

EXHIBIT 1

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA**

*PEOPLE OF THE STATE OF CALIFORNIA,
et al.,*
Plaintiffs,

v.

*META PLATFORMS, INC, Instagram, LLC,
Meta Payments, Inc., Meta Platforms
Technologies, LLC., et al.,*
Defendants

IN RE: SOCIAL MEDIA ADOLESCENT
ADDICTION/PERSONAL INJURY
PRODUCTS LIABILITY LITIGATION

THIS DOCUMENT RELATES TO:
4:23-cv-05448

MDL No. 3047

Case No. 4:23-cv-05448-YGR

Judge: Hon. Yvonne Gonzalez Rogers

Magistrate Judge: Hon. Peter H. Kang

TRIAL REPORT OF BRADLEY ZICHERMAN, MD

May 16, 2025

II. Social media addiction is a serious concern acknowledged by mental health professionals that resembles other addiction disorders

- (22) The American Psychiatric Association (APA) defines the concept of “technology addiction” as “[e]xcessive and compulsive use of the internet or online activities [that] can lead to negative consequences in various aspects of an individual’s life. Technology addiction can potentially involve various forms of online activity including social media, gaming, gambling, problematic use of online pornography, and others.”⁷ Under the technology addiction umbrella, the APA also defines “social media addiction” as “problematic and compulsive use of social media; an obsessive need to check and update social media platforms, often resulting in problems in functioning and disrupted real-world relationships.”⁸ In the last two years, the APA has published a health advisory on social media use in adolescence and highlighted “a need for social media companies to make fundamental changes to their platforms” and “the need to enact new, responsible safety standards to mitigate harm.”⁹
- (23) The APA’s health advisory also recommends that “[a]dolescents should be routinely screened for signs of ‘problematic social media use’ that can impair their ability to engage in daily roles and routines, and may present risk for more serious psychological harms over time.”¹⁰ The advisory explains that “indicators of problematic social media use include:
- a tendency to use social media even when adolescents want to stop, or realize it is interfering with necessary tasks;
 - spending excessive effort to ensure continuous access to social media;
 - strong cravings to use social media, or disruptions in other activities from missing social media use too much;
 - repeatedly spending more time on social media than intended;
 - lying or deceptive behavior to retain access to social media use; and

⁷ “What is Technology Addiction?” American Psychiatric Association, accessed April 29, 2025, <https://www.psychiatry.org/patients-families/technology-addictions-social-media-and-more/what-is-technology-addiction>.

⁸ “What is Technology Addiction?” American Psychiatric Association, accessed April 29, 2025, <https://www.psychiatry.org/patients-families/technology-addictions-social-media-and-more/what-is-technology-addiction>.

⁹ “Potential Risks of Content, Features, and Functions: The Science of How Social Media Affects Youth,” American Psychological Association, accessed April 29, 2025, <https://www.apa.org/topics/social-media-internet/youth-social-media-2024>.

¹⁰ “Health Advisory on Social Media Use in Adolescence,” American Psychological Association, accessed April 29, 2025, <https://www.apa.org/topics/social-media-internet/health-advisory-adolescent-social-media-use>.

- loss or disruption of significant relationships or educational opportunities because of social media use.”¹¹

- (24) There have been countless research studies on the topic of social media addiction,¹² and there are numerous validated tools for the measurement of problematic social media use.¹³ A PubMed search query for “social media addiction” returns a result of over 10,000 research articles.¹⁴ A PubMed search query for “social media addiction measurement tool” returns a result of over 300 research articles.¹⁵ For my own research, I have relied on a screen usage assessment validated through the Adolescent Brain Cognitive Development (ABCD) study.¹⁶ The ABCD screen usage assessment consists of multiple separate surveys to capture different domains of screen usage. The different surveys I have adapted in my research include the Screen Usage Questionnaire, Sleep and Screen Usage Questionnaire, Mobile Phone Usage Questionnaire, Social Media Addiction Questionnaire, and the Video Game Addiction Questionnaire.
- (25) Despite the APA’s and researchers’ acknowledgement of the concerns regarding technology addiction and more specifically, social media addiction, they have not yet been officially recognized as disorders within the APA’s Diagnostic and Statistical Manual of Mental Disorders (DSM). The DSM

¹¹ “Health Advisory on Social Media Use in Adolescence,” American Psychological Association, accessed April 29, 2025, <https://www.apa.org/topics/social-media-internet/health-advisory-adolescent-social-media-use>.

