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Liability or Deniability? Platform Power as Section 230 Turns 30
Senate Committee on Commerce, Science, & Transportation
Russell Senate Office Building 253
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Chairman Cruz and Ranking Member Cantwell, I am honored to appear before this Committee with these distinguished panelists to discuss the relationship between Section 230 of the Communications Decency Act and the youth mental health and safety crisis that is currently ravaging our country. I look forward to discussing legislative reforms to restore the important statute to its laudatory purpose and to better protect America's kids and teens. Under your bipartisan leadership, this Committee has been at the forefront in changing the national dialog on social media, youth mental health, and the quest for online accountability.

Since 2022, I have had the privilege of working with Republican and Democratic members of this Committee and their staffs on seeking legislative solutions to ameliorate the clear and present danger that social media poses to American's children. Every time I'm invited to discuss these issues there is one fundamental question that arises: how did we get here? How are technology companies able to design apps with such an indisputably corrosive impact on the mental and physical health of kids, earn billions of dollars in profit, and evade legal accountability? The answer boils down to two words: Section 230. In considering legislative solutions to better protect the public from unreasonably dangerous social media apps, it is therefore appropriate that 30 years after its enactment, this Committee take a fresh look at Section 230 and evaluate where the statute has been effective in promoting commerce and the free exchange of ideas and where reforms

are desperately needed to incentivize companies to prevent harm to kids and teens *before* parents have to suffer immeasurably through the unimaginable consequences of congressional inaction.

I have asked three parents who have been deeply impacted by the Section 230's expansive interpretation to join me in the hearing room today.

Tammy Rodriguez from Enfield, Massachusetts is the mother of Selena Rodriguez who died of suicide in June 2021 at the age of 11 after being sexually abused on Instagram and TikTok. In January 2022, Tammy filed the first product liability claim against social media company involving an injured child.

Selena Rodriguez - 2009-2021

Toney and Brandy Roberts live in New Iberia, Louisiana and are the parents of Englyn Roberts who took her life in 2020 after becoming addicted to social media and receiving unsolicited suicidal material in Instagram and TikTok.

Englyn Roberts - 2006-2020

Jennie DeSerio, from Centerton, Arkansas, is the mother of Mason Edens who shot himself to death in November 2022 at the age of 16. Mason had sought out affirming content after breaking up with his high school girlfriend but instead was deluged with a steady stream suicidal videos promoting suicide by shotgun.

Mason Edens - 2006-2022

Later in my testimony, I will provide more details on these tragic and several other cases in the context of Section 230.

I believe it is imperative that any discussion of Section 230 reform focus on the individuals most impacted by legislative decision making: our children.

I hope that my experience as a legal advocate for families whose children were injured or killed because of the deliberate decisions of social media companies to prioritize profits over the lives of their children will provide a helpful perspective to this Committee as it undertakes this critical task.

A. Background

As someone who was dragged kicking and screaming into the computer age, I am an unlikely candidate to opine on the intersection of law and technology. However, in retrospect, it cannot be mere coincidence that my first legal job was working for Ninth Circuit Court of Appeals Judge Diarmuid O'Scannlain, author of the *Barnes v. Yahoo* decision, which set forth the boundaries of Section 230 immunity. I parlayed this experience into a two-year judicial clerkship for Judge Bobby Baldock on the Tenth Circuit Court of Appeals before commencing my legal practice with a large national law firm repressuring companies facing environmental liabilities. I spent the next 25 years representing veterans and retired construction workers suffering from lung cancers and other illnesses caused by unnecessary toxic exposures in product liability actions throughout the Pacific Northwest.

My career trajectory changed in the fall of 2021, after Frances Haugen's heroic and historic testimony before this Committee revealed that social media companies had been deliberately disregarding the severe mental and physical health harms that their apps have been inflicting on American kids for years. The leaked documents disclosed in the Wall Street Journal and Washington Post revealed a level of outrageous corporate misconduct that made every case I'd previously worked on pale by comparison. Yet virtually every effort to hold social media companies legally accountable had been thwarted through Section 230's misapplication, with most actions not even allowed to proceed past the pleading stage. After reading the Ninth Circuit's decision in *Lemmon v. Snap*, my colleagues and I charted a very narrow legal theory that might legally permit certain cases brought by parents to proceed despite Section 230.

It was then that I formed the Social Media Victims Law Center in November 2021 to try against all odds to hold social media companies accountable for the veritable carnage their platforms are inflicting on America's kids. Currently, we are the only law firm exclusively focused on representing children and young adults injured or killed by social media apps or AI chatbots.

In the ensuing 3.5 years, I have met with hundreds of parents who have lost children to suicide, accidental death, and drug overdose instigated by defective social media apps; children who almost died from eating disorders after being

deluged with algorithmic designs meant to target and manipulate young brains with anorexic content; kids who have suffered both physical and online sexual abuse from adult predators facilitated by social media design; and children who have been treated for severe depression, anxiety and body dysmorphia because of cold, calculated decisions made by social media companies to keep these kids online no matter what the human cost. I am incredibly privileged to know and represent these families, and I'm constantly in awe of their passion and dedication. They are selflessly dedicated to ensuring that no other family must live through their nightmare of burying their own children. On their behalf and inspired by their steadfast grace in the face of unimaginable pain, I beseech you to take action to reform Section 230 so that that attorneys like me are no longer needed because harm is stopped *before* it can occur. These parents don't want more lawsuits, they want our kids to be happy, healthy, and safe online.

B. Section 230 and its Critics

"The twenty-six words that created the Internet." In the three decades since its passage, Section 230 of the Communications Decency Act has achieved a degree of legend that far outpaces both the plaint text of the law itself and the express purposes underpinning it. The law mandates 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),

and requires that "[n]o cause of action may be brought and no liability may be imposed under any State or local law that is inconsistent with this section." 47 U.S.C. § 230(e)(3). At the same time, Section 230 explicitly provides that "[n]othing in this section shall be construed to prevent any State from enforcing any State law that is consistent with this section." 47 U.S.C. § 230(e)(3). There are no references to sweeping immunity anywhere in the text.

Instead, the current dismal state of the law is owed almost entirely to judicial interpretation. The Fourth Circuit in *Zeran v. America Online, Inc.* was the first court to suggest any form of federal immunity under the "plain language" of Section 230. Ironically, the court cloaked its analysis in the language of free speech:

> The purpose of this statutory immunity is not difficult to discern. Congress recognized the threat that tort-based lawsuits pose to freedom of speech in the new and burgeoning Internet medium. The imposition of tort liability on service providers for the communications of others represented, for Congress, simply another form of intrusive government regulation of speech. Section 230 was enacted, in part, to maintain the robust nature of Internet communication and, accordingly, to keep government interference in the medium to a minimum. In specific statutory findings, Congress recognized the Internet and interactive computer services as offering "a forum for a true diversity of political discourse, unique opportunities for cultural development, and myriad avenues for intellectual activity." It also found that the Internet and interactive computer services "have flourished, to the benefit of all Americans, *with a minimum of government regulation*." Congress further stated that it is "the policy of the United States ... to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, *unfettered by Federal or State regulation."*

Zeran v. Am. Online, Inc., 129 F.3d 327, 330 (4th Cir. 1997).

Despite these laudable ideals, courts have expanded upon the *Zeran* analysis throughout the years, to the point that Section 230 has become utterly unrecognizable to either the text or the context in which it was passed. And predictably, tech companies have seized upon this trend to evade all possible legal accountability simply because third-party content is found somewhere in the causal chain of their misconduct.

In *Barnes v. Yahoo!, Inc.*, the Ninth Circuit stated that "what matters is not the name of the cause of action … [but] whether the cause of action inherently requires the court to treat the defendant as the 'publisher or speaker' of content provided by another." From this, social media companies insist that because everything they do involves third-party content, then *every* cause of action must necessarily treat them as publishers or speakers. In *M.P. by and through Pinckney v. Meta Platforms Inc.*, the Fourth Circuit held that claims of products liability and negligence were barred by Section 230 because the claims at issue were "inextricably intertwined with Facebook's role as a publisher of third-party content" and that "a newspaper company does not cease to be a publisher simply because it prioritizes engagement in sorting its content." From this, social media companies insist that every type of products liability and negligence claim must necessarily be foreclosed by Section 230, even where the basis arises from targeting children with deliberately addictive design features to prioritize engagement over user safety. And in *Force v. Facebook,*

Inc., a split majority of the Second Circuit held that "the text of Section 230 should be construed broadly in favor of immunity" and that the use of algorithms for "arranging and distributing third-party information inherently forms 'connections' and 'matches' among speakers, content, and viewers of content, whether in interactive internet forums or in more traditional media." From this, social media companies insist that every algorithmic design must necessarily be exempt from liability no matter how they are designed or optimized.

That said, there is a growing chorus among appellate courts pushing back on *Zeran's* original sin of reading Section 230 far beyond its plain text. Chief Judge Katzmann's partial dissent in *Force* is widely cited as the more persuasive interpretation of Section 230 and a better analytical framework for adding additional free speech priorities while holding companies accountable for weaponizing platform design features. Judge Katzmann recognized that the expansion of Section 230, "a provision that was designed to encourage computer service providers to shield minors from obscene material," was instead being used to immunize companies that target and prey on vulnerable children. Instead, Judge Katzmann emphasized the law does not grant publishers Section 230 immunity "for the full range of activities in which they might engage," only for claims faulting the defendant corporation for "deciding whether to publish, withdraw, postpone or alter content."

"As is so often the case with new technologies, the very qualities that drive social media's success—its ease of use, open access, and ability to connect the world—have also spawned its demons." Judge Katzmann believed that "claims regarding the algorithms are a poor fit for statutory immunity" because social media companies could "stop using the algorithms altogether" or "modify its algorithms" to remove the dangerous defects in their design—all without modifying or removing a single piece of content. Considering the ways in which social media companies, with judicial approval, had manipulated the Communications Decency Act to avoid any accountability, Judge Katzmann suggested that Congress "revisit the CDA to better calibrate the circumstances where such immunization is appropriate and inappropriate in light of congressional purposes."

In the seven years since *Force*, Congress has declined to take Judge Katzmann up on his suggestion. However, jurists have increasingly begun to resist the allure of *Zeran's* overreach and embrace Judge Katzmann's more restrained reading of Section 230. Most notably, Justice Thomas has repeatedly castigated the judicial expansion of Section 230's plain text. In *Malwarebytes, Inc. v. Enigma software Group USA, LLC*, Justice Thomas' statement upon the denial of a writ of certiorari recognized that when Congress first enacted Section 230, "most of today's major Internet platforms did not exist," and that since that time many courts have "construed the law broadly to confer sweeping immunity on some of the largest

companies in the world." Indeed, Justice Thomas decried contemporary interpretations that would permit a company to "solicit thousands of potentially defamatory statements, 'selec[t] and edi[t] … for publication' several of those statements, add commentary, and then feature the final product prominently over other submissions—all while enjoying immunity." Paring back this sweeping immunity, Justice Thomas explained, "would not necessarily render defendants liable for online misconduct. It simply would give plaintiffs a chance to raise their claims in the first place."

In 2024, Justice Thomas again sounded the alarm, again in the context of the high court declining to take up review of Section 230. Dissenting from the denial of certiorari in *Doe Through Roe v. Snap, Inc.*, a case where Section 230 was held to immunize online platforms for facilitating child sex trafficking, Justice Thomas urged the Court to at least "address whether social-media platforms—some of the largest and most powerful companies in the world—can be held responsible for their own misconduct." Moreover, Justice Thomas recognized that "there is danger in delay." He articulated, in stark terms, how social media companies alternately rely upon either the First Amendment or Section 230 to evade accountability: "In the platforms' world, they are fully responsible for their websites when it results in constitutional protections, but the moment that responsibility could lead to liability,

they can disclaim any obligations and enjoy greater protections from suit than nearly any other industry."

Other courts have begun follow Justice Thomas' criticisms. In *A.B. v. Salesforce, Inc.*, the Fifth Circuit agreed that the law does not mandate immunity "solely because a cause of action would not otherwise have accrued but for the third-party content." There, the court that companies may be held liable for conduct "'that is properly attributable to them,' even if third-party speech exists somewhere upstream." In *Anderson v. TikTok, Inc.*, Judge Matey of the Third Circuit remarked that Section 230 "rides in to rescue corporations from virtually any claim loosely related to content posted by a third party, no matter the cause of action and whatever the provider's actions." The result, of course, is that current judicial interpretations of Section 230 "immunizes platforms from the consequences of their own conduct and permits platforms to ignore the ordinary obligation" of reasonable care and safe product design. Additionally, in *Calise v. Meta Platforms, Inc.*, the Ninth Circuit found that claims based on fraudulent third-party advertisements posted in violation of Meta's terms of service were not barred by Section 230, holding that "it is not enough that a claim, including its underlying facts, stems from third-party content for § 230 immunity to apply." *Id*. at 742.

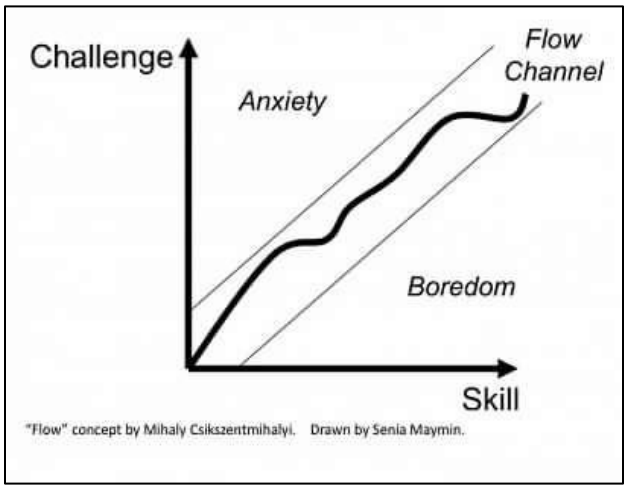
C. How Social Media Hurts Kids

In order to consider the real-world impact of the courts' overly expansive interpretation of Section 230, it is essential to understand the causal nexus between social media company's deliberate design decisions and the current mental health crisis plaguing America's kids. I am therefore providing the Committee with a synopsis of what we have learned from national experts on child neurology and development, internal company documents and testimony from company personal in the four years since we began litigating with the social media giants. Shockingly, the most compelling evidence on the causal on the relationship between social media and youth mental health is contained in social media companies' internal documents made public for the first time in the trial completed last week in Los Angeles.

In 2023, Surgeon General Vivek Murthy issued a stark advisory on youth mental health, observing that, "[t]he great irony of social media is that the more you immerse yourself in it, the lonelier and more depressed you become." Pre-teens and teens are particularly vulnerable to problematic use of social media and the resulting negative health outcomes. Social media causes or contributes to mental health harms such as addiction, problematic usage, anxiety, depression, body dysmorphia, eating disorders, poor sleep, suicide, and self-injury. The paths by which media use in general, and social media use in particular, are related to these mental health outcomes are complex and inter-related.

D. The Psychology of "Flow"

Humans bring innate and acquired skills to the challenges they face. When skills are high and challenges are low, the task at hand is sufficiently easy that it can induce boredom. Conversely, when challenges are high and skills are low, the task is sufficiently hard that it can induce anxiety. The psychologist Mihaly Csikszentmihalyi introduced the concept of "flow" as that mental state where the challenges and skills are sufficiently balanced that the experience is engrossing, engagement is easy, enjoyment is high, and time passes effortlessly. Flow states result in dopamine release and are inherently pleasurable.



In the "real world," flow can be achieved by such things as well-timed promotions at work so that one feels deployed at the limit, but not beyond, their skill set, or in gaming contexts such as chess clubs by finding players that are worthy opponents. Both of those examples take time and effort and maybe even luck to achieve. Job promotions are rarely "perfectly timed" if they happen at all, and

finding the “right” chess player can be challenging. With effort, some people can find flow in art, sports, music, and even work. Although Csikszentmihalyi maintained that “flow” was the key to a happy and fulfilling life, he cautioned that is not inherently or universally a “good” thing. He argued it could be misused in business and war, and that “mountaineers” and “gamblers” could become obsessed with it to the point of neglecting other aspects of their lives.

Structured by algorithms as opposed to real world constraints, the online experience can create flow instantaneously and effortlessly and maintain it indefinitely. Consider the simple game of “Candy Crush,” which launched in 2012 and continues to command the attention of hundreds of millions of players. It requires no skill to play for the first time and so anxiety is low. In fact, reading the rules is unnecessary. The game is intuitive and there is no barrier—no friction—to beginning. Once a player begins playing, the game quickly and seamlessly ratchets up its difficulty in accordance with a player’s skill and engagement: never so hard that it becomes frustrating, never so easy that it becomes boring. Two players starting at the same time play different games, but each is likely to find theirs enjoyable. Keeping people in a flow state is an engagement strategy that many social media sites actively deploy.

People in a state of flow are, by definition, deeply engaged in the experience and less mindful of outside distractions or perturbations: it is an “escape.” This

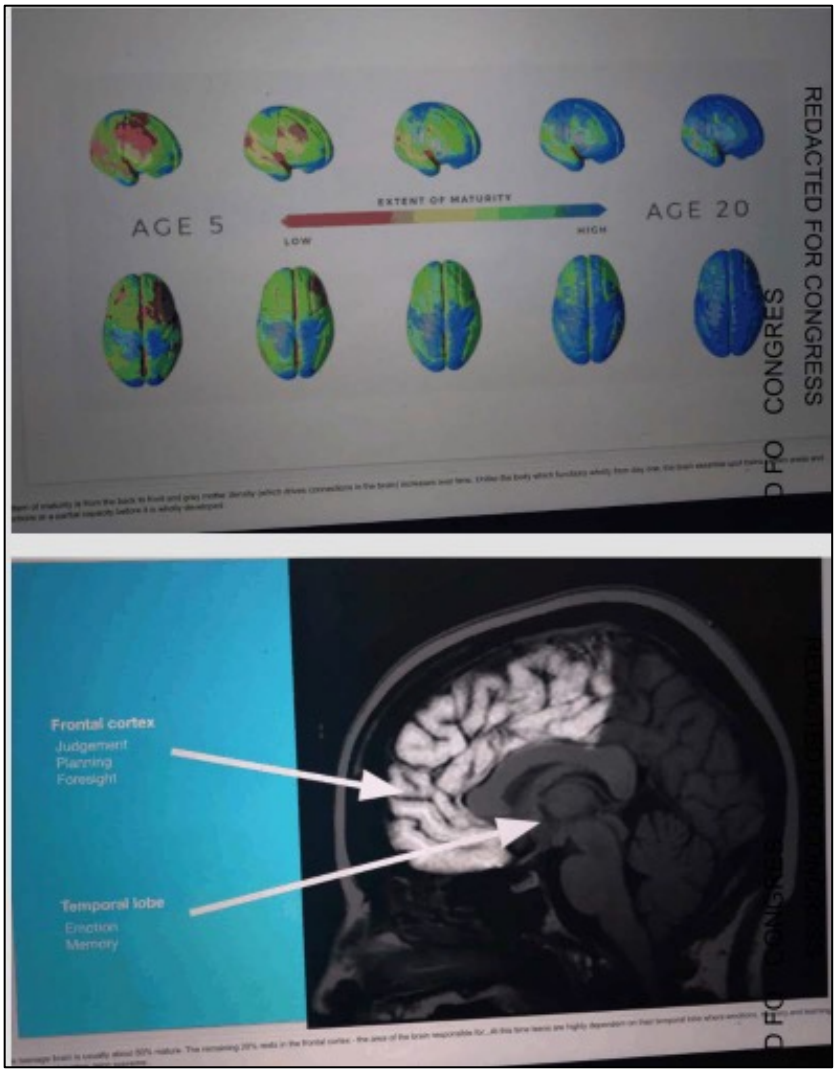
explains in part why people with underlying mental health conditions, or particularly disturbing realities (e.g. challenging socioeconomic circumstances), are more susceptible to the allure of a flow state and at greater risk for becoming addicted to what provides it to them—whether this is alcohol, drugs, gambling, or social media. To that end, Yao Qin and other researchers specifically investigated if flow (which they parameterized as enjoyment, concentration and time distortion) was associated with problematic TikTok use and found a strong correlation.

E. Pre-Teen and Teen Brain Development

Pre-teens and teens are particularly vulnerable to mental health harms from social media use due to their biological and psychological development. Children are not simply small adults, and the impact of any experience or exposure must be understood in the context of their ongoing biological and psychological development. Because of their brain development, they are particularly vulnerable to experiences such as "FOMO" ("fear of missing out") and social contagion. Human brains develop throughout adolescence into early adulthood. Different regions mature at different rates.

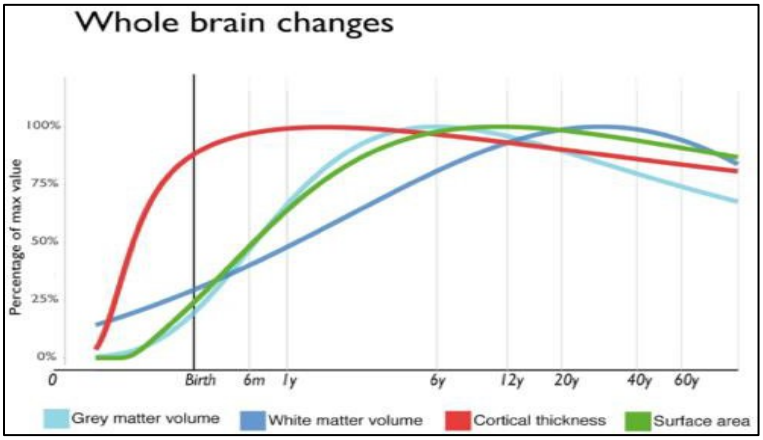
At birth, the brainstem and cerebellum are highly developed, supporting vital functions such as breathing, heart rate, and basic motor control. During infancy and early childhood, the limbic system, particularly the amygdala and hippocampus, rapidly develops, facilitating emotional responses and memory formation. Later, the

cerebral cortex, responsible for higher cognitive functions, undergoes significant growth, with sensory and motor areas maturing first, followed by language centers, which develop rapidly in early childhood. As demonstrated in the attached illustration from Meta's internal documents furnished to this Committee by Frances Haugen, the prefrontal cortex, often referred to as the "CEO of the brain" because it is essential for decision-making, impulse control, and complex reasoning, is the last to fully mature, and typically completes development at around age 26.



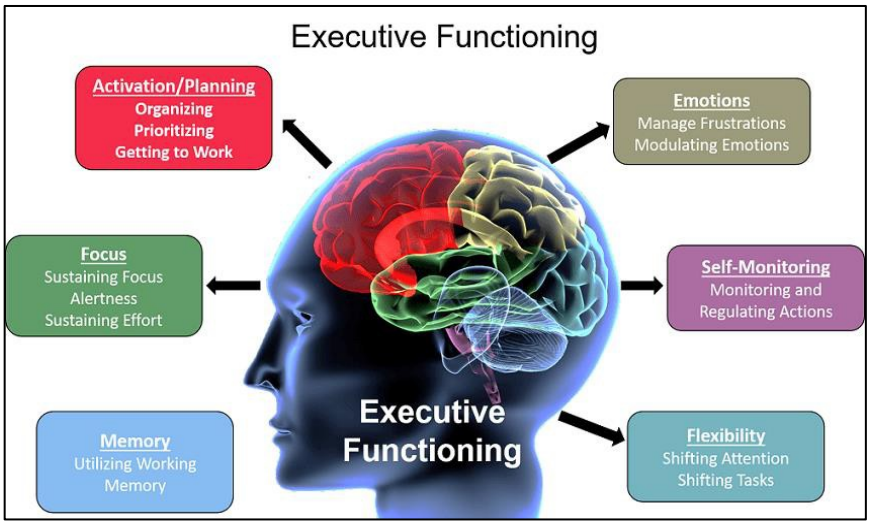
During adolescence, synaptic pruning strengthens important neural connections while eliminating less commonly used ones, refining cognitive abilities. Myelination, the process of insulating nerve fibers to improve communication between brain regions, progresses throughout childhood and adolescence, with the prefrontal cortex again being the last region to complete the process. This prolonged development explains why teens and emerging adults may struggle with long-term planning and impulse control compared to fully mature adults, and why social media can have significant impacts on children and adolescents.

The figure below from the University of Cambridge shows when different brain regions reach 100% capacity. White matter volume (shown in dark blue) is the part of the brain that plays a crucial role in memory, attention, and decision making. The blue vertical line has been added to age 13, corresponding with the current "minimal" age for social media usage set by industry:



"Executive Function" is a foundational construct used by cognitive psychology and neuroscience to describe a set of skills that emerge as the brain

develops. It is comprised of several key capacities. All these play essential roles in human development and function and underpin both reactions to and effects of environmental stimuli. Children's developmental trajectories are highly individualized, which is to say there is considerable variability in the age at which these capacities are fully present. When we say that the "typical" 5-year-old can do X it means that as many as 1/2 to 1/3 cannot do it yet. Further, cognitive capacity is modulated by inhibitory control or "self-monitoring." What this means is that even if a child "knows" the right thing to choose or to do, their lack of impulse control might make them get it wrong or not act appropriately. Optimal executive involves a titration of latency (delay) and accuracy, and executive function is essential to sound decision making. This lack of fully developed executive functioning makes adolescents particularly vulnerable to the harmful effects of social media.



This is something that the platforms appear to realize. For example, TikTok found that even among those that enabled their screen management tools, they saw

no benefits (i.e. screen time use was not reduced) for their <18-year-old users, which they explained by saying "minors do not have the executive function to control their screen time."

F. Addiction

Addiction is a based on directly measurable psychological and physiological attributes related to reliance on and/or withdrawal from a substrate. It is a complex condition characterized by compulsive engagement in rewarding stimuli despite adverse consequences. It often involves substances like drugs or alcohol. Teenagers and young adults who biologically lack higher cortical functioning including impulse control are more vulnerable to potentially addictive substances and behaviors. Epidemiological studies have shown that earlier onset of drug intake is associated with greater likelihood of development of substance use problems. In fact, the majority of problematic substance users (e.g. tobacco and alcohol) begin usage before the age of 21.

Addiction can also be due to tolerance and withdrawal from certain behaviors. Not all behavioral addictions are currently recognized in the Diagnostic and Statistical Manual of Mental Disorder, Fifth Edition, (DSM-5) which is the American Psychiatric Association's (APA) guide to mental and brain-related conditions. However, there is an increasing recognition of the need for the DSM-5 to do so. To date, only a single behavioral addiction, gambling, is officially

recognized by the DSM-5. The DSM-5 considered including "gaming disorder" in its 2013 edition but determined it was "in need of further study." Meta has rightly recognized in an internal document that "medical diagnoses change definitions over time based on new evidence." In 2022, the World Health Organization (WHO) did recognize the existence of "gaming disorder" as a clinical entity, and it is included as a diagnosis in the International Classifications of Disease 11 (ICD-11) which is the manual that physicians use to diagnose patients.52

Recently, the American Psychiatric Association has recognized "technology addiction" as "excessive and compulsive use of the internet or online activities [that] can lead to negative consequences in various aspects of an individual's life." Social media addiction is recognized as its own condition, characterized as "involv[ing] 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." The APA further recognizes that "children and adolescents are particularly vulnerable to technological addiction because their brains are still developing" and "excessive problematic use of social media" has the potential to develop into a behavioral addiction for children and adolescents.

Because of the increased risks of social media to youth, several national associations and reports have been published with recommendations for actions that can be taken to help reduce the risk of mental health injury. Some of these reports

include recommendations made in the textbook, Handbook of Children and Screens, as well as the "Social Media and Youth Mental Health" Report by the U.S. Surgeon General in 2023; "Social Media and Adolescent Health" by the National Academies of Sciences, Engineering, and Medicine in 2024; "Health Advisory on Social Media Use in Adolescence" by the American Psychological Association in 202358; and a report by the Jed Foundation in 2024.

The American Academy of Pediatrics also recognizes problematic use and social media addiction and advises parents that "[i]t's also important to recognize that it's not something wrong with the teen using the platform causing them to feel this way; many interactive technologies are specifically designed to capture and hold a user's interest. It can be hard for children and teens to overcome those design features." The National Eating Disorders Association also recognizes that "research is increasingly clear that media does indeed contribute and that exposure to and pressure exerted by media increase body dissatisfaction and disordered eating." Taken together, these consensus statements leave little doubt that leading professional medical and psychological organizations recognize that social media and its problematic and addictive usage is harming children and teenagers today.

G. Validated Social Media Addiction Scales

A variety of screening instruments for what has been called "Social Network Use Disorder" have been developed. A systematic review of the scales revealed that

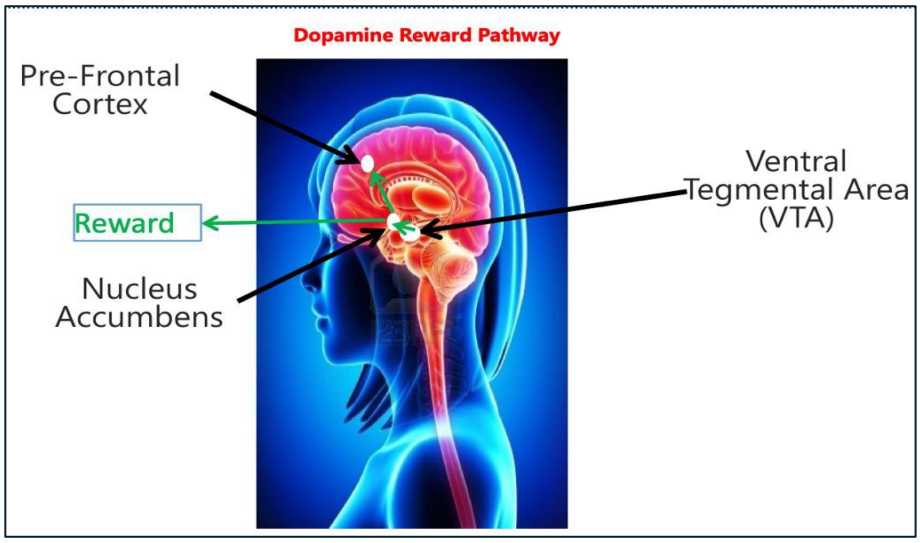
two of them have the best validation data to support them: the Social Media Disorder Scale (SMDS) and the Bergen Social Media Addiction Scale Short Form (BSMAS-SF). Both measure features of substance abuse disorder including: salience, tolerance, preoccupation, impaired role performance, loss of control, and withdrawal symptoms. These features are consistent with those considered by the DSM-5.

Validation of scales includes collecting normative data from a large and diverse sample of people and then developing a clinical cutoff. One might rightly ask if this usage pattern constitutes pathology or simply enthusiastic usage. To test this, researchers assess "convergent validity." Specifically, how does the measured construct correlate with other outcomes we would expect it to predict. For example, we would predict that people with problematic social media usage would have increased risks of other mental health disorders (as is the case with other addictions). To that end, a recent metanalysis of 18 studies that assessed "problematic social media usage" with anxiety and depressive symptoms found a correlation of .348 ("medium") and .273 (almost "medium") respectively.

H. The Mechanism of Addiction

Addiction (both behavioral and substance-based) is grounded in the brain's dopamine reward system. Exposure to a stimulus is processed in the Ventral Tegmental Area (VTA) of the mid-brain that releases dopamine. When that stimulus is "favorable," the VTA signals the nucleus accumbens (the pleasure center of the

brain) which in turn signals the Pre-Frontal Cortex (the executive center of the brain as discussed before) effectively saying "I liked that" so "do it again" or "get more of it."



This is a generic pathway; it is activated for example when parents praise children for behaviors (e.g. saying "thank you") thereby increasing the probability (hopefully) that they will act that way more often. In pathological circumstances, given prolonged exposure to intensely pleasurable stimuli, the brain's natural reward pathways can be altered, making it increasingly difficult to experience pleasure from other activities. At a neurobiological level then, behavioral and substance-based addictions have a final common pathway. Functional magnetic resonance imaging (fMRI) studies have demonstrated that social media usage (and Facebook in particular) activates the accumbens. Indeed, Meta documents acknowledge that Facebook "does activate the brain's reward system." Moreover, a three-year

longitudinal study of 6th and 7th grade students found changes in functional activation of the brain based on reported habitual checking of social media sites at baseline. Specifically, habitual checkers' brains demonstrated differential activation of specific regions in anticipation of social cues compared to non-habitual checkers. This suggests that their brains may be being conditioned as a result of repeated activation (a feature of addiction).

