No. 22-1716

UNITED STATES COURT OF APPEALS FOR THE FIRST CIRCUIT

JERRY CINTRON,

Plaintiff-Appellee,

v.

PAUL BIBEAULT, in his official and individual capacity; RUI DINIZ, in his official and individual capacity; MATTHEW KETTLE, in his official and individual capacity; PATRICIA ANNE COYNE-FAGUE, in her individual capacity; WAYNE T. SALISBURY, JR., Interim Director, in his official capacity; SPECIAL INVESTIGATOR STEVEN CABRAL, in his official and individual capacity; JEFFREY ACETO, in his individual and official capacity; LYNNE CORRY, in her individual and official capacity,

Defendants-Appellants,

LT. HAYES, in his official and individual capacity; LT. MOE, in his official and individual capacity; LT. BUSH, in his official and individual capacity; JENNIFER CHAPMAN, in her official and individual capacity; "COUNSELOR" FRANCO, in her official and individual capacity,

Defendants.

On Appeal from the United States District Court for the District of Rhode Island in Case No. 1:19-cv-00497-JJM, Chief John J. McConnell, Jr.

BRIEF FOR AMICI CURIAE TERRY KUPERS, CRAIG HANEY, PABLO STEWART, AND STUART GRASSIAN IN SUPPORT OF PLAINTIFF-APPELLEE AND AFFIRMANCE

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INTEREST OF AMICI CURIAE

Amici Curiae are professors and practitioners of psychiatry and psychology with extensive experience studying the psychological and physiological effects of imprisonment and/or treating individuals who are in penal confinement, including solitary confinement. Based on their research and assessment of the professional literature, amici curiae have concluded that any amount of solitary confinement which deprives a prisoner of two basic human needs— social contact and adequate positive environmental stimulation—can cause grave damage to that prisoner's mental and physical health. The damage can be exacerbated when the period of isolation is lengthy. Indeed, this damage has long been recognized by experts and society at large.

Amici are the following:

Terry A. Kupers, M.D., M.S.P., is a Distinguished Life Fellow of The American Psychiatric Association and Professor Emeritus at the Wright Institute. Dr. Kupers has provided expert testimony in several lawsuits about prison conditions and published books and articles on related subjects.

Craig Haney, Ph.D., J.D., is Distinguished Professor of Psychology and UC Presidential Chair at the University of California, Santa Cruz. One of the researchers in the "Stanford Prison Experiment," he has been studying actual prison conditions for more than forty years. Dr. Haney has toured and inspected

numerous prisons and their confinement units and has written extensively about the psychological effects of solitary confinement.

Pablo Stewart, M.D., is a Clinical Professor of Psychiatry at the John A. Burns School of Medicine at the University of Hawaii. Dr. Stewart has worked in the criminal justice system for decades and as a court-appointed expert on the effects of solitary confinement for over twenty-five years.

Stuart Grassian, M.D., is a psychiatrist who taught at Harvard Medical School for almost thirty years. Dr. Grassian has evaluated hundreds of prisoners in solitary confinement and published numerous articles on the psychiatric effects of solitary confinement.

Amici curiae state, pursuant to Federal Rule of Appellate Procedure 29(a)(4)(E), that no counsel for a party authored this brief in whole or in part. No party or party's counsel contributed money that was intended to fund preparing or submitting this brief; and no person other than amici curiae or their counsel contributed money intended to fund preparing or submitting this brief.

Pursuant to Federal Rule of Appellate Procedure 29(a)(2), amici curiae state that all parties have consented to the filing of this brief.

ARGUMENT

Psychologists and psychiatrists agree that solitary confinement can have disastrous psychological and physical consequences for prisoners who are confined to a small cell without meaningful social interaction or positive environmental stimulation.[1] The dangerous effects of solitary confinement are particularly grievous for prisoners like Appellee Jerry Cintron, who suffer from opioid addiction and are forced to spend extended periods in solitary confinement.

