 S. Ct. 1087 (2022), the Texas Supreme Court invoked Section 230(c)(1) to bar claims of three minor sex trafficking victims who became “entangled” with

⁵⁸ Public outcry over the *Backpage* and *MySpace* decisions led to the passage of the Stop Enabling Sex Traffickers Act and the Allow States and Victims to Fight Online Sex Trafficking Act of 2018, which eliminated Section 230 as a defense for websites that knowingly facilitate sex trafficking. 47 U.S.C. § 230(e)(5). The Ninth Circuit, however, recently held that, to invoke that exception to Section 230 immunity, a plaintiff must plausibly allege that the website’s own conduct violated section 1591. *Does 1-6 v. Reddit, Inc.*, 51 F.4th 1137, 1141 (9th Cir. 2022).

their abusers through Facebook. *Id.* at 84–85. In each case, the plaintiffs alleged they were contacted on Facebook or Instagram by adult males, groomed to send naked photographs that were sold over the internet, and ultimately lured into sex trafficking. *Id.* at 84. The Texas Supreme Court permitted the plaintiffs’ statutory human-trafficking claims to proceed but, following *Zeran v. Am. Online, Inc.*, 129 F.3d 327 (4th Cir. 1997) and “abundant judicial precedent,” affirmed dismissal of their common law negligence and products liability claims under Section 230(c)(1). *Id.* at 83, 85–86. Plaintiffs’ petition for certiorari was joined by a bipartisan assembly of 24 State Attorney Generals⁵⁹ but denied by this Court on procedural grounds. While agreeing review was premature, Justice Thomas spoke of the human consequences allowed by the broad construction of Section 230:

[T]he Texas Supreme Court afforded publisher immunity even though Facebook allegedly “knows its system facilitates human traffickers in identifying and cultivating victims,” but has nonetheless “failed to take any reasonable steps to mitigate the use of Facebook by human traffickers” because doing so would cost the company users—and the advertising revenue those users generate.”

Id. at 1088 (Thomas, J., statement respecting denial of certiorari) (citations omitted).

Expansive interpretation of the term “publisher” in Section 230(c)(1) has distorted the statute’s “Good Samaritan” purpose by immunizing companies for

⁵⁹ Brief for the State of Texas and 24 Other States as Amici Curiae in Support of Petitioner, *Doe v. Facebook, Inc.*, 142 S. Ct. 1087 (Oct. 27, 2022) (No. 21-459).

their *own* conduct in designing social media algorithms, products, and environments that affirmatively harm children. For example, Meta’s algorithmic “friend recommendation” features “People You May Know” and “Suggestions for You” contribute to up to 75% of all inappropriate adult-minor contact on Facebook and Instagram.⁶⁰

As Justice Thomas observed, “[e]xtending § 230 immunity beyond the natural reading of the text can have serious consequences” such as “giving companies immunity from civil claims for knowingly hosting illegal child pornography, or for race discrimination.” *Malwarebytes, Inc. v. Enigma Software Grp. USA, LLC*, 208 L. Ed. 2d 197, 141 S. Ct. 13, 18 (2020) (citations and quotations omitted) (comment of Thomas, J., on denial of certiorari). Although the Ninth Circuit has acknowledged Section 230 “was not meant to create a lawless no-man’s-land on the Internet.” *Roommates.com*, 521 F.3d at 1164, Justice Thomas noted that decisions broadly interpreting Section 230 beyond traditional publisher functions have “eviscerated the narrower liability shield Congress included in the statute.” *Malwarebytes*, 141 S. Ct. at 16 (comment of Thomas, J., on denial of certiorari). Chief Judge Katzmann, whom Justice Thomas cited approvingly, similarly observed that expansive interpretations of Section 230(c)(1) “extend a provision that was designed to encourage computer service providers to shield minors from obscene material so that it now immunizes those

⁶⁰ See, e.g. Meta, Growth, Friending + PYMK, and downstream integrity problems, p. 4 (emphasis added), <https://s3.documentcloud.org/documents/23322845/friending-and-pymk-downstream-integrity-problems.pdf>; (last visited Dec. 3, 2022) see also Meta, Integrity Glossary, p. 39 (“PYMK”) <https://www.documentcloud.org/documents/23323294-glossary-of-integrity-terms> (last visited Dec. 3, 2022).

same providers” for exposing minors to malign content. *Force*, 934 F.3d at 77 (Katzmann, C.J., dissenting in part). It is difficult to identify another example where courts’ interpretations have deviated so far from a statute’s language and purpose.