The causes of addiction are multifaceted, involving a combination of genetic, environmental, and psychological factors. Although not determinative, genetics may predispose individuals to addiction, while environmental factors such as peer pressure, stress, or trauma can trigger problematic substance use or behaviors. Mental health conditions like depression and anxiety are also linked to addiction, as individuals may turn to substances or behaviors as a form of self-medication. Early exposure to addictive substances, particularly during childhood, increases the likelihood of addiction later in life.

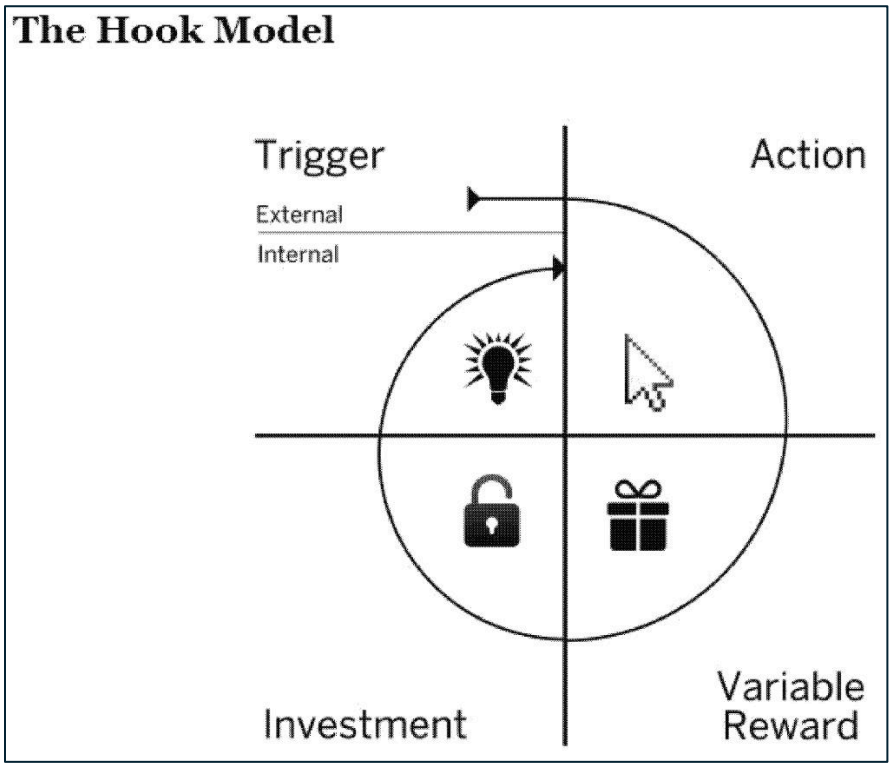
I. Dangerous Features

Social Media platforms embody numerous design features that promote addiction, problematic use, and attendant harms. This includes design features that exploit intermittent reward, social comparison metrics, and "flow" state. Each of these may discussed in turn, but they all work in tandem to keep users hooked and have their foundations in behavioral psychology, the "father" of which is BF Skinner.

Skinner (1904–1990) was an American psychologist and the Edgar Pierce Professor of Psychology at Harvard University until 1974. He conducted foundational research related to how behaviors are reinforced through the "Skinner" box he invented. Briefly, rats were placed in a box that had a light, a loudspeaker, a response lever, a food dispenser and an electrified grid. The lights and the loudspeaker provided stimuli. These conditioned the rat to pay attention and press the lever when they were activated. Pressing the response lever would in turn dispense (or not dispense) food. The electrified grid could be used to "punish" failure to press the response lever when a stimulus had been delivered. Skinner found that rewarding reaction to the stimulus, by dispensing food if the rat pushed the lever when the light flashed, made the rat more attentive to the light. Conversely, "punishing" the rat for failing to respond to the stimulus by delivering a low-level shock via the grid also made it more attentive. Neither of these results are especially surprising (at least not now) to us. But the most interesting of Skinner's findings were that intermittent unpredictable rewards were more effective at inducing the rat to stay focused on the light than predictable ones. In other words, the rat became more attentive to a stimulus if not every reaction yielded a reward.

This unexpected finding was long ago incorporated into such things as slot machines, where gamblers cannot predict which pull will result in payouts, and as they play, they are constantly hearing others around them win, reminding them that

their next pull might be a jackpot. All three of these addictive design features are "built in" to social media sites and are reflected in the "hook model" studied by Meta's researchers:



Document META3047MDL-020-00342155, -2155

This figure, which is taken from a book by Nir Eyal titled *Hooked: How to Build Habit Forming Product*s, also appears in Snap's documents. The figure is annotated as follows:

Internal Trigger: users need a reason to come back to Snapchat (vs going to another social app). If we can get things like the actions/UI and rewards right, the internal triggers become things like FOMO, wanting to get the news, and staying in touch with all friends. Additionally, internal triggers should play on what users are already doing - things like community meetups (e.g. school network), affinity groups (e.g. run club), and family engagement (e.g. sharing photo albums).

Document SNAP5486213, SNAP5486214

J. Likes, Comments, and Other Metrics

Scientists have found that receiving "likes" on social media platforms are very similar to the "rewards" that researchers have associated with addiction research for decades. Likes can include the "like" button on Facebook and YouTube but can also include "hearts" on Instagram and TikTok. Similar metrics include the number of shares on a post, number of comments, and number of followers or friends for a user. While seemingly innocuous, users' quest for these publicly visible "rewards" has been linked to a number of secondary harms such as reduced sleep efficiency and duration due to "routine check[ing]" behaviors during the night. They have also been associated with reinforcing addictive behaviors in order to encourage users to spend more time on these platforms. They have even been linked to increased feelings of depression, anxiety, and negative social comparison since receiving "fewer likes" is viewed as a form of "negative peer feedback."

Comments are similar to likes in that they provide users with "quantifiable (and qualitative) feedback" about their experiences on the platform. For teens, this means that they are able to quantify the "success" of their posts with many teens reporting that they post "self oriented images on social media with the goal of obtaining likes and other forms of feedback such as comments." Other studies have found that comments are often seen as a mechanism for "gaining [social] status" and reflect a degree of "digital social approval." As a result, other studies have linked

comments to negative social comparison since "not receiving enough likes on one's pictures can negatively affect appearance esteem and prompt delet[ion] of a post."

K. Algorithmic Recommendations

At the heart of every social media platform's engagement strategy is their proprietary recommendation algorithms. These algorithms are optimized to maximize time on the platform rather than healthy interactions with a person's social network. They accomplish this in a variety of ways. One way they drive time spent on social media is by inferring the interests of the user (which may or may not be expressed by the user in any direct way) and feeding them an aggregation of posts that, while most likely to keep them engaged, may lead the user down problematic rabbit holes.

Regarding TikTok, these problematic rabbit holes were also known as "negative filter bubbles." A 2021 TikTok presentation entitled "Negative Filter Bubble Project Sharing" noted that "Algorithms lead[] people into a feed filled with continuous similar negative videos that are hard to escape." What's more, another internal document notes that "minor creators [fall] into higher density of negative comment filter bubbles." To its credit, TikTok did set as a 2023 safety goal to "be more transparent to the public and trusted by teen users and parents," in addition to building "industrial leading teens safety and well-being features." As discussed below, these aspirations of transparency and improved safety features that were

noted approximately six years after TikTok launched in the United States were too little and too late for many children and teens.

Another way recommendation algorithms drive time spent on social media is by utilizing the intermittent variable reward mechanism that Skinner discovered (e.g., likes, notifications, comments that appear unpredictably), which contribute to addiction to the platforms themselves. The addictive power of an engagement-optimized algorithm is recognized within the medical and academic literature. In the *Handbook of Children and Screens*, under the chapter regarding "Problematic Internet Use," the authors' consensus was that "Attention focused designs intended to generate, or possibly exploit, potentially addictive features (e.g., 'likes') and conditioned responses (e.g., notifications) alongside powerful algorithm-based technologies may lead youth to stay online longer than either intended or recommended."

L. Auto-Play

Academics recognize that autoplay is a feature that is designed to prolong engagement at the cost of displacing important developmental opportunities for young children and is even associated with greater child behavioral difficulties. It has also been linked to difficulties controlling device use more broadly. The latter phenomenon has even been observed in social media companies' own research. For example, Meta's researchers learned that clinicians regarded autoplay as not having

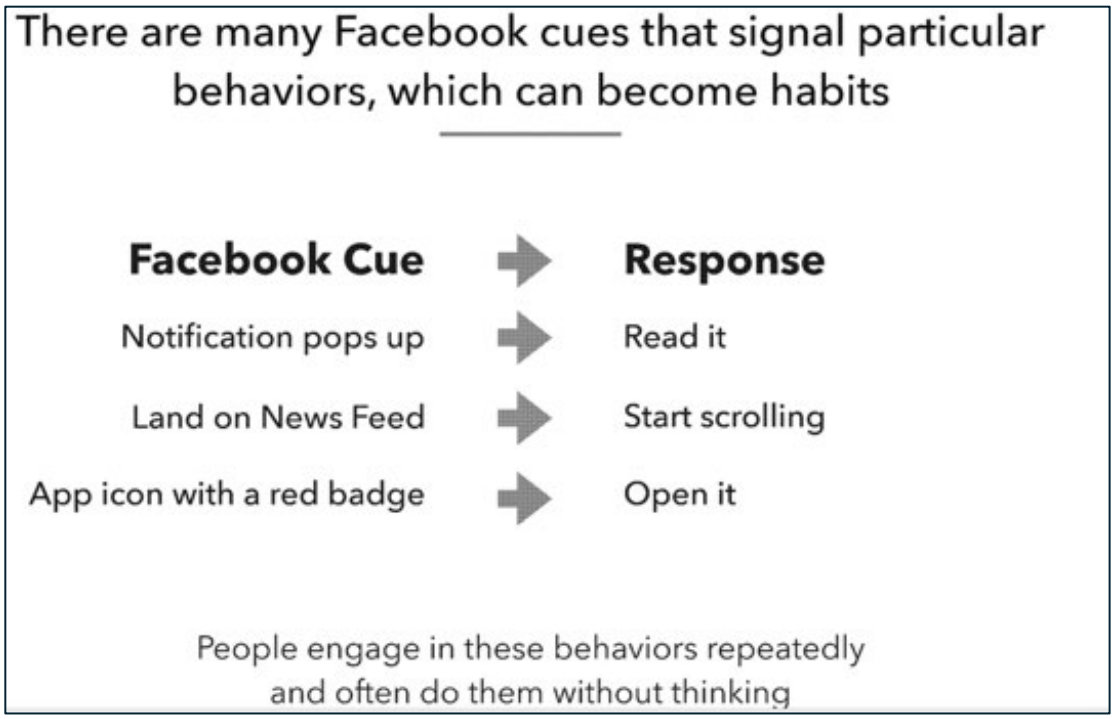
any "beneficial" role while "detract[ing] from patients' ability to control amount of time spent" using their platforms."

M. Infinite Scroll

Like autoplay, the Infinite or Endless Scroll feature has also been linked to prolonging engagement at the cost of displacing children's developmental opportunities. This feature is also linked to behaviors that create a user-sided "time distortion" that results in users spending more time on social media platforms than they originally intended. Some studies cited (and commissioned) by the social media companies have found that these effects are mitigated by "active" use of their platforms—e.g., generating content or posting content. However, this hypothesis has not been widely accepted, particularly since there is evidence that children are more likely to "watch, play, or scroll through content created by others than they are to use their devices to produce their own content."

N. Notifications

Meta studied notifications and the ability for this feature to induce habitual or addictive behaviors. For example, one internal document supports the basic addiction principle that "experiencing a reward (or reinforcement) can increase learning and motivation. This contributes to repeated, potentially habitual behaviors." The document included the following figure:



Document META3047MDL-014-00359270, -9302

It is not surprising then, that among the many metrics Meta tracks, the "success rate" of their notifications, defined as increasing daily usage, is a key one. Darius Kilstein, a Director in Data Science at Instagram, reports:

37% (13.3B daily) of generated IG notifications (~36B, excluding Direct) are received by the user's device while 63% fail. While DM teens have a higher delivery rate to Push Infra (52%) compared to non-teens (40%), both groups behave similarly in the Push infra funnel

Darius Kilstein Deposition Exhibit 13 at Slide 47

This is to say that Meta is monitoring (and presumably modulating) the intermittent reward mechanism to ensure that engagement is maximized.

O. Beauty Filters

Despite being a relatively new social media feature, Augmented Reality ("AR") filters—commonly referred to as "Beauty Filters"—have been thoroughly studied due to the outsized negative impact they could have on users by exacerbating

a socio-psychological phenomenon known as "social comparison." Prior to the advent of these Beauty Filters, researchers had already identified that social media may exacerbate social comparison and lead to increased body dissatisfaction and/or disordered eating. However, with the introduction of Beauty Filters—many developed by social media companies—users are now exposed to "manipulated" photos that depict unrealistic (and in some cases impossible) body image Standards.

P. Internal Company Documents Show They Knew What They Were Doing

Notably, many of the features recognized in the literature as addictive and/or harmful were likewise identified in research conducted by Meta and presented in 2021. A Mixed Methods Clinicians study identified product features and pathways impacting mental health, including the following:

Based on primary clinician-identified product features and pathways impacting mental health, key potential opportunity areas emerge (continued on next slide)

Product Affordance	Opportunities
The ability to give and receive **quick reactions**, or feedback on, people's posts, comments, videos, and pictures (e.g., click "like" or "angry face" on a picture someone posts)	• Allow users to designate posts (or incorporate as a mode) that mutes reactions • Nudge people to take breaks from use • Educate young users on interpreting social media vs. real life, especially for FOMO inducing post (e.g., banner with educational content linked) • Support users who are being bullied by rapidly removing reported content
	• Keep encouraging connections, especially with designated close friends and family
Ability to **reference** others/be referenced (tagging)	• Support users who are being bullied by rapidly removing reported content that they have been tagged in • Educate young users on interpreting social media vs. real life, especially for FOMO inducing post (e.g., banner with educational content linked) • Obtain consent for each instance of tagging • Assess user patterns and restrict potential stalking behavior and flag undesignated users that are repeatedly checking a tag • Notify users of unusual interaction with content
	• Keep encouraging connections, especially with designated close friends and family
Ability to share and circulate others' content (**reposting**)	• Support users who are being bullied by rapidly removing reported content and assist in removing negative circulated content • Enable users to block other users from sharing and circulating their content • Educate young users on interpreting social media vs. real life, especially for FOMO inducing post (e.g., banner with educational content linked)
	• Keep encouraging connections, especially with designated close friends, family, or those with shared experiences

Document META3047MDL-040-00049387 at Slide 18

Product Affordance	Opportunities
The ability **play automatically** without pressing a play button	• Nudge people to take breaks from use • Nudge people to reflect on intentions for amount of time they're spending and whether they are meeting that intention • Educate young users on interpreting social media vs. real life, especially for FOMO inducing stories
The ability to **easily click on ads to buy things** (e.g., links that take you to a site to buy a recommended product)	• Enable users to proactively designate modes that mute easily clickable ads • Flag and prevent users engaging in compulsive shopping (i.e. concentrated and accelerated rates of ad engagement) • Identify when people are engaging problematically with ads and add friction
	• Continue to encourage positive and educational content
The fact that people see posts, videos, images, and ads based on what they have **previously done on social media** (i.e., what you've liked, what you've searched for, time you've spent watching certain videos, etc.)	• Nudge people to take breaks from use • Nudge people to reflect on intentions for amount of time they're spending and whether they are meeting that intention • Ensure ranking/recommendations do not promote mental health-related misinformation • Ensure ranking/recommendations do not promote problematic mental health-related content (e.g., "thinspo")
	• Continue to encourage positive and educational content

Document META3047MDL-040-00049387 at Slide 20

Of these features, several were identified as "primarily negative," including Video/Photo filters, location sharing, automatically playing videos, and pop-up notifications.

Internally, social media companies' documents recognize that they could increase engagement by changing the design of the social media. As early as 2016, Meta (then Facebook) was exploring ways to keep teens on its site and posting content:

Summary of Insights and Opportunities

- Insight: Teens posting behaviors reflect that of their friends; both in how much they post and the type of content they share.
  - Opportunity: Ensure teens see lots of content from their teen friends
- Insight: Comments and likes greatly affect teens' likelihood to post and how frequently they post.
  - Opportunity: Create a lower bar for feedback (e.g. views instead of likes, easier commenting-- emojis!)
- Insight: Feeling as though they have no photos to share is a barrier to sharing and true especially for Decreasers.
  - Opportunity: Make it easier to take and share photos (e.g. camera first).
- Insight: Fear of losing followers is the number one reason teens don't share to Instagram.
  - Opportunity: Relieve the posting pressures of losing followers by creating a light option for "unseeing" content, instead of "unfollowing" an account.
- Insight: Teens worry about editing (taking too long or doing it perfectly) and it deters them from posting.
  - Opportunity: Make content easier to edit.
- Insight: Tenure on Instagram might discourage posting. This could possibly be due to getting used to posting infrequently per Instagram expectations or not wanting to add too much content to an already content-full profile.
  - Opportunity: Create new ways to share outside of profile (this data was collected pre stories!).
- Insight: Having no photos to share perpetuates a "no-sharing" cycle.
  - Opportunity: Find a way to encourage low posters to share on Instagram.

Document META3047MDL-031-00096208, -6209

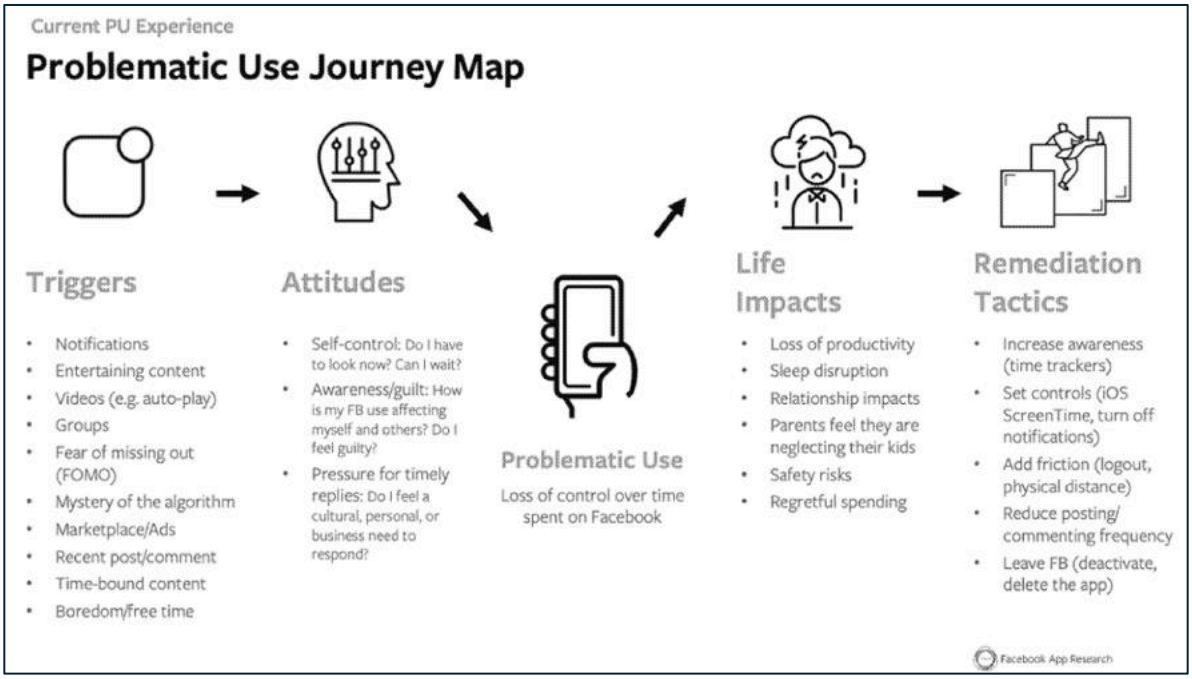
As Max Eulenstein, Vice President of Products, said in a Meta email on January 26, 2021, "No one wakes up thinking they want to maximize the number of times they open Instagram that day. But that's exactly what our product teams are trying to do."

One mechanism that appears to be especially effective at engaging teens (and adults) is the use of "reels" or short videos that repeat. Meta adopted reels from TikTok after seeing how effective they were at promoting usage. Below are Instagram's metrics on the viewing of such reels by teens:

Darius Kilstein Deposition Exhibit 14 at Slide 20

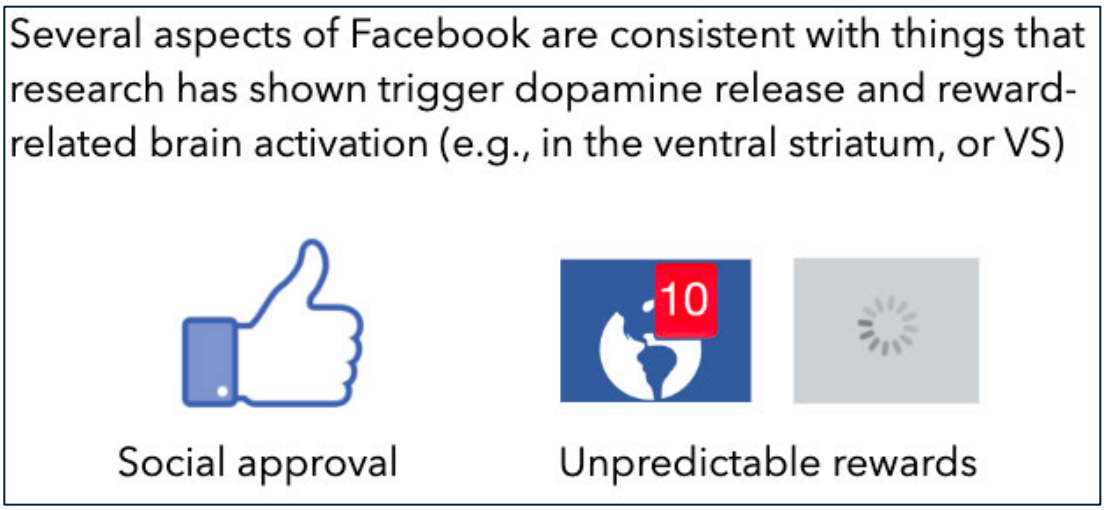
The data demonstrated that active daily U.S. teen Instagram users viewed on average almost 105 reels per day on the platform for a total of 22.5 minutes per day

or an average of 20 seconds per reel per day. Briefly watching a short snippet algorithmically curated to one's interest is gratifying via the dopamine reward pathway. Further, their internal research identified the following "Triggers for Problematic Use on Facebook" that were later included as part of a "Problematic Use Journey Map" in 2020:

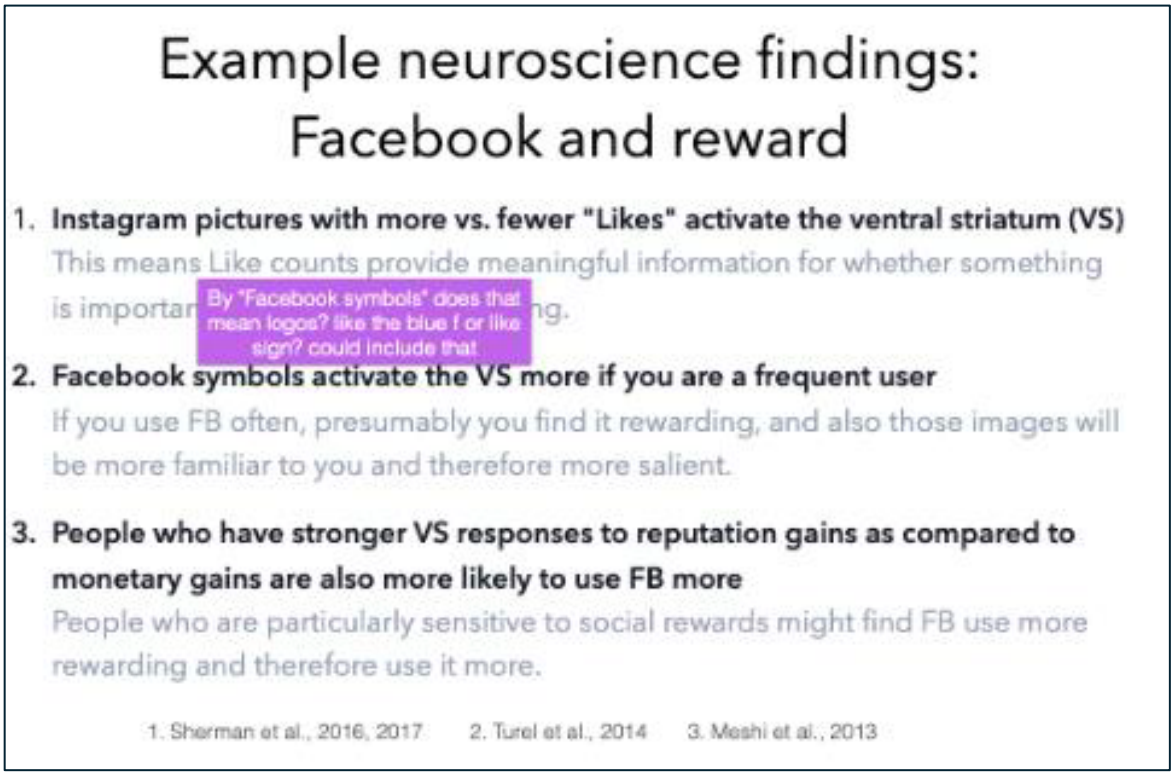


Document META3047MDL-079-00000177, -0200

Each "opportunity" for a reward represents a potential algorithm tweak, and many—if not all—of these were eventually incorporated in some form into the platform. For example, a Facebook presentation contained following:

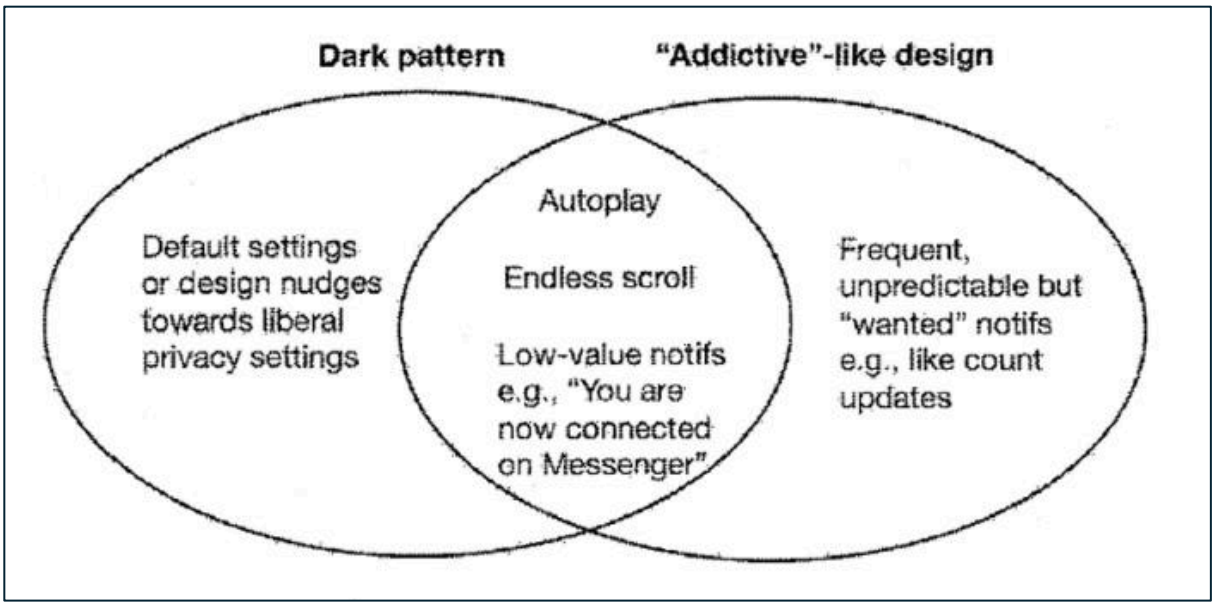


Document META3047MDL-044-00091392 at Slide 24



Document META3047MDL-044-00091392 at Slide 25

Meta's more recent documents depict a Venn diagram portraying one way to conceptualize the usage experience from a design perspective:



Document META3047MDL-044-00108564, -8566

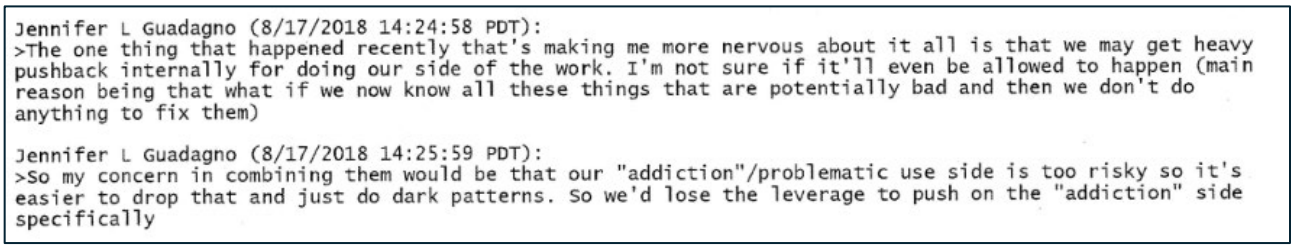
"Dark Pattern" is a user experience term referring to interactions that are deceptive, or that trick you into doing something you didn't want to do. Again, this diagram acknowledges that Meta uses "addictive" design features and that some of them are set to "default." Meta documents from Project "Plato," intended to study and mitigate "dark patterns," state that "[s]ome UX [user experience] patterns rob users of their agency." Included among them are:

1. **Bait & Switch:** You set out to do one thing, but a different, undesirable thing happens instead.
2. **Misdirection:** The design purposefully focuses your attention on one thing in order to distract your attention from another.
3. **Privacy betrayal:** You are tricked into publicly sharing more content or information than you really intended to.
4. **Roach motel:** The design makes it very easy for you to get into a certain situation, but then makes it hard for you to get out of it.
5. **Unpredictable, low-value rewards:** The design provides a cue that typically represents a valuable or gratifying experience, but it is generally rated as low value (e.g., certain notifications). In addition, cues for rewards come at unpredictable times and drive repeated checking or updating behaviors. (from "addiction" work)

AL META3047MDL-047-01030786

Document META3047MDL-047-01030786

Meta's researchers also knew that being too critical of these design choices could lead to criticism from internal stakeholders. For example, Jennifer Guadagno noted that her wellbeing team's efforts to study Facebook addiction as part of Project Plato could "get heavy pushback internally" and added that she was not "sure if it'll even be allowed to happen" because "if we now know all these things that are potentially bad and then we don't do anything to fix them" it could lead to problems for the company externally. Arturo Bejar testified, in deposition at in open court, that Meta did not do enough to warn parents or curtail problematic use of their products and that the word addictive is 'radioactive.'"