I. FORCED SOLITARY EXISTENCES ARE DEHUMANIZING

Positive environmental stimulation and meaningful interactions with others are critical to mental health.[2] Research on the effects of social isolation and exclusion—even outside the prison context—confirms the importance of human contact as a basic human need.[3] Denying individuals contact with others dehumanizes them.[4] It deprives them of affiliation—"the opportunity to have

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[1] *See, e.g.*, Smith, *The Effects of Solitary Confinement on Prison Inmates: A Brief History and Review of the Literature*, 34 Crime & Just. 441, 443, 487 (2006); Cloud, et al., *"We Just Needed to Open the Door:" A Case Study of the Quest to End Solitary Confinement in North Dakota*, Health & Justice (2021).

[2] *See* Haney & Lynch, *Regulating Prisons of the Future: A Psychological Analysis of Supermax and Solitary Confinement*, 23 N.Y.U. Rev. L. & Soc. Change 477, 504-507 (1997).

[3] Haney, *The Science of Solitary: Expanding the Harmfulness Narrative*, 115 N.W. U. L. Rev. 211, 223 (2020).

[4] *Id.*; Lieberman, *Social: Why Our Brains Are Wired to Connect* 4-5 (2013) (human "brains evolved to experience threats to our social connections in much the same way they experience physical pain").

meaningful contact with others"—which research has shown plays a key role in reducing anxiety and helping humans regulate their emotions.[5] Social isolation also deprives individuals of the social grounding that helps anchor them to socially appropriate thoughts and behaviors.[6] It also causes "social pain" from "social deprivation, exclusion, rejection or loss," a phenomenon that is observable in neural circuity within the brain and is long remembered by those who experience it.[7] Social isolation has also been shown to damage the human immune system and is correlated to increased morality rates.[8] Social exclusion—the forced and

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[5] Haney, *supra* note 3, at 223-224.

[6] *Id.*

[7] *Id.* at 224 (citing Eisenberger, *The Pain of Social Disconnection: Examining the Shared Neural Underpinnings of Physical and Social Pain*, 13 Nature Revs.: Neuroscience 421, 421 (2012); Eisenberger, *Social Pain and the Brain: Controversies, Questions, and Where to Go from Here*, 66 Ann. Rev. Psychol. 601, 621 (2015); Eisenberger et al., *Does Rejection Hurt? An fiN/RI Study of Social Exclusion*, 302 Science 290 (2003); Eisenberger & Lieberman, *Why Rejection Hurts: A Common Neural Alarm System for Physical and Social Pain*, 8 Trends Cognitive Sci. 294, 294 (2004); Meyer et al., *Why Social Pain Can Live On: Different Neural Mechanisms Are Associated with Reliving Social and Physical Pain*, Plos One (June 10, 2015)).

[8] *See* Elovainio et al, *Contribution of Risk Factors to Excess Mortality in Isolated and Lonely Individuals: An Analysis of Data from the UK Biobank Cohort Study*, 2 Lancet Pub. Health e260 (2017); Friedler et al., *One Is the Deadliest Number: The Detrimental Effects of Social Isolation on Cerebrovascular Diseases and Cognition*, 129 Acta Nenuropathology 493 (2015); Hawkley & Cacioppo, *Loneliness Matters: A Theoretical and Empirical Review of Consequences and Mechanisms*, 40 Annals Behav. Med. 218, 219 (2010); Pantell et al., *Social Isolation: A Predictor of Mortality Comparable to Traditional Clinical Risk Factors*, 103 Am. J. Pub. Health 2056 (2013); Tanskanen & Anttila, *A Prospective*

intentional exclusion of individuals from society against their will—damages self-esteem and can eventually lead to depression, anxiety, emotional numbness, and lethargy.[9] Social exclusion has also been found to lead to violent and aggressive behavior.[10]

Experimental animal studies have demonstrated that "social isolation … has significant effects on brain structure and processes in adult social animals."[11] When mice—which have similar neuroanatomy to humans—are subjected to isolation, their brains undergo dramatic changes: they lose neurons (nerve cells); their remaining neurons reduce in size; the number of connections between remaining neurons is reduced; and their brains lose blood vessels.[12] These

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Study of Social Isolation, Loneliness, and Mortality in Finland, 106 Am. J. Pub. Health 2042 (2016); Marcus et. al, *Relationships Between Social Isolation, Neighborhood Poverty, and Cancer Mortality in a Population-Based Study of US Adults*, Plos One (Mar. 8, 2017).