Social media companies have repeatedly argued for essentially absolute immunity and, in so doing, have relied on the decision below. For example, *Rodriguez v. Meta, Platforms, et, al*, Case No. 3:22-cv-00401 (N.D. Cal.) arose from the 2021 suicide death of an 11-year-old girl. The complaint alleges that, when Selena Rodriguez was nine years old, she was given a computer tablet and shortly thereafter began using multiple social media products without her mother’s knowledge or consent. Selena quickly became addicted to these products and spent increasing amounts of time on them. In addition, the social media companies programmed their algorithms in a manner that directed, connected, and exposed her to predatory and abusive users and overwhelming amounts of harmful content and social comparison features. On July 21, 2021, Selena accessed her mother’s supply of Wellbutrin, placed her phone on a table in her bedroom and turned on the video camera for posting to social media. Holding two Wellbutrin pills between her fingers, she looked straight in the camera, tilted her head back, and placed the pills in her mouth. Selena’s mother brought suit for wrongful death based on theories of defective product and failure to warn. In seeking dismissal under Rule 12(b)(6) under Section 230, the defendants (Meta, TikTok, and Snap) relied heavily on the decision below in asserting immunity:

. . . Section 230 . . . bars all of Plaintiff’s claims, which are fundamentally based on third-party content. Congress enacted Section 230

to promote free expression on the internet. To accomplish that goal, Section 230 forecloses any claim that seeks to impose liability on interactive computer service providers like Defendants for the alleged effects of third-party content—including, as in this case, third-party content neither condoned nor permitted by the provider. *See, e.g., Gonzalez v. Google LLC*, 2 F.4th 871, 897 (9th Cir. 2021).⁶¹

Those defendants also relied on the decision below in arguing that Rodriguez’s addictive design claims “clearly are about third-party content—even if the theory is the harm from viewing *too much* content.”⁶² And despite the horrific sexual abuse to which Selena was subjected through Defendants’ product, they cited the decision below as the latest example where “courts repeatedly have held that Section 230 protects the content-neutral algorithmic recommendation of even undeniably harmful content.”⁶³

Similarly, in *A.M. v. Omegle.com*, No. 3:21-cv-01674, 2022 WL 2713721 (D. Or. July 13, 2022), a chat line user sued a chat room under defective product and failure to warn theories. Plaintiff alleged that, when she was a minor, she was connected by Omegle to a man in his late 30s who forced her to send pornographic images and videos. Incredibly, the defendant cited the decision below in arguing that “all the

⁶¹ *Rodriguez v. Meta Platforms, Inc., et. al.*, 3:22-cv-00401-JD (N.D. Cal.), ECF No. 94 at 11. The case is now part of MDL No. 3047, Case No. 4:22-md-03047-YGR, and the MDL court denied without prejudice all pending dispositive motions in its initial case management order.

⁶² *Id.* at 18.

⁶³ *Id.* at 17.

elements of CDA 230 immunity [were] satisfied.” [Doc. 17 at 4] (initial capitalization and bold printing deleted, citing *Gonzalez*). Fortunately, Judge Mosman rejected that argument and ruled that Section 230 did not provide protection: “Here, Plaintiff alleges that Omegle is defectively designed, and that Plaintiff fails to warn child users of adult predators on the website.” *A.M.*, 2022 WL 2713721 at *4. As Judge Mosman noted, “Here, Plaintiff’s complaint adequately pleads a product liability lawsuit Omegle could have satisfied its alleged obligation to Plaintiff by designing its product differently—for example, by designing a product so that it did not match minors and adults. Plaintiff is not claiming that Omegle needed to review, edit, or withdraw any third-party content to meet this obligation.” *Id.* at *3 (footnote deleted). Judge Mosman plainly understood the proper scope of Section 230. Unfortunately, many other courts—and the social media industry—do not, and inexplicably insist on virtually unlimited immunity that goes beyond anything in the wording or purpose of Section 230.