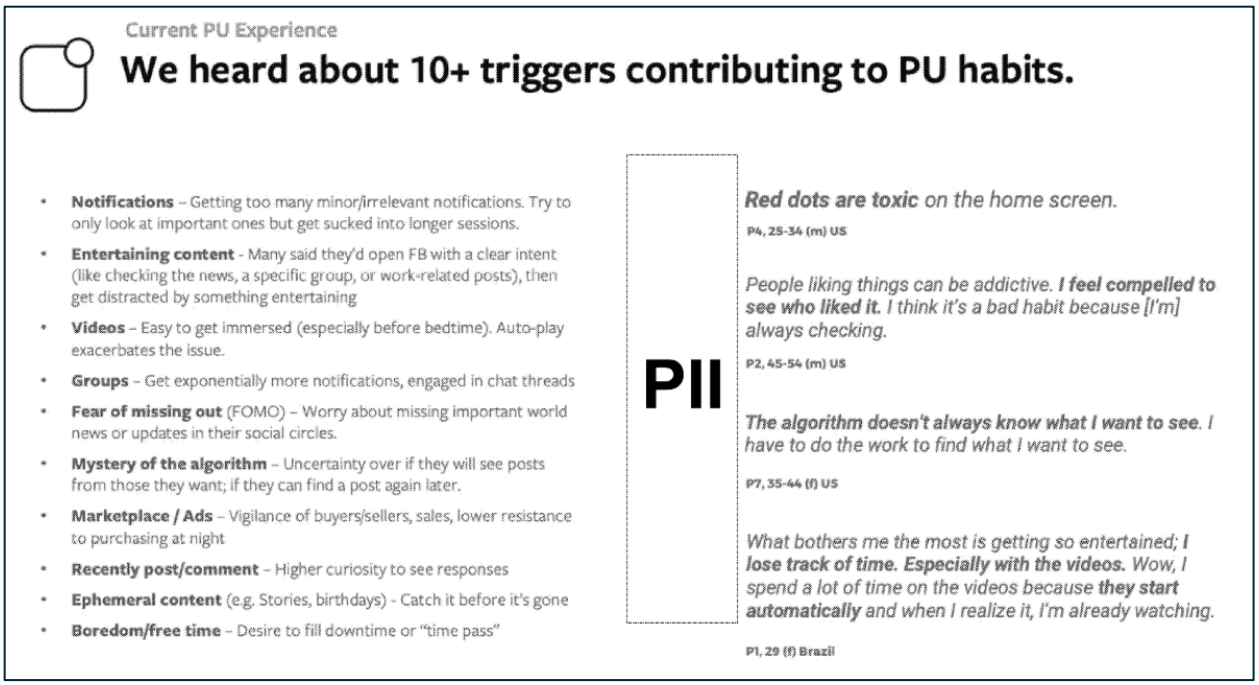


Jennifer L Guadagno (8/17/2018 14:24:58 PDT):
>The one thing that happened recently that's making me more nervous about it all is that we may get heavy pushback internally for doing our side of the work. I'm not sure if it'll even be allowed to happen (main reason being that what if we now know all these things that are potentially bad and then we don't do anything to fix them)

Jennifer L Guadagno (8/17/2018 14:25:59 PDT):
>So my concern in combining them would be that our "addiction"/problematic use side is too risky so it's easier to drop that and just do dark patterns. So we'd lose the leverage to push on the "addiction" side specifically

Document META3047MDL-040-00593848, -3848

Despite learning of these problems as early as 2018, Meta had not made meaningful changes to the platform nearly two years later. A Meta presentation from 2020 arrived at nearly identical conclusions as the Project Plato researchers, including the connection between design features and problematic usage. One slide from that 2020 presentation stated that research participants reported "10+ triggers contributing to [problematic use] habits" including:

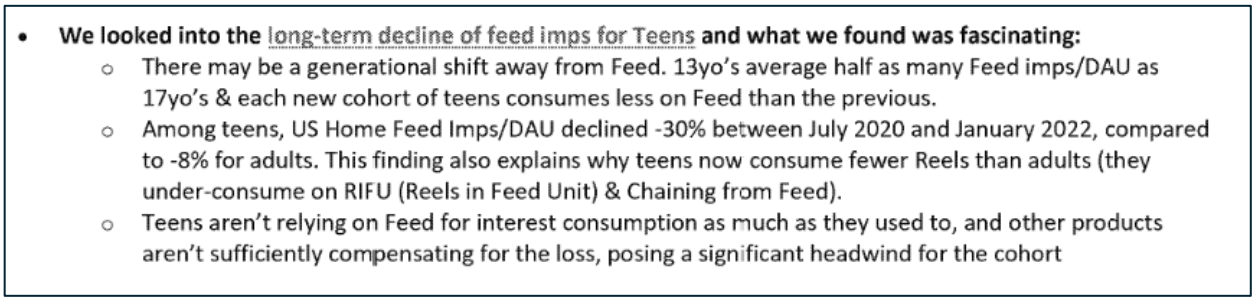


Document META3047MDL-079-00000177, -0201

Meta was not the only social media company to reach these conclusions about its platform features. For example, YouTube describes "finding a video on YouTube search" as a "predictable reward" compared to "unpredictable rewards" such as "finding a new favorite song while in a mix," which the company described as "disproportionately [more] delightful compared to predictable rewards because they're unexpected or exceed expectations." YouTube's researchers explaining the reason for this dichotomous design have stated:

> When thinking about habit building around YouTube, it is important that we reliably fulfill their goal pursuits (reliable reward) while also providing surprising nuggets of reward (variable reward). Ultimately, you're giving people more reasons to come back until they can't even remember why they did. When is the last time you had a goal in mind when you went to Facebook?"

Internal documents also reveal that Instagram is tracking usage/engagement by teen users. An email from Darius Kilstein, on February 5, 2022, states that Meta "looked into the longterm decline of feed imp[ressions] for Teens," discovered that "teens aren't relying on Feed for interest consumption as much as they used to," and hypothesized that this shift might explain "why teens now consume fewer Reels than adults."



- **We looked into the long-term decline of feed imps for Teens and what we found was fascinating:**
  - There may be a generational shift away from Feed. 13yo's average half as many Feed imps/DAU as 17yo's & each new cohort of teens consumes less on Feed than the previous.
  - Among teens, US Home Feed Imps/DAU declined -30% between July 2020 and January 2022, compared to -8% for adults. This finding also explains why teens now consume fewer Reels than adults (they under-consume on RIFU (Reels in Feed Unit) & Chaining from Feed).
  - Teens aren't relying on Feed for interest consumption as much as they used to, and other products aren't sufficiently compensating for the loss, posing a significant headwind for the cohort

Darius Kilstein Deposition Exhibit 9, at -7079

The reported "headwind" for the "cohort" points to Instagram's business need to redesign features to better engage younger children and keep up with their competitors (particularly TikTok), as Kilstein explained later in the same email.

The "infinite feed" invented at Facebook was exported and adapted to Instagram. In her deposition, Dr. Alison Lee stated:

12	Let's assume that you have been on
13	Instagram all day and you've been scrolling all day
14	and you finished seeing all the possible content
15	that you could possibly see from your connected
16	accounts. The people that you follow. Once you hit
17	the very bottom of that, there's another surface
18	called end of feed recommendations. That's actually
19	a slightly different set of recommendation
20	algorithms that dictate end of feed, or EOF,
21	compared to in-feed recommendations.

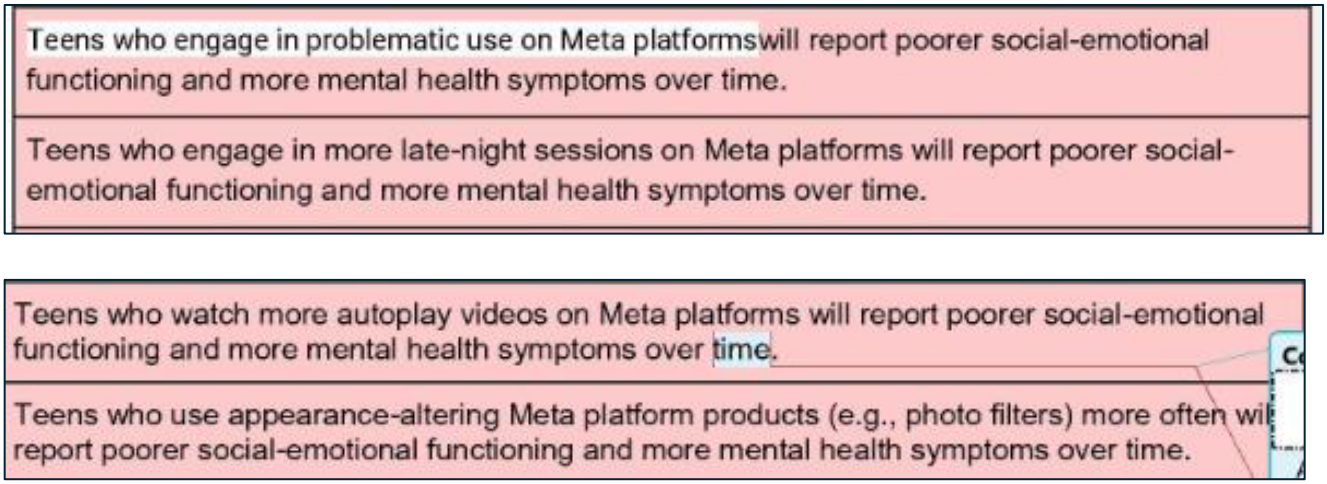
Alison Lee Deposition Transcript at 30:12-21

The quote begins with the scenario whereby someone has been "scrolling" all day (itself an implicit acknowledgement of overuse) and exhausts their "connected" feeds at which point a new, end of feed algorithm is triggered.

Aza Raskin is widely considered to have invented the infinite scroll. This feature allows a user to scroll indefinitely through their feed, receiving endless posts and intermittent variable rewards. Raskin testified that infinite scroll was like "digital cocaine" for the user. One of the technology leads for Instant Articles on Android at Facebook reported "we only care about things like time spent, open links etc. That's what we optimized for. That's what we defined as success and failure."

In 2022, Meta launched Project MYST, a prospective, longitudinal study to follow 4000 teens (13-17 years of age) using the highly respected National Opinion Research Center (NORC) at the University of Chicago for survey data and Meta logs

of activity on their platform. Using validated measures for a variety of outcomes and actual usage patterns on their platforms, MYST appeared by all accounts to be a robust, well-designed longitudinal study—the kind that only industry could conduct based on their access to actual social media use data. Among other things, MYST intended to test the following negative hypotheses:



Document META3047MDL-072-00327080, -7089

While the initial plan for the study contemplated its results being released publicly, there has been no evidence that Meta ever publicly acknowledged that the study was conducted or released any results prior to it being produced in the course of litigation and revealed to the public as part of the K.G.M. civil trial in Los Angeles just this past month. Indeed, as the study moved forward, Meta employees seemed to become explicitly fearful of it being publicly released. Leaders directed researchers to refer to the study only by its full name, because they would "really prefer not to have a cute acronym (MYST). That makes things sound more

interesting when/if it leaks. Can we please keep our names as boring and uninteresting as possible."

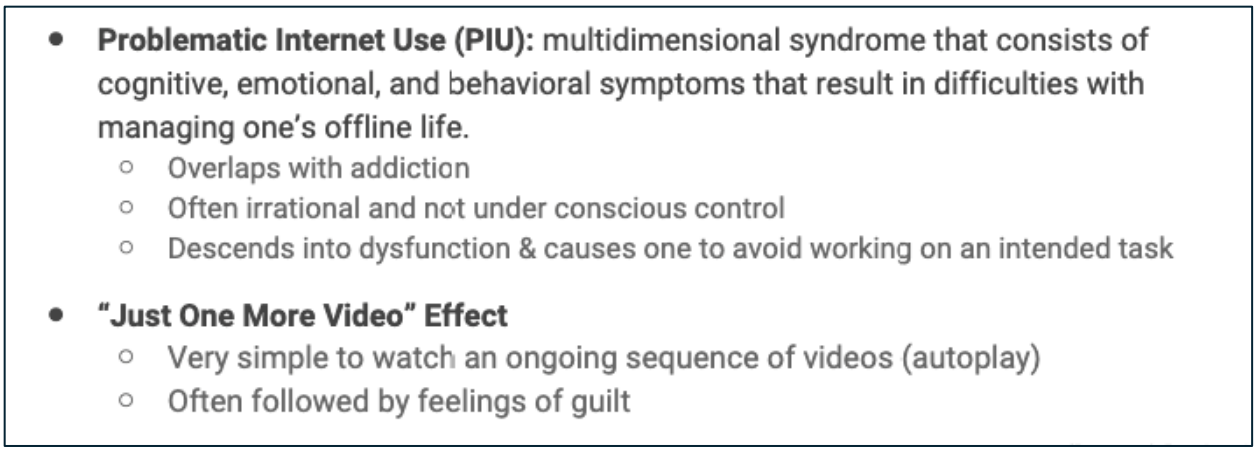
Perhaps more illustrative is the tension that is recognized in Meta's internal documents discussing MYST, which reflect that "there is a fundamental tension between doing rigorous research to identify whether there are potential opportunities for change/intervention and advancing external/narrative goals." This tension with external goals is reflected in Meta's many decisions to not share publicly what their research or outside experts conveyed internally. External goals included the goal to "[a]dvance the credibility of research that finds small or null correlations between social media well-being and/or well-being relative to other factors," and to "deflate the conversations about research claiming causal connections between social media and mental health and well-being." Perhaps most critically, Meta's stated external goal was to "[m]ake the issue bigger than social media. Research should be designed in a way that provides a holistic understanding of the relationship between youth well-being and technology and other factors (e.g., cultural and environmental factors that lead people to use technology and their use of technology, rather than focusing on Meta-specific product offerings." Thus, the impetus for their research appears to be advocacy or public relations rather than scientific discovery or public safety.

Unfortunately for Meta, Project MYST revealed two key findings. First, the study found that children who had adverse events in their lives were more vulnerable

to “potential problematic use” (i.e., a gentle euphemism for social media addiction). Second, researchers found that parental supervision made no difference whatsoever to the addictive impact of Meta’s social media platforms. The study found there was no relationship between a parent setting time limits or useful safety tools and whether their child became addicted. It is little surprise, then, that Meta buried the data and prohibited the study’s results from ever seeing the light of day—until litigation in California State by private plaintiffs thrust the evidence into open court.

YouTube documents also provided evidence of problematic usage by virtue of design. In 2015, YouTube launched Autoplay on desktop (followed by a launch in 2016 to app), which automatically and continuously played the next video – without any need for user action. Autoplay set to on be default because it generates more watch time. Autoplay watch time doubles at night. As one YouTube employee explained, “This was the single most impactful launch in YouTube history, with +8% desktop watch time, +4% overall watch time increase.”

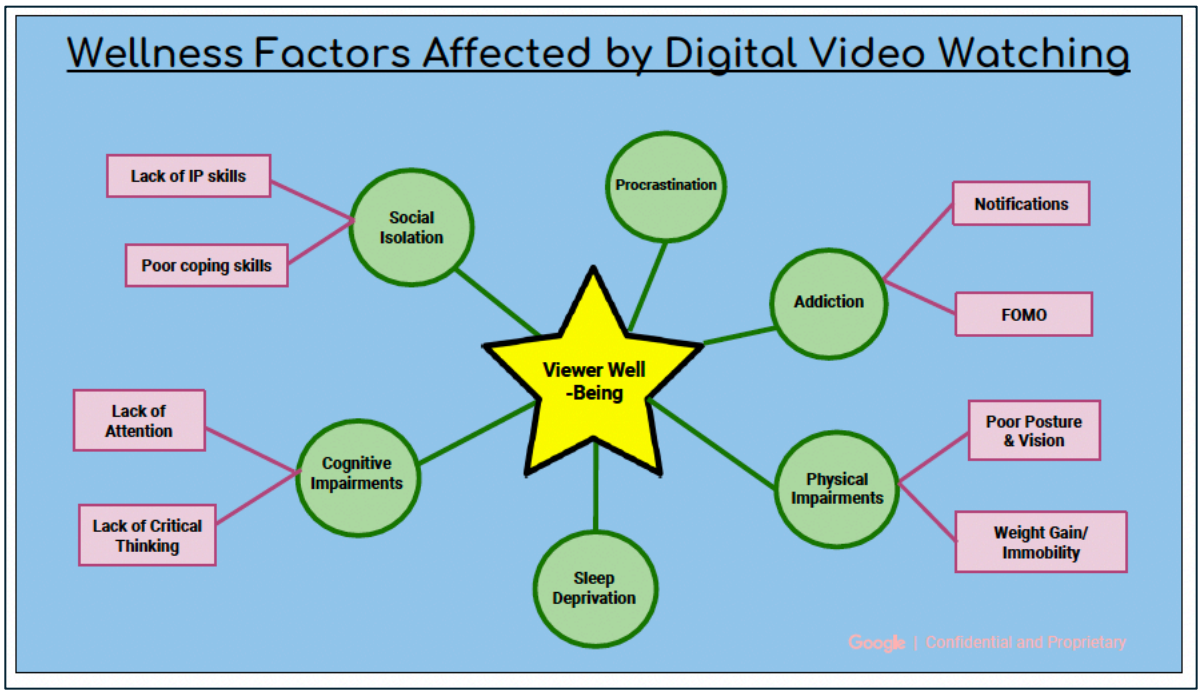
In YouTube’s own documents, making the platform “addictive” was a core design feature. This was consistent with the aspiration of the same presentation of “Building the world’s most powerful and delightful video consumption experience.” YouTube internally acknowledged the potential negative effects of digital videos in a 2018 presentation entitled “Literature Review: Effects of watching digital videos and viewer well-being,” which called out problematic internet use in particular:



Document GOOG-3047MDL-00874191 at Slide 8

The slide calls out problematic internet use and states that it overlaps with "addiction" consistent with my belief that the entire continuum to the right of casual use (Figure 20) can be viewed as problematic. Furthermore, it highlights how "autoplay," a key feature of YouTube, drives the "just one more video effect." Slide 10 summarizes data from an internal survey of "265 respondents" that calls out the "stickiness" of the app and states that its interactivity and notifications "causes users to feel that they must be aware of what is happening on the platform" which "keeps users on the platform longer."

A 2018 YouTube presentation exploring the "negative effects that video watching has on user's wellbeing" included an express reference to addiction:



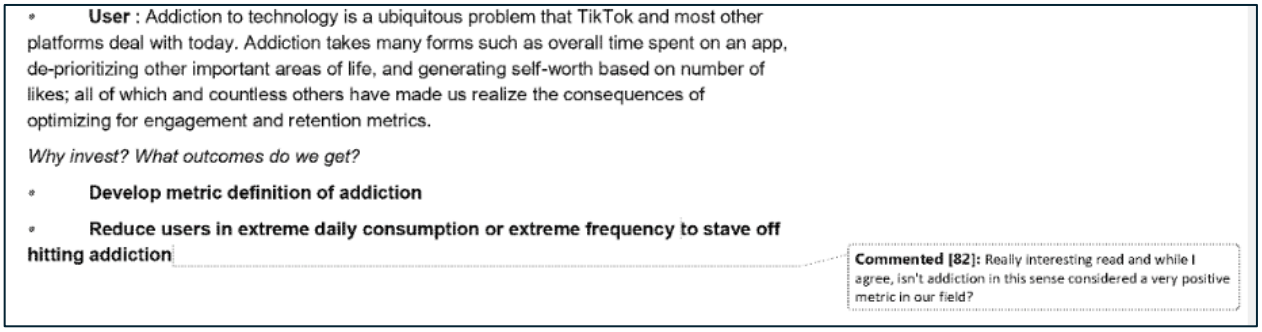
K.G.M. Trial Exhibit 4562

TikTok's engagement algorithm, meanwhile, is frequently viewed as the most effective in the industry: "more personalized," "more accurate," and "more diversified." The company emphasizes its effectiveness in its marketing presentations and touts that more than 53% of suggested videos are "viewed."

An internal memo citing the company's "vulnerabilities" reports: "In a user survey of 2,300 users in February of 2020, when respondents were asked to give a score of 5 to indicate strength of agreement with the statement 'I spend too much time on TikTok,' the average response was a 4.0." It goes on to say, "some elements of persuasive design may be unique to TikTok; for instance, the fact that when you click the back button on your phone to leave the For You Feed/all, you get a prompt saying, 'Tap again to exit,' which can be seen as increasing friction for users seeking

to leave the app." And still later concedes, "TikTok is particularly popular with younger users, who are seen as more vulnerable to online harms and the negative impacts of compulsive use."

In a "2021 TikTok for Good Business Plan and Vision" document, the following is stated:



- **User** : Addiction to technology is a ubiquitous problem that TikTok and most other platforms deal with today. Addiction takes many forms such as overall time spent on an app, de-prioritizing other important areas of life, and generating self-worth based on number of likes; all of which and countless others have made us realize the consequences of optimizing for engagement and retention metrics.

Why invest? What outcomes do we get?

- **Develop metric definition of addiction**
- **Reduce users in extreme daily consumption or extreme frequency to stave off hitting addiction**

Commented [82]: Really interesting read and while I agree, isn't addiction in this sense considered a very positive metric in our field?

Document TIKTOK3047MDL-005-00325851, -5862

Notably, the plan acknowledges that "addiction to technology is a ubiquitous problem." At the same time, comment [82] notes that "addiction" could be "considered a very positive metric in our field." In other words, for all of its public posturing seeking to discredit or minimize the existence of compulsive or addictive use of screens, TikTok's internal documents acknowledge its existence and even allude to its "value" to the industry.

TikTok's algorithms are widely considered the "best in the industry" because of its effectiveness at driving engagement. In pursuit of that end, TikTok made leaving the app more difficult than others. And for those times when people did succeed in leaving, TikTok refined its "push" approach to, among other things, get

people back onto the company's platform. TikTok's "push methodology," like every change they make to their platform, was subjected to A/B testing where rapid cycle experiments were performed comparing one version to another with users randomized to experience one or the other (i.e. no confounding) and with an eye to ensuring that core metrics were not adversely affected.

Finally, Snap—the makers of Snapchat—innovated on the FOMO ["fear of missing out"] concept of maintaining "streaks" by developing the Snap Streaks feature, which it specifically designed to gamify its platform and drive usage and engagement. Streaks are built and maintained by two people "snapping" back and forth on consecutive days. The quality or content of the snap is irrelevant—it's all about ping-ponging back and forth consistently. Streaks were extraordinarily effective. Less than a year after they were launched, 22% of users had at least one streak, and the average highest streak value was 76.243. Snap Streaks were also particularly popular with younger users, as 47% of Streak users were under the age of 17.244. Of course, the true number was likely even higher, given how easy Snap—and every social media platform—has made it for children to lie about their age.

Snap Streaks' importance to users was also tied to Snap Scores. While streak counts are private to the participants, every user of Snap has a numerical Snap Score displayed on their profile. The way that this score is generated is opaque, but broadly speaking it reflects how much they engage with the app and how much engagement

they receive from others, including Streaks. For users, high Snap Scores are a way to "show off their popularity."

Snap's research found that "users mainly used Streaks as a social status measure (to increase Snap Scores, have as many Streaks as possible) rather than a communication tool." This is consistent with Snap's conclusion that once users knew how to increase their score, it "may make user care about (if not become addictive to) their [] score." However, Snap saw this as a positive feature of Snap Scores because it would "encourage [users] to produce and consume more snaps."

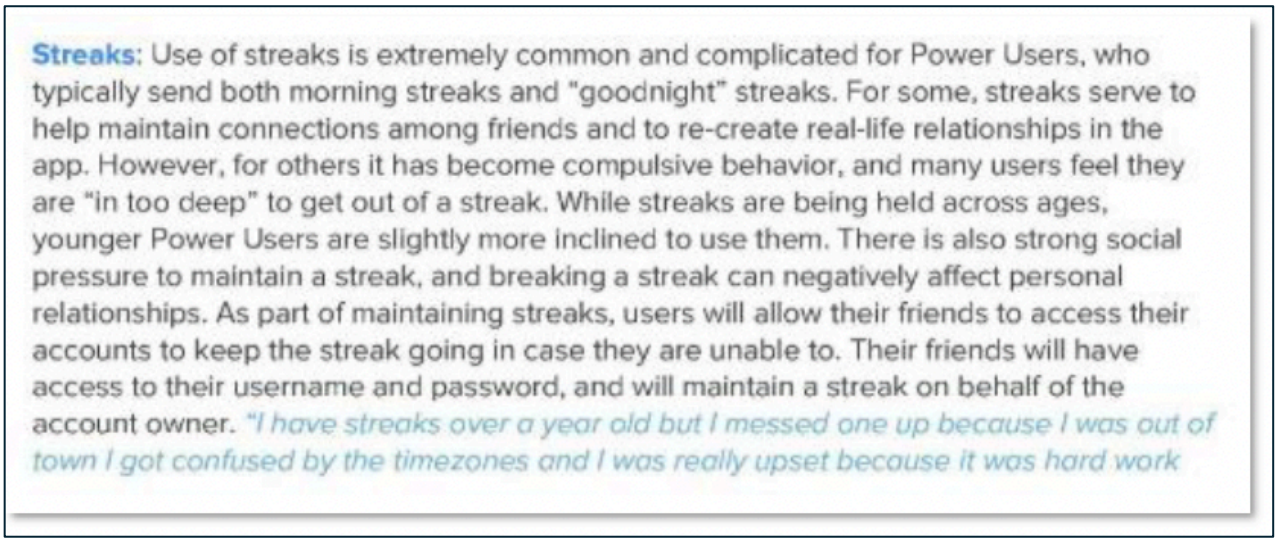
But at the same time that Snap was chasing the engagement increases offered by streaks, worries about the addictive effect of Streaks on children were growing. For example, focus groups results forwarded by the Senior Director of Corporate Communications and Public Affair to the Vice President of Global Public Policy found the following:

- While not raised with the same level of concern as ephemerality and Snap Map, Snap Streaks are also mentioned as a feature that compounds parents' displeasure with their teens using the app.
- Snap Streaks are viewed as furthering the already strong grasp that technology broadly, and Snapchat specifically, has on their teen's focus and attention.
- Parents often mention their teens' seemingly uncontrollable need to "keep their streaks alive" associating the practice with ceaseless online communication and screen addiction.

Document SNAP1251784, -1784

Another employee put it even more bluntly: "we seem to have tapped into some mass psychosis where 17 million people must keep the streaks going."

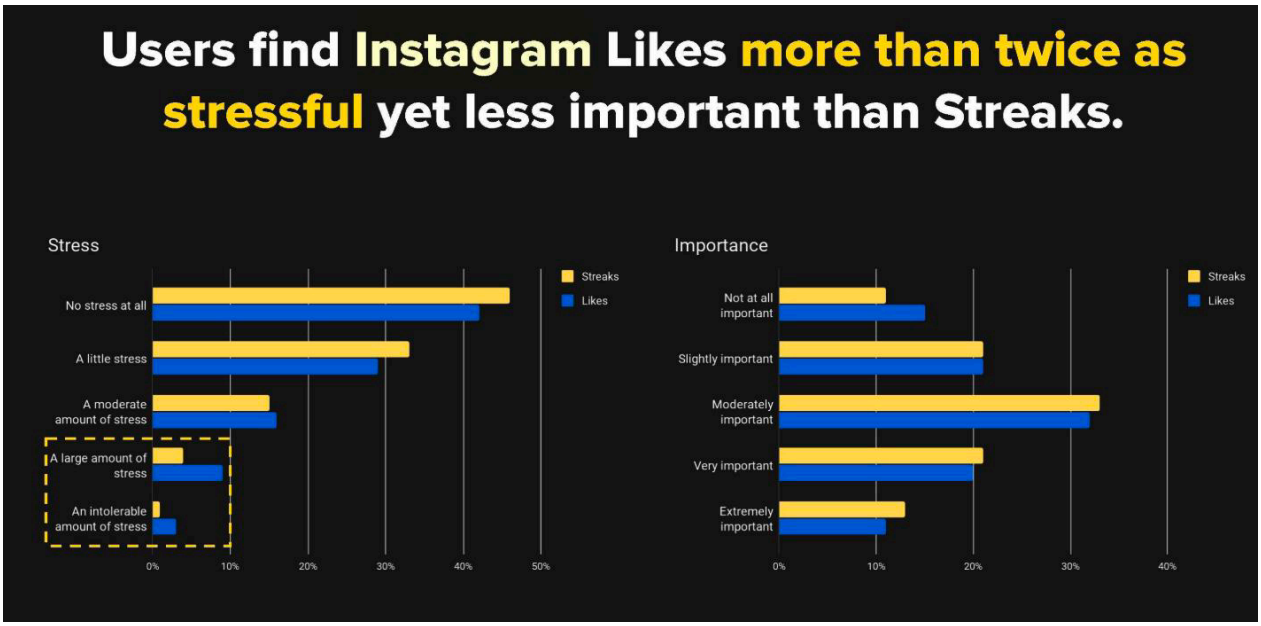
A 2017 study of Snap "Power Users," commissioned by Snap to better understand features that drove usage, found that "[f]or some, streaks have become a "compulsive behavior" and that they feel they are "in too deep."

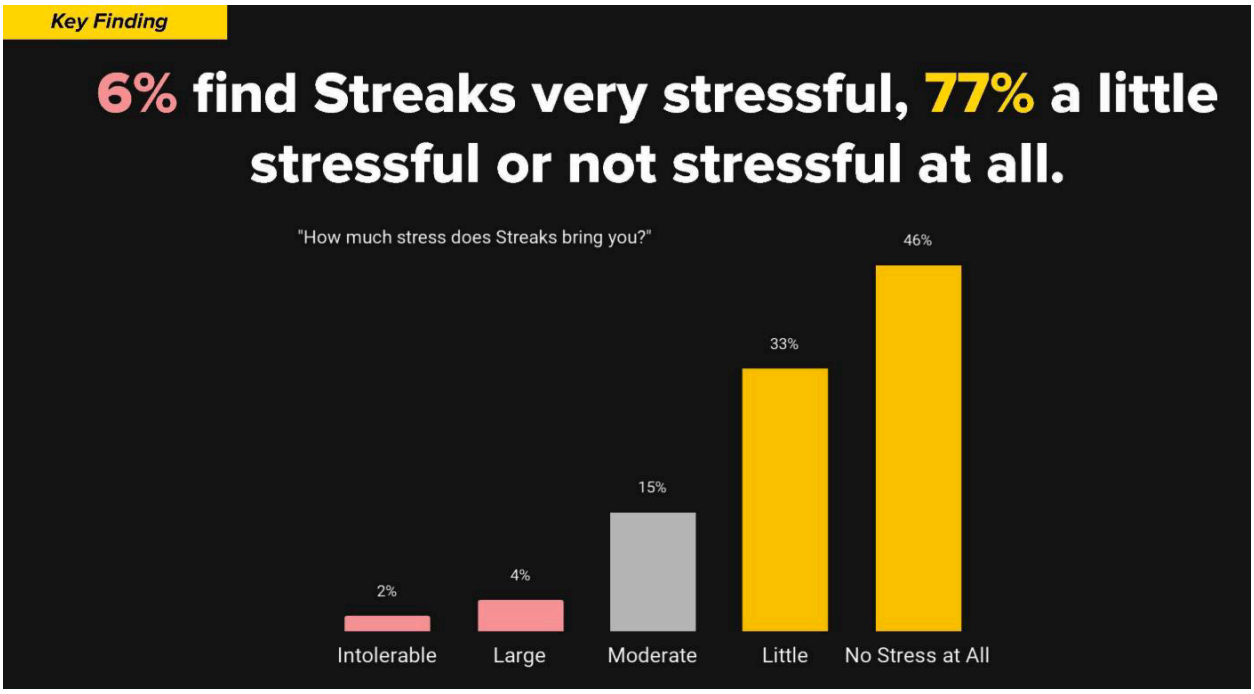


Streaks: Use of streaks is extremely common and complicated for Power Users, who typically send both morning streaks and "goodnight" streaks. For some, streaks serve to help maintain connections among friends and to re-create real-life relationships in the app. However, for others it has become compulsive behavior, and many users feel they are "in too deep" to get out of a streak. While streaks are being held across ages, younger Power Users are slightly more inclined to use them. There is also strong social pressure to maintain a streak, and breaking a streak can negatively affect personal relationships. As part of maintaining streaks, users will allow their friends to access their accounts to keep the streak going in case they are unable to. Their friends will have access to their username and password, and will maintain a streak on behalf of the account owner. *"I have streaks over a year old but I messed one up because I was out of town I got confused by the timezones and I was really upset because it was hard work*

Document SNAP0666370, -6374

Similarly, an internal presentation on streaks tried to spin them as a positive tool for building friendships but nonetheless was forced to observe that Streaks can be "really stressful" and "make[] it impossible to unplug for even a day." To better assess the harms of streaks, in 2018 Snap commissioned a survey of 790 users aged 13–24 (its core demographic):





Document SNAP2183204, -3231, -3234

In Snap's telling, this study showed that that only a minimal number of users found streaks stressful. If these charts seem familiar, it is because Snap presented this same conclusion to the United States Senate, writing that the study showed "the

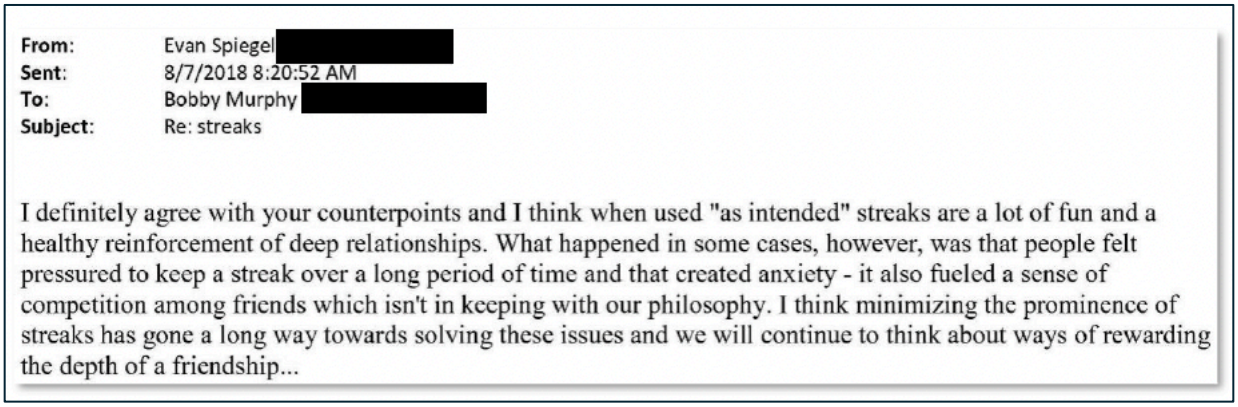
majority of our community did not indicate Streaks were a significant source of stress—but six percent did."

