24-0961-cr

United States Court of Appeals

for the

Second Circuit

UNITED STATES OF AMERICA,

Appellee,

– v. –

ZIXIAO GARY WANG, CAROLINE ELLISON, NISHAD SINGH, RYAN SALAME,

Defendants,

FTX TRADING LTD., WEST REALM SHIRES INC, ALAMEDA RESEARCH LLC, ALAMEDA RESEARCH LTD.,

Intervenors,

SAMUEL BANKMAN-FRIED, AKA SEALED DEFENDANT 1,

Defendant-Appellant.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

BRIEF OF *AMICI CURIAE* DR. ALEXANDER WESTPHAL, DR. MARC WOODBURY-SMITH, DR. KENNETH J. WEISS, DR. NANCY PERRY, DR. CLARE S. ALLELY, DR. COLLEEN BERRYESSA, DR. MARK STOKES AND DR. ELLIOT ATKINS IN SUPPORT OF DEFENDANT-APPELLANT

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INTEREST OF *AMICI CURIAE*[1]

Amici curiae are leading experts in "neurodiversity," a term that encompasses a range of developmental conditions, including autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD), as defined in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* ("*DSM-5-TR*"). *Amici curiae*, listed below, have studied and published extensively on these issues.[2]

- **Dr. Alexander Westphal** is an associate professor (adjunct) at the Yale School of Medicine. An expert on ASD, Dr. Westphal has authored and co-authored numerous book chapters and articles on the topic. He is one of the editors of the *Handbook of Autism Spectrum Disorder and the Law* (Springer, 2021), and has served as the Chair of the American Academy of Psychiatry and the Law's Developmental Disability Committee.
- **Dr. Marc Woodbury-Smith** is a Clinical Senior Lecturer at Newcastle University and has served as an Honorary Consultant Psychiatrist in the

[1] All parties have consented to the filing of this brief. *Amici* certify that no counsel for either party authored this brief in whole or in part, that no party or party's counsel contributed money intended to fund the preparation or submission of the brief, and that no one other than *amici* contributed money intended to fund the preparation or submission of the brief.

[2] Titles and institutional affiliations are listed for identification purposes only.

Complex Neurodevelopment Disorder Service. He is one of the editors of the *Handbook of Autism Spectrum Disorder and the Law* (Springer, 2021). Dr. Woodbury-Smith's work on the intersection of autism and the law is widely cited and has guided the field.

- **Dr. Kenneth J. Weiss** is Clinical Professor of Psychiatry at the Perelman School of Medicine at the University of Pennsylvania. He is the founding Chair of the Committee on the Developmentally Disabled with the American Association of Psychiatry and the Law. He is the editor of *Psychiatric Expert Testimony: Emerging Applications* (2015), and has published on a wide range of topics relating to neurodiversity, including *Rational Psychiatric Care of Jail Inmates: It Happened in Monterey*, 67.1 Psychiatric Services 4 (2016).
- **Dr. Nancy Perry**, a licensed psychologist and autism advocate, was formerly the Clinical Director for the Center for Adaptive Learning. Dr. Perry has authored numerous works on autism, including *Adults on the Autism Spectrum Leave the Nest: Achieving Supported Independence* (2008).
- **Dr. Clare S. Allely** is a Professor of Forensic Psychology at the University of Salford in England and is an affiliate member of the Gillberg Neuropsychiatry Centre at Gothenburg University, Sweden. She is also

an Honorary Research Fellow in the College of Medical, Veterinary and Life Sciences affiliated with the Institute of Health and Wellbeing at the University of Glasgow. She acts as an expert witness in criminal cases involving defendants with autism spectrum disorder. Her published works include *Autism Spectrum Disorder in the Criminal Justice System: A Guide to Understanding Suspects, Defendants and Offenders with Autism* (Routledge 2022).

- **Dr. Colleen Berryessa** is an associate professor at the Rutgers University School of Criminal Justice. Her articles on neurodiversity in the legal system include *Defendants with Autism Spectrum Disorder in Criminal Court: A Judges' Toolkit*, 13 Drexel Law Review 841 (2021), and *Judicial Stereotyping Associated with Genetic Essentialist Biases Toward Mental Disorders and Potential Negative Effects on Sentencing*, 53.1 Law & Society Review 202 (2019).
- **Dr. Mark Stokes** is an associate professor at Deakin University's School of Psychology, where he leads the Healthy Autistic Life Lab. His many articles include *Subjective Wellbeing of Autistic Adolescents and Young Adults: A Cross Sectional Study*, 17.6 Autism Research 1175 (2024), and *Examination of the Potential Moderating Role of Psychological Wellbeing in the Relationship Between Depression and*

Thoughts of Self-Harm in Autistic Adolescents and Adults, Journal of Autism & Developmental Disorders (2024).

- **Dr. Elliot Atkins** is a practicing psychologist who specializes in working with patients with adult ADHD and ASD. His numerous articles on neurodiversity and the law include *When the Boundary is Crossed: A Protocol for Attorneys and Mental Health Professionals*, 11.3 American Journal of Forensic Psychology 3 (1993).

