Written Testimony of Haley Hinkle

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HF1503

Commerce Finance and Policy Committee

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Dear Chairperson Stephenson and Honorable Members of the Committee:

My name is Haley Hinkle and I am policy counsel at Fairplay. I am writing today in support of HF1503, a bill that addresses online platform design techniques that harm children and teenagers.

Fairplay is the leading independent watchdog of the children's media and marketing industries. Through corporate campaigns and strategic regulatory filings, Fairplay and our partners have changed the child-targeted marketing and data collection practices of some of the world's biggest companies. In 2021, we led a large international coalition of parents, advocates, and child development experts to stop Meta from releasing a version of Instagram for younger children.[1] Our 2018 Federal Trade Commission complaint against Google for violating the Children's Online Privacy Protection Act (COPPA) led to the 2019 FTC settlement that required Google to pay a record fine and to limit data collection and targeted advertising on child-directed content on YouTube.[2] With our partners at the Center for Digital Democracy, we have filed other requests for investigation at the FTC that remain pending.[3]

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[1] Brett Molina and Terry Collins, *Facebook postponing Instagram for kids amid uproar from parents, lawmakers*, USA Today (Sept. 27, 2021), https://www.usatoday.com/story/tech/2021/09/27/instagram-kids-version-app-children-pause/5881425001/.

[2] Campaign for a Commercial-Free Childhood (now Fairplay) and Center for Digital Democracy, *Request to Investigate Google's YouTube Online Service and Advertising Practices for Violating the Children's Online Privacy Protection Act*, Counsel for Center for Digital Democracy and Campaign for a Commercial-Free Childhood before the Federal Trade Commission (filed April 2, 2018), https://fairplayforkids.org/advocates-say-googles-youtube-violates-federal-childrens-privacy-law/.

[3] Campaign for a Commercial-Free Childhood (now Fairplay) and Center for Digital Democracy, *Request to Investigate Google's Unfair and Deceptive Practices in Marketing Apps for Children*, Counsel for Center for Digital Democracy and Campaign for a Commercial-Free Childhood before the Federal Trade Commission (filed Dec. 12, 2018), https://fairplayforkids.org/apps-which-google-rates-safe-kids-violate-their-privacy-and-expose-them-other-harms/; Campaign for a Commercial-Free Childhood (now Fairplay) and Center for Digital Democracy, *Complaint and Request for Investigation of TikTok for Violations of the Children's Online Privacy Protection Act and Implementing Rule*, Counsel for Campaign for a Commercial-Free Childhood and Center for Digital Democracy before the Federal Trade Commission (filed May 14, 2020), https://fairplayforkids.org/wp-

Fairplay also leads the Designed with Kids in Mind Coalition, which advocates for regulations that would require operators to make the best interests of children a primary consideration when designing apps, websites, and platforms likely to be accessed by young people.[4] Our advocacy is grounded in the overwhelming evidence that child-targeted marketing – and the excessive screen time it encourages – undermines kids' healthy development.

For more than a decade, social media companies have been performing a vast uncontrolled experiment on our children. They use the reams of data they collect on young people and endless A/B testing to fine tune their platforms' algorithms and design to maximize engagement, because more time and activity on a platform means more revenue. And because the way these platforms engage with young people is largely unregulated, there is no obligation to consider and mitigate the harmful effects of their design choices on children and teens.

I. Overuse of digital media is linked to a number of serious harms for young people

Increased time online and social media use is linked to serious harms for young people. As the Surgeon General has observed,"[b]usiness 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 technology companies focusing on maximizing time spent, not time well spent." [5] By maximizing time and activities online, the design choices made by platforms to maximize engagement harm minors in a number of ways, including: undermining mental health,[6] harm to body image,[7] fostering problematic internet

content/uploads/2020/05/tik_tok_complaint.pdf; Campaign for a Commercial-Free Childhood (now Fairplay), R*equest for Investigation of Deceptive and Unfair Practices by the Edtech Platform Prodigy*, *C*ampaign for a Commercial-Free Childhood before the Federal Trade Commission (filed Feb. 19, 2020), https://fairplayforkids.org/wp-content/uploads/2021/02/Prodigy_Complaint_Feb21.pdf.