However, both the methodology and Snap's spin on the results were deeply flawed. Given Snap's millions of users, 6% still represents hundreds of thousands if not millions of users. And to get to 6%, Snap disregarded the "moderate" stress responses entirely. Snap also, without justification, combined those who found streaks a little stressful with those who found they caused no stress at all. A more accurate assessment of stress levels might be that 21% of users experience at least moderate stress because of snaps. A more holistic statement of the survey's results would be that 54% of streak users found streaks at least a little stressful. The other problem with sampling "users" to assess experiential stress is what in epidemiological terms is called the "survivor effect."

Many people who found streaks intolerably stressful would have left the platform or opted not to participate in a study about how stressful they are. In other words, this approach leads to a biased sample. Much like asking people still in a baseball stadium when the game has gone into 13 innings if games take too long will underestimate the true proportion of fans who think they do, asking regular users of an app how stressful it is underestimates the unease it induces. The study also depended on self-reporting from young people. But as Jennifer Stout, Snap's Global

Vice President for Public Policy, pointed out, "Kids like a lot of dumb things and parents are always trying to regulate their activities for their own safety!"

Snap's spin on the 2018 study is further undermined by the fact that Snap employees, including CEO Evan Spiegel, continued to express concern that streaks were addictive and harmful for users:



From: Evan Spiegel [redacted]
Sent: 8/7/2018 8:20:52 AM
To: Bobby Murphy [redacted]
Subject: Re: streaks

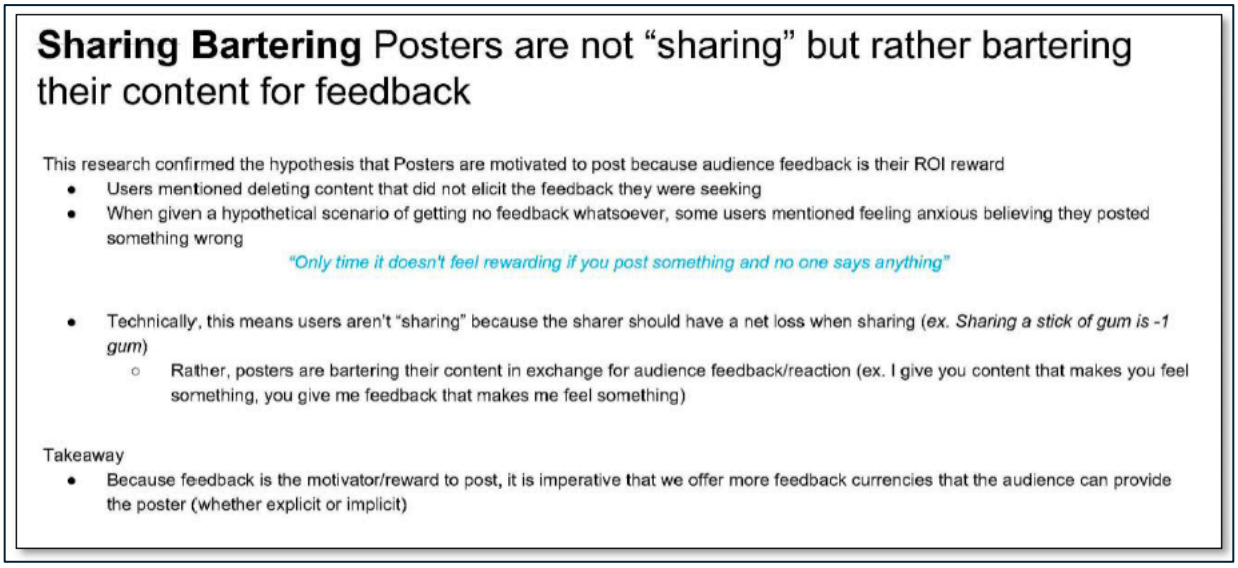
I definitely agree with your counterpoints and I think when used "as intended" streaks are a lot of fun and a healthy reinforcement of deep relationships. What happened in some cases, however, was that people felt pressured to keep a streak over a long period of time and that created anxiety - it also fueled a sense of competition among friends which isn't in keeping with our philosophy. I think minimizing the prominence of streaks has gone a long way towards solving these issues and we will continue to think about ways of rewarding the depth of a friendship...

Document SNAP0892766, -2766

A 2023 document containing suggested answers for an employee Q&A with Speigel is clear that Streaks "can cause confusion and/or anxiety. We know this from the millions of support tickets we get every week from people asking us to restore a streak they accidentally lost." Users themselves make clear that they found streaks addictive. As the Q&A answer explained, users' frantic commitment to streaks could be tracked in part by tickets seeking to restore lost streaks. But the answer actually understated how desperate users were to have their streaks restored.

By 2021, Snap was receiving an average of 400,000 streak restore requests each day, making up 95% of the total volume of customer service contacts. In some cases, individual users reach out directly to Mr. Spiegel to express the harms of

streaks. Snap also explicitly embraced the idea that social rewards were key to keeping users coming back for more, conducting research that "confirmed the hypothesis that Posters are motivated to post because audience feedback is their ROI reward."



Sharing Bartering Posters are not "sharing" but rather bartering their content for feedback

This research confirmed the hypothesis that Posters are motivated to post because audience feedback is their ROI reward

- Users mentioned deleting content that did not elicit the feedback they were seeking
- When given a hypothetical scenario of getting no feedback whatsoever, some users mentioned feeling anxious believing they posted something wrong

"Only time it doesn't feel rewarding if you post something and no one says anything"

- Technically, this means users aren't "sharing" because the sharer should have a net loss when sharing (*ex. Sharing a stick of gum is -1 gum*)
  - Rather, posters are bartering their content in exchange for audience feedback/reaction (ex. I give you content that makes you feel something, you give me feedback that makes me feel something)

Takeaway

- Because feedback is the motivator/reward to post, it is imperative that we offer more feedback currencies that the audience can provide the poster (whether explicit or implicit)

Document SNAP4301491, -1500

Indeed, Snap's research "confirmed the causal relationship between receiving feedback (views and replies) and the poster propensity to post again." Following these conclusions, Snap's product team proposed tweaking "Story reactions" and replies to generate more engagement and posting.

And just as feedback made users feel good, Snap's user research team found that not getting feedback was "discouraging." Snap researchers found that 44% of Snapchat Story posters didn't receive any feedback on a given day leaving them more anxious and worse off than not having posted at all. Senior Snap employees were clear-eyed about the consequences of manipulating users' basic neurobiology

and socioemotional responses. Responding to suggestions for ways to increase feedback rewards on Snapchat, Mr. Spiegel chimed in to say:

> What is not discussed here is the research-based evidence that these sorts of mechanics are harmful for mental health which is one of the reasons we have not enabled this for friend stories on Snapchat. Feeling like you need to post "popular" and "likeable" content can actually contribute to reduced sharing in the future as the bar for sharing becomes higher.

Document SNAP0467577, -7578

Similarly, when reviewing proposed changes to the way that streaks operate, Stephen Collins, a Director of Public Policy, expressed a similar sentiment, observing that "[r]ewards are known to drive compulsive/addictive behavior among some vulnerable groups." Of course, Collins's solution to this was not to reduce the role that rewards-maximizing play in Snap's design but just avoid using the word.

Snap also used other forms of notifications to drive engagement. In 2023, Snap decided to implement an "always on badge" to get more users to try Spotlight. This badge was a red dot that was always present on the spotlight icon, visually drawing users to it. It would only go away once a visitor clicked on Spotlight and would reactivate every 60 minutes, regardless of whether there was any new content or other change to actually notify a user of. This one design change raised the daily active use of Spotlight from 53 million to 71 million, the single biggest increase in daily active use ever seen in an A/B test. Snap was not only made aware of the risks of these features, but they were also told to remove them by outside social media experts (SME's) they consulted.

In sum, nearly every social media company adapts addictive and harmful design elements from their competitors. Separate and apart from the third-party content underpinning the platforms, these design elements insidiously work to keep users—typically children and adolescents—glued to the screens for longer and longer periods of time. Yet social media companies routinely turn to Section 230 to shield themselves from liability for these design choices.

Q. SMVLC Clients Impacted by Section 230

Courts' expansive interpretation of Section 230 beyond its statutory language or legislative intent has turned the internet into a lawless no man's land. The best way to illustrate the real-life consequences of the expansive interpretation is to see how it impacts real people. I am therefore going to discuss 10 of the cases I have prosecuted where Section 230 has been invoked by social media defendants to claim absolute immunity from victims' claims and seek dismissal as a matter of law.

a. *A.S. v. Meta*

A.S.

A.S. was born on June 22, 2002, and grew up in Yaphank, New York. A.S. was a confident and happy child, who loved reading, writing, and helping people and animals. She dreamed about becoming a veterinarian. She was active in singing competitions and theater, enjoyed being in the spotlight, and looked for opportunities to shine.

A.S. got her first internet-enabled tablet device for Christmas in 2012, when she was 10 years old. She did not have access to social media, however, as her parents regularly checked her device and took other steps to make sure that she was not accessing inappropriate content. They also had a house rule that all devices were to be kept in the hallway at night. A.S. did not initially mind these restrictions because she used her tablet primarily to play Webkinz and make Webkinz videos. Webkinz are stuffed animals that come with a code you can use to play Webkinz games electronically. But in 2013, everything changed.

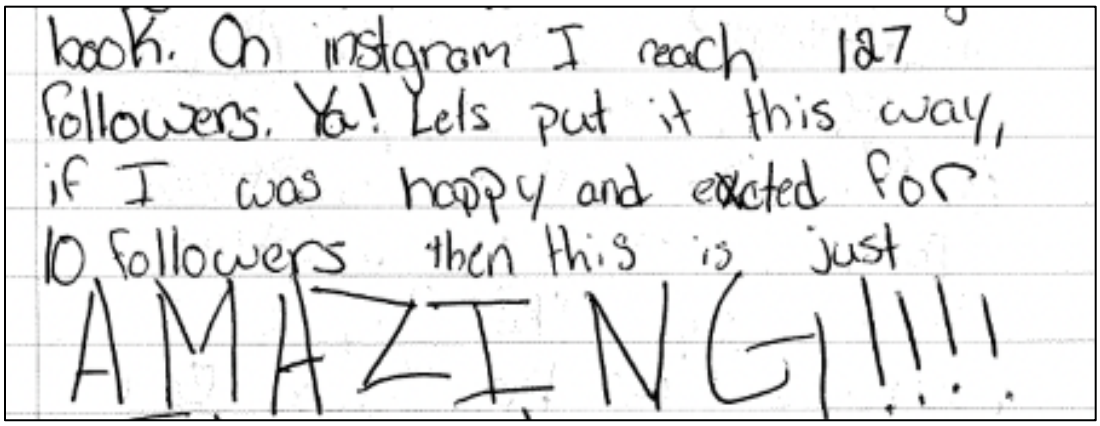
Meta purchased Instagram in 2012 for $1 billion dollars and, by the time A.S. started fifth grade, the Instagram social media product was rapidly increasing in popularity and rapidly evolving in terms of its design and product features. Meta made some of the most significant, and harmful, changes to its Instagram product from 2012 to 2016, including targeted advertising features, Explore, algorithmic changes promoting engagement over integrity, Reels, Stories, Live, the “like” button, view counters, easier access to multiple accounts, and direct messaging, to

name a few. A.S. was exposed to and harmed by those changes without her parents' knowledge or consent.

As A.S. approached fifth grade, it seemed like all her friends had Instagram accounts. She started getting teased for not having one, and her friends told her that she needed to open an account and could open one even if her parents said no. Instagram designed its product to provide access to as many people as possible, without regard to age or safety, and this was well known among children her age.

It was also understood that Instagram wouldn't close your account for being under 13; you just had to say you were 13 when opening an account and could then put your real age in your bio. In fact, this is something many kids do even to this day. It was also understood that Instagram did not object to kids using more than one account, which made it easier to hide more personal content and the existence of secondary accounts from parents and family—which accounts Instagram and its young users refer to as FINSTAs (short for "fake Instagram").

In 2013, A.S. was 11 years old and in the fifth grade. She opened her first Instagram account, without her parents' knowledge or consent. She could not access the account often since her parents monitored her tablet and did not allow social media. Nonetheless, on November 6, 2013, she wrote in her private journal,



Instagram had every reason to know that A.S. was under the age of 13. A.S.'s first bio (which was often publicly viewable) read "11 years young" and when A.S. turned 12, she changed it to "12 years young." She also regularly published her real age including, for example, in comments she left on other users' posts and/or pages:

"Hello, I'm 12 years old and love webkinz …"

"I'm 12 and love them …"

"I'm almost 13"

A.S.'s secret use of and developing addiction to Instagram coincided with a steady, but severe, decline in her mental health. As A.S. became more dependent on Meta's addictive-design social media product, she began to resent her parents for not allowing her to have an Instagram account and her inability to access that account at home. She also began engaging in harmful social comparisons, of the types identified by Meta in its studies. In November of 2013, she was starting to show signs of depression and her parents sought mental health treatment—they started her

in counseling. They did not know that A.S. was using social media, and A.S. refused to continue seeing the counselor after a couple sessions.

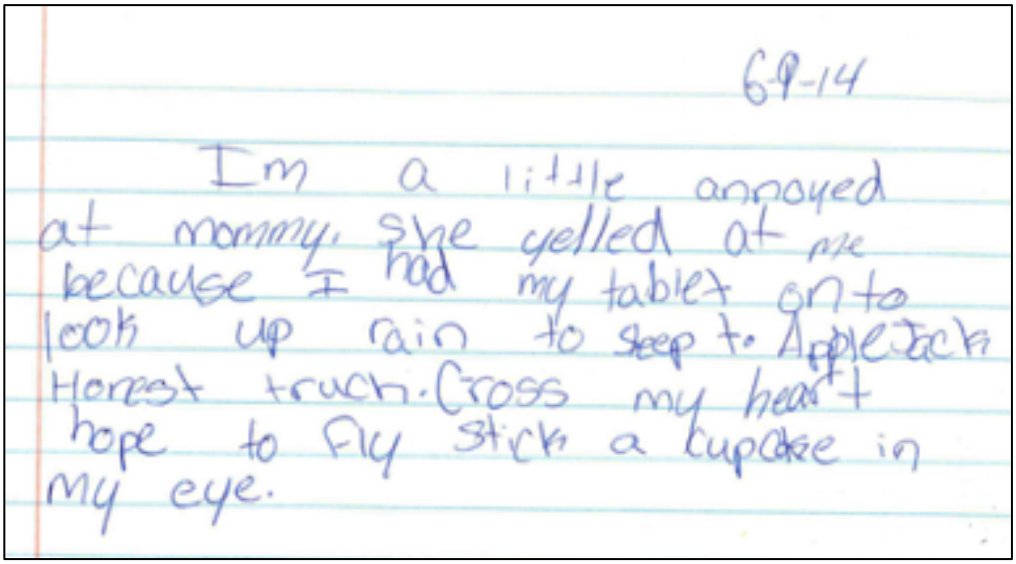
In May of 2014, Instagram provided A.S. with a solution to her access problem. Instagram featured user content advising A.S., and other children like A.S., on how to bypass parental controls. A.S. saw content from other users explaining how to obtain your parents' passcode as well as applications you would need to download to hide Instagram once you were able to get it onto your device. A.S. did just that. She used the information obtained from Instagram to get an application that enabled to her to make the Instagram application icon look like a calculator, which she then moved next to other utilities applications. A.S.'s parents continued with their periodic checks of her electronic devices but never realized that what appeared to be a calculator was really the Instagram social media product.

As a result of Instagram's addictive design and A.S.'s addiction to the Instagram social media product, she lied to and tricked her parents. She felt guilty for her actions but also felt like Instagram was something she needed and that her parents were being unreasonable in denying her access.

On May 23, 2014, A.S. opened her second Instagram account. She was still only 11 years old. Meta provided A.S. with access to this second account through a school-issued email address, to which A.S. did not even have inbox access. That is, Meta has designed its product to not require identification or age verification and,

also, Meta purposefully does not verify or check email account authenticity, at least in part, so that it can claim plausible deniability as to the millions of young children using its application that are below the age of thirteen and/or lack parental consent. In fact, when opening one of her later FINSTAs, A.S. got tired of creating fake accounts so she hit the keyboard randomly and used fhdjenfjsodndjd@hotmail.com as her account opening email address, and Meta allowed her to open the account. Had Instagram not designed its product in this manner, A.S. would not have had access to multiple, secret accounts.

Less than a month later, on June 9, 2014, A.S.'s parents caught her with her tablet in her bedroom. A.S. denied that she was doing anything wrong, and wrote about it in her journal,


6-9-14

Im a little annoyed at mommy. She yelled at me because I had my tablet on to look up rain to sleep to Applejack Honest truth. Cross my heart hope to fly stick a cupcake in my eye.

At all times relevant, Meta knew that A.S. was under 13 and that she was opening multiple accounts under different usernames yet failed to restrict her access

or notify A.S.'s parents, Kathleen and Jeffrey, of their daughter's account status.

Meta also knew or should have known that A.S. began accessing her multiple Instagram accounts in the middle of the night and for several hours at time, which addictive and unhealthy behavior foreseeably compounded the harms to A.S. and her family and caused additional harms. Once again, Instagram did not notify A.S.'s parents or take any other step to restrict her access to its social media product. On the contrary, Instagram is aware of FINSTAs and considers the opening of multiple accounts by its teen users as a primary source of engagement and growth.

For every minute A.S. spent on Instagram in the middle of the night, Meta earned more money. In fact, Meta is fully aware as to the times of day when users are on Instagram, how long they are on Instagram, and even that middle of the night usage is a significant indicator of addiction (which Meta prefers to call "problematic use"). Meta simply doesn't care enough to do anything about it, and Meta's leadership has taken the position internally that engagement and retention are the top priorities, with user safety coming in distant third.

Through her use of Instagram, A.S. also received explicit sexual communications and images from adult users and was messaged and solicited for sexual exploitive content and acts on numerous occasions by adult users of Instagram. These adult users are encouraged to use Instagram to sexually solicit and abuse minors due to Meta's refusal to verify identity and age for new users or

implement feasible safeguards to protect minor users from receiving inappropriate sexual content.

At all times relevant, Meta knew that some of its Instagram users would become addicted to Instagram (or, in Meta's words, would engage in "problematic use"). Meta also knew that children and teenagers would be particularly susceptible, and Meta knew or should have known what an addiction like this would do those children and teenagers and their families. To name only a few examples, A.S. spent increasing amounts of time consuming the unhealthy content and product features Instagram served up to her. This meant waiting up and sneaking her device from the hallway after her parents went to sleep. It meant lying about what she was doing on her devices. It meant accessing Instagram even where her parents were in the same room, by pretending that she was playing Webkinz or similar, age-appropriate games—which required her to always be on high-alert to not get caught. The harm caused by this Meta-engineered addiction was made worse by the fact that A.S. was only 11 years old when she was first exposed to Meta's inherently harmful and addictive product.

Once again, however, Meta didn't care. For years, Meta has been conducting studies meant to help increase usage and dependency by children under 13, like A.S..

As a result of the social media addiction Meta fostered and encouraged, A.S. spent increasing and unhealthy amounts of time on social media, became sleep

deprived, became anxious, and felt guilty about what she was doing to her family. Her mental health and relationship with her parents suffered greatly as a result.

For example, any attempt by her parents to restrict device usage was met with extreme anger, including one time when A.S. punched a hole in the wall. And what had always been a close relationship with her mother rapidly evolved into one where A.S. began to see her mother as overprotective, irrational, and wrong.

Instagram's addictive design and product features led to A.S. feeling like it was her and her devices against her parents, which only worsened her depression and anxiety.

But also, and as Meta knows, the amount of time a user spends on Meta's social media products can correlate to worsening depression and other harms.

In December 2013, A.S. got her first cell phone, but her parents got her a slide phone and not a smartphone. She had a lead part in the school play, which required her to stay late after school, so her parents wanted to make sure she could contact them if needed. Then in December 2014, A.S. begged her parents for a smartphone because her friends had one. They were able to get one cheap or for free through their phone carrier, so they agreed. But they took steps to install parental controls and did not allow her to take the phone in her room at night. Kathleen and Jeffrey also put parental controls on their home computer, again to make sure that A.S. was only using age-appropriate applications and features. A.S. used what she learned on

Instagram to bypass those protections too and obtained even more access to Instagram because now she could use Instagram all day while at school on her cell phone.

In April of 2015—just four months after getting her first smart phone—12-year-old A.S. drew an image of herself next to her phone with the words "stupid ugly fat" on its screen. She had a similar image on her computer, and these same types of words reflected in her thoughts,

A.S.' social media use coincided with a steady, but severe, decline in her mental health. She was addicted to Meta's product and spent increasing amounts of

time on social media, specifically, perusing content recommended and/or made available to her by Meta, which increasingly included underweight models, unhealthy eating, and eating disorder content.

From 2012 through 2015, Meta developed and implemented technologies and features designed to increase engagement (and its own profits), but which were harmful to users, including A.S. This included but is not limited to things like new advertising features, which allowed advertisers to target A.S. based on her age, location, gender, and other characteristics. Meta failed to exercise reasonable care to ensure that the advertisements were safe. Meta profited from its advertising practices and product features, while A.S. was exposed to and harmed by harmful advertising content. For example,

a. A.S. was only 11 years old when she opened her first Instagram account and, as such, was particularly vulnerable and the impact of her developing addiction to Instagram was made worse as a result.
b. Meta designed its Instagram product to default minors to public profiles, exposing 11-year-old A.S. to inappropriate sexual content and serving her up for access to complete strangers who Meta knew posed the risk of bullying and exploitation.
c. Instagram's product design, including things like search and explore and photo editing and filtering features, and Instagram's emphasis on

advertiser content, caused A.S. to question her appearance and worth, and made her increasingly anxious and depressed.

d. Because Meta does not limit the time young users spend on Instagram, A.S. began stealing her tablet out of the hallway at night to access her Instagram account, resulting in severe sleep deprivation, which only made things worse.

In 2016, Meta added several additional product features that Meta knew or should have known would be harmful to minor users of its Instagram product. For example,

a. In February 2016, Instagram started enabling users to easily switch between multiple accounts. A.S. opened at least three more FINSTAs (secret Instagram accounts) in 2016 alone and Meta exposed A.S. to addictive design, harmful advertising, and other, Meta-backed content through those accounts too.

b. In February 2016, Instagram added view counters to videos, increasing the social comparison harms already caused to A.S. by Instagram.

c. In March 2016, Meta switched its feed from chronological to algorithm-driven ordering. A.S. no longer simply saw posts made by "friends" in the order they were made but, instead, Meta prioritized and escalated certain posts and content in A.S.'s Instagram feed. More specifically, it

promoted and prioritized harmful content based on the determination that such content was more likely to keep A.S.'s attention, thereby increasing her use of its product and its resulting revenue. While Meta's prior product design was pushing constant social comparison and eating disorder content to A.S., the new design bombarded her with it and A.S.'s exposure to super thin models and eating disorder content increased exponentially.

d. In August and November 2016, Instagram implemented Stories and Live product features, respectively, which again increased A.S.'s exposure to harmful content, as well as her social pressure to participate and engage with Instagram.

e. In December 2016, Instagram implemented the ability to mark comments as "liked," which was initially available only on the mobile application, which is how A.S. accessed Instagram most of the time by 2016—via her cell phone. The "like" feature was particularly harmful to young users, as Meta discovered, and this product feature resulted in increased feelings of depression, anxiety, and low self-worth.

The more A.S. accessed and used the Instagram social media product, the worse her mental and physical health became, which eventually included a life-threatening eating disorder and suicidal ideation.

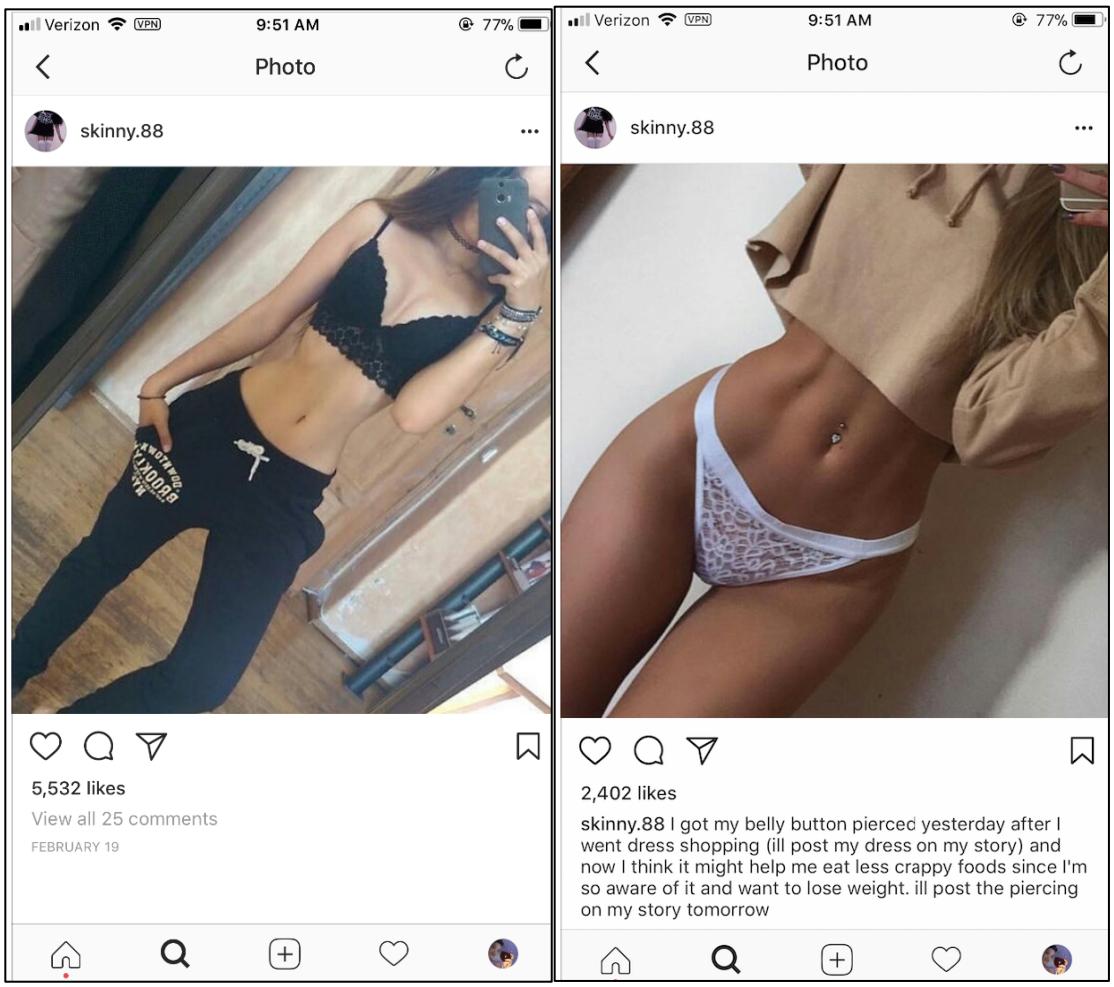
A.S. had always been slender, but after Instagram's algorithm and design started pushing extreme weight loss content and bulimia purging instructions, and recommending pages featuring excessively thin models, A.S. became obsessed with her weight. From the outset, A.S.' Explore page was filled with nothing but overly thin models and thigh gaps.

A.S. started looking into diets and healthy eating, which led to more harmful content. Eventually, Instagram's algorithms led her to the terms "ana" and "pro-ana" in hashtags Meta permitted in its Instagram user Stories. Pro-ana refers to the promotion of behaviors related to the eating disorder anorexia nervosa. As made clear through internal Meta documents, Instagram's provision of that material to A.S. was both harmful and the result of a design defect.

Meta amplified and pushed A.S. toward harmful content through various recommendation mechanisms built into its Instagram product. For example, Meta sent A.S. recommendations to eating disorder and self-harm themed pages and groups. Meta also sent A.S. recommendations for "friends" who were, in fact, adult Instagram users either suffering from these mental health issues themselves or using the Instagram product to find and exploit young girls; and, likewise, Meta recommended A.S. to these same types of adult users, who then sought to connect with her. As made clear through internal Meta documents, these product features are harmful to a significant percentage of Instagram users, particularly teens and young

women.

Meta directed A.S. to other Instagram users such as “skinny88,” “thinnfaerie” and “wannabe-s-kinny” and sites such as “#thinspo,” “#skinny arms,” “#skinny girl” and “#skinny body.” A.S. did not seek out these individuals or sites but was rather directed to this content not based on her preference, but rather through Instagram’s algorithmic feature explicitly designed to select the content that would trigger the greatest dopamine reaction in her adolescent brain. Content promoting unhealthy body images and anorexic behavior triggered a greater dopamine response in A.S.’ frontal cortex than content that was healthy and benign, so Instagram affirmatively directed her to content it knew was harmful to maximize the time she spent on its platform and the corresponding advertising revenues Meta received. These are just two examples of the thousands of dangerous and harmful connections, recommendations, and recommended content Meta pushed to A.S. via its Instagram product:



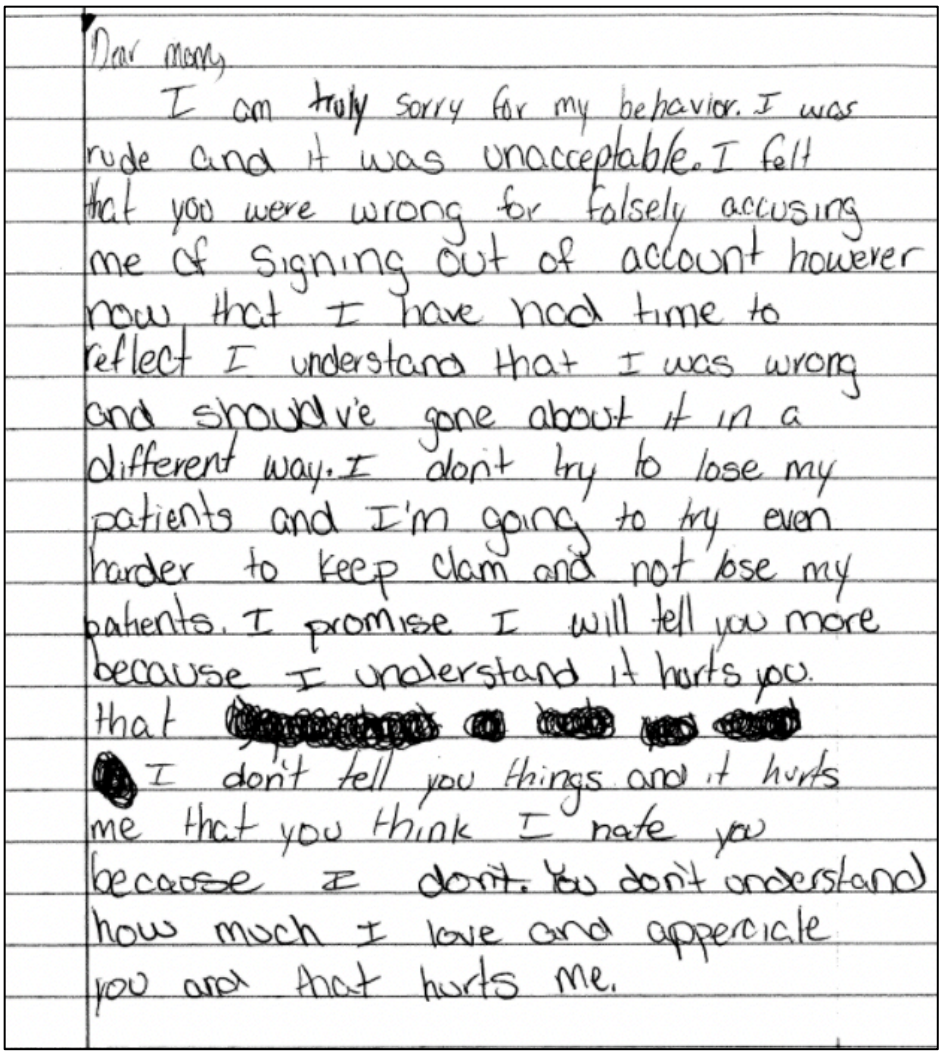
Meta also harmed A.S. through specific product features like direct messaging and group chat. For example, Instagram's Direct Message and group chat features allowed adult users to message A.S. directly, and to create eating disorder and self-harm themed group chats, exposing A.S. (a child) to several of these adult users at one time. As made clear through internal Meta documents, these product features are harmful to a significant number of underage users. They also are not necessary to Instagram's operation and are features Meta can restrict and/or disable—but Meta makes calculated and economic-based decisions to keep them in place because Meta

knows that restricting or disabling them would negatively impact engagement and revenue.