[9] *See, e.g.*, Leary et al., *Calibrating the Sociometer: The Relationship Between Interpersonal Appraisals and State Self-Esteem*, 74 J. Personality & Soc. Psychol. 1290, 1297-1298 (1998); Leary et al., *The Role of Low Self-Esteem in Emotional and Behavioral Problems: Why Is Low Self-Esteem Dysfunctional?*, 14 J. Soc. & Clinical Psychol. 297, 307 (1995).

[10] Haney, *supra* note 3, at 233.

[11] Cacioppo et al., *Toward a Neurology of Loneliness*, 140 Psych. Bull. 1464, 1485 (2014).

[12] James & Vanko *The Impacts of Solitary Confinement*, Vera Institute of Justice (2021) (citing Lobel & Akil, *Law & Neuroscience: The Case of Solitary Confinement*, 147 Daedalus 61 (2018); Blanco-Suarez, *The Effects of Solitary Confinement on the Brain*, Psychology Today (Feb. 27, 2019)).

chemical and physical changes can "precipitate depression-like" and "anxiety-like" behavior in experimental subjects, "suppress the animal immune response to illness," "impair[] their working memory," and "disrupt[] brain activity."[13]

II. SOLITARY CONFINEMENT DEPRIVES PRISONERS OF BASIC HUMAN NEEDS

Prisoners in solitary confinement—like Mr. Cintron—generally spend 22-23 hours each day alone in a cramped, stark cell, subjected to extreme social isolation and social exclusion.[14] Those confined to solitary units "eat, sleep, and defecate in spaces within a few feet of each other."[15] Their cells are normally "no more than between sixty to eighty square feet in dimension—about the size of a king-sized bed or parking space."[16] Cells designed for solitary confinement are often constructed of concrete, cinderblock, and metal fencing; they frequently lack access to or view of natural surroundings or natural light.[17] Prisoners in solitary confinement usually endure long periods of idleness because "[f]ew[,] if any[,]

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[13] Haney, *supra* note 3, at 225.

[14] Smith, *supra* note 1, at 448-449.

[15] Bennion, *Banning the Bing: Why Extreme Solitary Confinement is Cruel and Far Too Usual Punishment*, 90 Ind. L.J. 741, 743, 751 (2015).

[16] Haney, *Solitary Confinement, Loneliness, and Psychological Harm*, in Solitary Confinement: Effects, Practices, and Pathways toward Reform 131 (Jules Lobel & Peter Scharff Smith eds. 2020).

[17] Haney, *supra* note 3, at 237.

rehabilitation or education programs exist" for them.[18] They are often prohibited from possessing books, watching television, or listening to the radio, limitations that further deprive them of mental stimulation and a way to distract themselves and pass the time.[19] When prisoners are afforded limited recreational time, it is typically also spent alone "in caged-in or cement-walled areas that are so constraining they are often referred to as 'dog runs.'"[20] These brief periods in which segregated prisoners are allowed outside their cells do not provide opportunities for meaningful human contact or positive environmental exposure.

Segregated prisoners are also rarely allowed contact visits (in which they are allowed to touch their visitors) and are generally not allowed to participate in group activities.[21] Carceral facilities with solitary confinement units are often in remote locations, making it difficult for the loved ones of segregated prisoners to

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[18] Kupers, *Isolated Confinement: Effective Method for Behavior Change or Punishment for Punishment's Sake?*, in The Routledge Handbook For International Crime and Justice Studies 213, 214 (Bruce A. Arrigo & Heather Y. Bersot eds., 2014).