Individuals with neurodivergence range from the disabled to the extra-ordinarily gifted. When the divergent qualities impede learning, socialization, and activities of daily living, these differences are often the subject of mental health intervention. As *amici* will explain, neurodivergence can be a source of relative strength in some contexts. It can, however, present special challenges in the legal context. Neurodivergence can sometimes impede full and effective participation in legal proceedings and can impair the truth-finding goal of the legal process. For example, common markers of ASD include poor eye contact, the failure to recognize social cues, rigidity in interactions, and an inability to express or sometimes address emotional content in conventional ways. Individuals with ASD often find it necessary to offer complete explanations, which can result in lengthy, qualified answers. In the legal context, those traits are often misinterpreted as evidence of

guilt, furtiveness, or defiance instead of what they are—earnest efforts to provide complete, precise, and helpful responses.

These issues resonate throughout this case and the assertions of error in this appeal. The defendant, Sam Bankman-Fried, has been diagnosed with ASD and ADHD. His neurodivergent developmental conditions posed serious challenges during proceedings in this case. For example, his cognitive and communication style—which includes seeking clarity when confronted by what he perceives as ambiguous questions, and giving expansive, detailed answers in the interest of accuracy—are characteristic of ASD. They also frustrated the district court, which communicated its frustration, including to the jury. As experts focused on ASD and ADHD, *amici* have a unique interest in these conditions and how they affect the individual's interaction with the justice system. *Amici*'s expertise and experience, moreover, give them unique insights into how the asserted errors in this appeal may work to the particular prejudice of neurodivergent individuals, like Mr. Bankman-Fried. *Amici* thus have both an interest in and a unique perspective on the matters before the Court.

ARGUMENT

Even before Sam Bankman-Fried's meteoric rise—he founded and became CEO of one of the largest crypto-currency trading and derivative platforms before age 30—there was evidence that Sam Bankman-Fried was different. Profiles on him during that period rarely fail to mention his idiosyncratic speaking style, poor eye contact, peculiar adherence to routine, and fidgetiness. Mr. Bankman-Fried's atypicality persisted through his and his company's meteoric fall. And it was apparent during his criminal trial, to Mr. Bankman-Fried's detriment. The press noted Mr. Bankman-Fried's unusual affect, his longwinded answers, and how poorly both were received by the court. N. De, *Is the Sam Bankman-Fried Story Over?* Coindesk (Apr. 9, 2024). The judge presiding over the trial clearly found him frustrating. The press reported the judge was "visibly irritated with Bankman-Fried"; it "was pretty clear . . . the judge did not like him" or "his demeanor." D. Morris, *Sam Bankman-Fried Just Failed the Most Important Exam of His Life*, Protos (Oct. 31, 2023); Episode 233, The Rest Is Politics, at 53:44-53 (Apr. 2, 2024).

Sam Bankman-Fried, it turns out, is "neurodivergent." He has two conditions: autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD). High-achieving and driven, Mr. Bankman-Fried did not allow those conditions to prevent him from becoming successful at FTX; some traits associated with those conditions (the ability to hyperfocus and engage in outside-the-box

thinking) may have contributed to that success. But those conditions can give rise to significant challenges in the context of criminal trials. Neurodiverse individuals can present differently, often exhibiting characteristics—poor eye contact, lengthy and qualified answers, reluctance or inability to display emotion—that easily can be misunderstood as evidence of evasiveness, callousness, or guilt.

Part I of this brief discusses ASD and ADHD, the special challenges they present in the trial setting, and their potential adverse impact on the truth-finding mission of trials. Part II of this brief relates to the specific errors raised on appeal and their intersection with Mr. Bankman-Fried's diagnosis. We submit this brief not as comment on any legal argument, but as experts on neurodiversity and its interaction with the criminal justice system. In our view, the asserted errors in this case pose a particularly grave risk of prejudice for an individual, like Mr. Bankman-Fried, who has been diagnosed with ASD and ADHD.

I. NEURODIVERSITY AND ITS IMPLICATIONS FOR LEGAL PROCEEDINGS

A. ASD, ADHD, and Their Presentation

The term "neurodiversity" is increasingly used to describe an array of "hard-wired" developmental conditions, including ASD and ADHD. Brain functioning and behavior, including strengths and weaknesses, vary dramatically across the neurodiverse population. *See Autism*, Off. Disability Emp. Policy, U.S. Dep't of Labor. Divergences from the norm are not necessarily labelled illnesses, but they

can be highly salient when accompanied by problems in adaptation or subjective distress. As the term "neurodiversity" implies, individuals with one or more of these conditions can possess a wide spectrum of personalities, strengths, and challenges. "An autistic person," one cognitive scientist writes, "may, for example, be either highly intellectually gifted or have an intellectual disability, or fall anywhere in between, just like any person." M. Dunne, *The Neurodiversity Edge* 4 (2024). Those with ASD may be nonverbal or hyperverbal; unemployable or highly productive. B. Siegel, *The Politics of Autism* 4-6 (2018). And a neurodivergent individual often will have uneven capabilities, resulting in what is commonly called "spikey skill profiles," with peaks and valleys rather than a constant level of capability. As a result, one finds neurodivergent people in a range of positions in society.