At some point A.S.'s mother also discovered that she had an Instagram account, which resulted in more fighting and separation between A.S. and her parents. Ultimately, it was clear that Instagram would provide A.S. with means to access its product no matter what A.S.'s parents did and, by then, A.S. was already over the age of 12. There was nothing A.S.'s parents could do, other than to keep an eye on her account usage and to remind her that she still had to abide by the house rules relating to electronic devices.

However, A.S. only disclosed the existence of one account—the account she considered to be her "personal" account—and none of her secret accounts. Instagram's provision of multiple accounts ensured that A.S. was able to continue hiding her most harmful Instagram activities from her parents. This is precisely what she did, and A.S.'s continued addiction and sneaking around led to even more arguments and even greater anxiety and depression.

At one point, Kathleen started trying to catch her daughter so she could find out what was wrong and why her daughter's mental health was not improving. On one occasion she thought she saw A.S. sign out of her one Instagram account and onto another. But again, A.S. vehemently denied it:



Dear mom,

I am truly sorry for my behavior. I was rude and it was unacceptable. I felt that you were wrong for falsely accusing me of signing out of account however now that I have had time to reflect I understand that I was wrong and should've gone about it in a different way. I don't try to lose my patients and I'm going to try even harder to keep clam and not lose my patients. I promise I will tell you more because I understand it hurts you. that [redacted] I don't tell you things and it hurts me that you think I hate you because I don't. You don't understand how much I love and appreciate you and that hurts me.

Meta was providing A.S. with constant, harmful access to multiple Instagram accounts, and had designed and was operating Instagram in a manner that ensured that there was nothing A.S.'s parents could do to stop it. But also, Meta was concealing from the public what it knew about addictive design and its own efforts to addict young children and what it was learning about the harm its specific product features were causing to children and teens—the precise types of harms that were now happening to A.S. because of Instagram.

A.S.'s parents had no way to even determine Instagram's role in A.S.'s ongoing battle with severe depression, anxiety, self-harm, and eating disorders and as a direct result, could not obtain the information that they needed to enlist professional help.

By early 2018, A.S.'s parents were aware of the self-harm and had just started to become aware of the eating disorder. They were getting medical treatment for A.S. and rearranging their schedules to make sure they could help her in any way she needed. To help A.S. further, they purchased her a therapy dog, Draco, and got him trained—at considerable expense—so that he would alert A.S. and her family if A.S. engaged in harmful behavior. Draco has helped A.S. in so many ways and saved her life on more than one occasion.

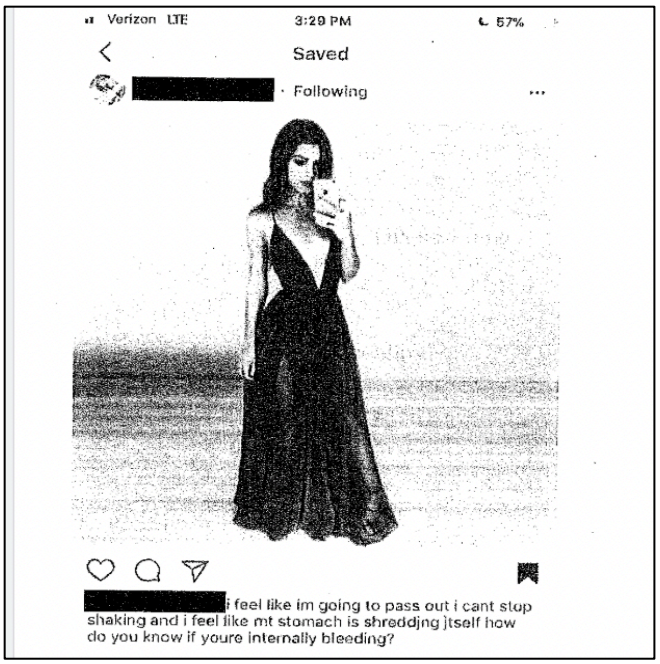
Then, on May 8, 2018, A.S.'s school contacted Kathleen and told her to come to school immediately. Kathleen was on her way to work, turned around, and called her mother and asked her to meet her at the school. Kathleen and her mother met with someone in the school guidance department, who told them that another student had sent some photos of messages A.S. sent and Instagram posts expressing a desire to commit self-harm and suicidal ideation. The guidance department employee showed Kathleen some of the documents but not all, and she still did not have the usernames on A.S.'s secondary Instagram accounts. Moreover, at that time, Kathleen's only priority was to keep her daughter alive, so she contacted Stony

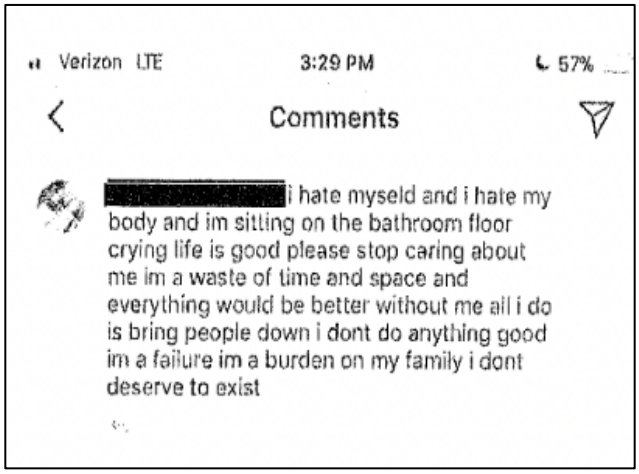
Brook Children's Hospital for a referral and took A.S. to Mather Hospital.

Mather did not have an available bed but was the only viable option for the treatment A.S. required. As such, A.S. and her parents, Kathleen and Jeffrey, stayed in the psychiatric wing of Mather for five days, while waiting for an available bed.

As documented in hospital records, A.S. was hospitalized for a total of ten days in connection with "Anorexia Nervosa and associated habits of purging, as well as major depressive disorder and anxiety. Since outpatient treatment has begun, A.S. has continued to struggle. Over the past weeks these struggles have intensified including suicidal ideation. She was seen today after school alerted parents of various social media posts, including suicidality." (Referral letter from Stony Brook Children's Hospital, dated May 8, 2018).

The following are just some examples of information that had been provided to the school. To the best of Kathleen's recollection, these specific examples were not provided in 2018 but were obtained from the school years later (in 2022),





In May 2018, A.S.'s parents did not have access to A.S.'s "personal" Instagram account and did not know of the several other accounts to which Instagram provided her with access—or the harmful content contained in those accounts. A.S.'s parents were still struggling to understand what was happening and how they could help their daughter.

After A.S.'s release from Mather Hospital, on May 18, 2018, she received home teaching for the remainder of her 10th grade year. A.S. had always done well in school and wanted to go to college and have a career, so her parents did everything they possibly could to prevent these events from derailing her education. They worked with teachers to get her assignments and tutoring, and enlisted family to help with home schooling. A.S. was able to finish 10th grade and keep her grades up only because of the incredible support and resources her family was able to provide.

A.S. graduated from high school in June of 2020 and started St Joseph's University in September of 2020. Shortly after the start of the school year, however, A.S. relapsed and engaged in extensive outpatient treatment. A.S. is aware of the challenges ahead and works hard every day to not slip back into her eating disorder.

A.S.'s addiction and resulting mental health disorders were the result of the unreasonably dangerous Instagram product Meta made accessible to her and that she used. Meta's products were not reasonably safe due to their defective design and inadequate warnings.

To this day, Meta has actively concealed the fact and has "sought to stonewall and block this information [information about the dangerousness of their products, especially to young users] from becoming public."[1] Meta "intentionally"[2] hid vital information in its possession from the public, the US government, and foreign governments, including information relating to the safety of children and the role of its algorithms and other Instagram product features in causing addiction, depression, anxiety, eating disorders, and other harms.

Meta made false statements to the press and public, designed to cover up the inherent dangers of their products and, even when asked direct questions as to how those products "impact the health and safety of our children, they choose to mislead

[1] October 5, 2021, Senate Hearing Transcript, Mr. Chairman Blumenthal at 00:05:21.
[2] *Id*. at 00:29:25.

and misdirect."[3]

The family did not discover, and could not have reasonably discovered, that A.S.'s addiction, depression, anxiety, eating disorders, and other harms were caused by Meta's unreasonably dangerous products until September or October of 2021.

As a result of A.S.'s social media addiction and the harmful content and features Instagram relentlessly promoted and provided to her in its effort to increase engagement, she had to undergo professional counseling, in-patient programs, outpatient programs, and eating disorder programs, and she will likely require help in the form of a service dog for the rest of her life. She must stay in constant contact with her doctors, and fights to stay in recovery every day. A.S. will suffer permanent mental and emotional damages because of what Instagram has done. A.S.'s doctors have also advised that long term physical damage is likely.

A.S. also requires the support of her parents and her service dog, Draco, and cannot live the independent and successful life she planned for herself. This situation is a direct and result of the social media addiction Instagram fostered and encouraged for its own financial gain and harms that resulted therefrom.

[3] October 5, 2021, Senate Hearing Transcript, Ms. Francis Haugen, at 00:32:20.

b. *Rodriguez v. Meta, et al.*

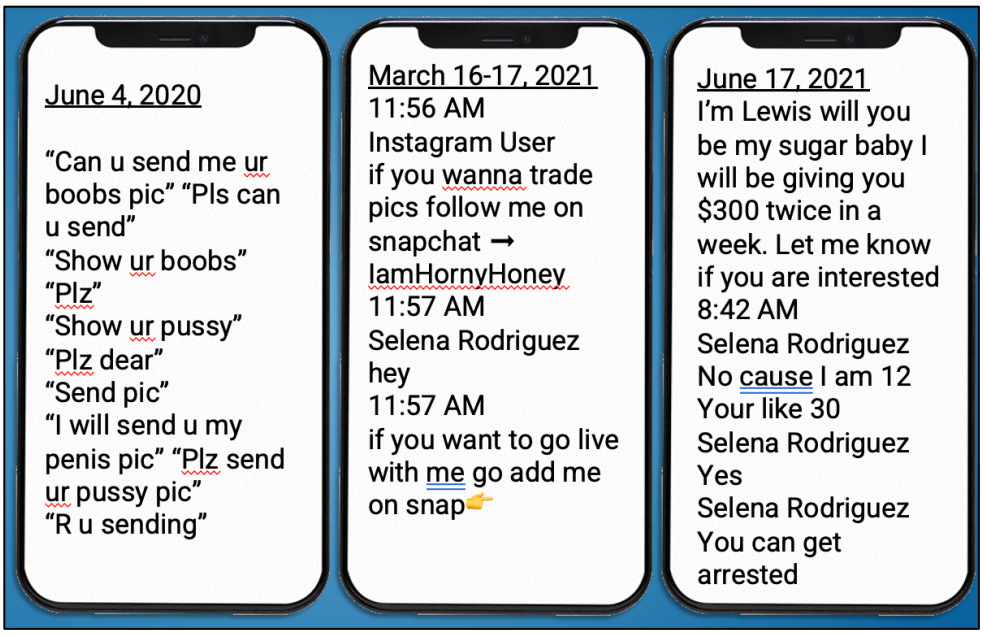
Selena Rodriguez

When she was nine years old, Selena Rodriguez was given a computer tablet to access the internet. Shortly thereafter, she downloaded Instagram, TikTok and Snapchat, and made multiple accounts without the knowledge or consent of her mother Tammy. Selena quickly became addicted to these apps and spent increasing amounts of time on social media. By mid-2021, she was on social media at all hours of the day and night and would get as little as two hours of sleep. She communicated with 2,500 users, all but a handful complete strangers and many of whom were adults. Tammy made multiple attempts reduce or limit Selena's use of social media which resulted in extreme anxiety and volant outbursts. When Tammy tried to confiscate Selena's devices, she would engage in self-harm or run away from home in order to access social media products on other devices.

Selena's social media use coincided with a decline in her mental health and

academic performance. As a result of her addictive use of these social media products, Selena developed numerous mental health conditions including an eating disorder, self-harm, and abusive behaviors toward her mother and sister. By the spring of 2021, she was experiencing severe sleep deprivation caused the constant 24-hour stream of notifications and alerts sent on these platforms.

Through her use of Instagram, TikTok, and Snapchat, Selena was repeatedly messaged and solicited for sexual exploitive content and acts on numerous occasions by adult male users of Instagram and Snapchat, who are encouraged to use these platforms due to the social media companies' refusal to verify identity and age for new users. Prompted in part by Snapchat's "disappearing" message feature, Selena sent sexually explicit images using Snapchat. Based solely on the single Instagram account available, we have identified 25 specific instances in which Selena exchanged sexually explicit content with adult users of these social media platforms.

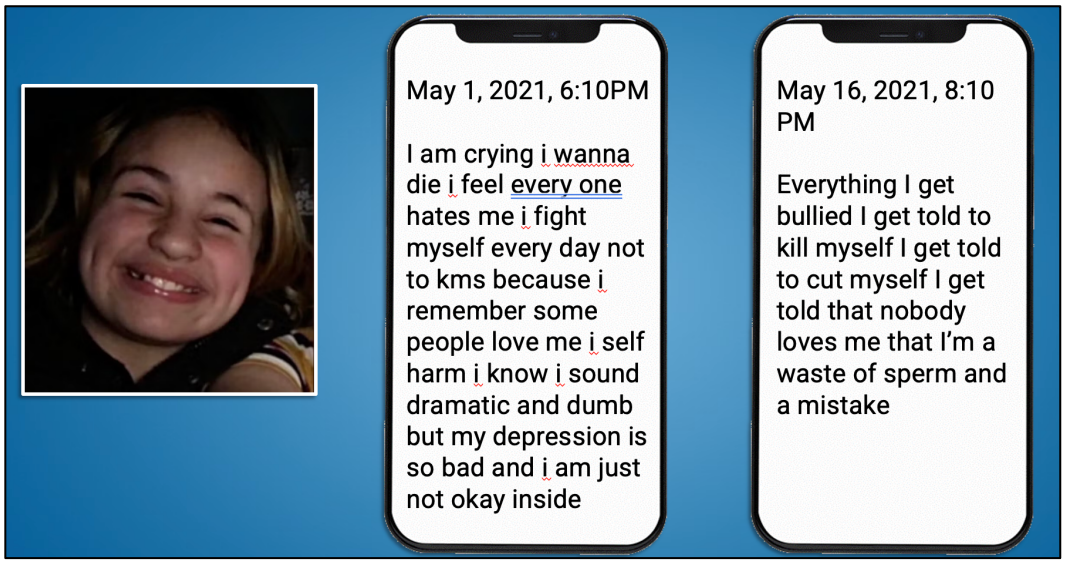


On June 23, 2021, in response to a request from an adult Instagram user, Selena sent a video of her masturbating which my law firm reported to the National Center for Missing & Exploited Children.

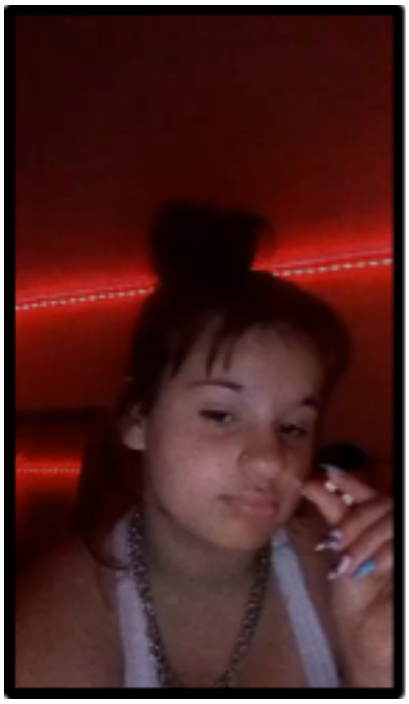
Tammy repeatedly sought mental health treatment for Selena, and one therapist told her that she had observed a patient as addicted to social media as Selena.

On May 1, 2021, Selena wrote a friend on Instagram that "I am crying i wanna die i feel everyone hates me i fight myself every day not to kms because i remember some people love me." On May 20, 2021, she wrote to another Instagram user, "I hate my life baby I am sorry I almost left." Selena became suicidal and was hospitalized for emergency psychiatric care on May 26, 2021. Between May 26 and June 3, 2021, Selena was hospitalized for suicidal ideation. Her treaters observed

excessive social media usage as a factor in her mental distress. Upon her return from the hospital, Selena told Unknown User No. 30 on June 9, 2021, "Sorry just got home from Connecticut children's hospital for trying to kms."



On the afternoon of 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. Holding two Wellbutrin pills between her fingers, she looked straight in the camera, tilted her head back, and placed the pills in her mouth. She then took a gulp of soda out of a bottle, looked into the camera, made the "Peace Out" hand gesture and playfully stuck out her tongue. Minutes before she died, Selena posted her six-second video on Snapchat with audio from the NF song "Paralyzed:"



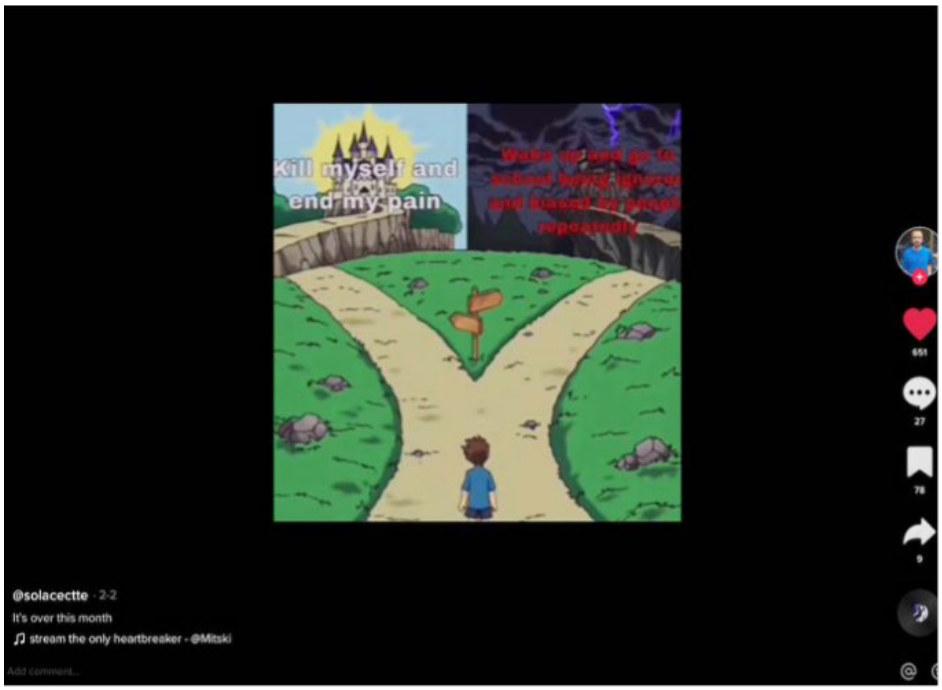
I'm paralyzed
Where are my feelings?
I no longer feel things
I know I should
I'm paralyzed
Where is the real me?
I'm lost and it kills me
Inside
I'm paralyzed

c. *Nasca v. TikTok*

Chase Nasca

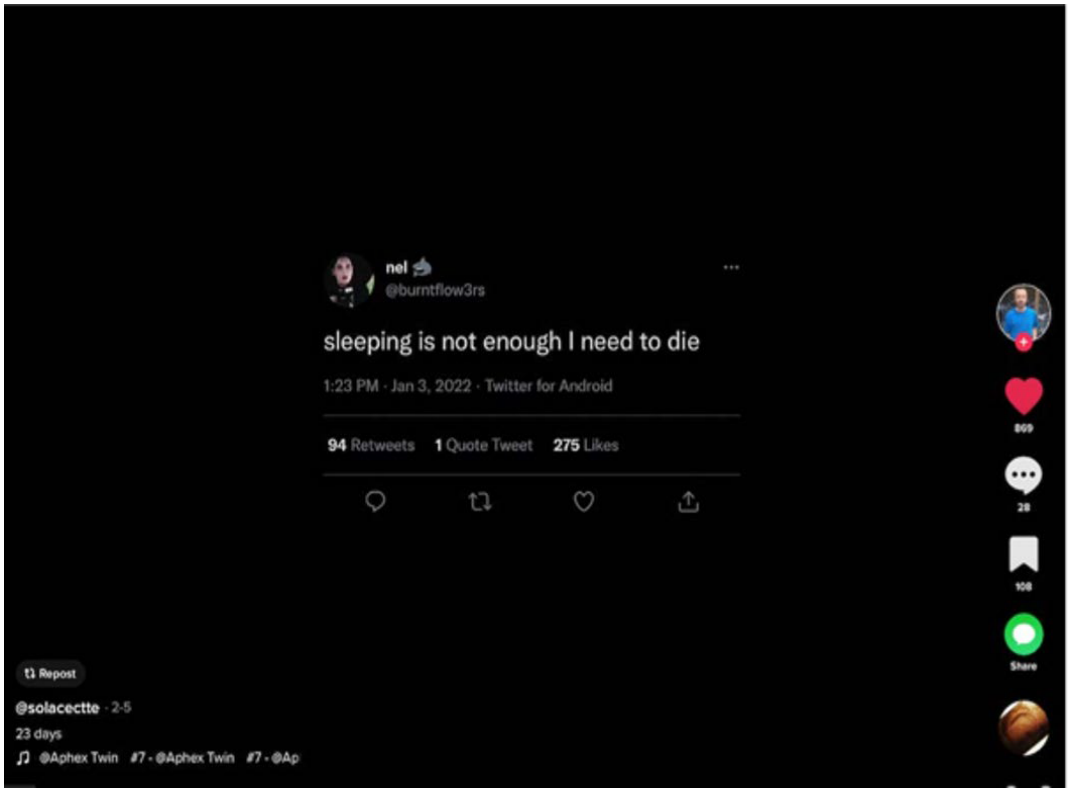
Chase Nasca was a 16-year-old junior at Bayport High School. He was an honor student and star athlete with no outward signs of mental distress. Chase opened a TikTok account and was involuntarily subjected to thousands of extreme and deadly videos advocating violence against others, self-harm, and suicide. These videos including material accompanied by audio chosen and/or recommended by TikTok. Although Chase was searching for uplifting and motivational content, TikTok, by design, directed thousands of suicidal videos into his "For You" page.

The TikTok product directed Chase to videos co-created by TikTok that recommended suicide and were accompanied by dark, suicide-themed songs.



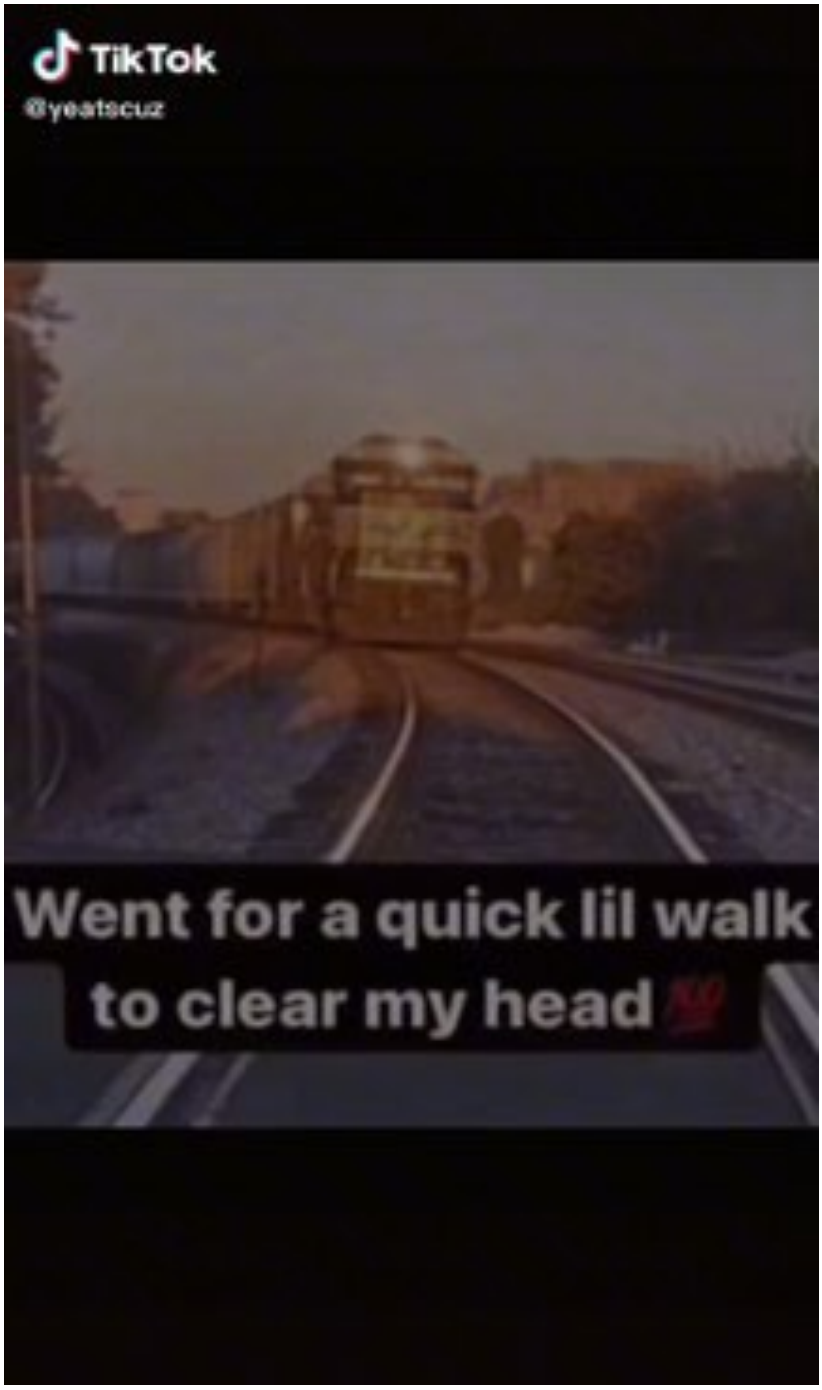
February 2, 2022

Link to video:
https://pugetstaffing.filev.io/r/s/6fb15VZ4l3aLukQh1aY9NdJzNjqZMZCcwE5Fa0eSCLRqcXMoF2S0LcRl

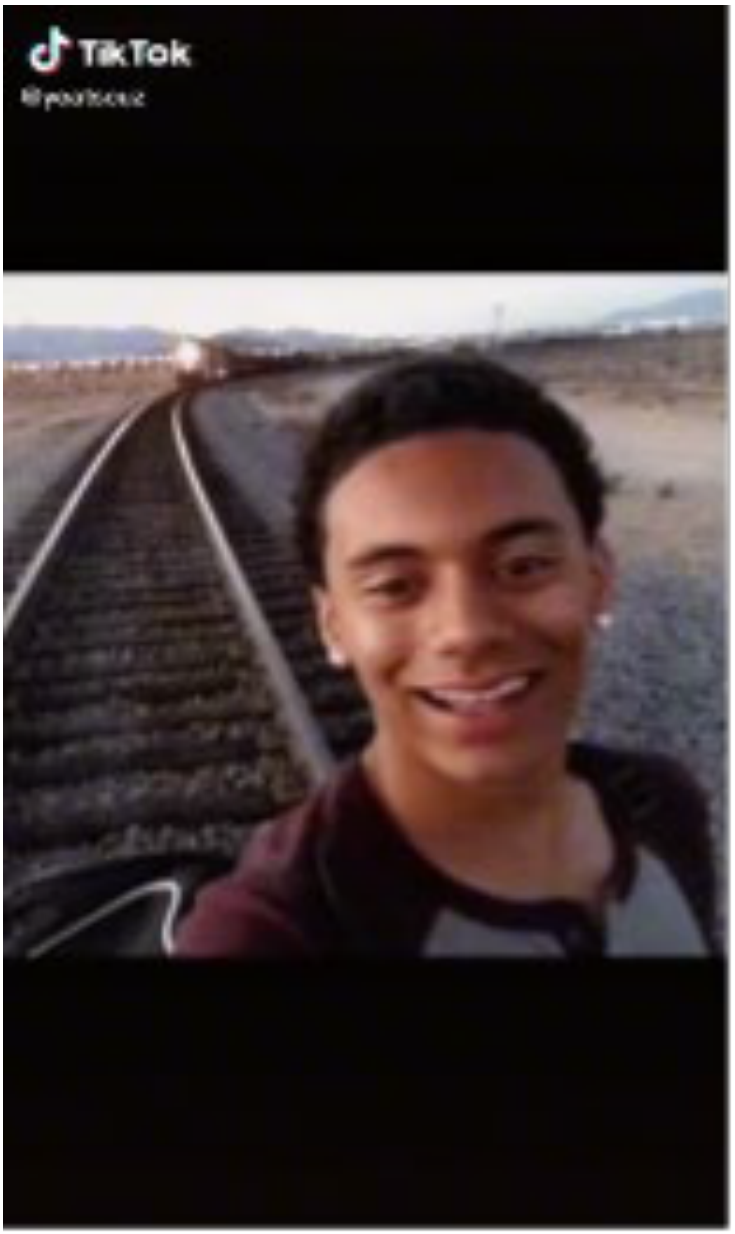


February 5, 2022

Some of the videos TikTok directed to Chase suggested that young people should end their lives by stepping in front of a moving train.



