

Mark Zuckerberg
Chief Executive Officer
Meta
1 Hacker Way
Menlo Park, CA 94025

Dear Mr. Zuckerberg,

The undersigned—a total of 36 organizations and 37 individual experts on young people’s development—write to urge you to immediately cancel plans to lure users aged 13 to 17 to Horizon Worlds, and to prohibit minors from using the platform until Meta can demonstrate that engaging in such a continually evolving virtual reality (VR) environment is safe for their wellbeing. Considering the well-documented negative impacts of 2D social media on young people,¹ Meta must wait for more peer-reviewed research on the potential risks of the Metaverse to be certain that children and teens would be safe in the immersive experience of the Metaverse.

A leaked memo obtained by the Wall Street Journal indicates Meta plans to open up Horizon Worlds to teens in order to drive profits.² Meta has invested heavily in Horizon Worlds, and it appears that Meta’s investment in VR is failing, and endangering children in the process.³

A March 2023 report from the Center for Countering Digital Hate (CCDH), *Horizon Worlds Exposed*, found that minors already on your platform are routinely exposed to harassment and abuse—including sexually explicit insults and racist, misogynistic, and homophobic harassment—and other offensive content.⁴ This follows CCDH research announced in December 2021, which found VR Chat, an app for the Oculus Quest headset intended for ages 13 and up,⁵

¹ See, for example, Jean M. Twenge and W. Keith Campbell, “Media Use Is Linked to Lower Psychological Well-Being: Evidence from Three Datasets,” *Psychiatric Quarterly* 90, no. 2 (June 1, 2019): 311–31, <https://doi.org/10.1007/s11126-019-09630-7>; Liz Twigg, Craig Duncan, and Scott Weich, “Is Social Media Use Associated with Children’s Well-Being? Results from the UK Household Longitudinal Study,” *Journal of Adolescence* 80 (April 1, 2020): 73–83, <https://doi.org/10.1016/j.adolescence.2020.02.002>; Ben Carter et al., “Association Between Portable Screen-Based Media Device Access or Use and Sleep Outcomes: A Systematic Review and Meta-Analysis,” *JAMA Pediatrics* 170, no. 12 (December 1, 2016): 1202–8, <https://doi.org/10.1001/jamapediatrics.2016.2341>; Sakari Lemola et al., “Adolescents’ Electronic Media Use at Night, Sleep Disturbance, and Depressive Symptoms in the Smartphone Age,” *Journal of Youth and Adolescence* 44 (February 1, 2014), <https://doi.org/10.1007/s10964-014-0176-x>.

² Salvador Rodriguez, *Meta Pursues Teen Users as Horizon Metaverse App Struggles to Grow*, The Wall Street Journal, (Feb. 7, 2023), <https://www.wsj.com/articles/meta-to-revamp-horizon-metaverse-app-plans-to-open-for-teen-use-as-soon-as-march-11675749223>

³ Jeff Horwitz, *Company Documents Show Meta’s Flagship Metaverse Falling Short*, The Wall Street Journal, (Oct. 15 2022), <https://www.wsj.com/articles/meta-metaverse-horizon-worlds-zuckerberg-facebook-internal-documents-11665778961>

⁴ Center for Countering Digital Hate, *Horizon Worlds Exposed: Bullying, Sexual Harassment of Minors and Harmful Content are Rife in Meta’s Flagship VR Product*, (March 8, 2023), https://counterhate.com/wp-content/uploads/2023/03/Horizon-Worlds-Exposed_CCDH_0323.pdf

⁵ Meta Quest Safety Centre, https://www.oculus.com/safety-center/?locale=en_GB#:~:text=Designed%20for%20ages%2013%2B&text=Younger%20children%20have%20greater%20risks,13%2B%20spend%20using%20the%20headset

to be rife with abuse, harassment, and pornographic content directed at minors. CCDH reported 51 incidents of abusive behavior to Meta, and did not receive any response from you—no report of action taken or even acknowledgment of receipt of the complaints.⁶

Getting teens to use the platform is essential to Meta's bottom line because they are potential life-long users, and their presence and support can make the platform seem trendy.⁷ But what may be good for your bottom line may be incredibly harmful to young people.