[19] Koffler, *What 43 Years of Solitary Confinement Does to the Mind*, Time (Jun. 9, 2015); *see also* DeVeaux, *The Trauma of the Incarceration Experience*, 48 Harv. C.R.-C.L. L. Rev. 257, 273 (2013) (describing prisoners' efforts to "counter the idleness, lack of programs, and dearth of anything to read" during the author's time in solitary confinement).

[20] Haney, *Mental Health Issues in Long-Term Solitary and "Supermax" Confinement*, 49 Crime & Delinq. 124, 126 (2003).

[21] James & Vanko, *supra* note 12; Haney, *supra* note 3, at 238, 252.

visit them. Many segregated prisoners are not allowed phone calls or are allotted very short periods of time on the phone.[22] When rare in-person visits do occur, they are generally only permitted through glass partitions and over phones.[23] Research has shown the human need for physical touch and its social and psychological benefits, as well as the considerable negative effects of touch deprivation.[24] For example, when humans are deprived of positive environmental interactions such as human contact and exposure to natural light and outdoor sounds, cognitive functions like mental alertness and concentration deteriorate.[25] But prisoners in solitary confinement are routinely denied the comfort of physical closeness to or physical contact with visitors.

Solitary confinement in prison magnifies the damage from underexposure to positive stimuli by simultaneously overexposing prisoners to negative stimuli such as the shouting of officers and inmates, banging of heavy doors, pounding on

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[22] James & Vanko, *supra* note 12; Haney, *supra* note 3, at 238, 252.

[23] *Id.*; Corr. Ass'n of N.Y., *Lockdown New York: Disciplinary Confinement in New York State Prisons* 7 (2003) ("Visits are conducted behind Plexiglas or mesh-wire barriers and limited to one visit a week. … Some inmates remain handcuffed throughout their visits (thus, they cannot embrace or hold hands with their visitors")).

[24] Haney, *supra* note 3, at 234-235.

[25] *See, e.g.*, Scott & Gendreau, *Psychiatric Implications of Sensory Deprivation in a Maximum Security Prison*, 14 Can. Psychiatric Ass'n J. 337, 339 (1969).

walls, foul smells, and the constant glare of artificial lights.[26] Exposure to uncontrollable negative conditions causes many prisoners to suffer from chronic sleeplessness, which "intensifies psychiatric symptoms … and magnifies cognitive problems, memory deficits, confusion, anxiety, and sluggishness."[27]

Further, inmates in solitary confinement are constantly monitored, undermining the human need for at least limited access to privacy.[28] Their entire living areas are always visible and accessible to prison personnel. Some inmates are even placed in "stripped cells" which contain nothing more than a mattress and a blanket.[29] Even when inmates are permitted to exit their cells for short periods of time to exercise or engage in no-contact visits, they remain under surveillance.[30] They are often required to wear handcuffs, a waist chain and sometimes leg irons when removed from their cells.[31] Thus, in addition to suffering the severe effects of social isolation and exclusion, many inmates in solitary confinement experience

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[26] Hafemeister & George, *The Ninth Circle of Hell: An Eighth Amendment Analysis of Imposing Prolonged Supermax Solitary Confinement on Inmates with a Mental Illness*, 90 Denv. U. L. Rev. 1, 39 n.217 (2012); Haney, *supra* note 3, at 238.

[27] Kupers, *supra* note 18, at 218.

[28] Margulis, *Privacy as a Social Issue and Behavioral Concept*, 59 J. Soc. Issues 243, 246 (2003).

[29] DeVeaux, *supra* note 19, at 272.

[30] Haney, *supra* note 3, at 240.