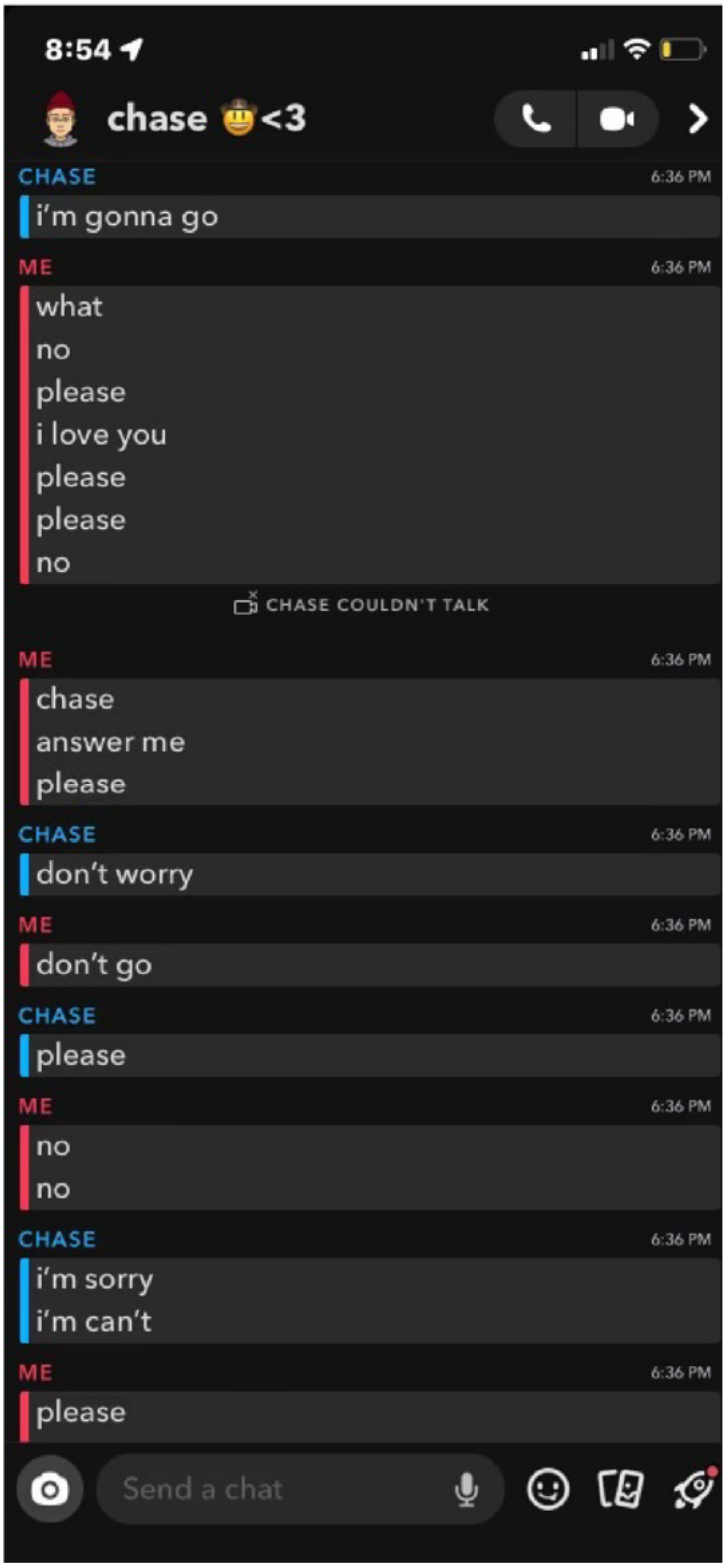
January 28, 2022



February 15, 2022

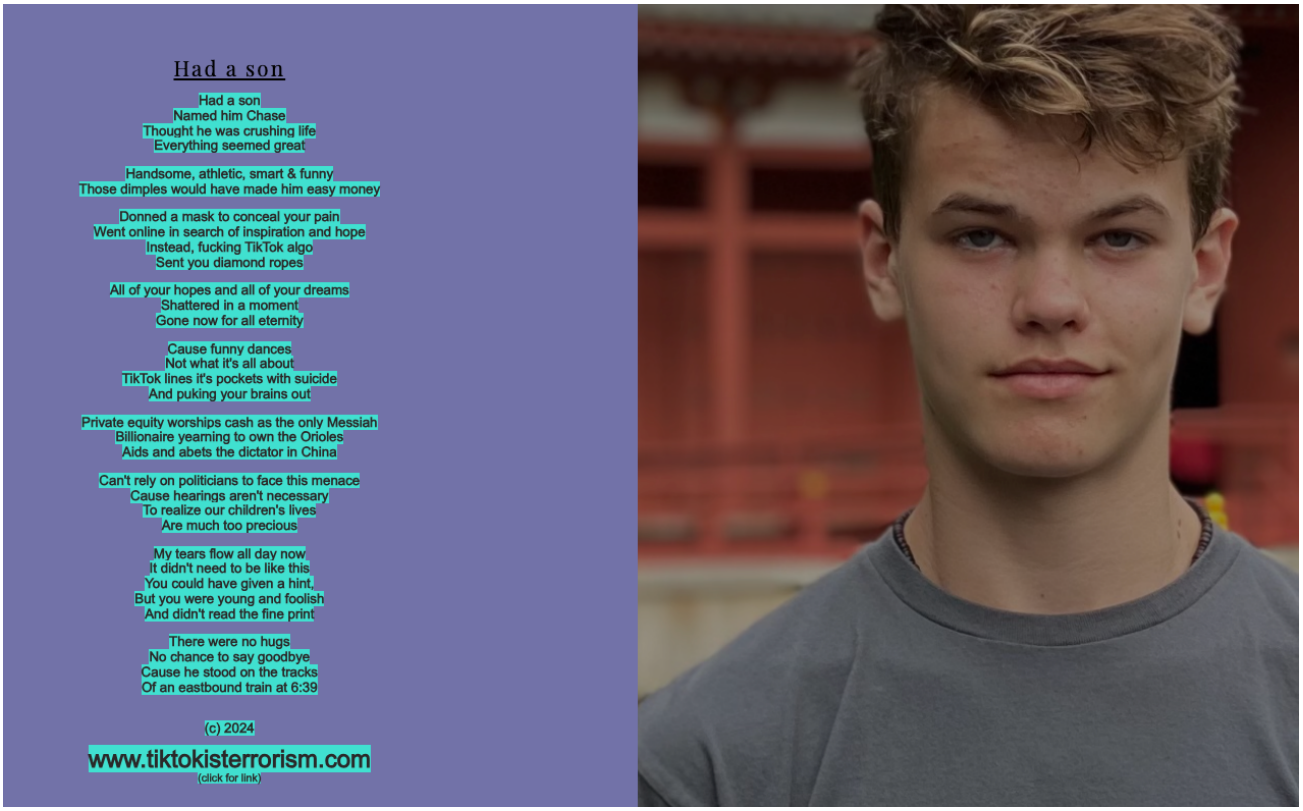
Link to video:
https://pugetstaffing.filev.io/r/s/6fb2dgBP6nG9rsaHx7Ww8bODdkf17e2ov2mzGQobeENFKueQYB1W3yuD

On the evening of February 18, 2022, Chase rode his bicycle to railroad tracks near his home at Fairview and Railroad Avenue in the Town of Islip and had the following text exchange with a friend.



At 6:35 PM, Chase was struck and killed by a Long Island Railroad locomotive while standing on the tracks at Fairview and Railroad Avenue.

Following his death, Chase's parents accessed his cell phone and discovered hundreds of TikTok videos promoting suicide, depression, and self-harm. Chase's father, Dean Nasca, launched an online campaign entitled "TikTok is Terrorism" to publicize the pernicious role the Chinese Communist Party exercises over TikTok's parent company ByteDance and the financial impetus that allowed ByteDance to propagate its deadly business model. Dean also wrote this song to commemorate his son's memory and posted it to his website. See below and at https://chasenasca.com/.



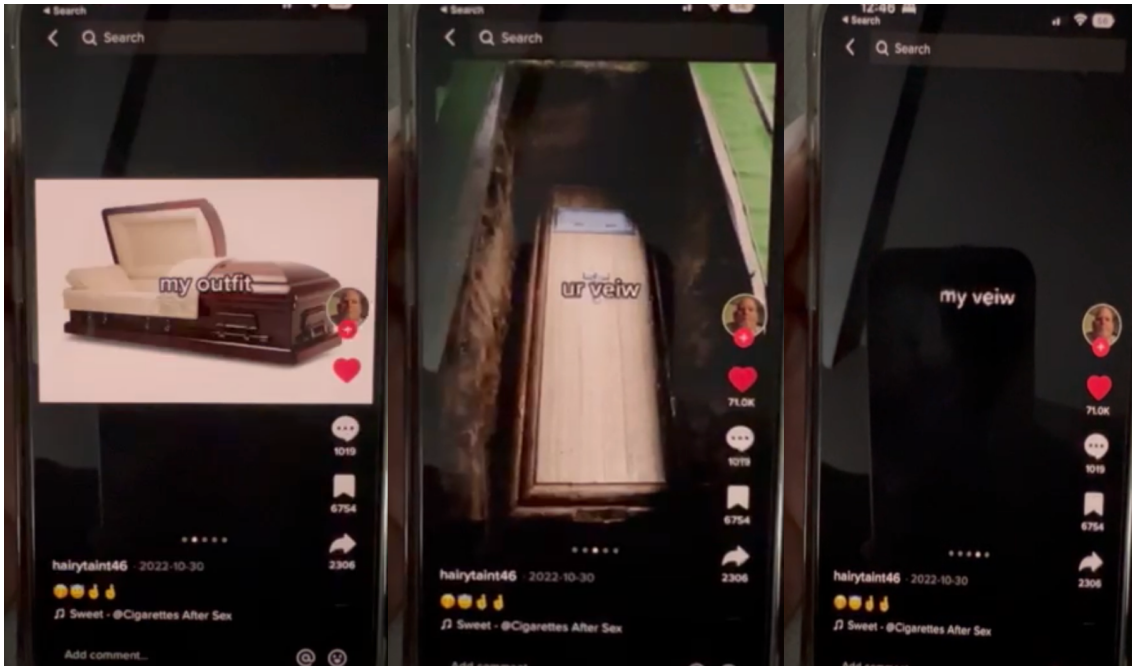
d. *DeSerio v. TikTok, et al.*

Mason Edens

Mason Edens was born on April 13, 2006, and lived in Centerton, Arkansas. Mason was an outgoing and happy young man. He was a good student and loved playing football. Mason began using the Snapchat and TikTok platforms around the age of 13. His mother Jennie actively monitored his social media use and limited his phone use.

Following a breakup with his high school girlfriend on October 31, 2022, Mason sought out affirming material on TikTok. He specifically sought content on how to mend a broken heart. Instead, on his TikTok account in the "For You" feed, Mason had been shown video after video of depressing content. Before this point, his search history mainly included sports and outdoor content. At one point following the breakup, Mason looked up "positive affirmations" on TikTok and liked

a video that featured sad music. Instead of showing Mason positive affirmations, TikTok's algorithm showed him depressing content that he did not search for. For example, Mason had liked a video with the audio, "I wanna put a shotgun to my f---- mouth and blow my brains out". Another described a plan to die by suicide. Another video he liked asked "what are your plans for the future?" and showed the video of a firearm discharging.



Link to video:
https://pugetstaffing.filev.io/r/s/6fb34MRRnVKwmah5IwoJh34JB7shd3fxLcKIUHZwJ6Ub8gbwftFK8hBT

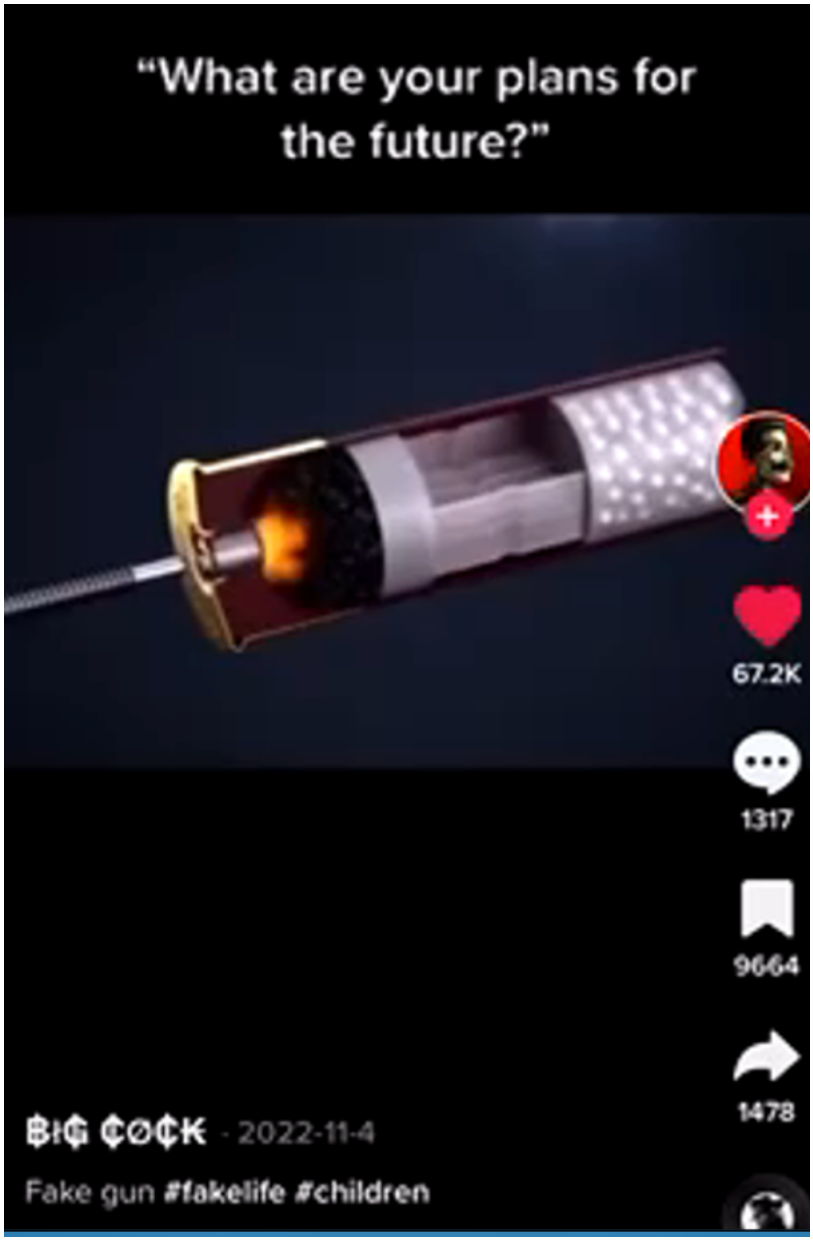
TikTok targeted Mason with AI driven feed-based tools. It collected his private information, without his knowledge or consent, and in manners that far exceeded anything a reasonable user would anticipate or allow. It then used such personal data to target him with extreme and deadly subject matters, such as

violence, self-harm, and suicide promotion. TikTok did not target Mason with this because he sought it out or even because TikTok thought he wanted to see it, but instead, because TikTok determined based on its collection and use of his personal and private data that he would not be able to look away. Likewise, Mason did not ask for these experiences or even want to see them. Because of the harmful dependency TikTok engineered and fostered, however, he was unable to look away.

Link to video: https://pugetstaffing.filev.io/r/s/6fb39Gk51pbA9nMUGX6Pqr4yH27x5xynBaHUxHl1jB96QoLcqrr3QnWh

Jennie noticed Mason's mental health deteriorating. He was often on his phone all night. She noticed an increase in the frequency and intensity of his anxiety. After weeks of him not getting enough sleep, she confiscated his phone on November 14, 2022. An argument broke out. Mason rushed up to his room and

locked himself in his room. As his stepfather tried to get in to talk to him, Mason retrieved his brother's shotgun and shot himself in the head using the same method that TikTok had recommended and foisted on him. He was 16.



Link to video:
https://pugetstaffing.filev.io/r/s/6fb3chOeGuLWR57AgJCj7MdAqSieKRKlozkYd05VUKGh34XSTihfDpV9

e. *Roberts v. Meta, et al.*

Englyn Roberts

Englyn Roberts was born on July 21, 2006, and grew up in New Iberia, Louisiana. She was the youngest of eight children. Englyn was a bubbly teenager. She loved spending time with family, eating at different restaurants, and traveling to different places. She enjoyed dancing, with hip hop and lyrical dance being her favorites, and had dreams of going to college and becoming a choreographer with her own dance studio someday.

When Englyn was eleven years old, she was given her first cell phone and, shortly thereafter, she downloaded social media products. Her parents provided her with the cell phone so that she would have internet access, could take photos, and could stay in touch with family and friends. Not for social media. Her parents required the access code to Englyn's phone and said that anytime Englyn changed that code she needed to provide them with the new one, which she did. Her father Toney regularly monitored Englyn's social media use, or so he thought.

What Toney and Brandy did not know is that social media companies make sure that underage children can access their social media products, including by marketing to children, failing to verify age or identity (even when the children openly admitted to being underage on their public profile and/or in posts and

comments), and permitting the opening of multiple accounts. It was understood among children that Meta wouldn't close your account for being under 13. You just had to say you were 13 when opening an account and could then tell people your real age. In fact, this is something many kids still do. It also was understood among children that Meta did not object to kids using more than one account, which made it easier to hide more personal content and the existence of secondary accounts from parents and family—often referred to as a SPAM account or, in Instagram's case, a FINSTA (short for "fake Instagram").

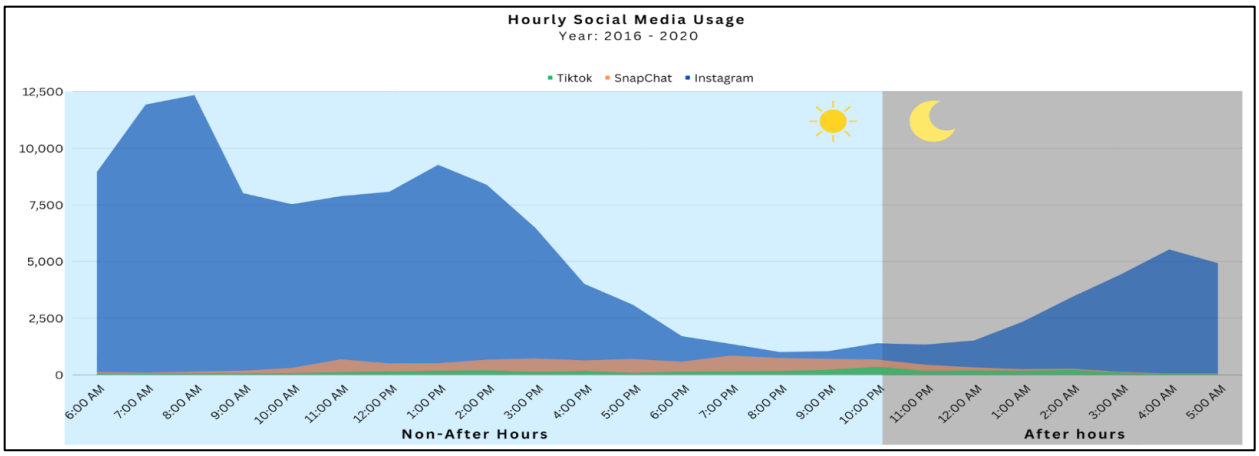
Instagram, TikTok, and Snapchat were designed to frustrate and prevent parents like Brandy and Toney Roberts from exercising their rights and duties as parents to monitor and limit their child's use of their social media products. Tony and Brandy were not aware when Englyn's social media usage started, nor did they ultimately know which products she used or how many accounts she opened without their knowledge or consent.

Englyn's social media use coincided with a gradual decline in her mental health. Englyn became addicted and spent increasing amounts of time communicating on social media, and engaged in the video, games, and reward features of the social media products.

Shortly after Englyn got her phone, her mother realized that Englyn was staying up at night on her cell phone. Her parents thought she was watching videos

on the internet and chatting with friends, as they still did not know about Englyn's social media use. Englyn had always been a well-behaved child, so her parents trusted her to use the phone responsibly. When they realized she was staying up on the phone, however, they instituted a 10:00 p.m. rule for all devices: Englyn's phone had to be turned off by 10:00 p.m. each night.

Englyn agreed and told her parents that she would make sure her phone was off by 10:00 p.m. Unfortunately, she was already addicted to social media by that point – which addiction her parents had no knowledge of – and which caused her to break the 10:00 p.m. rule to use social media. One night, Englyn's mother couldn't sleep and caught her awake with the cell phone on in her room. Brandy and Toney Roberts now believe that Englyn had been regularly staying awake and was suffering from sleep deprivation due to her use of social media, and Meta, Snap, and TikTok's failure to verify age and identity. These companies should not have been providing Englyn with access to their social media products at all as she was under the age of 13.

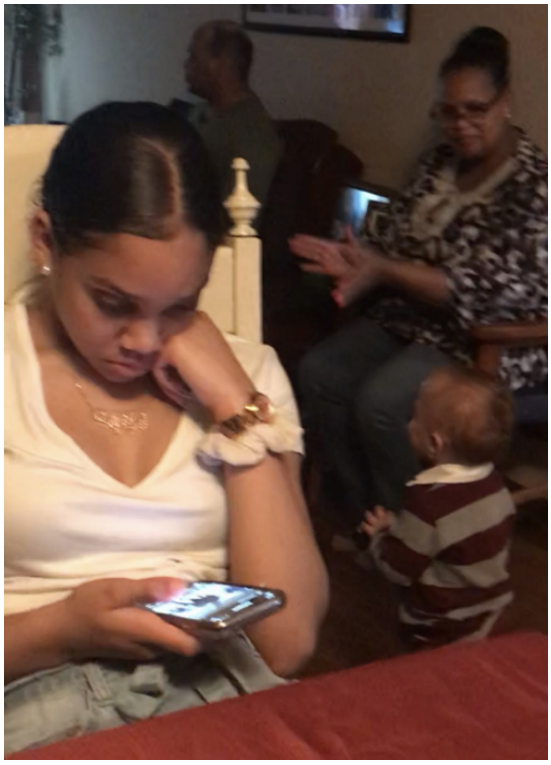


Englyn Roberts Social Media Use, 2016-2020

Regardless, from that point forward, Brandy Roberts took Englyn's phone downstairs with her each night when she went to bed. Englyn then started waiting until Brandy or both of her parents were asleep and would retrieve the phone so that she could use social media throughout the night. She was always careful to replace the phone before Brandy woke up in the morning and never got caught.

Occasionally, Brandy Roberts would restrict Englyn's cell phone access, though usually not for more than a few hours or a day. Nonetheless, these efforts at exercising parental rights and authority caused severe reactions in Englyn. Because of Englyn's social media addiction, she would panic without her cell phone and beg to get it back. She would tell her parents that they could do anything, except take her cell phone away. She would promise to do her chores, bring up her grades, or anything else that might get her the cell phone back – she said that she could not live without it. During these times when Englyn did not have social media access she would get anxious and depressed and would cry and sleep until she got her cell phone

back. Once she had her phone back, everything seemed fine again. In 2019, Englyn was photographed at a family event using the Instagram social media product:



What no one knew at that time was that, while Englyn appeared to be doing fine to her parents and family, in fact, she was being bombarded by Instagram, Snapchat, and TikTok with harmful images and videos (ranging from harmful social comparison content to violent and disturbing content glorifying self-harm and suicide). She was also receiving sexual and exploitative direct messages from strangers, which are allowed and enabled by all three of the social media products at issue, along with harmful connection and content recommendations – all of which would eventually kill her.

These social media companies were not providing fun and safe photo sharing

services, but rather, were dealing in incredibly addictive product features and pushing harmful algorithmically driven content, intended to keep Englyn hooked on their products by any means necessary. Meta, Snap, and TikTok's social media products also made harmful recommendations to and about Englyn Roberts, connecting her with strangers to increase their own engagement and thereby their own profits, which recommendations had nothing to do with any communication or informational aspects of social media.

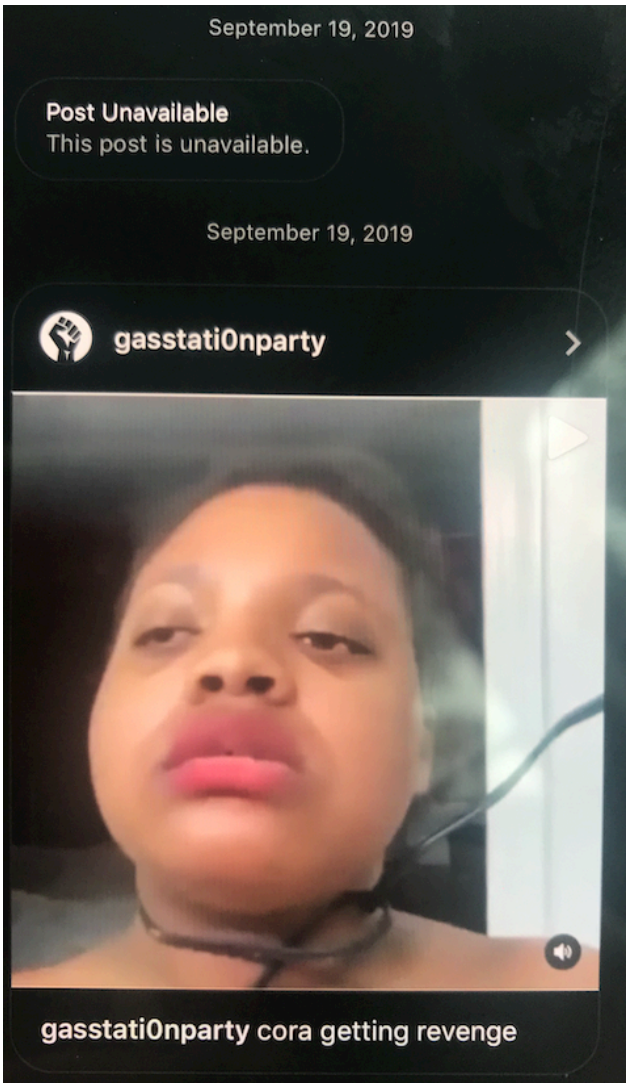
Meta, Snap, and TikTok's social media products also provided other users with unfettered access to Englyn through public profiles and features (in the case of Meta and TikTok), recommendation systems (in the case of Meta, Snap, and TikTok), and features that provided direct messaging access to Englyn regardless of her minor status, regardless of whether other users were on her "friends" list or equivalent, and regardless of duration, time of day, or frequency (Meta, Snap, and TikTok).

In 2018 and 2019, Englyn began interacting with and then sharing content about depression, suicidal ideation, and self-harm via social media, unbeknownst to her parents and teachers. Meta, Snap, and TikTok also utilized algorithms and/or similar technologies to steer Englyn towards and otherwise promote and amplify harmful and unsolicited content. These companies are not only aware of their promotion and amplification of harmful content but knew or should have known that

the harms caused by their marketing and amplification systems would be exacerbated by Englyn's sleep deprivation. These algorithms and similar technologies are designed to exploit these vulnerabilities caused by social media.

In September 2019, Englyn and her friend began exchanging links to incredibly harmful and violent page and users they had found because of Instagram's algorithm and recommendation systems, which content Instagram hosted on its platform for years while young users, like Englyn, continued sharing and viewing the incredibly harmful and violent content with alarming frequency. The content can no longer be found on Instagram, as Meta finally enforced its own Terms of Service and deleted the account in December of 2021 – but not before Meta's algorithms recommended this content to any number of children.

In September of 2019, Englyn and her friend messaged each other with the harmful content recommended and/or promoted by Instagram. The posting person's username was **gasstati0nparty** though this user's content is posted under more than one username. In one of the videos exchanged on September 19, 2019, the woman hung herself with an extension cord attached to a door:

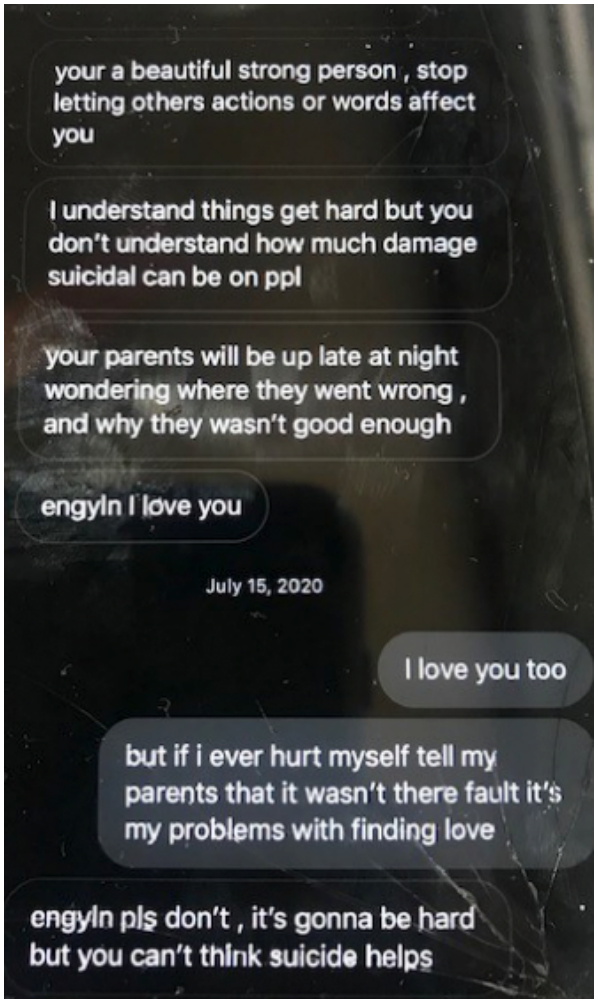


This is the kind of material Instagram's algorithm was recommending to 13-year-old girls in September of 2019, and it remained in Englyn's Instagram messages until December of 2021, more than a year after Englyn's death, when Instagram finally deleted this account.

The sleep deprivation caused by addiction and amplification of harmful content to which Englyn was exposed through her addiction to social media products was a cause of her depression, anxiety, self-harm, and suicidal ideation. On June 13,

2020, Englyn wrote to Instagram username **brayreggiontae_**, “right just think people be suicidal for no reason.” **brayreggiontae_** replied, “And people still wouldn’t understand.”

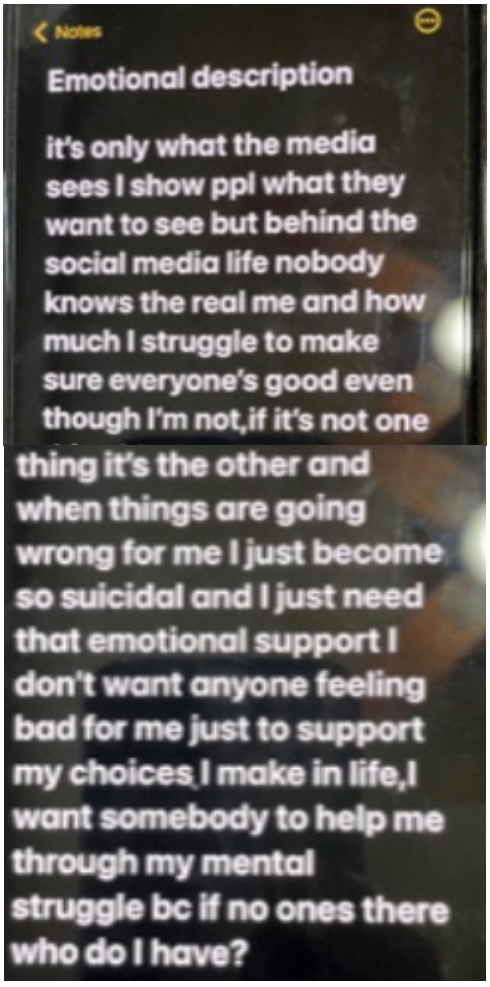
On July 15, 2020, Englyn wrote to Instagram username **lexy.paull**, “but if i ever hurt myself tell my parents that it wasn’t their fault it’s my problems with finding love.”



Around this same time, Englyn kept a list of mental health numbers (including a suicide hotline) in her “private story” feature on Instagram and was exchanging

pictures showing self-harm with one or more of her "friends" on Instagram. Meta knew that Englyn was a minor and said and did nothing to alert her parents or teachers to what was transpiring on its platform and because of the harms caused by social media – harms Meta itself was already studying and knew about as being among the impacts and effects of use of the social media products at issue in this case.

On August 11, 2020, Englyn typed an "emotional description" relating to her social media use into her cell phone's note pad application.



On August 29, 2020, at 3:30 a.m., Englyn took an extension cord and attached it to her door – just like she has seen in the Instagram video viewed countless times by herself and other young children – and attempted to choke herself – just like she had seen in the Instagram video viewed countless times by herself and other young children. Englyn texted her boyfriend (with corrections and as taken from police report):

> *I just want to die.*
>
> *I can't satisfy anyone.*
>
> *In the closet choking myself, wonder if I'm good enough to stay on Earth, because it's never enough, for anybody, nobody calls me, to check in on me, nobody, not even you, I have no reason but to die, call or I'm stepping off this stool, and I'll be done just like you wanted, never mind, see, take too long, dropping phone, so I won't get what you're saying, bye love you.*

She then used her phone and took a video of herself crying, in which the extension cord can be seen.

Brandy and Toney Roberts received a text message from Englyn's boyfriend's mother at 3:30 a.m., asking them to check on Englyn. They found their daughter hanging from the extension cord moments later. Toney picked her up and laid her on the floor, and Brandy began doing CPR, which she continued until the ambulance arrived. The medics were able to get a pulse, and Englyn was rushed to the hospital,

where she stayed on life support for nine days.

Her parents stayed by her side every possible moment, singing to her, playing music, and holding her hand. On September 7, 2020, they made the difficult decision to take Englyn off life support and continued to stay by her side as she left them.

Englyn's death devastated her entire family and her friends. She was a bright light and loved by everyone who knew her, and Toney and Brandy had no choice but to assume that her death was caused by some sort of mental illness no one knew about and with no outward symptoms. They became active and vocal on issues of teen mental health awareness and made a commitment to help other families and

children if they could. They also tried to reach out to Englyn's friends and other children on social media through postings and messages of positivity and hope.

Then, one week after the anniversary of Englyn's death—the week of September 13, 2021—Toney Roberts was watching the news and learned about the Facebook Whistleblower, Francis Haugen. He began looking for and listening to news on this topic, learning about what Instagram's leadership knew about the harms its products are causing to teen users. To name only one example, Meta recognized that a significant percent of its users are addicted to its products, that children open multiple, secret accounts (referred to by Meta as a "unique value proposition"), and that use of Instagram increases thoughts of what Meta calls "SSI" (Suicide and Self-Injury) in a percentage of teen girls who use it. Englyn was nothing more than a statistic to these companies, and Meta, TikTok, and Snap chose profits and growth over the health and well-being of unsuspecting teen users like Englyn.

That was when Toney Roberts charged Englyn's old cell phone to see whether the things they were describing on TV were what happened to his daughter. He was able to access some of her social media accounts from her phone and began scouring those with the information now in his possession. What became clear in September of 2021 is that Englyn's death was the result of injury caused by her addictive use of Instagram, Snapchat, and TikTok.

What her parents also did not know at that time was that, as a result of her use

of Instagram, Snapchat, and TikTok, specifically due to the intentionally addictive nature of these products as well as the harmful content they were promoting and amplifying to Englyn via various algorithmically drive product features and harmful social comparison features, Englyn Roberts had begun to suffer from depression, anxiety, self-harm, and suicidal ideation.