A growing body of research demonstrates that excessive use of digital devices and social media is harmful to adolescents, and that use of social media platforms has contributed to declines in youth mental health, thanks to engagement-maximizing platform design that increases exposure to harmful content and privacy harms, and encourages unhealthy patterns of use. The Metaverse has the potential to ratchet up these risks of harm, and it is disturbing to know that Meta plans to lure teenagers into what is already a risky and seemingly lawless place, as documented by the aforementioned reports from CCDH.

Should Meta throw open the doors of these worlds to minors rather than pause to protect them, you would, yet again, demonstrate your company to be untrustworthy when it comes to safeguarding young people's best interests. Time and again, you have targeted kids and teens with your platforms and turned a blind eye to their harmful impact on young people's wellbeing, even when those harms have come to your attention. When United States Senators Edward J. Markey and Richard Blumenthal sent you a letter⁸ urging you to halt plans to open Horizon Worlds to teen users, they cited Meta's track record of putting profits ahead of children's safety: the Messenger Kids app, intended for kids between the ages of six and 12, contained a serious design flaw that allowed children to circumvent limits and interact with strangers;⁹ Meta has failed to stop ads for tobacco, alcohol, and eating disorder content from targeting teens¹⁰; Meta's internal research shows that Instagram makes teen girls feel worse about their bodies; and teens in the U.S. and United Kingdom have traced their suicidal thoughts to Instagram.¹¹

⁶ Center for Countering Digital Hate, *Facebook's Metaverse*, (Dec. 30, 2021), <https://counterhate.com/research/facebook-metaverse/#about>

⁷ Georgia Wells et al., *Facebook's Effort to Attract Preteens Goes Beyond Instagram Kids, Documents Show*, The Wall Street Journal, (Sep. 28, 2021), <https://www.wsj.com/articles/facebook-instagram-kids-tweens-attract-11632849667>.

Sheera Frenkel et al., *Instagram Struggles With Fears of Losing Its 'Pipeline': Young Users*, New York Times, (Oct. 26, 2021), <https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

⁸ Senator Markey and Blumenthal Letter to Mark Zuckerberg on Meta, (March 1, 2023), https://www.markey.senate.gov/imo/media/doc/senator_markey_blumenthal_letter_to_zuckerberg_on_meta_-_030123pdf.pdf

⁹ Russell Brandom, *Facebook Design Flaw Let Thousands of Kids Join Chats with Unauthorized Users*, The Verge, (Jul. 22, 2019), <https://www.theverge.com/2019/7/22/20706250/facebook-messenger-kids-bug-chat-app-unauthorized-adults>.

¹⁰ See, e.g., *Facebook's Repeat Fail on Harmful Teen Ads*, Tech Transparency Project, Campaign for Accountability (Oct. 1, 2021), <https://www.techtransparencyproject.org/articles/facebook-repeat-fail-harmful-teen-ads>.

¹¹ In an internal study, 32 percent of teen girls reported that "when they felt bad about their bodies, Instagram made them feel worse," and among teens who had experienced suicidal thoughts, 13 percent of United Kingdom users and six percent of American users traced the problem to Instagram. Georgia Wells et al., *Facebook Knows*

All of these risks of harm to young people from social media and excessive digital device use are likely to be present and potentially magnified in the immersive environment of VR. Researchers and advocates have identified several types of harms or otherwise unfair practices that must be addressed before inviting more young users into a VR environment:

Mental health and wellbeing risks: A growing body of research shows repeated and prolonged use of social media platforms by young people has been shown to increase depression, anxiety, sleep deprivation, and expose children to harassment, bullying, sexual predators.¹² On top of that, your products have been shown to encourage unhealthy, addiction-like patterns of use in the users of your platforms -- a fact of which you have been acutely aware.¹³ Your business model relies on maximizing user engagement and time spent on your platform, regardless of the risks that poses to users of any age. As a result, users - including children and teens - are served harmful, attention-grabbing content that promotes alcohol, drugs, anorexia and unhealthy diets, and dangerous challenges.¹⁴ As for the Metaverse, there is scant existing research on the psychological risks and other health harms facing children and teens there,¹⁵ a fact that your own company has acknowledged.¹⁶ How can your company ensure the safety of minors on your platform without research showing it to be safe?