[31] Corr. Ass'n of N.Y., *supra* note 23, at 7.

the adverse effects of hypervigilance—the elevated state of constantly assessing threats around you—due to the extreme lack of privacy.[32]

III. SOLITARY CONFINEMENT CAUSES SEVERE, LONG-TERM PSYCHOLOGICAL AND PHYSICAL HARM TO PRISONERS

The harmful effects of solitary confinement are much more severe than the effects of imprisonment in the general prison population.[33] For example, research comparing prisoners in California's Pelican Bay State Prison found that, although prisoners in the general population were suffering and in distress, inmates subjected to social isolation and exclusion in solitary confinement were "in significantly more pain, were more traumatized and stressed, and manifested more isolation-related pathological reactions."[34] They also suffered isolation-related symptoms with more than twice the frequency as compared to prisoners who were not isolated.[35] Other studies have shown that PTSD, depression, emotional numbing, anxiety, and hypervigilance are as much as ten times more common

[32] Haney, *supra* note 3, at 240.

[33] *See* Smith, *supra* note 1, at 477 (noting that in studies "those in solitary confinement suffered significantly more both physically and psychologically than the prisoners in the [non-isolated] control group").

[34] Redacted Expert Report of Craig Haney at 81-82, *Ashker v. Brown*, No. 09-CV-05796 (N.D. Cal. 2015).

[35] Haney, *supra* note 3, at 247-248.

among prisoners in solitary confinement than among prisoners in the general population.[36]

Experts have described the harms of solitary confinement as including cognitive dysfunction, stimuli hypersensitivity, insomnia, memory loss, lethargy, severe depression, anxiety, paranoia, panic, hallucinations, rage, and withdrawal.[37] These harmful effects may manifest long after prisoners are released from isolation. Solitary confinement can have a long-term impact on prisoners' thinking, emotions, conduct, and personalities—potentially rendering them permanently ill-suited to life outside solitary confinement, let alone life outside prison.[38] In solitary confinement, prison staff tightly control nearly every aspect of a prisoner's existence. As a result, after release from solitary confinement, prisoners may "become uncomfortable with even small amounts of freedom."[39] Many find it challenging to re-establish normalcy in their lives and struggle with returning to ordinary sleeping and eating patterns, or moving beyond the mental

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[36] *Id.* at 244 & n.123.

[37] *See* Haney, *supra* note 20, at 130-131, 134-135 (collecting studies); Grassian, *Psychiatric Effects of Solitary Confinement*, 22 Wash. U. J.L. & Pol'y 325, 335-337 (2006); Smith, *supra* note 1, at 492.

[38] Grassian, *supra* note 37, at 354 (finding that individuals incarcerated in solitary confinement for several years "had become strikingly socially impoverished and experienced intense irritation with social interaction, patterns dramatically different from their functioning prior to solitary confinement.").

[39] Haney, *supra* note 20, at 139.

"fog" often caused by solitary confinement.[40] These effects have been documented by studies showing that individuals who were subjected to solitary confinement experience higher rates of adjustment problems following release than those housed in general population.[41]

Prisoners' limited opportunities for meaningful social interaction while in solitary confinement create a brutal paradox: "[A]s starved as people become for companionship, the experience typically leaves them unfit for social interaction."[42] For example, after release from solitary confinement, prisoners can find it difficult to engage in face-to-face conversation or handle crowded spaces and may feel generally unable to lead non-solitary lives.[43] The common prohibition of contact visits and the difficulty of visiting inmates in solitary confinement often prevents isolated individuals from maintaining strong relationships on the outside that could help them re-integrate and adapt upon release.[44] Moreover, as discussed in greater detail below, prisoners' inability to acclimate to life outside of solitary confinement becomes more entrenched as the duration of that confinement

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[40] Gawande, *Hellhole*, New Yorker (Mar. 30, 2009); Grassian, *supra* note 37, at 331.

[41] Haney, *supra* note 3, at 252.

[42] Gawande, *supra* note 40.

[43] *Id.*; Smith, *supra* note 1, at 484.