¹² See, e.g., Alfonso Pellegrino, Alessandro Stasi, and Veera Bhatiasavi, “Research Trends in Social Media Addiction and Problematic Social Media Use: A Bibliometric Analysis,” *Frontiers in Psychiatry* 13 (2022): 1017506. Daria Kuss and Mark D. Griffiths, “Online Social Networking and Addiction—A Review of the Psychological Literature,” *International Journal of Environmental Research and Public Health* 8, no. 9 (2011): 3528–3552. Maria Chiara D’Arienzo, Valentina Boursier, and Mark D. Griffiths, “Addiction to Social Media and Attachment Styles: A Systematic Literature Review,” *International Journal of Mental Health and Addiction* 17 (2019): 1094–1118. Mark Griffiths, Daria Kuss, and Zsolt Demetrovics, “Social Networking Addiction: An Overview of Preliminary Findings,” *Behavioral Addictions* (2014): 119–141.

¹³ See, e.g., Sarah Domoff, Kristen Harrison, Ashley N. Gearhardt, Douglas A. Gentile, Julie C. Lumeng, and Alison L. Miller, “Development and Validation of the Problematic Media Use Measure: A Parent Report Measure of Screen Media ‘Addiction’ in Children,” *Psychology of Popular Media Culture* 8, no. 1 (2019): 2–11. Oriana Perez, Tatyana Garza, Olivia Hinder, Alicia Beltran, Salma M. Musaad, Tracey Dibbs, Anu Singh et al, “Validated Assessment Tools for Screen Media Use: A Systematic Review,” *PLOS One* 18, no. 4 (2023): 0283714. Ilaria Cataldo, Joël Billieux, Gianluca Esposito, and Ornella Corazza, “Assessing Problematic Use of Social Media: Where Do We Stand and What Can Be Improved?” *Current Opinion in Behavioral Sciences* 45 (2022): 101145. D. Hipp, E. C. Blakley, N. Hipp, P. Gerhardstein, B. Kennedy, and Tracy Markle, “The Digital Media Overuse Scale (dMOS): A Modular and Extendible Questionnaire for Indexing Digital Media Overuse,” *Technology, Mind, and Behavior*, 4 (3: Fall 2023).

¹⁴ “Search Results: Social Media Addiction,” Stanford Medicine Lane Medical Library, accessed May 8, 2025, <https://lane.stanford.edu/search.html?q=social+media+addiction&source=all-all&facets=recordType%3A%22pubmed%22>. The search returns more than 2,000 research articles when searching for the exact phrase “social media addiction,” <https://lane.stanford.edu/search.html?q=%22social+media+addiction%22&source=all-all&facets=recordType%3A%22pubmed%22>.

¹⁵ “Search Results: Social Media Addiction Measurement Tool,” Stanford Medicine Lane Medical Library, accessed May 8, 2025, <https://lane.stanford.edu/search.html?q=social+media+addiction+measurement+tool&source=all-all&facets=recordType%3A%22pubmed%22>.

¹⁶ Jason M. Nagata, Christopher M. Lee, Jacqueline O. Hur, and Fiona C. Baker, “What We Know About Screen Time and Social Media in Early Adolescence: A Review of Findings From the Adolescent Brain Cognitive Development Study,” *Current Opinion in Pediatrics* (2025): 1–8.

is a standardized classification of mental disorders used by mental health professionals in the United States. The current edition is the DSM-V, published in 2013.¹⁷ Social media was only in its infancy at the time of the DSM-V release. Meta acquired Instagram in 2012,¹⁸ just one year prior to the latest DSM release. However, the DSM-V does list Internet Gaming disorder as a condition warranting further study.¹⁹ In my professional opinion, although the DSM-VI has an unknown release date, it is likely that the DSM-VI will have new official diagnoses for various technology addictions.