[4] Coalition members include Accountable Tech, American Academy of Pediatrics, Center for Digital Democracy, Center for Humane Technology, Children and Screens, Common Sense, Electronic Privacy Information Center, Exposure Labs: The Creators of The Social Dilemma, Fairplay, ParentsTogether, and RAINN: https://designedwithkidsinmind.us/.

[5] *Protecting Youth Mental Health: The U.S. Surgeon General's Advisory* at 25 (2021), https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf.

[6] Heavy users of digital media are more likely to be unhappy, to be depressed, or to have attempted suicide. Jean M. Twenge & W. Keith Campbell, *Media Use Is Linked to Lower Psychological Well-Being: Evidence from Three Datasets*, 90 Psychol. Q., 311 (2019). https://pubmed.ncbi.nlm.nih.gov/30859387/; 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) https://doi.org/10.1177/2167702617723376.

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

use,[8] harming physical health,[9] increasing minors' risk of contact with dangerous or harmful people, and increasing minors' exposure to age-inappropriate and otherwise harmful content.

II. The platforms where children spend the majority of their time online are designed to maximize engagement, often at the expense of children's wellbeing and safety.

Two of the design choices that heavily impact minors' experience on social media platforms are the use of variable reward design choices and algorithmic recommendations.

Variable reward design features

One objective of persuasive design is to reduce friction so that platforms are easier to use, and so young people will keep using them. Low-friction variable rewards are highly effective at maximizing the amount of time users spend on the service. The psychology that renders these features effective is based on research that predates the internet by many years, beginning with experiments by renowned psychologist B.F. Skinner in the early 20th century.[10] Research by Skinner and others revealed that when test subjects – both humans and other animals – are rewarded unpredictably for a given action, they will engage in the action for a longer period of time than if the reward is predictable.[11] Specifically, the brain generates more dopamine in

[8] In a 2022 Pew Research survey, 35% of teens said they are on YouTube, TikTok, Instagram, Snapchat, or Facebook "almost constantly." 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. Further, a new report from Amnesty International on young people ages 13-24 found "a staggering 74% of respondents report checking their social media accounts more than they would like to. Respondents bemoaned the 'addictive' lure of the constant stream of updates and personalized recommendations, often feeling 'overstimulated' and 'distracted.'" Amnesty International, *"We are totally exposed": Young people share concerns about social media's impact on privacy and mental health in global survey* (Feb. 7, 2023) https://www.amnesty.org/en/latest/news/2023/02/children-young-people-social-media-survey-2/.

[9] When minors are driven to spend more time online, they sleep less for a variety of reasons, and research shows that minors who exhibit problematic internet use often suffer from sleep problems. Anita Restrepo, Tohar Scheininger, 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. A large body of research demonstrates that more time online displaces physical activity and is consistently correlated with minors' risk of obesity, which in turn increases their risk of serious illnesses like diabetes, high blood pressure, heart disease, and depression. Jeff Chester, Kathryn C. Montgomery, 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; E de Jong et al., *Association Between TV Viewing, Computer Use and Overweight, Determinants and Competing Activities of Screen Time in 4- to 13-Year-Old Children*, 37 Int'l J. Obesity 47, 52 (2013), https://pubmed.ncbi.nlm.nih.gov/22158265/.

[10] J. E. Staddon & D. T. Cerutti, *Operant Conditioning*, 54 Annual Review of Psychology 115 (2003), https://doi.org/10.1146/annurev.psych.54.101601.145124; B. F. Skinner, *Two Types of Conditioned Reflex: A Reply to Konorski and Miller*, 16 J. Gen. Psychology, 272 (1937), https://doi.org/10.1080/00221309.1937.9917951.

[11] 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. 4, 2019), https://www.psychologytoday.com/us/blog/tech-happy-life/201901/the-vegas-effect-our-screens.

response to an uncertain reward than in response to an expected and reliable one.[12] The tendency of variable rewards to drive compulsive behavior is sometimes referred to as the "Vegas Effect," and is the primary mechanism at work in slot machines.[13] In the words of Nir Eyal, a consumer psychology expert who wrote the popular industry how-to *Hooked: How to Build Habit-Forming Products*, "[v]ariable schedules of reward are one of the most powerful tools that companies use to hook users."[14]