Toney and Brandy had no way of knowing what social media was doing to their child. In sharp contrast, Meta, Snap, and TikTok knew or should have known that they were causing this harm to Englyn, including based on her age, usage information, and usage patterns that were repeatedly exposing her via unsolicited methods, such as push notifications and algorithmically driven recommendation systems. Without Meta, Snap, and TikTok's failure to conduct a reasonable age verification, Englyn Roberts would not have been exposed to the harmful features and design of their respective social media products. Without the algorithmic discrimination contained in all three of the social media products at issue, including recommendation systems as well as content promotion and display systems, Englyn Roberts would not have been targeted and overwhelmed by disproportionately violent, sexual, and other harmful content. Without the endless feed and explore features characteristic of all three of the social media products at issue, Englyn Roberts would not have experienced the harmful dependencies that these features were designed to promote.

f. *V.V. v. Snap, et al.*

V.V.

V.V. opened her first Instagram account and at age 10 and her first Snapchat account at age 12, both without her parents' knowledge or consent. V.V.'s parents believed she was using her iPad for games, kid-appropriate videos, and educational purposes. They would never have allowed Instagram in and Snapchat their home had they known she was using those apps. By the time V.V.s parents learned she was using Snap and Instagram, she had learned how to open multiple accounts to thwart their exercise of parental authority.

V.V. used fake email accounts to open new Instagram and Snapchat accounts and provided inconsistent birthdate information across related accounts. Meta and Snap do not verify phone numbers, emails, or other information users provide,

making it easy for underage users such as V.V. to open accounts and for predatory adults to use false identities to exploit vulnerable minors with anonymity and impunity. Meta and Snap knew or should have known that V.V. was underage and did not have parental consent to use their products; yet continued to provide her with new accounts profiting handsomely as a result.

V.V.'s parents tried to stop her from using Snapchat and Instagram and, when that failed, opened their own accounts to monitor and protect their child. They understood that Snapchat was a silly photo app for users to interact with people they already knew; and Instagram was a product kids used to keep in touch with friends and family. V.V.'s parents had no idea that Instagram and Snapchat were connecting their 12-year-old daughter with strangers and sexual predators.

Shortly after opening her Instagram and Snapchat accounts, V.V. began having trouble sleeping and, over time, experienced severe sleep deprivation and related harms such as anxiety, depression, moodiness, and inability to regulate her emotions. While V.V.'s parents did not realize she was using Meta and Snap's products during sleeping hours, Meta and Snap track the hourly usage of their products on a per-user basis.

Meta and Snap specifically designed their products to hook young users such as V.V., utilizing a variety of extended use designs – which designs were known to Meta and Snap, but not ordinary consumers. Meta and Snap inundated V.V. with

push notifications, which had the intended effect of pulling her back onto their social media apps at the expense of her mental health and wellbeing. V.V. became dependent on Meta and Snap's features, including gamification features and rewards, and often found herself losing track of time while using Instagram and Snapchat due to their pull to refresh and endless scroll features.

Shortly after the opening of these accounts, Meta and Snap also began targeting V.V. with harmful content and advertising. Meta made available to her certain product features that were known to cause social comparison harms in teen girls. As direct and result of Meta and Snap's actions, V.V. experienced increased anxiety and depression, as well as devastating harms to her sense of self and self-esteem. These harms made her even more vulnerable to outside influences than she otherwise would have been by reason of being a child.

V.V. also began to suffer harms resulting from Meta's "like" product and the volume of unsolicited health and beauty content Instagram sends to young girls. V.V.'s Explore page often was filled with images beautiful and skinny models and advertisements for beauty products and weight loss tips – not just a few of these, but an unlimited feed filled with them, to the point where it was hard to see anything else. Like millions of teens who use Instagram, V.V. worried and judged herself based on the "Like" button. She would spend hours trying to create the perfect photo and once posted, her self-image would rise or fall on how many likes it received.

V.V. judged herself and believed others were judging her by these Instagram-set standards, and her self-esteem declined while her vulnerability increased as a result.

Snapchat and Instagram target underage girls for unsolicited advances by predatory adults. When V.V. first started using Snapchat, she did not have her own account and used her grandmother and aunt's accounts. When V.V.'s Snapchat profile was of an adult woman, she was not approached by strangers, no one attempted to exploit or abuse her, and no one sent her explicit Snaps and messages. However, once V.V. opened her own Snapchat account and identified herself as a teenage girl everything changed. She immediately began receiving sexually explicit images and solicitations from predatory strangers.

Through Meta's public profile features, V.V.'s profile was made viewable and available to complete strangers (including adults) also using Meta's products. User recommendation systems—known as "People You May Know (PYMK)" on Facebook, "Suggestions for You" on Instagram, and "Quick Add" on Snapchat—also immediately began sending V.V.'s profile to adult male users, and encouraged those complete strangers reach out and connect with V.V.

Snap has gamified its platform to incentivize and encourage children to accept friend recommendations from predatory adults. For example, a user's Snap score – a matter of social prestige and pressure among minors – goes up with each new connection accepted and the Snapchat product previously allowed and encouraged

minors to accept all Quick Add requests via a single click of a button. Snap and Meta have designed their products to not only make these connections, but to ensure that their youngest users accept them. Yet V.V.'s parents had no reason to suspect that Meta and Snap were trafficking their daughter through complex and proprietary algorithms, profile settings, and other features.

As soon as she opened her Instagram account, adult male strangers began finding V.V. through Meta's "Suggestions for You" feature and then would try to add her and/or would send her direct messages to connect. When V.V. was 11 years old, Meta directed and connected her to one such predator—a user whose real identity is still unknown. This Instagram predator seemed harmless at first, but his messages quickly turned explicit and he coerced V.V. into sending him explicit photos of herself. This was something that she couldn't tell her parents about, especially because they did not know about her use of Instagram. When V.V. tried to suspend contact with this Instagram predator, he threatened to upload the photos to an internet site unless she continued to engage with him and sent him more photos. V.V. was terrified of her parents finding out, and of her photos being published online, so she sent him more explicit photos. V.V. felt trapped, and in December of 2018, she tried to commit suicide in the hopes of finding some escape.

V.V.'s parents did not know the reason behind her suicide attempt at the time because V.V. was still afraid to tell them the truth. When she finally did, they

attempted to report the exploitation to the police, who informed them that Meta's Instagram product was designed in such a way that they could not identify who was behind the account that was used to abuse her, and a case was never opened.

Through this incident, V.V.'s parents learned she was using the Instagram social media product and took away her electronic devices to prevent such use. They noticed that when V.V. did not have access to electronic devices, she began sleeping better, would engage with her family, and participate, and was less anxious. Unfortunately, however, they were unable to prevent V.V. from using electronic devices indefinitely, and as soon as she was able to gain access again, she resumed using Meta and Snap's social media products.

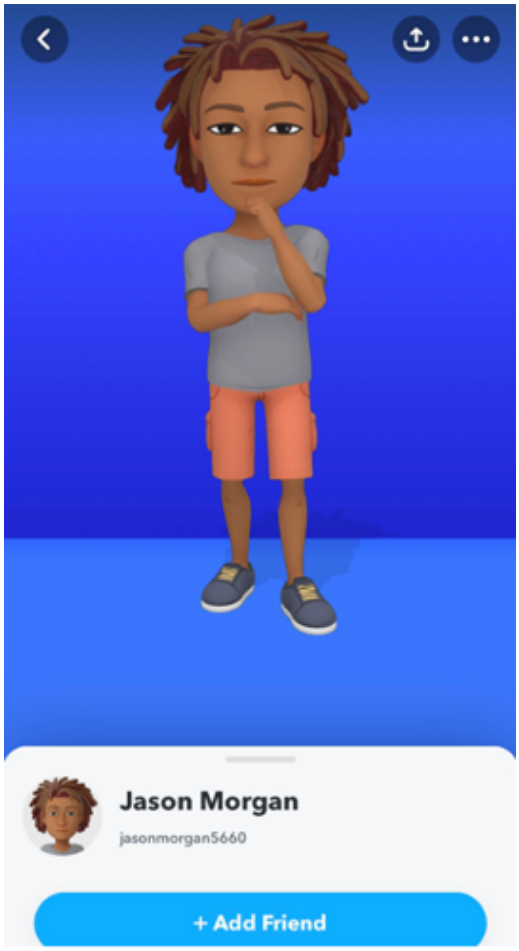
After V.V. opened her own Snapchat account (instead of using the one belonging to her grandmother and aunt), male strangers started sending her photos of their genitals. The way the Snap product is designed, V.V. could not discern what the photo contained until opening it. When this first started happening, V.V. reported these incidents to Snap. She forwarded Snap the explicit photos she was being inundated with, but Snap did nothing in response. On the contrary, often the same male user would continue sending V.V. explicit photos which she would report, but again, Snap never responded.

On July 15, 2019, when V.V. was still 12 years old, Snap connected her to Reginald Sharp. V.V. did not know Sharp in real life and Snap directed him to her

via its Quick Add and/or Public Profile product features. Sharp, a registered sex offender, went by the username JASONMORGAN5660.

After Snap connected V.V. to Sharp, he quickly began engaging V.V. in sexually explicit communications and promised her money in exchange for sending him explicit photographs or meeting in person. After V.V. sent Sharp explicit photographs, he threatened to post those on Snapchat unless she had sex with him. On July 23, 2019, Sharp coerced V.V. into sneaking out of her home in the middle of the night to meet him and raped her. V.V. was 13 at the time of her rape.

V.V.'s mother knew something was wrong immediately the next morning, found out what had happened, and reported it to the police who investigated. Detectives identified the Snapchat predator as Reginald Sharp and served a subpoena on Snapchat. Nevertheless, even though Sharp is a known sex offender who raped a 13-year-old child, as late as 2023 Sharp's Snapchat account was still active, as shown below.



V.V. has suffered serious mental, emotional, and physical harms and been hospitalized as result of Meta and Snap's marketing, design, distribution, advertising, and programming decisions. She has isolated herself socially, suffered

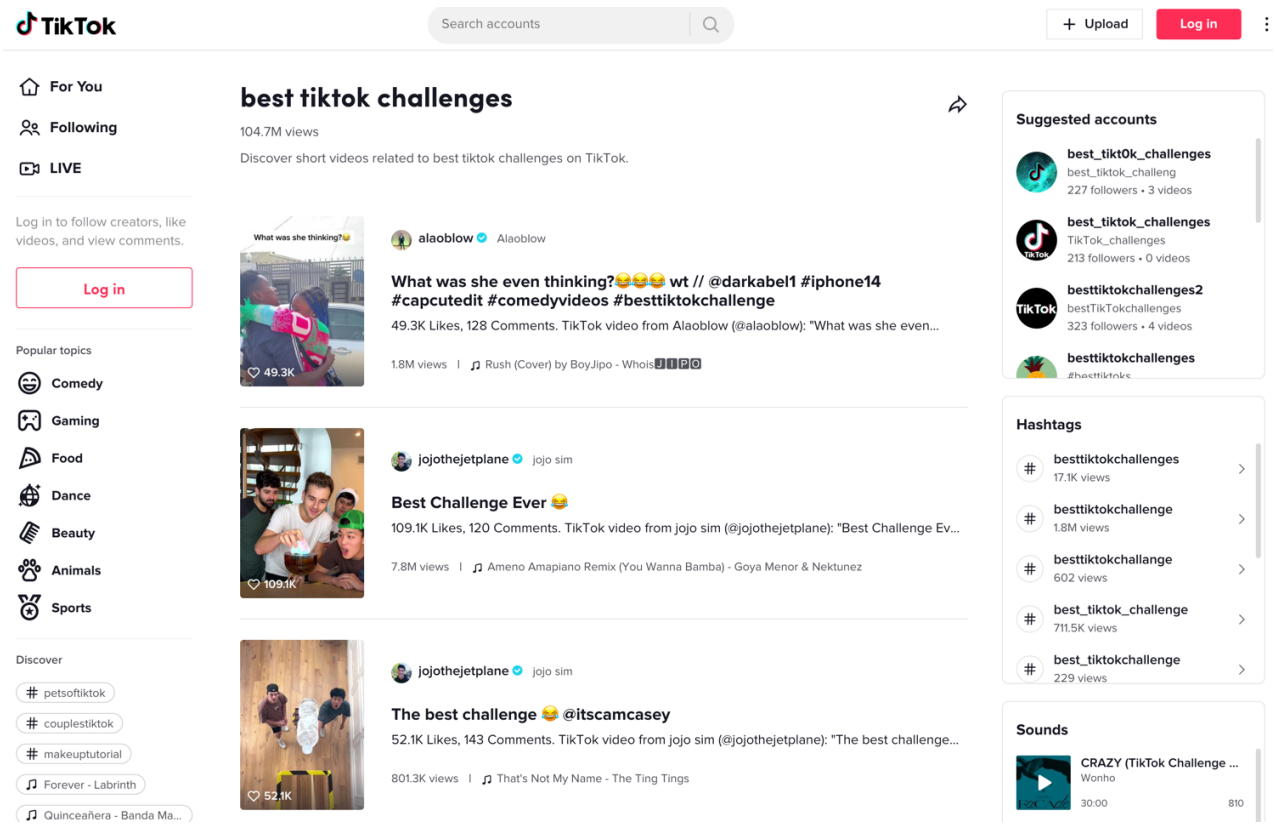
from anxiety and depression, thoughts of self-harm and suicide and feels tremendous pain and guilt for the turmoil her social media dependency has inflicted on her family.

g. *Arroyo v. TikTok*

Arriani Arroyo

TikTok relies heavily on the amount of time users spend watching videos to steer users toward more videos and continuous scrolling. This process sometimes steers younger users toward material promoting self-harm and/or suicide. In December 2021, an anonymous TikTok employee publicly shared an unauthorized, internal document because they were disturbed by TikTok's push toward "sad" content that could induce self-harm. The internal communication called "TikTok Algo 101," revealed that TikTok's goal was to keep users on the app as long as

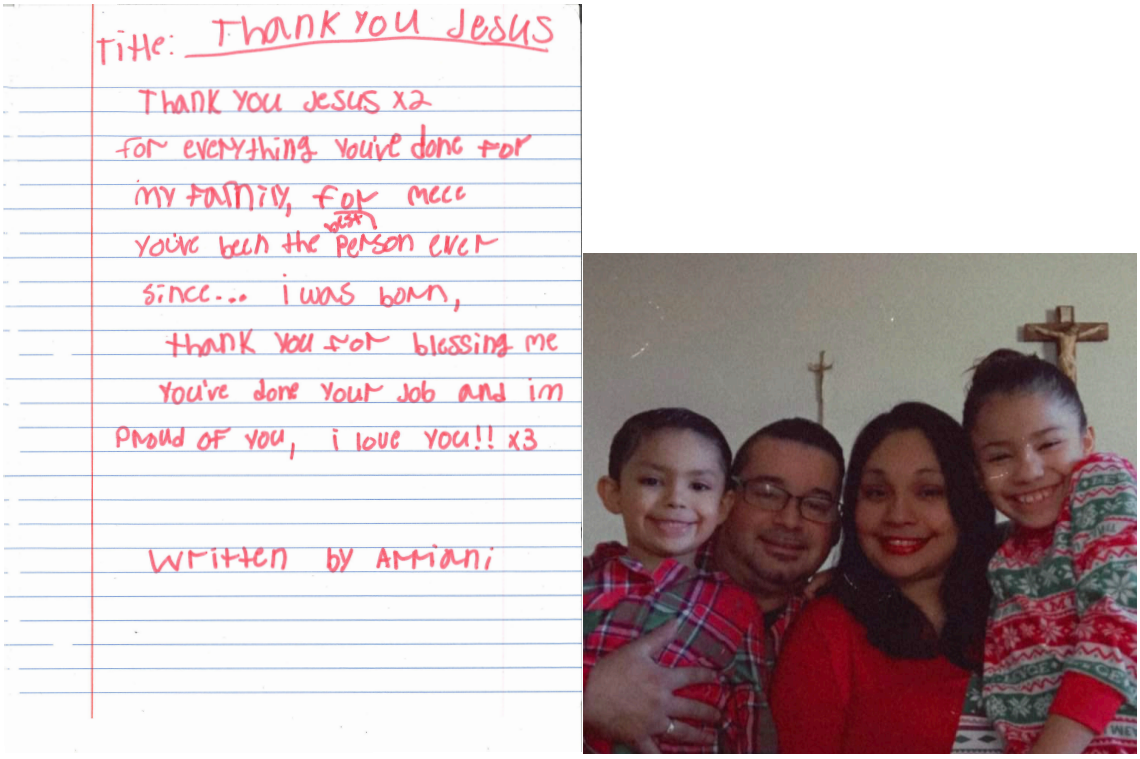
possible. The document indicated that one solution to getting a bored user to continue watching, is through "forced recommendation in users' "For You" feeds."



A deadly "blackout challenge" on TikTok was linked to the deaths of at least 20 children between January 2021 and November 2022. Children around the world received the blackout challenge in their "For You" feeds, encouraging children to choke themselves with household items until they become unconscious and film the adrenaline rush once they regain consciousness. TikTok knew children were dying from this challenge that was delivered to children via its algorithms and reaching those too young to understand the dangerous risks involved with participation. At

least 15 of the 20 children who died while filming the challenge were aged 12 or younger; one of them was nine-year-old Arriani Arroyo.

Arriani Arroyo lived with her parents, Heriberto and Christal Arroyo, and her brother, E.A., who was three years younger. Arriani enjoyed playing basketball, kickball, and riding her bicycle. She loved to dance and was enrolled in a ballet class at school.


Title: Thank you Jesus

Thank you Jesus x2
for everything you've done for
my family, for mece
you've been the person ever
since... i was born,
thank you for blessing me
you've done your job and im
proud of you, i love you!! x3

Written by Arriani

Arriani began using TikTok at around age seven. She used TikTok multiple times a day, including watching videos of other people dancing and singing and posting videos of herself dancing and singing. Arriani gradually became obsessive about posting dance videos on TikTok and became addicted. She began receiving from TikTok challenges on her "For You" page. She sometimes discussed these

challenges with her parents and because all the challenges they discussed involved eating and drinking, they seemed harmless to Arriani's parents. They understood that TikTok was a family-oriented social media product, which was marketed to and safe for children to use.

On February 26, 2021, while her mom was attending a church event and her dad was working on a project in the basement, Arriani played with then five-year-old brother, E.A., upstairs in Arriani's room. E.A. went downstairs and told his father that Arriani was not moving. Heriberto rushed upstairs and found Arriani hanging from the family dog's leash, which she had affixed to the door to her room. Heriberto Arroyo called 9-1-1 and Arriani was rushed to Children's Hospital where physicians placed her on a ventilator and were able to restore her pulse. However, testing revealed that Arriani had permanent, irreversible, and complete loss of brain function and life support was withdrawn.

h. *Neville v. Snap*

Alexander Neville

Alexander Neville was born on May 4, 2006, and lived in Aliso Viejo, California. He loved skateboarding, videogames, and playing with his little sister, E.N. He had a keen interest in World War II and the Civil War and often shared with his family and friends his dream of becoming a historian when he grew up.

Alexander got his first cell phone in the 5th grade. He started attending the YMCA for afterschool care and his parents wanted him to have a way to reach them if needed. They talked about responsible cell phone use with Alexander and told him that it was okay for him to play age-appropriate games. His parents also required Alexander to provide both his device pin and passwords to them for any applications he put on the device, so they could check in on him.

Alexander's mother, Amy Neville and her husband Aaron Neville believed that Snapchat was a social media product made for kids. They understood that it was

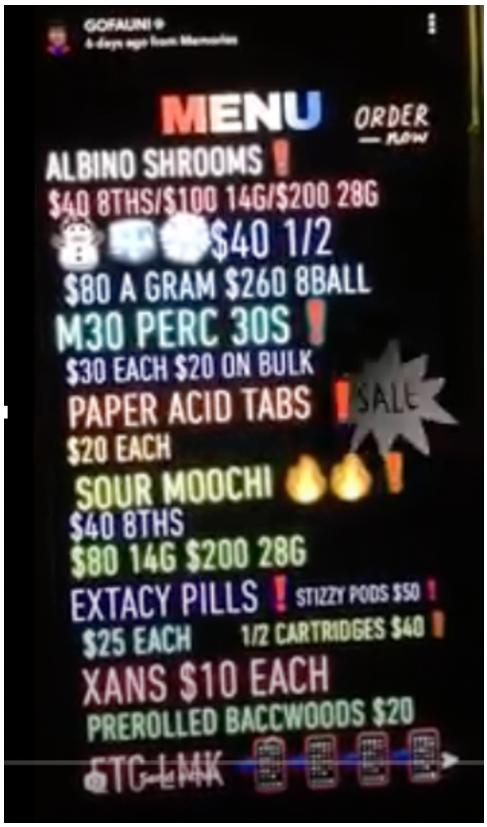
made for 13-year-old kids, and that it was a fun and silly product where you could take goofy photos and share those with friends. They knew that most 13-year-old kids already had a Snapchat account; in fact, the director of the YMCA said that she had opened a Snapchat account so that she could keep tabs on her YMCA kids. Snapchat was advertised as and appeared by all accounts to be harmless and age appropriate.

In retrospect, Amy and Aaron now believe that Alexander began using Snapchat sometime just prior to starting the 8th grade, if not earlier. This was around this time when they first observed Alexander's trouble sleeping. For example, Amy would find him awake in the middle of the night, in his room and on his phone. Throughout 8th grade, Alexander struggled more than usual. He was often tired, and his parents resorted to the threat of turning off wi-fi to get him to sleep.

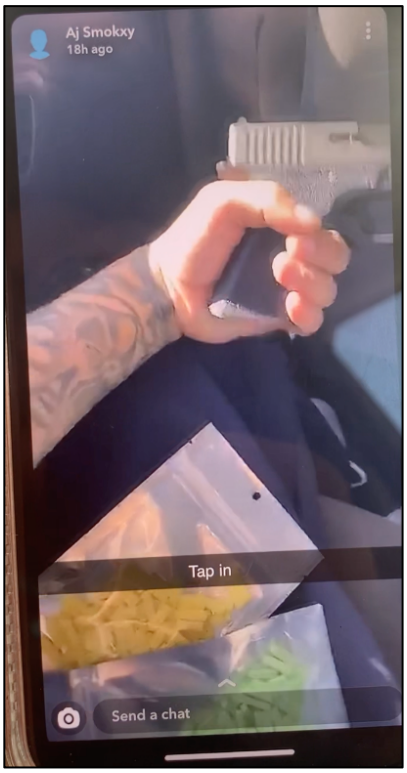
Alexander's use of Snapchat coincided with a steady decline in his mental health. As a result of Snap's products and features, *i.e.* push notifications, user recommendations, interface and operational extended use designs, rewards and gamification features, etc. – Alexander began suffering from severe mental health harms, including, but not limited to, social media compulsion, sleep deprivation, increased anxiety, and depression.

Snap also began directing and recommending drug advertisements to Alexander and connecting him to Snapchat drug dealers via its recommendations

and mapping and location features, as it does to millions of underage Snapchat users. He received multiple Quick Add requests from other Snapchat users he did not know in real life and, because of Snap's gamification and other features that encourage kids to accept those requests, he accepted them. Among the strangers to whom Snap connected Alexander were nearby Snapchat dealers – persons Alexander did not know in real life and would not have met but for Snap's product design, programming, distribution, and operational decisions. Snapchat designed and programmed its user connection systems to increase engagement at any costs which, in the case of minor users, included affirmatively identifying and directing predators and drug dealers to those minor users.

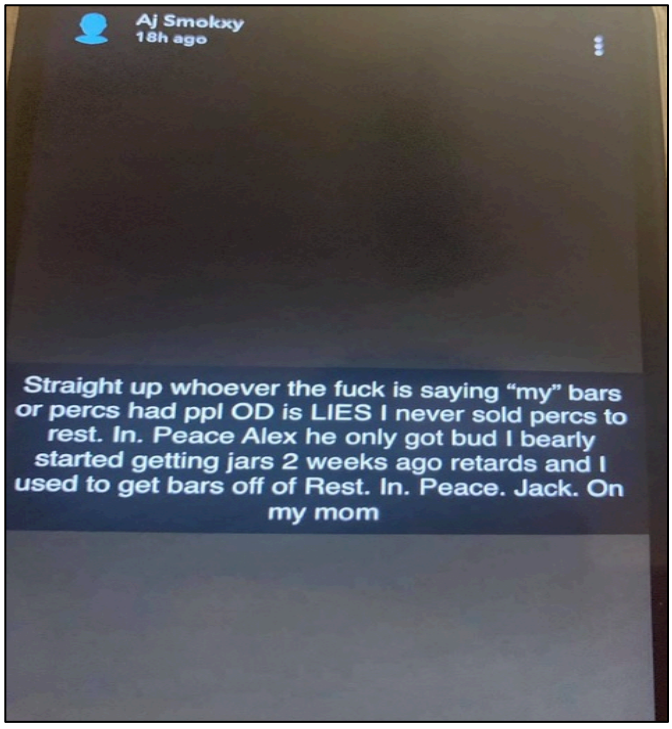


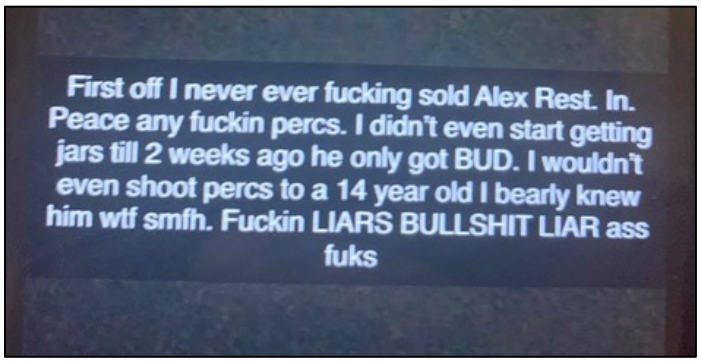
On June 21, 2020, just a few days before Alexander died, Amy Neville asked him what was wrong, as she could see that something was off. Alexander told his mother that somebody on Snapchat had sold him an Oxycodone pill which he'd taken. He said that he was curious about it but now, he said, he was scared because he already wanted more, and that he needed help. Amy called a drug treatment center on the morning of June 22 to get help for her son. On the morning of June 23, 2020, Amy went to Alexander's room to wake him up for an orthodontist appointment. She opened the bedroom door and found Alexander's body laying lifeless on his bedroom floor. Alexander died of fentanyl poisoning at the age of 14. Amy was made aware that the pill that had been sold to Alexander was 100% fentanyl, and that he obtained the pill through Snapchat dealer AJ Smokxy.



The authorities subpoenaed Snap for documents, and it took Snap nine months and multiple subpoenas to finally answer. Once Snap finally responded, there was enough information to confirm that Alexander met with the Snapchat sealer AJ Smokxy. Even after being served the subpoena, Snap continued to let AJ Smokxy sell drugs on Snap. They did not disable or block the Snapchat dealer who sold Alexander counterfeit Oxycodone, despite knowledge that AJ Smokxy was selling deadly fentanyl pills to minors via and because of its Snapchat product.

In August of 2020 – two months after Alexander's death – Snap was still facilitating the drug deals for AJ Smokxy. AJ Smokxy was also publicly denying his role in Alexander's death *while publicly admitting* that he did deal "jars" and "bud."





Snap allowed AJ Smokxy to keep marketing and distributing his drugs through its platform – and Snap continued to profit from its casual partnership with him. Snap caused the deaths of at least two more individuals after Alexander because of drugs distributed by AJ Smokxy on Snapchat. Snap knew AJ Smokxy was under investigation for drug-related homicide but continued to let him market and distribute his drugs through their product, failing to delete his account even after they were on notice that he was killing kids.

To name only one example, AJ Smokxy went on to use the Snap drug network to supply counterfeit pills to the Snap dealer, Arnoldo_8286, who found and contacted Daniel Elijah Figueroa ("Elijah") via Snap and sold him a counterfeit pill. Elijah died three months after Alexander, in September 2020. AJ Smokxy's account remained active for roughly a year after Alexander's death and when Snap would have received subpoenas relating to that death.

Snap knew that AJ Smokxy was using its Snapchat product to sell drugs to young Snapchat users. Snap knew or should have known that AJ Smokxy was using

its Snapchat product because of its unique product features like disappearing messages and My Eyes Only. Snap knew that it was benefitting financially from his Snapchat activities and from its refusal to deactivate his account. Snap made the choice to take no action in connection with these illegal activities, and to disregard its promises as per its terms of service. It did not de-activate the Snapchat Dealer account or warn users or their parents of known illegal and potentially lethal harms arising from such use and other Snapchat users were harmed and/or died a result of those decisions.

i. *N.M. v. Meta et al.*

N.M.

N.M. was born into a devout Irish-Catholic and tight-knit family that never misses Sunday mass or lunch with her grandparents afterward. N.M. was a happy and fiercely intelligent child. She enjoyed and did well in school and sports and

dreamt of attending college on a field hockey scholarship and studying to become a pediatrician. She has always lived, except while attending college, with her parents, E.M. and P.M., and three siblings.

N.M. got her first cell phone in 8th grade, after saving up and purchasing it herself. She was active in sports, a straight-A student, and a responsible individual who gave her parents no reason to think that she could not handle the responsibility of a cell phone. Her parents discussed with her the importance of safety, of not sharing personal information with strangers, and of being careful with what she posted with the knowledge that once she put something out there, she could never take it back.

One of the first things N.M. did after purchasing her phone was to open an Instagram account. It seemed like all of her friends already had Instagram, and she opened the account to keep in touch and communicate with her friends and family members. Around late 2019, N.M. opened a TikTok account.

N.M.'s use of Instagram and TikTok coincided with a steady and severe decline in her mental and physical health. N.M. was not looking for and did not want fitness, weight loss, exercise, or any similar content or advertisements from Instagram and TikTok. She was athletic, engaged in several sports, and had a good sense of self and self-esteem—then Instagram and TikTok happened.

Instagram sent push notifications 24 hours a day designed to lure N.M. back to the app every time she tried to log off. Within a matter of months, she found herself regularly checking her Instagram at night, at first in response to push notifications Instagram sent her and, eventually, as a matter of compulsion. She intended to spend only a few minutes on the product but would get lost in Instagram's endless scroll and other extended use product features, lose track of time, and ultimately spend hours passively viewing content on the app, causing a lack of sleep, anxiety, and depression.

N.M.'s posting experience quickly changed, going from something she enjoyed to something she obsessed over and, at times, dreaded. She worried relentlessly over the number of likes, comments, and shares her posts received, would check her account multiple times after posting, and would remove posts if she felt they did not garner enough responses. Instagram created a perfect storm of social comparison, which left N.M. feeling anxious, vulnerable, and often unsure or insecure about herself. These harms were caused specifically by Meta's product

designs, harms in which Meta knew about and opted to inflict on a significant number of Instagram users (specifically, teen girls) to ensure increased engagement. Over the course of those first few months, Instagram began selecting and connecting N.M. with harmful users and content. This included random strangers who Instagram would recommend to N.M. via its "Suggestions For You" user recommendation algorithm as well as random strangers who were somehow about to find N.M.'s profile and direct message her even though she was a minor with a profile set to private. These product features were either defective or inherently dangerous in that they were serving up a minor to predatory, adult users. Instagram likewise began selecting and connecting N.M. to massive amounts of advertising that made her feel like she wasn't pretty enough or skinny enough. At first, this included makeup advertisements, then it became advertisements for workout products, exercise products, and fat burning and/or low-calorie food products. These were advertisements Meta either directly approved or assisted in the creation of, then purposefully targeted at N.M. due, at least in part, to her age, gender, and other perceived vulnerabilities, and from which Meta profited each time. N.M. did not search for these product advertisements and did not understand why Instagram was targeting her with them; however, she then began asking her parents to buy these products.

Instagram then started targeting N.M. with large amounts of Health & Beauty connections and content, including influencer and other third-party videos focused solely on health and beauty, and similar subject matters. These were subject matters N.M. did not search for and did not want, but that Instagram began pushing to her Explore and other app surfaces in excessive amounts each time she opened Instagram. As with the advertisements Instagram directed to N.M. via its product design and programming decisions, Instagram began by targeting her with bathing suit photos and videos, then cooking recipes and ideas, and over time, Instagram started filling her feed surfaces with overly skinny models, more make-up products, and diet products and tips.