1. While neurodivergence can be a source of comparative strength in certain contexts, it can present significant challenges as well. ASD is often defined by social disability, including rigid or restricted behavior patterns. Individuals with ASD may exhibit poor eye contact or avoid eye contact altogether. C. Allely, "Perception of Defendants with ASD by Judges and Juries," in *Representing People with Autism Spectrum Disorders: A Practical Guide for Criminal Lawyers* 197 (E. Kelley ed., 2020); C. Berryessa, *Defendants with Autism Spectrum Disorder in Criminal Court: A Judges' Toolkit*, 13 Drexel L. Rev. 841, 850-51 (2021); J. Vincent Aprile, *Countering the Bias Against Autism in the Courtroom*, 36 Crim. Just. 40, 40-41

(Spring 2021). *See generally DSM-5-TR* at 56 (listing "abnormalities in eye contact" as one of the common "[d]eficits in nonverbal communication").

Individuals with ASD can also have distinctive cognitive and communication styles. For example, they may give verbal and non-verbal cues that seem out of context, or that give a false impression of their own internal state. Their facial expressions may appear entirely unemotive, awkward, or even inappropriate; speech may be monotonous or overly formal. L. Sperry et al., "Vulnerabilities of Defendants with ASD and Strategies for Improving Outcomes," in *Representing People with Autism Spectrum Disorders* 196-97; Berryessa, *supra*, at 850; *DSM-5-TR* at 56. Because they may have a "very literal cognitive style," neurodivergent individuals may be interpreted as blunt, rude, or arrogant. Allely, *supra*, at 94. That can be exacerbated by their focus on factual and logical content, often to the exclusion of emotional content. *Id.*

Because autism encompasses both verbal and non-verbal communication differences, individuals on the autism spectrum are often prone to misreading verbal and non-verbal cues—or failing to successfully communicate verbal and non-verbal cues—which can lead to miscommunication and misunderstanding. Berryessa, *supra*, at 851-52. Individuals on the autism spectrum, moreover, can place what seems like undue importance on completeness and detail compared to their neurotypical counterparts, particularly in stressful circumstances. They thus may

"take a long time to answer questions," Berryessa, *supra*, at 851, "respond[ing] at length and with significant detail," whether or not the question would (for others) seem to call for it, Allely, *supra*, at 198.

Ordinary speech has a degree of imprecision that neurotypical individuals often overlook or tolerate without effort. Relying on social cues and context, for example, neurotypical individuals may identify and direct their responses to what they understand to be the most likely meaning of an otherwise imprecise or ambiguous question. In contrast, individuals with ASD often "understand language in a very concrete and literal manner," and may not focus on considerations like "tone, body language, and context." Sperry, *supra*, at 181. This can cause them to misinterpret questions. *Id.* Identifying ambiguity, they may seek clarification, appearing to "nit-pick" the question. Berryessa, *supra*, at 851-52. Or they may attempt to identify and address each possible meaning of a question, resulting in longwinded, narrative responses. *See id*.[3]

[3] Individuals with ASD are also commonly subject to sensory overload. Berryessa, *supra*, at 865. They may experience the passage of time, chronology, and the saliency of detail differently. R. Stevenson et al., *Keeping Time in the Brain: Autism Spectrum Disorder and Audiovisual Temporal Processing*, 9.7 Autism Rsch. 720 (2016). And they may exhibit a "restricted interest" in a particular topic or issue. *DSM-5-TR* at 35; Allely, *supra*, at 198.

2. Attention-deficit/hyperactivity disorder, or ADHD, is defined by difficulty concentrating in certain contexts, having a limited attention span, and sometimes behavioral hyperactivity. *DSM-5-TR* at 68-70. Those with ADHD may appear bored, uninterested, or fidgety, even while they are following a situation closely. Those without hyperactivity—those with "inattentive type" ADHD—may give the appearance of being uninterested due to lack of focus.

ASD is commonly accompanied by ADHD. Y. Rong et al., *Prevalence of Attention-Deficit/Hyperactivity Disorder in Individuals with Autism Spectrum Disorder: A Meta-Analysis*, 83 Rsch. in Autism Spectrum Disorders 101759 (2021) (estimating that 38.5 to 40.2% of individuals with ASD also have ADHD); *see* C. Hours et al., *ASD and ADHD Comorbidity*, 13 Frontiers in Psychiatry 837424 (2022) (reporting higher estimates from scientific literature).

When the two conditions co-occur, the result can be a seemingly counterintuitive mixture of symptoms. For example, ASD is often associated with intense focus on a topic, whereas ADHD can undermine the ability to focus. Often, when the conditions overlap in an individual, a mixture of these characteristics can be observed. The individual may have the ability to focus intensely on one thing but appear unable to focus on others. Sometimes this is driven by the salience of the topic to the person, but that need not be the case. In many instances, someone who

has the capacity to focus in one context may not be able to focus in another very important context, despite his or her best efforts.

B. ASD, ADHD, and the Legal System

There is a growing body of scholarship on the special challenges that arise when neurodivergent individuals interact with the legal system. The scholarship has identified risks that should be addressed during all stages of criminal proceedings, including first encounters with police, during trial, and management in carceral settings. The research shows a variety of ways in which neurodivergent individuals can be disadvantaged in legal proceedings—often impairing or threatening the system's fundamental truth-finding function. The literature on the topic includes scholarship on competency to stand trial, R. Brewer et al., *Fitness to Plead: The Impact of Autism Spectrum Disorder*, 16.3 J. Forensic Psych. Practice 182 (2016); courtroom presentations, K. Maras et al., *Autism in the Courtroom: Experiences of Legal Professionals and the Autism Community*, 47.8 J. Autism & Dev. Disorders 2610 (2017); Berryessa, *supra*, at 851-52; and sentencing, T. Foster et al., *Brief Report: Sentencing Outcomes for Offenders on the Autism Spectrum*, 52.7 J. Autism & Dev. Disorders 3314 (2022).