- (26) While there may not be an official DSM-V diagnosis for technology addictions including social media addiction at this time, based on the fact that there is a significant body of research to date,²⁰ and based on my own clinical work experience, I believe it is appropriate and necessary to consider technology addictions in line with and similar to other addiction disorders listed in the DSM-V. In my professional experience, I believe social media addiction resembles other previously established behavioral addiction disorders and substance addiction disorders. Therefore, I believe it is appropriate to extrapolate from the established DSM criteria for addiction disorders as outlined below to determine whether a patient suffers from a social media addiction.²¹
- (27) In this context, it is also important to note that the World Health Organization's International Statistical Classification of Diseases and Related Health Problems (ICD) has a diagnostic code for Gaming disorder (6C51) and a diagnostic code for Other Specified disorder due to addictive behaviors (6C5Y). Research has supported the inclusion of problematic use of the internet for activities such as social media within this latter diagnostic code.²² Psychiatric treatment in the United

¹⁷ American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA, American Psychiatric Association, 2013. A revised version of the DSM-V was published in 2022 (DSM-5-TR). American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision. Washington, DC, American Psychiatric Association, 2022. See also "Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR)," American Psychiatric Association, accessed April 29, 2025, <https://www.psychiatry.org/psychiatrists/practice/dsm>.

¹⁸ "Facebook to Acquire Instagram," Meta Newsroom, April 9, 2012, <https://about.fb.com/news/2012/04/facebook-to-acquire-instagram/>.

¹⁹ American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA, American Psychiatric Association, 2013: Section III: Conditions for Further Study.

²⁰ See, e.g., Mohamed Basel Almourad, John McAlaney, Tiffany Skinner, Megan Pleya, and Raian Ali, "Defining Digital Addiction: Key Features From the Literature," *Psihologija* 53, no. 3 (2020): 237–253. Kerstin Paschke, Maria Isabella Austermann, and Rainer Thomasius, "ICD-11-Based Assessment of Social Media Use Disorder in Adolescents: Development and Validation of the Social Media Use Disorder Scale for Adolescents," *Frontiers in Psychiatry* 12 (2021): 661483. Tania Moretta and Elisa Wegmann, "Toward the Classification of Social Media Use Disorder: Clinical Characterization and Proposed Diagnostic Criteria," *Addictive Behaviors Reports* 21 (2025): 100603.

²¹ Kerstin Paschke, Maria Isabella Austermann, and Rainer Thomasius, "ICD-11-Based Assessment of Social Media Use Disorder in Adolescents: Development and Validation of the Social Media Use Disorder Scale for Adolescents," *Frontiers in Psychiatry* 12 (2021): 661483. Tania Moretta and Elisa Wegmann, "Toward the Classification of Social Media Use Disorder: Clinical Characterization and Proposed Diagnostic Criteria," *Addictive Behaviors Reports* 21 (2025): 100603.

²² Matthias Brand, Hans-Jürgen Rumpf, Zsolt Demetrovics, Astrid Müller, Rudolf Stark, Daniel L. King, Anna E. Goudriaan et al, "Which Conditions Should be Considered as Disorders in the International Classification of Diseases (ICD-11) Designation of "Other Specified Disorders Due to Addictive Behaviors" *Journal of Behavioral Addictions* 11, no. 2 (2022): 150–159.

States does not typically bill ICD codes, but this a recognized global standard maintained by the WHO that “provides critical knowledge on the extent, causes and consequences of human disease and death worldwide.”²³