[44] Haney, *supra* note 3, at 252; James & Vanko, *supra* note 12.

increases.[45] These harmful effects may escape the attention of prison mental health staff, but can remain latent even if a prisoner does not overtly exhibit psychological trauma while in solitary confinement.[46]

For example, a study published in 2019 analyzed outcomes for a cohort of 229,274 individuals who were incarcerated in the North Carolina prison system between January 2000 and December 2016 ("the North Carolina study").[47] The study revealed that, as compared to individuals who were never subjected to solitary confinement, prisoners who spent ***any*** time in solitary confinement were 24% more likely to die in the first year after release. Moreover, they were 78% more likely to die from suicide and 54% more likely to die from homicide.[48] Isolated prisoners were also 127% more likely to die of an opioid overdose in the first two weeks after being released from prison, and were also more likely to eventually return to prison.[49] These dramatic findings account for potential covariables such as number of prior incarcerations, drug-related convictions,

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[45] Haney, *supra* note 20, at 138-141.

[46] Grassian, *supra* note 37, at 332-333; Haney, *supra* note 20, at 138 (explaining that prisoners who "are not identified by staff as having any noticeable psychological problems or needs, nonetheless have accommodated so profoundly to the supermax environment that they may be unable to live anywhere else.").

[47] Brinkley-Rubinstein et al., *Association of Restrictive Housing During Incarceration with Mortality After Release*, JAMA Network Open (Oct. 2019).

[48] *Id.*

[49] *Id.*

violence-related convictions, mental health treatment recommended and received, and number of days served in the most recent sentence.[50]

Solitary confinement can also result in long-term, non-obvious physical injury. Advances in neurobiology and brain imaging technologies have established that the traumatic psychological harms associated with solitary confinement often trigger physical changes in the neural pathways and neurochemistry of the brain. Researchers have observed that "even one week in solitary can lead to significant changes in electrical activity in the brain," slowing brain activity and negatively impacting prisoners' "performance on intellectual and perceptual-motor tests."[51] Solitary confinement can also lead to reduction in the size of the hippocampus, a brain structure that impacts learning, memory, and spatial awareness. Shrinking of the hippocampus can lead to "loss of emotional and stress control."[52] Prisoners in isolation have also been observed to have increased activity in the amygdala—an area of the brain "responsible for mediating fear and anxiety."[53] Changes to the brain caused by solitary confinement can also adversely affect the sufferer's brain

[50] *Id.*

[51] James & Vanko, *supra* note 12.

[52] *Id.* (citing Lobel & Akil, *supra* note 12, at 69-70).

[53] *Id.* (citing Lobel & Akil, *supra* note 12, at 70; and Blanco-Suarez, *supra* note 12).

functions by impacting spatial perception and facial recognition.[54] In addition to changes in brain chemistry, many isolated inmates experience headaches, heart palpitations, and extraordinarily high rates of suicide and self-harm.[55]

IV. LONG PERIODS IN SOLITARY CONFINEMENT RESULT IN MORE SEVERE HARMS

Inmates begin to feel the harmful impacts of solitary confinement almost immediately, often within days or weeks. When deprived of social interaction and environmental stimulation, people "soon become incapable of maintaining an adequate state of alertness and attention," and within days their brain scans may show "abnormal pattern[s] characteristic of stupor and delirium."[56]

Extended periods of solitary confinement have been shown to produce all the damaging psychological and physical effects discussed above, but to a greater degree.[57] For example, the North Carolina study found that individuals were more likely to die in the first year after being released from prison or more likely to

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[54] *See* Schaeffer, *"Isolation Devastates the Brain": The Neuroscience of Solitary Confinement*, Solitary Watch (May 11, 2016); Smith, *Neuroscientists Make a Case Against Solitary Confinement*, Scientific American (Nov. 9, 2018).

[55] Haney, *supra* note 20, at 133; Smith, *supra* note 1, at 488-489, *see also infra* section VI.

[56] Grassian, *supra* note 37, at 330-331.