One common example of variable rewards design features is the infinite or endless scroll mechanism with variable content. When a platform uses endless scroll, a user is continuously fed new pieces of content as they scroll down a feed or page, and they never know what might appear next. Harvard researchers Emily Weinstein and Carrie James explain in their recent book on teens and technology: "Apps like TikTok have an endless database of content to offer users. Some videos are pointless or boring or upsetting; others give a fleeting reward in the form of funny, relatable, or compelling content."[15] The pursuit of the next "rewarding" piece of content keeps users scrolling. As one 16-year-old told Weinstein and James, Snapchat is "so addictive because it's so easy to go on to the next thing…. And you never know what amazing thing could be on the next Story, and all you have to do is tap once and you get to the next thing."[16]

All popular social media platforms, including those used heavily by minors such as TikTok, Snapchat, Instagram, and Facebook, feature endless scroll feeds strategically designed to intermittently surface content that users are algorithmically predicted to engage with. An internal TikTok document said that the app maximizes for two metrics: user retention and time spent.[17] Similarly, a product manager for YouTube's recommendation system explained that the platform's recommendation algorithm "is designed to do two things: match users with videos they're most likely to watch and enjoy, and . . . recommend videos that make them happy. . . . [S]o our viewers keep coming back to YouTube, because they know that they'll find videos that they like there."[18] And Adam Mosseri of Instagram said, "[W]e make a set of predictions. These are educated guesses at how likely you are to interact with a post in different ways…. The more likely you are to take an action, and the more heavily we weigh that action, the higher up you'll see the post."[19]

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[12] 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/.
[13] Mike Brooks, *The "Vegas Effect"of Our Screens*, Psychol. Today (Jan. 4, 2019), https://www.psychologytoday.com/us/blog/tech-happy-life/201901/the-vegas-effect-our-screens.
[14] Nir Eyal, *The Hook Model: How to Manufacture Desire in 4 Steps*, Nir and Far, https://www.nirandfar.com/how-to-manufacture-desire/.
[15] Emily Weinstein & Carrie James, Behind Their Screens: What Teens Are Facing (And Adults Are Missing), MIT Press, at 33 (2022); *see also* 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/.
[16] *Id.* at 34.
[17] Ben Smith, *How TikTok Reads Your Mind*, New York Times, (Dec. 5, 2021), https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html.
[18] Creator Insider, *Behind the Algorithms - How Search and Discovery Works on YouTube*, YouTube (Apr. 16, 2021), https://youtu.be/9Fn79qJa2Fc.
[19] Adam Mosseri, *Shedding More Light on How Instagram Works*, Instagram (June 8, 2021), https://about.instagram.com/blog/announcements/shedding-more-light-on-how-instagram-works.

Tech companies know that variable rewards are a valuable tool to increase users' activity and time spent online and ultimately, to maximize profits. But they are similarly aware of the risks associated with these types of rewards. For example, in 2020, responding to internal research indicating that teen users had difficulty controlling their use of Facebook and Instagram, a Meta employee wrote to a colleague: "I worry that the driving [users to engage in more frequent] sessions incentivizes us to make our product more addictive, without providing much more value… Intermittent rewards are the most effective (think slot machines), reinforcing behaviors that become especially hard to extinguish."[20] Ultimately, these sophisticated variable reward techniques prey upon minors' developmental sensitivity to rewards.

Algorithmic content recommendation systems

Algorithms designed to maximize engagement fill young people's feeds with the content that is most likely to keep them online, even when that means exposing them to a post, image, or video that is dangerous or abusive. Platforms such as YouTube, TikTok, and Instagram serve users content based on automated suggestions. Algorithms choose which content to suggest to children and teens based on the vast amount of data they collect on users, such as likes, shares, comments, interests, geolocation, and information about the videos a user watches and for how long. As described above, these algorithms are designed to extend engagement by discerning which pieces of content a user is most likely to engage with – not whether the content or overall online experience is beneficial to the user.[21]

Algorithmic recommendations can be particularly dangerous when they target children and teens' greatest vulnerabilities. Investigations have repeatedly demonstrated the way social media feeds deliver harmful mental health and eating disorder content to accounts registered to minors. A December 2022 report by the Center for Countering Digital Hate (CCDH) found that newly created TikTok accounts registered to teenagers that watched or liked videos about body image, mental health, or eating disorders received videos in their For You feed related to self-harm, suicide, or eating disorders within minutes.[22] These videos appeared on the accounts' For You feeds every 206 seconds on average. CCDH also studied the For You feeds of newly created TikTok accounts registered to teenagers that included the phrase "loseweight" in their usernames. Those accounts received videos about self-harm, suicide, or eating disorders in their For You feeds every 66 seconds on average.[23]