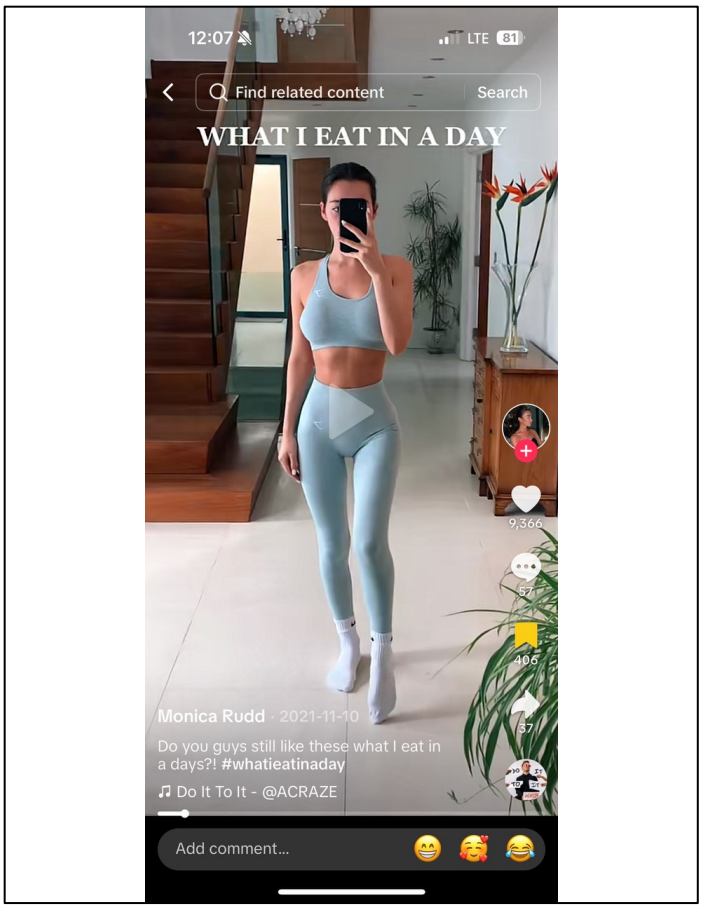
Instagram targeted N.M. via its product design and programming based on her age and gender, and the decisions Instagram made for N.M. caused incredible harm, including but not limited to harmful social comparisons, depression, anxiety, and,

eventually, disordered eating as N.M. began buying the products and following the diets Meta told her she should buy and follow.

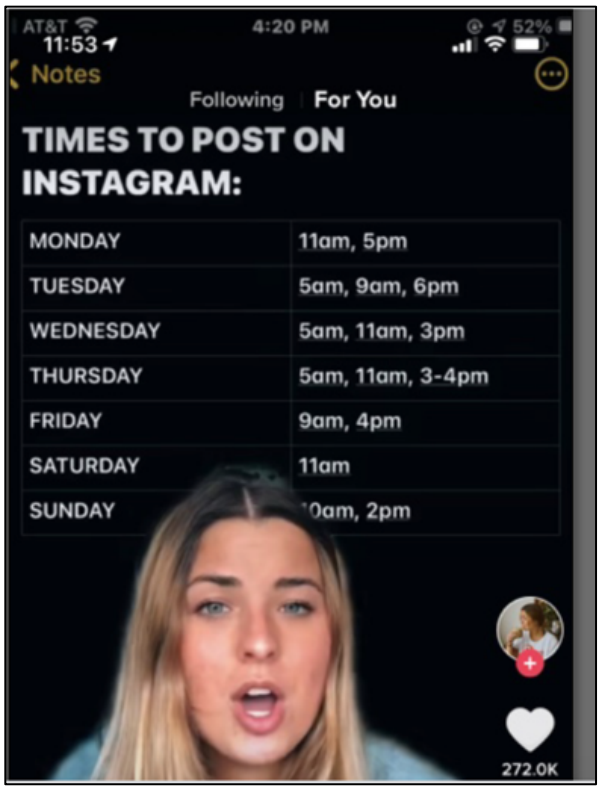
Like Instagram, TikTok also sent N.M. push notifications 24 hours a day, designed to and successfully did persuade her log back on to the TikTok app every time she tried to log off.

N.M. found herself opening her TikTok app regularly and at all hours due to extended use designs utilized by TikTok, including not limited to auto-play, endless scroll, and time manipulation techniques. What N.M. meant to be a few minutes on TikTok almost always turned into hours, which developing dependency led to increased sleep deprivation, anxiety, and depression.

N.M. began watching TikTok for its cute dance videos, but within a matter of months – if not quicker – the TikTok algorithm product also began to turn deadly. Like with Instagram, TikTok started by flooding N.M.'s For You Page with advertisements for makeup and health and beauty brands. Then it began sending N.M. skinny influencer content, encouraging and pushing her to try new workout routines – which, ultimately, she did; then TikTok targeted N.M. with extreme content like "What I Eat In a Day" and dangerous workout routines.



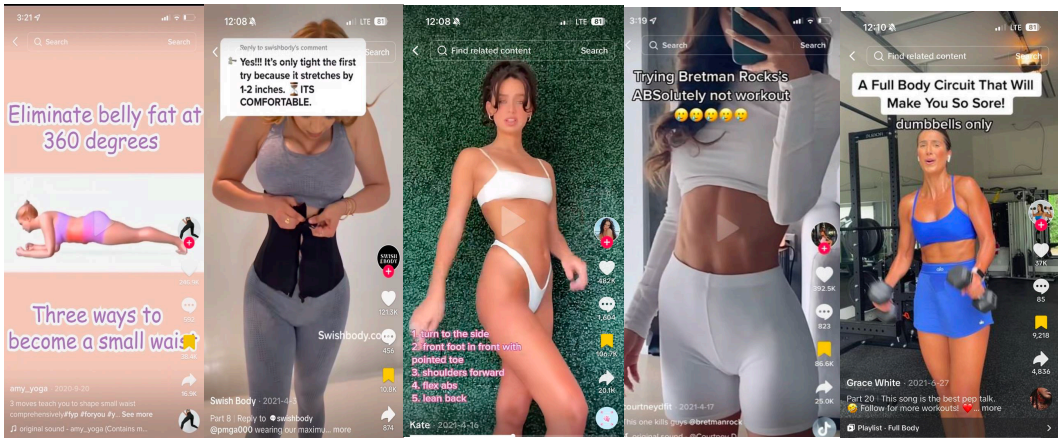
TikTok also materially contributed and participated in the creation of most if not all of the influencer (referred to by TikTok as "creator") content it then directed to N.M., including by encouraging and paying those creators to post more, telling them where to post, when to post, and how to post, providing them with tutorials and coaching them on how to get more views and make their posts more interesting, suggesting songs to match their themes, and other tools, communications, and actions in which TikTok routinely engages specifically with those users its refers to as Creators in order to make more money via engagement.



When N.M. opened her TikTok account, she provided her actual birthdate. TikTok knew or should have known at all times that it was directing these advertisements, creator content, and other harmful subject matters to a minor. Meta also knew or should have known that N.M. was a minor, including based on information it had in its possession, its age estimating technologies, and N.M.'s stated birth year, which, while not accurate, still identified her as a minor when Instagram began targeting her with harmful advertisements, connections, and subject matters.

Shortly after the pandemic began is when N.M.'s parents noticed something was wrong. N.M. was home more due to quarantining and was engaged in more physical activities than usual. At first, her parents thought it was boredom, but then

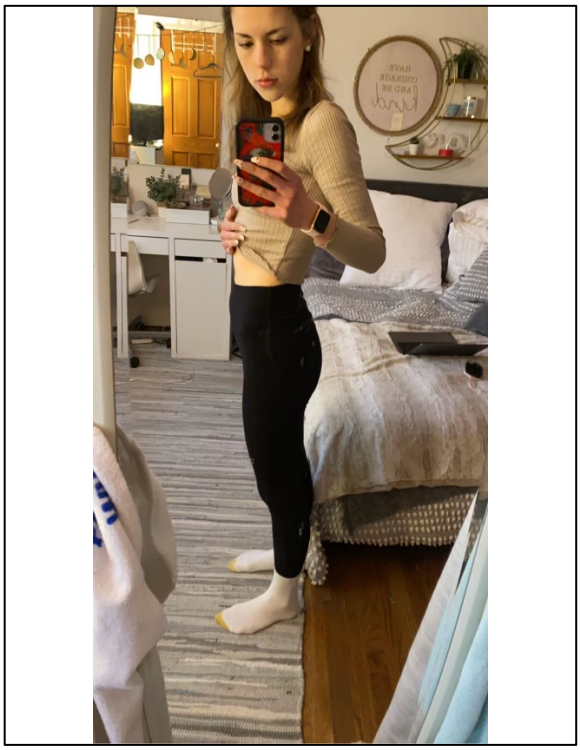
they noticed that she was losing weight and no longer enjoyed social situations. Specifically, she began focusing on calories, limiting the times she could eat, and asking for special foods with a precise degree of knowledge she should not have had. N.M. was being fed an arsenal of very specific information about foods, eating, and exercise, and despite her parents' diligent efforts to find out the source, they could not.



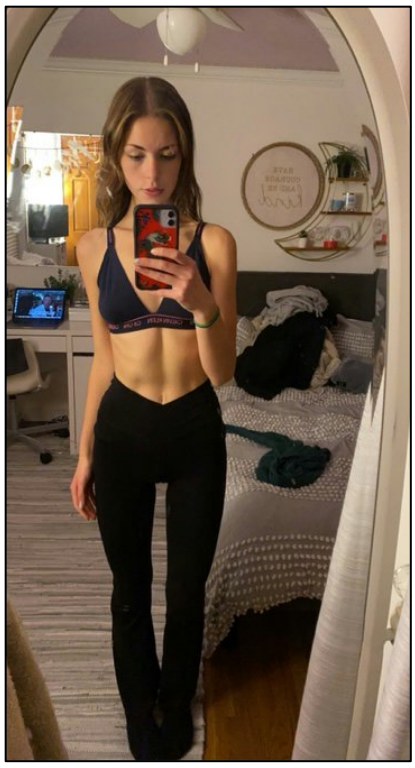
To N.M.'s parents it felt like someone else had come into the picture and was significantly influencing their child who was changing before their eyes, but they could not figure out who, how, or why. This is one of the greatest harms Meta and TikTok have caused to users, families, and medical providers. Specifically, they concealed the harms only they knew their products were causing, which harms related to their product design decisions, programming, distribution, and operational choices within their sole knowledge and control. N.M.'s parents could have intervened and obtained N.M. the help she needed sooner and before the worst of

the damage was done had these companies simply come forward and told users and their parents the truth.

In September of 2021, N.M.'s mother, E.M., took her to the doctor to get checked out. The doctor said that something was wrong. N.M. was not getting enough calories, but that it was not out of control and her parents needed to start supervising her at meals.



N.M. was then sent to an eating disorder specialist in the practice three days later, and N.M.'s parents noted the sharp decrease in her BMI, which coincided with the period of increase in her use of the TikTok product.



E.M. then made the difficult decision to pull N.M. out of the private high school she was attending, so that she could better monitor and help her daughter get better, including by being able to bring her home at lunch each day to eat. This was the high school N.M. and her parents chose because of the opportunities it offered for her future, including a global exchange program through which N.M. planned to spend a semester in Ireland and specialized introduction to the medical career courses N.M. wanted to take in preparation for becoming a doctor.

N.M. also participated in a field hockey league in preparation for a college scholarship and eventually she had to quit the league and competitive playing due to harms caused to her by Meta and TikTok.

Unfortunately, N.M. did not get better. What E.M. did not know and had no way of knowing at that time was that Instagram and TikTok were causing the harms to her daughter. N.M. was dependent on their products and that they were fostering, connecting, and enabling harmful connections for their own gain.

Instagram and TikTok were targeting N.M. on the basis of gender and other perceived vulnerabilities, while at the same time marketing themselves as fun and safe products for teens. Instagram and TikTok knew about the harms their products and programming decisions were causing and made the calculated business decision to keep the rest of the world in the dark. Millions of American children, including N.M., were harmed as a result.

In October 2021, N.M. began having chest pains. E.M. took her to urgent care, thinking it was a muscular issue. Instead, urgent care rushed N.M. to the hospital where she was admitted for a week with bradycardia and anorexia nervosa.

Shortly after N.M. was admitted to the hospital, E.M. went home to grab some things and quickly returned. When she returned, N.M. was in tears. She asked her mother how her phone knew what she was doing and said that she felt like someone was watching her. Then she showed her mother her TikTok For You Page and the videos TikTok had only just started aiming at her—videos that were focused on how she could convince doctors that she was eating and that she did not need to be sent away for treatment.

This included things like encouraging her to drink water before a weigh-in and other tips and tricks. N.M. had never received these videos on the TikTok product before, but TikTok began sending them moments after she was admitted to the hospital and left in her hospital room.

TikTok and Meta collect thousands of data points on every user, from device ID to browser history, IP address, estimated age, education, consumer preferences, health history, and other categories that are incredibly invasive and inherently harmful – particularly given the manner in which these Meta and TikTok choose to use that information. While it is unknown how precisely TikTok determined that N.M. was in the hospital and seeking treatment for her eating disorder, TikTok knew and decided to target her with specialized subject matters aimed at helping her hide

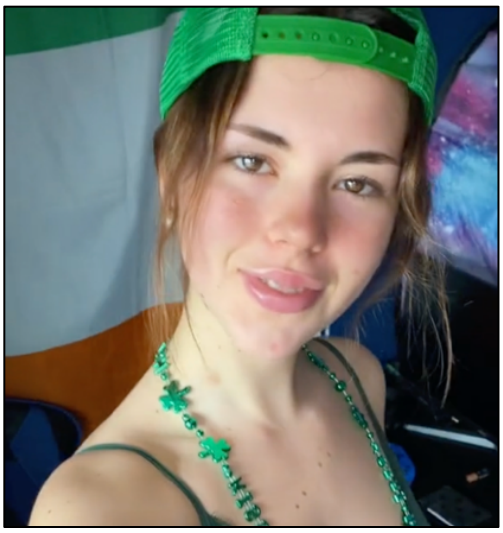
the eating disorder TikTok helped cause in the first place. All N.M. could think about was being released so that she could lose the weight she was forced to gain.

N.M. began intensive therapy but was hospitalized again three months later, in April 2022.

This time, she was admitted to a facility that made clear things were now out of her parents' hands and that the level of care she would need if she did not make more progress would require a rehabilitation facility. N.M. committed to making more progress and was allowed to return home, where she worked to stay in recovery.

As a result of her compulsion to interact with the Instagram and TikTok products, and specifically due to recommendations and content Instagram and TikTok selected and showed to N.M., a minor user of their products, N.M. subsequently developed injuries including, but not limited to, social media compulsion, sleep deprivation, anxiety, depression, body dysmorphia, anorexia nervosa, and significant hair loss among other harmful effects, which may cause or contribute to additional harms.

Meta and TikTok designed their products to promote social comparison and body dysmorphia by providing beauty filters that encouraged users to present as having slimmer faces, smoother skin, bigger eyes, larger lips, and more.



Meta and TikTok designed their products to frustrate parents like E.M. from exercising their rights and duties as parents to monitor and limit their children's use of Meta and TikTok' products.

Meta and TikTok designed their products to allow minors to use, become addicted to, and abuse their products without the consent of the users' parents, like E.M. Meta and TikTok designed their products to be attractive nuisances to underage users but failed to exercise the ordinary care owed to underage business invitees to prevent the rampant, foreseeable, and deleterious impact on minor users that access Meta and TikTok' products.

N.M. and E.M. were not aware of the addictive and mentally harmful effects of Meta and TikTok' Instagram and TikTok products when N.M. began using those products. Meta and TikTok not only failed to warn them of the dangers of social media compulsion, sleep deprivation, and problematic use of Meta and TikTok' products, but misrepresented the safety, utility, and non-addictive properties of their

products. Executives at both Meta and TikTok made public statements about the safety of their products and testified under oath before the U.S. Senate as to the same even though they knew or should have known of the harms their products were causing.

As a result of N.M.'s extensive and problematic use of the Instagram and TikTok products she developed numerous mental and physical health conditions. The long-term physical harms caused by her anorexia remain unknown, but she has been informed by doctors that it is possible her long-term health will suffer, including but not limited to things like bone density, her ability to have children, and heart health. N.M. lost large amounts of hair that still has not grown back. She still suffers from anxiety, depression, anorexia nervosa, and social anxieties she did not have before her use of Meta and TikTok' products.

N.M. attends college but her dreams of attending a top tier college with a sports scholarship were destroyed when Meta and TikTok weaponized their products and exploited her for their own gain. She no longer plays field hockey and still struggles with addiction to Instagram and TikTok.

j. *Patterson v. Meta et al.*

On May 14, 2022, 18-year-old Payton Gendron entered Tops Friendly Markets supermarket on the East Side of Buffalo and murdered ten Black citizens in a heinous act of racist brutality. As Gendron's attorney acknowledged, "the racist

hate that motivated this crime was spread through on-line platforms." Gendron did not grow up in a prejudiced household and did not hold racist beliefs until he began using and became dependent on social media. Gendron wrote that "when I was like 12, that was when I didn't dislike American blacks and liked listening to black music."

Gendron became addicted to social media products when he was a minor under his parents' legal control accessing his social media accounts multiple times per hour and at all hours of the night. He did not initially seek out racist material, but because social media apps were expressly designed to maximize engagement over his psychological and ethical well-being, they foisted upon him unsolicited material promoting racist hate and violence. Exploiting Gendron's incomplete frontal lobe development, they targeted him with increasingly extreme and violent content and connections which promoted racism, antisemitism, and gun violence. This was no mere accident or byproduct of poor software engineering; rather, these algorithms were functioning as designed and intended.

The material force-fed to Gendron progressed from white supremacist screeds to livestream videos of mass shootings and other extreme depictions of racist violence. This material inspired Gendron to move forward with his murderous plan. He explained:

> Knowing that so many other attackers like myself are out there rooting for me gives me quite a bit of confidence. Every single White man has everything to lose by doing nothing, and everything to gain by taking action. Yes I do find inspiration from other attackers.

Gendron's ability to livestream his racist murder furnished the final motivation to carry out his evil plan. With haunting insight, Gendron explained how Christchurch shooter Brenton Tarrant's livestreaming of his March 2019 massacre increased the power of his racist message exponentially over the written statement released by Charleston shooter Dylann Roof:

> Dylann Roof's manifesto is not that bad Livestreaming this attack makes a 1000x greater impact I most likely wouldn't even know about the real problems in the world if Brenton Tarrant didn't livestream his attack.

Gendron wrote that livestreaming the attack would help him overcome his fear and any lingering sympathy for human life that could dampen his murderous intent.

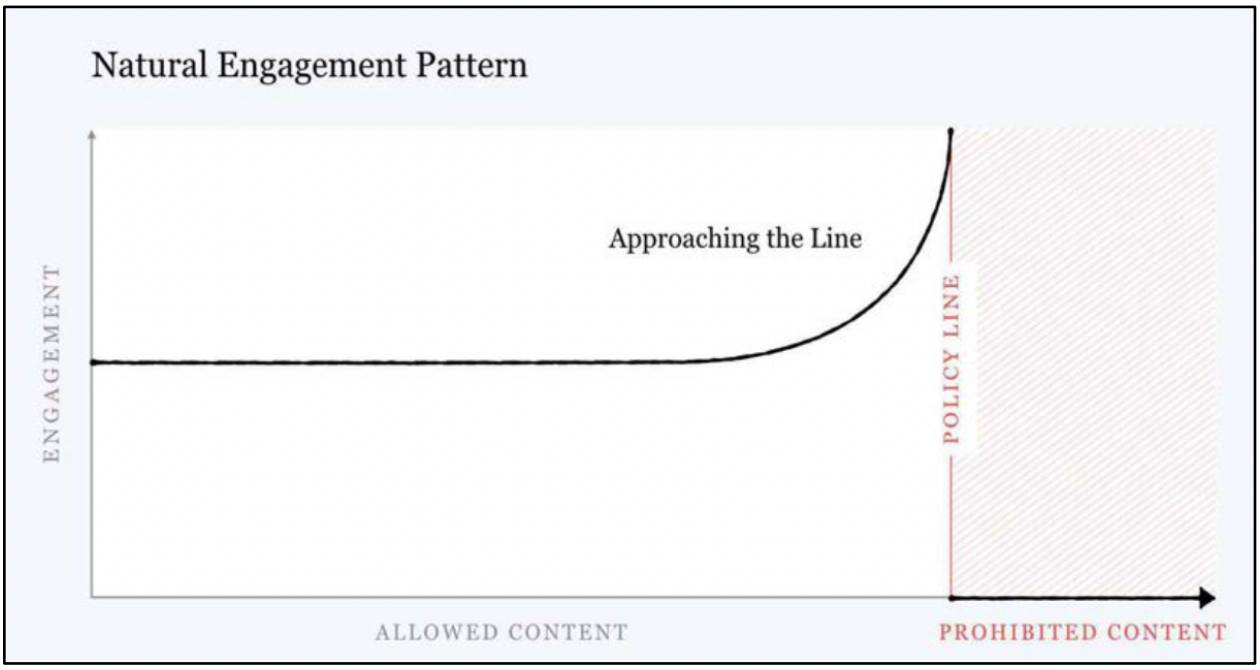
> It is very difficult for a normal person even with all the information to carry out an attack that will kill another human being, or the fact that you may die that day. . . . I think that live steaming this attack gives me some motivation in the way that I know that some people will be cheering for me.

The New York Court sentenced Gendron to life without parole, and he currently faces federal death penalty charges. At his sentencing hearing, he acknowledged the web-based source of his radicalization:

> I cannot express how much I regret all the decisions I made leading up to my actions on May 14th. I did a terrible thing that day. I shot and killed people because they were black. Looking back now, I can't believe I actually did it. I believed what I read on-line and acted out of hate.

Gendron's rampage was neither an accident nor a surprise. Teenagers' incomplete neurological development makes them ideal targets for Respondents' addictive algorithms and highly susceptible to radicalization. In the case of young male adolescents such as Gendron, social media platforms' addictive features (autoplay, infinite scroll, notifications, and social validation features including "likes"), when paired with engagement-maximizing algorithms, actively encourage,

assist, and facilitate the spread of racist, antisemitic, and terrorist propaganda. Taking full advantage of the incomplete development of Gendron's frontal lobe, Instagram, YouTube, and Snapchat maintained his product engagement by targeting him with increasingly extreme and violent content and connections which, upon information and belief, promoted racism, antisemitism, and violence. Because the Instagram, YouTube, and Snapchat algorithms were designed with the singular goal of maximizing Gendron's product engagement over his psychological, emotional, and ethical well-being, they directed him to sites and other users promoting hate and violence. As evidenced by this internal Meta document, these products were functioning as designed and intended.



The social media companies and streaming companies that Gendron used not only could have foreseen the significant radicalization risk posed by their apps—

they actually saw the risk. Meta personnel aware that its recommendation algorithms "are prone to recommending harmful content." In one experiment from 2019, found that in just 3 weeks by following just this recommended content, the test user's News Feed had become a near constant barrage of polarizing content, misinformation, and violence. Google recognized, anticipated, and even rebuked internal attempts to mitigate harms to their young users. Facebook's Director of Content Policy explained that not "not only did we anticipate murders and suicides on Live, we anticipated far worse (all of one of our top 5 predictions have played out)." When it acquired Twitch, Amazon knew that the product was used by criminals to livestream criminal activity and that the ability to livestream acts of violence using Twitch's product motivates criminals to follow through with their plans.

R. First Amendment Concerns

a. Companies Need Not Remove Content to Design Safe Products

"At the heart of the First Amendment lies the principle that each person should decide for himself or herself the ideas and beliefs deserving of expression, consideration, and adherence." These words, written by Justice Kennedy over 30 years ago, represents the bedrock essence of the First Amendment. Importantly, the protection applies both to speaker and listener: it defends not only the right of the speaker to be heard but also the right of everybody in the audience to listen. The First Protection is a most important repudiation of the censorious instinct of those in

power, taking refuge in the false security of consensus, to stifle the voices of those with whom they disagree.

What it does not protect, however, is misconduct. Social media companies regularly insist that they are immune from liability under every possible circumstance: that Section 230 protects them from liability arising from third-party content while *everything else* associated with their platforms should be treated as first-party speech. But as the ongoing, nationwide litigation against these companies has demonstrated, these companies can manifestly conform their conduct to the standards of a reasonable business without removing, editing, deleting, or moderating a single piece of content.

History has consistently shown that censorship by the state is never the panacea so envisioned by those in power. The challenge before us is that emergent and miraculous technologies run into human tendencies as old as civilization itself: greed, power, ego, and control. Our ingenuity at designing social media platforms, complex algorithms, and artificial intelligence is despoiled by the inexorable need to maximize profits over safety or to serve other ignoble ends. We simply cannot help ourselves, and so the law must step in as a bulwark to protect society from the excesses and appetites of the few.

Let me sharpen the point plainly: Congress should take no action to remove or moderate lawful content from any social media platform, no matter how

deplorable, reprehensible, or offensive it may seem. After all, esteemed and learned Senators: to whom shall you award the right to decide which speech is harmful and who is the harmful speaker? To determine in advance for you what you can read, to relieve you of the responsibility of hearing what you might not wish to hear? What Congress should endeavor to do—and what my law firm has fought to do over these past four years—is hold social media companies (indeed, all companies) to the same standard of reasonable care and safe product design as every other industry. Such bedrock standards of care, referred to as a "common law" duty, are fully compatible and consistent with our first and most important Amendment.

b. The First Amendment Protects Speech, not Conduct

It is axiomatic that the First Amendment protects speech, not conduct; but crucially, it is also true that conduct is not automatically shielded by the First Amendment simply because it involves speech. Federal case law makes clear that generally applicable laws do not offend the First Amendment simply because their enforcement has an incidental effect on speech. When a bookstore sells a book, there can be no liability for the substance and content of that book. But when a publisher targets your children, constructs a bookstore like a casino, interrupts your children's school and sleep hours with notifications of new books, and deluges your children with a force-fed feast of psychologically discordant material for the express goal of

ensuring your children never leave—in these circumstances, the First Amendment offers no refuge for outrageous misconduct.

Throughout the country, in lawsuit after lawsuit, SMVLC has sought to hold social media companies accountable to a civil jury for the design of their products: the decision to include intentionally addictive platform features like infinite scroll and engagement-optimized algorithms, the manipulation of social validation principles such as "likes" and "FOMO" to hook children, and the use of "dark pattern" designs that frustrate the ability of both users and parents to realize the danger and take steps to protect themselves. Neither these lawsuits nor any act by Congress should seek to limit any platforms' capacity to engage in content moderation—to filter, prioritize, or label various messages, videos, or other content their users wish to post. Indeed, presenting third-party content is a key component of social media, but *how* they do so is the key issue.

c. AI-Driven Algorithms and Chat Bots are Not Speech

"Speech is expressive. Speech communicates ideas. Speech has a message even when the message is not clear or is open to interpretation." This observation, made last year by District Court Judge Anne C. Conway in *Garcia v. Character Techs., Inc*., encapsulates why artificial intelligence is not entitled to First Amendment protection. Simply put, the First Amendment protects the freedom to think and speak as an inalienable *human* right. Indeed, leading scholars have

explained the deeply concerning consequences of assuming machine speech is legally equivalent to, and deserving of, the same constitutional rights as human speech.[4]

By contrast, the "editorial decisions" for which social media companies seek constitutional protection consist of electronic impulses of artificial intelligence-driven algorithms designed to exploit the neurological immaturity of minor users and maximize their engagement by deluging them with psychologically discordant material that they are not seeking but from which they cannot look away. These artificial-intelligence driven algorithms are software, lines of code designed and written by software engineers to respond to specific variables without any underlying cognitive process or communicative intent. And once designed, these algorithms go forth and act in accordance with their marching orders and design parameters. In this regard, social media companies exercise no editorial discretion whatsoever—they designed recommendation algorithms that act based on data analytics and user metrics, not upon any editorial judgments by the companies as to desirable or undesirable content. Their algorithms could be designed to optimize a user's content recommendations for happiness, optimize for wellness, optimize for

[4] *See* Tim Wu, Machine Speech, 161 U. Pa. L. Rev. 1495, 1496 (2013); Helen Norton, Manipulation and the First Amendment, 30 Wm. & Mary Bill Rts. J. 221, 223 (2021).

education—or, in the case of social media companies, optimize for screen time and engagement.

Of course, there is also the point of what happens when social media companies let their AI algorithms off the leash. As Justice Amy Coney Barrett explained:

> Consider, for instance, how platforms use algorithms to prioritize and remove content on their feeds. Assume that human beings decide to remove posts promoting a particular political candidate or advocating some position on a public-health issue. If they create an algorithm to help them identify and delete that content, the First Amendment protects their exercise of editorial judgment—even if the algorithm does most of the deleting without a person in the loop. In that event, the algorithm would simply implement human beings' inherently expressive choice "to exclude a message [they] did not like from" their speech compilation.
>
> But what if a platform's algorithm just presents automatically to each user whatever the algorithm thinks the user will like—e.g., content similar to posts with which the user previously engaged? The First Amendment implications of the Florida and Texas laws might be different for that kind of algorithm. And what about AI, which is rapidly evolving? What if a platform's owners hand the reins to an AI tool and ask it simply to remove "hateful" content? If the AI relies on large language models to determine what is "hateful" and should be removed, has a human being with First Amendment rights made an inherently expressive "choice ... not to propound a particular point of view"? In other words, technology may attenuate the connection between content-moderation actions (e.g., removing posts) and human beings' constitutionally protected right to "decide for [themselves] the ideas and beliefs deserving of expression, consideration, and adherence." So the way platforms use this sort of technology might have constitutional significance.

Moody v. NetChoice, LLC, 603 U.S. 707, 746 (2024).

Certainly, algorithms *could* be designed to act upon specific editorial judgments, such as to rank or prioritize certain types of content over others based on the substance of that content (e.g., emphasizing pro-Ukrainian content over pro-Russian content or pro-Israeli content over antisemitic content). In fact, both President Trump and Congress previously recognized the power and danger of content-based algorithms in the hands of massive tech companies. In August 2020, President Trump issued an Executive Order finding that "the spread in the United States of mobile applications developed and owned by companies in [China] continues to threaten the national security, foreign policy, and economy of the United States." President Trump determined that TikTok raised concerns, noting that the platform "automatically captures vast swaths of information from its users" and is susceptible to being used to further the interests of the Chinese Government." Against this backdrop, Congress passed the Protecting Americans from Foreign Adversary Controlled Applications Act (PAFACA), which sought to respond to concerns that TikTok—whose parent company is subject to the control of China—could use its sophisticated algorithm to harm U.S. national interests. Lawmakers recognized that a foreign adversary could use content-recommendation algorithms to emphasize and spread polarizing, misinforming, or otherwise destabilizing content throughout the U.S. The Supreme Court rejected TikTok's challenge of the Act under the First Amendment, holding that while "laws favoring some speakers

over others demand strict scrutiny when the legislature's speaker preference reflects a content preference," such scrutiny is "unwarranted when the differential treatment is 'justified by some special characteristic' of the particular [speaker] being regulated." *TikTok Inc. v. Garland*, 604 U.S. 56, 72 (2025).

In sum, the social media companies' artificial intelligence algorithms cannot be fairly characterized as constitutionally protected "editorial judgments;" they serve no communicative purpose, are not "speech," and are not entitled to First Amendment protection.

d. Not All Speech is Protected Speech

Even if social media algorithms and artificial intelligence chatbots are to be considered expressive speech, the question remains whether they depict *protected* speech. The First Amendment historically permits restrictions upon the content of speech in several limited areas. For example, it has never been deemed an abridgement of free speech to make a course of conduct illegal merely because the conduct was carried out by means of language. Speech integral to illegal conduct—e.g., defamation—cannot excuse the wrongful conduct underpinning it.

Another example includes speech obscene to minors. On this point, little elaboration is necessary: the First Amendment does not protect adults from preying on and directing sexual communications toward minors. Yet time and time again, social media platform features and recommendation algorithms make it much easier

to connect children directly to adult predators. And there have been countless instances of AI chatbots engaging in, and promoting, sexually explicit "conversations" with minors. This is no mere thought experiment or future problem. This ever-present danger to children is here among us right now.

And finally, there has always existed some categories of speech that have been historically unprotected yet have not yet been specifically identified or discussed in the case law. A growing number of scholars have called for an exception to the First Amendment for "manipulative expression," which functions more akin to content than speech. Indeed, the First Amendment already recognizes a special category for commercial speech, motivated by the impact of comparatively powerful speakers' comments on comparatively vulnerable listeners' rights. The recognition within the First Amendment of the disparity in power and information between speakers and listeners in certain circumstances, and the resulting frustration of listeners' rights, compels carving out efforts to regulate manipulative speech.

Thank you all again, Mr. Chairman, for the opportunity to testify before this Committee and I look forward to answering your questions.