ASD can pose a particular challenge for a fundamental goal of criminal trials—the truth-finding mission. For example, legal professionals, judges, and lay jurors often tend to interpret poor eye contact as a marker of guilt, shame, or (at

sentencing) unwillingness to "own up to the[ ] behavior." Berryessa, *supra*, at 851; *see* Aprile, *supra*, at 40-41; Sperry, *supra,* at 181; Allely, *supra*, at 197. As explained above (pp. 8-9, *supra*), however, poor eye contact is a common hallmark of ASD. For individuals with ASD, poor eye contact likely has everything to do with their neurodivergence, and nothing to do with their culpability.

Neurodivergent individuals are subject to being misunderstood or mis-evaluated in the legal system in myriad other ways. Legal professionals may not understand how the narrative accounts of those who are neurodivergent may be organized differently from those who are not, often producing accounts that appear to contain too much or too little detail or lack cohesion, context, and timeline linearity. Maras, *supra*, at 2610; A. Harvey et al., *Assessing "Coherence" in the Spoken Narrative Accounts of Autistic People*, 102.1 Rsch. in Autism Spectrum Disorders 102108 (2023); R. Stevenson et al., *Keeping Time in the Brain: Autism Spectrum Disorder and Audiovisual Temporal Processing*, 9.7 Autism Rsch. 720, 721 (2016).

Likewise, the style in which people with ASD answer questions—and the content of their questions—can work to their detriment in a trial setting. As explained above, to answer a question accurately, individuals with ASD may run through all possible permutations to give a comprehensive answer. To be accurate and make sense in his or her own mind, the answer may need to be constructed of

all necessary components, all arranged in a logical order. Conversely, if asked a narrow question, someone with ASD may give an equally narrow, literal answer, without realizing that more is implied by the question. In a trial setting, such over- or under-inclusivity can be interpreted as non-compliance, evasion, or even mockery. Berryessa, *supra*, at 851-52; Allely, *supra*, at 198. Or an individual with ASD may repeatedly seek to clarify the precise meaning and scope of the question, appearing to spar with the questioner. Berryessa, *supra*, at 851-52. And because such individuals may find themselves unable to determine whether the question calls for a short answer, a lengthier explanation, or something in between, they may seek clarification in an effort to figure that out.

The potential impacts of neurodivergence are, of course, as diverse as the spectrum of neurodivergent individuals. But the overarching concern of scholarship on the subject is that behaviors that have a neurodevelopmental basis can be misinterpreted in ways that lead to worse outcomes—and potentially less accurate ones—for defendants with neurodivergent conditions.

C. The Record Here Reflects Many of the Special Challenges That Occur When Neurodiverse Individuals Interact with the Legal System

As disclosed at sentencing, Sam Bankman-Fried has been diagnosed with ASD, in addition to ADHD. 3/28/2024 Tr. 48:25-49:2. Mr. Bankman-Fried exhibited many traits characteristic of ASD and ADHD in interviews when he was FTX's

CEO, before FTX's founding, and when he was growing up. When Mr. Bankman-Fried faced criminal prosecution, those same characteristics gave rise to many of the challenges neurodivergence regularly presents in legal proceedings, despite Mr. Bankman-Fried's very high function in other domains. They are presented here not as separate errors on appeal, but to illustrate the challenges neurodiversity can present in trial settings.

1. Samuel Bankman-Fried has a communication style that is characteristic of many neurodiverse individuals. His speech can be pressured, fast, and hyperverbal. He feels it is important to give what he regards as complete answers to questions and complete analyses of any situation. The goal of completeness leads him to identify and address ambiguities others may not see. These behaviors—exhibited in his many live interviews before FTX's collapse and his conduct during his trial—can be easily identified as markers of ASD by those familiar with neurodiversity.

Those characteristics, however, can easily be perceived not as coming from desire for completeness and candor, or as traits of neurodivergence, but as evidence of evasiveness and deception. The following colloquy is illustrative. There, the prosecution was exploring the accounts of Alameda, which had borrowed money from FTX. The company had hundreds of accounts with FTX, and each account contained many separate assets, such as dollars and other traditional currencies, as

well as cryptocurrencies like bitcoin, along with separate liabilities in the form of margin loans.

> Q. Well, let's talk about Alameda's main trading account. Are you aware that that main trading account could go negative?
>
> A. And so to clarify, you're talking about info@, the main account, or the entire user?
>
> Q. The info@ main account.
>
> A. So account No. 9.
>
> Q. Yes.
>
> A. And by "go negative," you're talking about negative in a particular coin or negative net asset value?
>
> Q. Just have a negative balance, Mr. Bankman-Fried.
>
> A. Sorry. I—
>
> . . .
>
> THE COURT: . . . I've gotten beyond my tether here. . . . [P]art of the problem is that the witness has what I'll simply call an interesting way of responding to questions for the moment.
>
> . . .
>
> Q. Mr. Bankman-Fried, in May of 2022, were you aware that account ID 9 @AlamedaResearch.com could have an overall negative value?
>
> A. I am giving you my best guess at answering the question.
>
> Q. I'm not asking for a guess. I'm asking what you understood at the time.
>
> A. I am going to answer what I think the question you are asking is, but

> I apologize if I'm answering the wrong question. . . . I'm assuming that overall net asset value, rather than value in a particular coin, is what I think that you are going for here, so that's how I was answering that question. That is my answer as of that time.
>
> THE COURT: Mr. Bankman-Fried, you have been asked that question in one form or another quite a number of times and not once did the question include the phrase net asset value. Unless I'm mistaken, every single answer you have given responded on the assumption that counsel had asked you about net asset value. Now, that's just an observation. If I'm mistaken, I'll stand corrected, but it says what it says.
>
> [Mr. Bankman-Fried]: I apologize if that's correct.
>
> A. If [the court's observation] [i]s true, I don't know what you mean by negative balance.