Privacy risks: Young people are targeted in many ways for invasive data collection online. These risks are heightened on VR, where there is the prospect of collecting physiological data—biomarkers such as faceprints and eye movement data.¹⁷ The volume of data collected, such as millions of data points about micromovements, leaves users with even less knowledge or control about the sensitive data collected. And as with the “anonymized” data collected by social media platforms such as Instagram and

Instagram Is Toxic for Teen Girls, Company Documents Show, WSJ (Sept. 14, 2021), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739>.

¹² 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>.

¹³ Joel Rosenblatt, *Zuckerberg Was Warned on Social Media Addiction, Filing Says*, Bloomberg, (March 13, 2023), <https://www.bloomberg.com/news/articles/2023-03-13/zuckerberg-was-warned-on-social-media-addiction-filing-shows#xi4y7vzkg>

¹⁴ *Ibid.*

¹⁵ Yogesh K. Dwivedi et al., *Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy*, Science Direct, (October 2022), Volume 66, at 16, <https://www.sciencedirect.com/science/article/pii/S0268401222000767>

¹⁶ Meta, *Request for proposals on social experiences in VR environments*, <https://research.facebook.com/research-awards/request-for-proposals-on-social-experiences-in-vr-environments/#award-recipients>

¹⁷ Tom Wheeler, *If the Metaverse Is Left Unregulated, Companies Will Track Your Gaze and Emotions*, Time, (June 20, 2022), <https://time.com/6188956/metaverse-is-left-unregulated-companies-will-track-gaze-emotions/>. Kröger, J.L. et al., *What Does Your Gaze Reveal About You? On the Privacy Implications of Eye Tracking*, Data for Better Living: AI and Privacy, vol 576, (2019), https://doi.org/10.1007/978-3-030-42504-3_1.

Facebook,¹⁸ anonymized data from VR biometric data recordings can be used to uniquely identify individual users. One February 2023 study showed that from a pool of over 50,000 users of the popular VR game BeatSaber, “a user can be uniquely identified amongst the entire pool of 50,000+ with 94.33% accuracy from 100 seconds of motion, and with 73.20% accuracy from just 10 seconds of motion.”¹⁹ A whole host of inferences can be made with just motion data, opening up new privacy risks for users. On top of that, VR can exacerbate existing privacy risks and create new ones not present elsewhere, such as risks to bystander privacy.²⁰

Targeted marketing risks: Meta and your marketing partners already use adolescents’ sensitive data to target them with manipulative behavioral marketing, and to feed them algorithm-driven content which is calculated to make it less likely that they will logoff. As noted above, VR technologies allow for the collection of more sensitive biometric data than traditional digital platforms, and the potential for more sophisticated ad-targeting.²¹ With an even larger volume of extremely sensitive data at its disposal, we know from Meta’s history what it will do with it— use it to maximize young people’s engagement and to target them with behavioral marketing. The result— impressionable and vulnerable kids and teens are barraged with powerful messages promoting the interests of advertisers, including fostering brand loyalty to an array of goods and services. We needn’t look far to see the huge potential for harm from advertising targeting teens: e-cigarette company Juul leveraged social media (including Meta’s Instagram platform) to hook an entire generation of teens on their dangerous product.²²

Risks from unfair marketing practices: In addition to being highly data-driven, today’s youth marketing strategies use methods that are inherently unfair and impossible for minors to resist or guard against, especially when deployed via immersive applications,

¹⁸ Stuart Thompson et al, *Twelve Million Phones, One Dataset, Zero Privacy*, New York Times, (Dec. 19, 2019), <https://www.nytimes.com/interactive/2019/12/19/opinion/location-tracking-cell-phone.html>

¹⁹ Vivek Nair et al., *Unique Identification of 50,000+ Virtual Reality Users from Head & Hand Motion Data*, Cornell University, (Feb. 17, 2023), <https://arxiv.org/abs/2302.08927>