Other reports have made similar findings: A 2021 *Wall Street Journal* investigation documented how TikTok users were served videos that encouraged eating disorders and discussed suicide.[24]

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[20] Spence v. Meta Platforms, N.D. Cal. Case No. 3:22-cv-03294 at 82 (June 6, 2022) (citing Facebook Papers: "Teen Girls Body Image and Social Comparison on Instagram – An Exploratory Study in the US" (March 2020), at p. 8).

[21] A former YouTube engineer observed: "recommendations are designed to optimize watch time, there is no reason that it shows content that is actually good for kids. It might sometimes, but if it does, it is coincidence." Orphanides, K.G. "Children's YouTube is still churning out blood, suicide and cannibalism." *Wired,* (March 23, 2018), https://www.wired.co.uk/article/youtube-for-kids-videos-problems-algorithm-recommend

[22] Center for Countering Digital Hate, *Deadly by Design: Tik Tok Pushes Harmful Content Promoting Eating Disorders and Self-harm into users' feeds,* (Dec. 15, 2022), https://counterhate.com/research/deadly-by-design/

[23] *Id.*

[24] Wall Street Journal Staff, *Inside TikTok's Algorithm: A WSJ Video Investigation*, Wall Street Journal, (July 21, 2021), https://www.wsj.com/articles/tiktok-algorithm-video-investigation-11626877477.

The same year, Senator Richard Blumenthal's office created an account for a fake 13-year-old girl that "liked" content about dieting, and the account was served pro-eating disorder and self-harm content within 24 hours.[25] Young users' engagement with this harmful content is valuable to tech companies: Our 2022 report detailed how Meta profits from 90,000 unique pro-eating disorder accounts that reach 20 million people, one-third of whom are minors, some as young as nine.[26]

Content recommendation algorithms also expose minors to videos of dangerous viral "challenges," which has tragically led to the serious injury and death of many young people. For example, media reports have documented how "the blackout challenge" on TikTok, in which young people hold their breath or choke themselves until they pass out, is responsible for the deaths of several children.[27] Many families say that their children learned about the challenge through recommended videos on their For You feeds.[28]

III. Conclusion

When kids are in digital spaces for learning, socializing, and relaxing, they deserve the opportunity for the most positive experience, designed in a way that understands and supports their unique ways of seeing the world. They should be able to explore in developmentally appropriate ways without being manipulated into spending more time or targeted by algorithms that amplify harmful content.

We cannot continue to hope that tech platforms will unilaterally disarm in the race for young people's valuable attention. Nor can we expect young people to extract themselves from the exploitative platforms where their friends are, or expect overworked parents to navigate confusing settings across multiple platforms and monitor every moment their kids are online.

Young people and their families urgently need lawmakers to take action to make safer, more developmentally appropriate online spaces a reality. Accordingly, Fairplay urges the Commerce Finance and Policy Committee, the Minnesota House of Representatives, and the Minnesota State Senate to pass HF1503.

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[25] Nihal Krishan, *Senate office impersonates 13-year-old girl on Instagram to flag eating disorder content*, Yahoo News, (Sep. 30 2021), https://www.yahoo.com/entertainment/senate-office-impersonates-13-old-212700515.html.

[26] 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.

[27] Olivia Carville, *TikTok's Viral Challenges Keep Luring Young Kids to Their Deaths*, Bloomberg, (Nov. 30, 2022), https://www.bloomberg.com/news/features/2022-11-30/is-tiktok-responsible-if-kids-die-doing-dangerous-viral-challenges; Anne Marie Lee, *Child deaths blamed on TikTok 'blackout challenge' spark outcry*, *CBS News,* (Aug. 19, 2021), https://www.cbsnews.com/news/tik-tok-blackout-challenge-child-deaths/.

[28] Michael Levenson and April Rubin, *Parents Sue TikTok, Saying Children Died After Viewing 'Blackout Challenge'*, New York Times, (July 6, 2022), https://www.nytimes.com/2022/07/06/technology/tiktok-blackout-challenge-deaths.html.