A-967-971 (10/26/2023 Tr. 2255:18-2259:12).

From context, others may have intuited that the prosecutor's use of the term "go negative" was meant to refer to an overall negative net asset value for the account or client. That is very likely the meaning the prosecution had in mind and the one the judge may have found apparent. They thus may have expected Mr. Bankman-Fried to answer the question with a "yes" or "no" (or perhaps a "yes, but"). Indeed, Mr. Bankman-Fried professes to have eventually guessed that was the most likely interpretation, but he wanted to make sure before answering. A-967-971 (10/26/2023 Tr. 2255:25-2256:1, 2258:23-25). That desire for certainty was likely heightened by the pressure of being under oath; the resulting fear he might be accused of perjury if he misunderstood and answered incorrectly; and the potential for any answer to be used against him in further cross-examination. So Mr.

Bankman Fried identified the ambiguity; sought (but was denied) more clarity; and then attempted to answer the question after rephrasing to offer precision that was otherwise lacking. The judge perceived that as evasive or belligerent and communicated his frustration. A-968-969 (10/26/2023 Tr. 2256:23-2257:3).

There is also an illustrative irony to the interaction. The judge lectured Mr. Bankman-Fried for his "assumption" that the prosecution meant "net asset value." A-971 (10/26/2023 Tr. 2259:5-7). "[N]ot once," the judge chided him, "did the question include the phrase net asset value." A-971 (10/26/2024 2259:4-5). But "net asset value," as a term of art, describes what the prosecution was driving at—whether an entity or account with multiple asset types and liabilities has an overall positive value (net positive) or overall negative value (net negative). That is the term Mr. Bankman-Fried—trained at MIT and steeped in industry terminology—needed to hear and use himself to be properly assured he understood and was answering the right question. As a result, when the judge essentially told Mr. Bankman-Fried the question was not about "net asset value"—chiding him for his contrary "assumption" when "not once did the question include" that phrase—it left Mr. Bankman-Fried unable to answer (because the prosecution likely did mean net asset value despite failing to use that term and because, if it meant something else, no one familiar with finance would be sure what was being referred to). If the question did not refer to

net asset value, Mr. Bankman-Fried had to confess, then "I don't know what you mean by negative balance." A-971 (10/26/2023 Tr. 2259:11-12).[4]

2. Mr. Bankman-Fried's communication style, and the court's disdain for it, was noted in the daily reports of journalists covering the case. For example:

- Sam Bankman-Fried "gave long, winding answers, and was sometimes chided for straying off topic." D. Yaffe-Bellany, *Sam Bankman-Fried Trial: Founder of Collapsed Crypto Firm Has His Own Words Turned Against Him*, New York Times (Oct. 30, 2023, 4:33 PM ET).

- "Judge Kaplan was visibly *irritated* with Bankman-Fried, at one point snapping at the FTX founder to 'just answer the question.'" D. Morris, *supra.*

- "[I]t was pretty clear from the judge that . . . the judge did not like him . . . . He really didn't like his demeanor." The Rest Is Politics, *supra* at 53:44-53.

As one reporter summarized:

> [The judge] was all but openly derisive toward the former crypto mogul when Bankman-Fried testified during the trial itself, to the point where I did genuinely wonder how the jury perceived his comments about the

[4] The colloquy is representative of many issues Mr. Bankman-Fried would confront. Mr. Bankman-Fried repeatedly found it difficult to answer out-of-sequence, acontextual questions in a way that made sense to him, explained as much, and was rebuffed. A-963 (10/26/2023 Tr. 2251:20-24) ("A. So I—sorry. I apologize. This is—because of the order that we're doing this in, this will be a somewhat substantial digression if—for me to provide all of the context for that."). And Mr. Bankman-Fried repeatedly apologized for being uncertain about what questions were driving at. *See, e.g.,* A-966 (10/26/2023 Tr. 2254:11-12) ("I'm not—but I—I'm sorry. I'm probably not addressing your—your question."); A-979 (10/26/2023 Tr. 2267:4-7) ("[T]ell me if that is not responsive . . . . Does that respond—"); A-979 (10/26/2023 Tr. 2267:19-20) ("Let me, A, apologize if this isn't responsive, so tell me that . . . ."); A-980 (10/26/2023 Tr. 2268:4-5) ("[I]f this is not scoped correctly tell me."). Mr. Bankman-Fried's frequent apologies were not lost on the prosecution: "Q. I apologize now. Now I'm apologizing." A-981 (10/26/2023 Tr. 2269:8).