C. Algorithms that Use Psychological Manipulation to Maximize Youth Engagements with Online Products Are Not Protected Publishing Activities

The question before the Court is whether the Ninth Circuit correctly held that claims against computer services based on their algorithmic feeds to users treat those services ‘as the publisher’ of the third-party content such that the services are immunized under Section 230. *Petition for a Writ of Certiorari, Gonzalez v. Google*, No. 21-1333, 2022 WL 1050223 (U.S. April 4, 2021). Importantly, a majority of the panel (Judges Berzon and Gould) *agreed* with Chief Judge Katzmann that, while algorithms target users with third party

content, “it strains the English language to say that in targeting and recommending these writings to users—and thereby forging connections, developing new social networks [companies are] acting as ‘the *publisher* of . . . information provided by another information content provider.” *Force*, 934 F.3d at 63-64 (Katzmann, C.J., dissenting in part) (quoting 47 U.S.C. § 230(c)(1) (emphasis in original)). *Accord Gonzalez v. Google LLC*, 2 F.4th 871, 913 (9th Cir. 2021) (“For the reasons compellingly given by Judge Katzmann in his partial dissent in *Force v. Facebook* . . . if not bound by Circuit precedent I would hold that the term “publisher” under § 230 reaches only traditional activities of publication and distribution—such as deciding whether to publish, withdraw, or alter content—and does not include activities that promote or recommend content or connect content users to each other”) (Berzon, J, concurring); *id.* at 918 (Gould, J., dissenting in part) (adopting and attaching Chief Judge Katzmann’s dissent). As Judge Berzon observed, “publication has never included selecting the news, opinion pieces, or classified ads to send to each individual reader based on guesses as to their preferences and interests or suggesting that one reader might like to exchange messages with other readers.” *Id.* at 914. As she further noted, “The actions of the social network algorithms—assessing a user’s prior posts, friends, or viewing habits to recommend new content and connections—are more analogous to the actions of a direct marketer, matchmaker, or recruiter than to those of a publisher.” *Id.*

As it relates to minors, the algorithms and addictive environments to which social media companies expose children through their social media products are even more attenuated to traditional publishing than the recommendation features derided by Judges Katzmann, Berzon and Gould. Rather than direct users to content

they “prefer,” these algorithms are expressly designed to create an environment that maximizes minors’ engagement through psychosocial manipulation that encourages addictive behavior. Algorithms expressly designed to monetize the dopamine responsiveness of adolescent brain function to keep children online bear no relationship to the publishing activity envisioned in Section 230(c)(1). Likewise, algorithms designed to capitalize on adolescents’ social anxiety through the use of social comparisons are wholly unrelated to traditional activities of publication such as deciding whether to publish, withdraw, or alter content.

Section 230 does not provide immunity where the harm results from a defendant’s “conduct rather than [from] the content of the information.” *F.T.C. v. Accusearch Inc.*, 570 F.3d 1187, 1204 (10th Cir. 2009) (Tymkovich, J, concurring), quoted in *Malwarebytes, Inc.*, 141 S. Ct. at 18 (statement of Thomas, J., respecting denial of certiorari). Design defect claims alleging that algorithms use psychological manipulation to encourage addictive behavior and knowingly connect vulnerable children to adult predators and malign content do not seek to hold the companies liable “as the publisher or speaker” of third-party content under § 230(c)(1), but “rest[] instead on alleged product design flaws.” *Malwarebytes*, 141 S. Ct. at 18 (Thomas, J.). *Accord, e.g., Lemmon v. Snap, Inc.* 995 F.3d 1085, 1087 (9th Cir. 2021) (Section 230 does not bar claim for negligent design claim for hazardous feature in social media product). When social media companies design and operate algorithms in ways they know may cause harm to minors, they should be held accountable—just like every other individual or company—for the foreseeable consequences of their deliberate choices. *See generally Air & Liquid Sys. Corp. v. DeVries*, 139 S. Ct. 986, 993 (U.S. 2019)

(quoting 1 Restatement (Third) of Torts: Liability for Physical and Emotional Harm § 7, p. 77 (2005) (“Tort law imposes ‘a duty to exercise reasonable care’ on those whose conduct presents a risk of harm to others”).

CONCLUSION

This Court should adopt the persuasive and correct approach to Section 230 urged by the late Chief Judge Katzmann, and by Judges Berzon and Gould below.

Respectfully submitted,

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