²⁰ Cristina Fiani et al., *Ensuring Child Safety in Social VR: Navigating Different Perspectives and Merging Viewpoints*, University of Glasgow, (2023), <http://www.mkhamis.com/data/papers/fiani2023chiworkshop.pdf>

²¹ Jeremy Bailenson, *Protecting Nonverbal Data Tracked in Virtual Reality*, Jama Pediatrics, (Aug. 6, 2018), <https://stanfordvr.com/mm/2018/08/bailenson-jamap-protecting-nonverbal.pdf>. Kröger, J.L. et al., *What Does Your Gaze Reveal About You? On the Privacy Implications of Eye Tracking*, Data for Better Living: AI and Privacy, vol 576, (2019), https://doi.org/10.1007/978-3-030-42504-3_1.

Tatum Hunter, *Surveillance will follow us into ‘the metaverse,’ and our bodies could be its new data source*, The Washington Post, (Jan. 13, 2022), <https://www.washingtonpost.com/technology/2022/01/13/privacy-vr-metaverse/>

²² Julia Belluz, *The vape company Juul said it doesn’t target teens. Its early ads tell a different story*, Vox, (Jan. 25, 2019), <https://www.vox.com/2019/1/25/18194953/vape-juul-e-cigarette-marketing>

including augmented and virtual reality in the Metaverse. These strategies are used to make brand and other commercial messages indistinguishable from entertainment content in the overall immersive experience. Before marketers are allowed to operate in these virtual worlds, Meta must address the whole gamut of unfair marketing practices that manipulate and exploit minors' inherent cognitive limitations, including: neuromarketing practices designed to leverage a young person's emotions and subconscious; influencer marketing strategies, including the extensive infrastructure used to deliver, track and measure their impact; the integration of online marketing with Internet of Things objects; live-streamed gaming experiences meant to foster connectedness to influencers touting brands; branded games and other company sponsored apps, and virtual real estate. Far from being neutral spaces for social interaction, entertainment, and expression, digital platforms are structured to maximize the impact of marketing messages on brand loyalty and product sales. Before opening virtual worlds to minors, these unfair marketing practices must be put in check.²³

Discrimination risks: A growing body of academic research has documented how Big Data and AI-driven systems can lead to disparate treatment and disparate impacts on communities of color, low-income groups, and other vulnerable members of the population. Such data practices can lead to various forms of marketplace discrimination²⁴ and can exacerbate historical discrimination and existing inequities.²⁵ Facebook's own ad delivery optimization has been shown to lead to discrimination in housing and employment ads, forcing you to agree to ongoing independent audits.²⁶ While Meta and other social media platforms have made commitments to address discrimination and racial justice issues, you have failed to acknowledge their role in the aggressive marketing to youth of color, particularly when it comes to unhealthy products.²⁷ As most digital marketing practices take place completely under the radar of parents, policymakers, and health professionals, Meta should commit publicly to addressing these

²³ Jeffery Chester et al., *Big Food, Big Tech, and the Global Childhood Obesity Pandemic*, Center for Digital Democracy, (May 2021), https://www.democraticmedia.org/sites/default/files/field/public-files/2021/full_report.pdf

²⁴ Jeffery Chester et al., *Big Food, Big Tech, and the Global Childhood Obesity Pandemic*, see footnote 293, Center for Digital Democracy, (May 2021), https://www.democraticmedia.org/sites/default/files/field/public-files/2021/full_report.pdf

²⁵ Jeffery Chester et al., *Does buying groceries online put SNAP participants at risk?*, Center for Digital Democracy, (May 2021), https://www.democraticmedia.org/sites/default/files/field/public-files/2020/cdd_snap_report_ff_0.pdf

²⁶ Muhammad Ali et al., *Discrimination through optimization: How Facebook's ad delivery can lead to skewed outcomes*, Proceedings of the ACM on Human-Computer Interaction, (2019), <https://arxiv.org/pdf/1904.02095.pdf> <https://www.washingtonpost.com/technology/2022/06/21/facebook-doj-discriminatory-housing-ads/>

²⁷ Jeffery Chester et al., *Big Food, Big Tech, and the Global Childhood Obesity Pandemic*, see footnote 293, Center for Digital Democracy, (May 2021), https://www.democraticmedia.org/sites/default/files/field/public-files/2021/full_report.pdf

risks and to providing full transparency and accountability to its data practices before unleashing them on minors through VR.