> defendant on the stand. Eighteen random members of the public, who had no little or no familiarity with FTX, crypto, Bankman-Fried or being on a jury, may well have easily taken cues from the most visible legal expert who ran the show. . . . Bankman-Fried didn't quite seem to grasp how his demeanor and responses were received by the judge and jury.

De, *supra*.

A clearer instance of an individual with ASD being misunderstood, with adverse consequences at trial, is hard to imagine. The judge, charged with controlling proceedings, took Mr. Bankman-Fried's seemingly stubborn drive for precision, clarity, and accuracy not as traits characteristic of neurodivergence, but as belligerence, stalling, or obstruction. The judge, moreover, made his viewpoint apparent to the jury through "comments about the defendant on the stand." De, *supra*; *see* Bankman-Fried Br. 17-19, 83-87. The impact might have been devastating. Jurors, lacking any familiarity "with FTX, crypto," or the defendant, "may well have easily taken cues from the most visible legal expert who ran the show." De, *supra*.

3. That Mr. Bankman-Fried would encounter those challenges at trial would come as no surprise to those who knew him from other settings. During Mr. Bankman-Fried's days as the successful head of a large company, interviewers rarely failed to notice characteristics typical of ASD. They noticed his struggle to maintain eye contact. "Bankman-Fried's gaze kept drifting off-screen," New York Magazine reported. B. Wallace, *The Mysterious Cryptocurrency Magnate Who Became One*

of Biden's Biggest Donors, New York Magazine (Feb. 2, 2021). They noted his fidgetiness:

- "On a Tuesday in July, he fiddles with a pen and roll of cellophane tape as he talks." C. Zillman, *Sam Bankman-Fried and the Conscience of a Crypto Billionaire*, Fortune (July 29, 2021).

- "[T]here was a persistent clacking sound. I assumed he was answering emails, until he held up a first-anniversary FTX novelty coin, which he'd been spinning, and a deck of cards, which he'd been shuffling. 'I'm compulsive,' he said." B. Wallace, *supra*.

During college, Mr. Bankman-Fried addressed his tendency to "compulsively fidget" with his hands by carrying "decks of playing cards" with him; he "would go through a deck every week or so before the cards would get worn out." 10/27/2023 Tr. 2396:12-15.

Mr. Bankman-Fried's unconventional communication style—reframing questions to provide precision, offering detailed, "rapid, tightly structured" answers—was likewise the subject of commentary. *See, e.g.*, J. Oliver, *Crypto Billionaire Sam Bankman-Fried: 'I Got Involved With No Clue What A Blockchain Was,'* Financial Times (May 13, 2022). Putting a blunt question to Mr. Bankman-Fried, one interviewer wrote: "Bankman-Fried doesn't mind the question, but he would like it clarified . . . ." *Id.* The interviewer asks another question: "Again, my question needs a bit of work." *Id*. Eventually Mr. Bankman-Fried "is asking the questions and answering them," or he "toys with [the] question as much as he is playing with his salad." *Id.*

"Sam has struggled throughout his life," Bankman-Fried's father would later explain, "to learn and control things most of us take for granted, such as eye contact, small talk, and responding to social cues." Dkt. 407-3, at 3; *see* Dkt. 407-15, at 4, Dkt. 407-17, at 2. "He has no interest in small talk," Sam's mother recounts, "but will engage passionately and relentlessly with ideas to the point that can exasperate and exhaust others. I know, having disappointed him many times in our conversations over the years by running out of intellectual energy long before he showed any signs of flagging." Dkt. 407-15, at 4.

Individuals familiar with ASD who observed Mr. Bankman-Fried's interviews, or who watched reports of trial proceedings, often recognized his condition. "As [a news segment] described Sam," one mother wrote to the court, "I saw my son and kept wondering why Aspergers never came up in the segment, because those of us knowledgeable about it, could see his behavior, his mannerisms . . . and his brilliance . . . as huge indicators of him being on the spectrum." Dkt. 418-1, at 1. At trial, that combination of brilliance and social challenge—the "spikey" skillset profile common for people with ASD—proved costly. Indeed, as explained below, the prejudice from the legal errors asserted on appeal was likely aggravated by Mr. Bankman-Fried's condition.

II. THE ASSERTED ERRORS IN THIS CASE RISKED GRAVE PREJUDICE

Before this Court, Mr. Bankman-Fried's appellate counsel has challenged several trial-court rulings. *See* Bankman-Fried Br. 22-82. We, of course, leave it to counsel and the Court to address whether those rulings were legally correct, substantively fair, and appropriately balanced. *Amici* are experts on neurodiversity, not the rules of evidence or criminal procedure. As experts in neurodiversity, however, *amici* believe several rulings worked to Mr. Bankman-Fried's particular detriment because of his neurodivergence. We focus on two: (1) subjecting Mr. Bankman-Fried to a separate cross-examination in advance of his actual testimony before the jury; and (2) the unavailability of documents from FTX despite their apparent availability to the government.

A. Subjecting Mr. Bankman-Fried to Government Cross-Examination in Advance of His Actual Testimony Was Prejudicial

Mr. Bankman-Fried was subjected to what his counsel characterizes as an "unprecedented" procedure: Before testifying before the jury, Mr. Bankman-Fried was required to testify, out of the jury's presence, regarding part of his proposed defense—that he acted in good faith and that the presence of lawyers throughout had contributed to his subjective belief he was acting lawfully. Bankman-Fried Br. 36-41. During that hearing, the prosecution was permitted to ask wide-ranging questions that went beyond Mr. Bankman-Fried's interactions with counsel. *Id.* at

40-41; *see, e.g.*, pp. 16-17, *supra* (examining Mr. Bankman-Fried on whether accounts could "go negative").