- (28) The DSM proposed the following criteria for Internet Gaming disorder (IGD): A person must experience significant impairment or distress and meet at least five of the following nine criteria within a 12-month period.²⁴
1. Preoccupation – Constantly thinking about gaming or previous gaming experiences.
 2. Withdrawal Symptoms – Irritability, anxiety, or sadness when unable to play.
 3. Tolerance – Needing to play more over time to get the same satisfaction.
 4. Loss of Control – Unsuccessful attempts to cut back or stop gaming.
 5. Loss of Interest in Other Activities – Reduced participation in hobbies or social activities.
 6. Continued Use Despite Problems – Playing despite knowing it causes problems (e.g., with school, work, or relationships).
 7. Deception – Lying about the amount of time spent gaming.
 8. Use as an Escape – Using gaming to escape negative emotions (e.g., stress, anxiety, depression).
 9. Jeopardized Relationships or Opportunities – Risking or losing significant relationships, jobs, or academic opportunities due to gaming.
- (29) The following are the DSM criteria for substance use disorders.²⁵ To be diagnosed, a person must meet at least two of the following 11 criteria within a 12-month period.
1. Taking the substance in larger amounts or for longer than intended.
 2. Persistent desire or unsuccessful efforts to cut down or control use.
 3. Spending a lot of time obtaining, using, or recovering from the substance.
 4. Craving or strong urge to use the substance.
 5. Failure to fulfill major role obligations at work, school, or home due to substance use.
 6. Continued use despite social or interpersonal problems caused by substance use.

²³ “International Statistical Classification of Diseases and Related Health Problems (ICD),” World Health Organization, accessed April 29, 2025, <https://www.who.int/standards/classifications/classification-of-diseases>.

²⁴ American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA, American Psychiatric Association, 2013: 795.

²⁵ American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA, American Psychiatric Association, 2013: 483–484.

7. Giving up or reducing important social, occupational, or recreational activities due to substance use.
8. Recurrent use in physically hazardous situations (e.g., driving under the influence).
9. Continued use despite knowing it causes or worsens physical or psychological problems.
10. Tolerance (needing more of the substance for the same effect or reduced effect with the same amount).
11. Withdrawal (experiencing withdrawal symptoms or using the substance to relieve withdrawal).

(30) Severity Levels pursuant to the DSM criteria for substance use disorders are as follows:

- **Mild:** 2–3 criteria
- **Moderate:** 4–5 criteria
- **Severe:** 6+ criteria

(31) The proposed criteria for IGD and the established criteria for substance use disorders are quite similar. In my opinion, either set of criteria is appropriate to use when considering evaluation of a patient with technology use concerns. I believe the proposed criteria for IGD is limited by the lack of proposed severity levels. My own professional preference is to adapt the criteria for substance use disorder, and substitute the word technology, social media, or video game, for the abused substance.

(32) If considering social media addiction, the DSM-V criteria would be adapted as follows:

1. Using social media in larger amounts or for longer than intended.
2. Persistent desire or unsuccessful efforts to cut down or control use.
3. Spending a lot of time obtaining, using, or recovering from social media use.
4. Craving or strong urge to use social media.
5. Failure to fulfill major role obligations at work, school, or home due to social media use.
6. Continued use despite social or interpersonal problems caused by social media use.
7. Giving up or reducing important social, occupational, or recreational activities due to social media use.
8. Recurrent use in physically hazardous situations (e.g., driving while using social media, “viral” challenges or attempting dangerous stunts or pranks to be captured on social media, real-life meet ups with strangers that a child or teen may meet through social media).
9. Continued use despite knowing it causes or worsens physical or psychological problems.

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10. Tolerance (needing more use of social media for the same effect or reduced effect with the same amount).

11. Withdrawal (experiencing withdrawal symptoms or using social media to relieve withdrawal).

(33) The Severity Levels would be unchanged:

- **Mild:** 2–3 criteria
- **Moderate:** 4–5 criteria
- **Severe:** 6+ criteria

(34) In my professional experience working with patients with technology addiction concerns and more specifically, social media addiction concerns, I believe it is appropriate to consider an addiction disorder diagnosis if at least 2 of the 11 above criteria are met. I estimate that over 50 percent of patients I have clinically evaluated for social media addiction meet severe use disorder criteria, based on the above model.

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The undersigned hereby certifies their understanding that they owe a primary and overriding duty of candor and professional integrity to help the Court on matters within their expertise and in all submissions to, or testimony before, the Court. The undersigned further certifies that their report and opinions are not being presented for any improper purpose, such as to harass, cause unnecessary delay, or needlessly increase the cost of litigation.

A handwritten signature in dark ink, appearing to read 'B. Zicherman MD', is positioned above a horizontal line.

Bradley Zicherman, MD

May 16, 2025

Date