Predation risks: The CCDH report *Horizon Worlds Exposed* found that minors are frequently exposed to abuse by adults in Horizon Worlds, including sexually explicit insults. Fairplay’s internal examination of Meta’s VR Chat found similar occurrences there – in fact, a Fairplay staff member who signed on as a 14-year-old user was frequently assaulted by other users, sometimes in groups, in acts of physical and sexual violence by other avatars upon theirs. Virtual reality creates the risk of sexual assault in real time, under circumstances with the potential to be particularly traumatizing – vivid graphics in an immersive environment, and movement hindered by groups of abusive users.

Abuse and bullying risks: Social media can be a hotbed of bullying and abuse for children and teens in the digital age, that can lead to other harms. In fact, Cyberbullying is linked to increased risky behaviors such as smoking and increased risk of suicidal ideation.²⁸ CCDH’s research has also found instances of abuse occurring every seven minutes in the Metaverse, and has found children are frequently exposed to racist, homophobic, and misogynistic harassment from other users.²⁹

It’s very challenging today for parents to discern what happens on various digital platforms and to weigh potential impacts on their children’s wellbeing, many of which are still being exposed. In fact, “looking over your child’s shoulder” to see what they’re up to is deliberately designed to be literally impossible with VR.

Parents would be shocked to learn what’s going on behind the closed doors of Horizon Worlds, where kids and teens are being assaulted with abusive conduct and harmful content, with no one to intervene. All of the harms associated with excessive use of social media and digital devices have the potential to be exacerbated on VR platforms.

You announced in October 2021 that “[p]rivacy and safety need to be built into the metaverse from day one.”³⁰ While we appreciate that sentiment, we are skeptical given Meta’s long track record of targeting young people and only addressing damaging design *after* harms have occurred. This is an opportunity for Meta to change course. It’s time for you to set a standard in

²⁸ van Geel M, Vedder P, Tanilon J. Relationship Between Peer Victimization, Cyberbullying, and Suicide in Children and Adolescents: A Meta-analysis, *JAMA Pediatr.* 2014;168(5):435–442. doi:10.1001/jamapediatrics.2013.4143 <https://jamanetwork.com/journals/jamapediatrics/fullarticle/1840250>.

²⁹Center for Countering Digital Hate, *Facebook’s Metaverse*, (Dec. 30, 2021), <https://counterhate.com/research/facebooks-metaverse/#about>

³⁰ Mark Zuckerberg, *Founder’s Letter*, Meta, (Oct. 28, 2021), <https://about.fb.com/news/2021/10/founders-letter/>

the industry for assessing risks to young people first and then making proactive design choices consistent with protecting their wellbeing.

We urge you to protect young people and assist parents by ceasing plans to open Horizon Worlds to users under 18 until after Meta has procured independent research which reliably details potential impacts on adolescents' wellbeing, and until Meta has rooted out the dangers of abuse, harassment, exposure to harmful content, and the other risks to the wellbeing of children and teens discussed herein.

Sincerely,

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Center for Digital Democracy

Fairplay

Becca Schmill Foundation

Beyond the Screen

Center for Online Safety

Child Online Africa

Children and Media Australia

Civic Shout

Common Sense Media

Consumer Federation of America

Design It For Us

Eating Disorders Coalition for Research, Policy, & Action

ECPAT-USA

Ekō

Electronic Privacy Information Center (EPIC)

Enough Is Enough

Global Action Plan UK

Global Hope 365

Holistic Moms Network

Issue One

LOG OFF

LookUp.live

Lynn's Warriors

Massachusetts Council on Gaming and Health

The National Alliance to Advance Adolescent Health

National Criminal Justice Training Center

National Parenting Education Network

Open MIC

Parent Coalition for Student Privacy

Parents Television and Media Council

ParentsTogether

Peace Educators Allied for a Safe Environment (P.E.A.C.E.)

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