We set to one side defense counsel's contention that such a "preview" cross-examination, by its nature, affords "the prosecution a major tactical advantage," in effect "a deposition" in advance of actual testimony, Bankman-Fried Br. 46, 52; or the government's use of testimony from that preview cross-examination to impeach Mr. Bankman-Fried, 10/30/2023 Tr. 2665:19-2667:1. Even apart from that, the preview cross-examination had potentially profound effects.

At the outset, the district court used that preview hearing to decide for itself the propriety of one of Mr. Bankman-Fried's defenses—that he had believed the challenged conduct lawful in part because of counsel's participation. After hearing Mr. Bankman-Fried's testimony, the trial court was not persuaded, suggesting he thought the testimony "misleading." Bankman-Fried Br. 41-43. That determination may well have been influenced by a negative assessment of Mr. Bankman-Fried's credibility, based on an affect and communication style characteristic of ASD. *See* pp. 12-19, *supra*. A jury representative of the entire community—or even a single a member of the jury with familiarity with neurodivergent individuals—might have assessed his testimony differently. But no juror ever got that chance. And the trial court's negative assessment appeared to carry over into the judge's conduct before the jury, as observers commented. *See* pp. 19-20, *supra*; Bankman-Fried Br. 83-84.

For individuals with ASD, moreover, a preview cross-examination process risks skewing focus, perceptions, and presentation in ways that can undermine the effectiveness and authenticity of their narrative. During the preview cross-examination here, for example, the judge repeatedly chided Mr. Bankman-Fried for his lengthy responses and for attempting to clarify or rephrase questions. *See* pp. 16-17, *supra* (describing Mr. Bankman-Fried's "interesting way of responding to questions" as a "problem"); *id.* (chiding Mr. Bankman-Fried for qualifying his answer with his understanding of what the question meant). At points, the court took over and questioned Mr. Bankman-Fried itself—during which Mr. Bankman-Fried repeatedly apologized and sought "to make sure [he was] answering the right question"—only to have the court cut him off and eventually direct him: "Listen to the question and answer the question directly." A-946-947 (10/26/2023 Tr. 2234:22-2235:19).

Given that those with ASD tend to "understand language in a very concrete and literal manner"—taking "the words they hear at face value"—such a preview cross-examination experience would likely have a marked impact. Sperry, *supra*, at 181; C. Allely, *Autism Spectrum Disorder in the Criminal Justice System* 94 (2022) (describing "literal cognitive style"). For such individuals, the clear message might be that any departures from the most direct and crisp responses on cross—"yes," "no," "I don't know"—are unacceptable and will result in swift rebuke. Even highly

astute individuals, confronted by the judge's clear hostility toward efforts to provide fuller (and thus more helpful) responses, might alter their responses dramatically in an effort to avoid the risk of similar reactions from the judge when being cross-examined before the jury.

Having been disciplined by the court—the ultimate authority—for his answers during the preview cross-examination here, Mr. Bankman-Fried made a significant course-correction, potentially over-correction, before the jury. Unlike his responses on cross-examination outside the jury's presence, Mr. Bankman-Fried's responses before the jury often became extremely short, even clipped—often a simple "Yup." On the first day of his cross-examination before the jury, Mr. Bankman-Fried responded to questions with just the word "yup" more than 250 times (out of approximately 1300 answers); one word answers like "yes," "yeah," and "mm-hmm" accounted for more than 400 responses; all told, one- and two-word answers accounted for about half his responses. *See, e.g.*, 10/30/2023 Tr. 2574:2-2576:6; 2592:4-2593:24; 2648:5-2650:25; 2717:6-2718:17. Rather than seek clarification or qualify his answer, Mr. Bankman-Fried repeatedly was left to say only that he might not agree with the "specific" characterization the prosecutor used.[5] Such clipped

[5] *See, e.g.*, 10/30/2023 Tr. 2585:14-18 ("I am not sure I would phrase them that way, but . . . ."); 10/30/2023 Tr. 2694:6-9 ("I am not sure that's exactly how I would describe that incident . . . ."); 10/30/2023 Tr. 2694:17-19 ("That's not exactly how I

responses can easily be misinterpreted as arrogance, or indifference, or create "unfair inference of guilt." *See* Aprile, *supra*, at 40. The jury was, at bottom, denied the opportunity to see the authentic Samuel Bankman-Fried on cross-examination, without the prejudicial effects of the preview cross-examination.

B. The Denial of Defense Requests for Evidence Was Particularly Prejudicial in View of the Defendant's Neurodivergence

Mr. Bankman-Fried's counsel also urges that the prosecution, but not the defense, had open access to a range of FTX documents. For example, the prosecution repeatedly examined Mr. Bankman-Fried on FTX's document-retention policies, *e.g.*, A-919-940 (10/26/2023 Tr. 2207:25-2228:24); it argued in closing that document-retention issues evidenced guilt, A-1098-1099 (11/1/2023 Tr. 3012:19-3013:21); and the jury was instructed accordingly, A-1200 (11/2/2023 Tr. 3226:9-11). As with so many other documents, however, Mr. Bankman-Fried and his lawyers were never provided with FTX's document-retention policy—an issue Mr. Bankman-Fried repeatedly complained about during the preview cross-examination. A-939 (10/26/2023 Tr. 2227:4-11) ("[W]e've requested some of those but have not been given them."); A-940 (10/26/2023 Tr. 2228:9-17) ("We have requested it

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would phrase it"); *see also* 10/30/2023 Tr. 2723:24-2724:15, 2577:13-16, 2599:13, 2600:13-2601:6, 2680:5-11, 2681:13-23.

numerous times"); A-927 (10/26/2023 2215:1-2) ("I apologize. I wish I had that policy now."); A-924 (10/26/2023 Tr. 2212:4-11) (similar).

For individuals with ASD, that absence of concrete documentation can be a serious handicap. Given the opportunity to review the specific documentation and the precise wording of corporate policies, advice, emails, etc., individuals like Mr. Bankman-Fried can find a concrete anchor for their responses—detailed support—even on cross-examination. Denied that documentation, they are left to respond to seemingly vague questions with a "gisty" sense of events and unclear subjective memory, contrary to their more literal thought patterns. The resulting answers, often encumbered by expressions of uncertainty, can appear uncooperative or evasive.

C. Failure To Provide ADHD Medication During Critical Stages of the Proceedings Exacerbated the Impacts

The failure to properly address Mr. Bankman-Fried's ADHD during critical stages of the trial exacerbated the prejudice further still. In particular, during the first three weeks of trial, including when the government presented its case, Mr. Bankman-Fried was denied ADHD medication necessary for him to have proper focus. Mr. Bankman-Fried thus was not merely denied access to many of FTX's documents for his defense. He—the only person on the defense side with first-hand knowledge of FTX, the industry, and the relevant events—was denied the ability to focus on the evidence the government presented in its case.

To be transported to trial, Mr. Bankman-Fried would be woken at 4 am. To maintain proper focus through the day, Mr. Bankman-Fried needed ADHD medication in extended-release form, and potentially further medication at noon. But, at the government's insistence, Mr. Bankman-Fried was given half the dose he previously was taking. Moreover, he was not given extended-release formulations for much of that critical period—indeed, until well into trial. Nor was he given the required further dose at noon during that time. As his counsel explained:

> They give him one dose at 4 in the morning when they wake him up to come to court. It wears off in about three hours. So by the time we see him in the cell block or we see him before your Honor, it's already worn off. They refuse to give him another dose at lunchtime. So he spends the entire court day without medication that is specifically designed to help him focus.

10/13/2023 Tr. 1171:7-1172:1. Time and again, counsel raised the issue.[6] Time and again, despite the court's efforts, no solution was forthcoming. The government's case went forward, for weeks, without Mr. Bankman-Fried receiving effective doses of his medication.

[6] *See, e.g.*, 10/4/2023 Tr. 120:20-121:7 ("[Y]ou have issued an order that Mr. Bankman-Fried receive four doses of Adderall per day. In the Bureau of Prisons he has only been getting two. But more to the point is, when he comes here to court he is not getting anything at lunchtime. He was woken up this morning early to get here on time. He didn't get a dose then. When he doesn't have it, it's very hard for him to focus, your Honor.").

As the literature reflects, failure to provide effective doses of ADHD medication can seriously affect functioning. It is not merely that Mr. Bankman-Fried lacked medication necessary for proper focus, or that the medication he was given (not being extended release) would wear off quickly. It is that altering Mr. Bankman-Fried's dosages without careful tapering—and by using non-extended release formulations that wear off quickly—can result in withdrawal symptoms. These impacts are sometimes referred to colloquially as a "crash" (sometimes an "Adderall crash" or "Concerta crash" in view of the particular medication). That colloquialism captures the potentially dramatic impact: The individual utterly loses the ability to focus, suffers fatigue, or finds themselves completely exhausted.

The trial judge, while concerned about the failure to get Mr. Bankman-Fried his medication, indicated that he did not observe inability to focus.[7] That illustrates the risk of having untrained individuals make such assessments. To its credit, the court recognized it was not "professionally qualified" or "medically competent." 10/13/2023 Tr. 1171:25-1172:1; 10/16/2023 Tr. 1476:5. But those working directly with Mr. Bankman-Fried—his counsel—were complaining repeatedly and vociferously. And, when the judge made his observations, Mr. Bankman-Fried had

[7] 10/13/2023 Tr. 1171:25-1172:1 ("He surely does not look unfocused to me in the courtroom. But obviously I'm not professionally qualified."); 10/16/2023 Tr. 1476:3-6 ("I have not observed a problem with the defendant in this period of time. Not that I'm medically competent . . . . And I'm inclined to push ahead.").

not yet spoken in court. The judge had no means of assessing what Mr. Bankman-Fried might have observed or how he would have interacted with his counsel *if* he were properly treated. The judge had no baseline against which to measure the effect of medication or the effects of withdrawal. Individuals with ASD, moreover, differ from neurotypical individuals in their non-verbal communication and behavior. It would be difficult, if not impossible, for anyone without specialized training to judge the focus of such an individual from non-verbal behavior—let alone a judge who, at the same time, is presiding over a trial.

CONCLUSION

The effects of neurodivergence permeated Mr. Bankman-Fried's trial. That same neurodivergence should be understood and considered in evaluating this appeal as well.

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