[57] Pullen-Blasnik, *The Population Prevalence of Solitary Confinement*, 7 Sci. Adv. 1 (2021); Arrigo & Bullock, *The Psychological Effects of Solitary Confinement on Prisoners in Supermax Units: Reviewing What We Know and Recommending What Should Change*, 52 Int. J. Offender Ther. Comp. Criminol. 622-640 (2008).

return to prison if they had repeatedly been placed in solitary confinement, and/or spent more than fourteen consecutive days in solitary confinement.[58] The United Nations Standard Minimum Rules for the Treatment of Prisoners—known as the Nelson Mandela Rules—acknowledges these increased harms by prohibiting "***prolonged*** solitary confinement," which the Rules consider to be isolation for more than fifteen consecutive days.[59]

In the rodent studies discussed above, a month of social isolation resulted in the loss of around 20% of the total number of neurons in the brain, but the remaining neurons branched out more.[60] When isolation was extended to up to three months, however, that additional branching ceased and "spines (structures that neurons develop to replace the machinery that is required to communicate with each other) were greatly diminished."[61] This indicates that the brain may try to compensate for neural losses when isolation is limited to shorter periods of time,

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[58] Brinkley-Rubinstein, *supra* note 47.

[59] Pullen-Blasnik, *supra* note 57.

[60] Blanco-Suarez, *supra* note 12, (citing Lobel & Akil, *supra* note 12); Gilmour, *The Nelson Mandela Rules: Protecting the Rights of Persons Deprived of Liberty*, UN Chronicle, United Nations; O'Grady, *How did Nelson Mandela Survive 27 Years in Prison? A new Collection of Letters Sheds Light*, Wash. Post, Jul. 18, 2018, (Mandela "spent 27 years in prison, most of them isolated on Robben Island").

[61] Blanco-Suarez, *supra* note 12 (citing Lobel & Akil, *supra* note 12).

but that when isolation is extended neurons may experience long term losses of their communication abilities.[62]

V. THE PSYCHOLOGICAL HARMS OF SOLITARY CONFINEMENT HAVE LONG BEEN RECOGNIZED

Researchers, experts, practitioners, and society at large have long understood that individuals subjected to solitary confinement suffer immensely.[63] Solitary confinement first became popular "with the rise of the modern penitentiary" in the early 1800s.[64] Since then, physicians, psychiatrists, psychologists, criminologists, anthropologists, and epidemiologists have studied and catalogued the deleterious effects of solitary confinement on those subjected to it.[65] In 1842, author Charles Dickens visited Cherry Hill Prison in Philadelphia, one of the first American prisons to make wide use of solitary confinement. After observing the system, he famously commented:

> I believe that very few men are capable of estimating the immense amount of torture and agony which this dreadful punishment, prolonged for years, inflicts upon the sufferers; and in guessing at it myself, and in reasoning from what I have seen written upon their faces, and what to my certain knowledge they feel within, I am only the more convinced that there is a depth of terrible endurance in it which none but the

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[62] *Id.*

[63] Smith, National Institute of Corrections, *The Effects of Solitary Confinement: Commentary on One Year Longitudinal Study of the Psychological Effects of Administrative Segregation* (2010).

[64] Smith, *supra* note 1, at 441, 456.

[65] *Id.* at 457-461, 465-467; James & Vanko, *supra* note 12.

> sufferers themselves can fathom, and which no man has a right to inflict upon his fellow-creature. I hold this slow and daily tampering with the mysteries of the brain, to be immeasurably worse than any torture of the body.[66]

By the mid-1800s, many state prison systems reached similar conclusions, determining that solitary confinement was "impracticable" and "inhuman."[67] Rhode Island, for example, introduced solitary confinement in 1838 and abandoned it in 1844.[68] The United States, which had implemented the first modern solitary confinement systems in prison, was among the first in the international community to abandon it.[69] In 1890, the Supreme Court expressed its understanding of the unacceptable consequences of solitary confinement. Justice Samuel Miller wrote that:

> [a] considerable number of the prisoners [subjected to solitary confinement] fell, after even a short confinement, into a semi-fatuous condition, from which it was next to impossible to arouse them, and others became violently insane; others still, committed suicide; while those who stood the ordeal better were not generally reformed, and in

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[66] Smith, *supra* note 1, at 460 (quoting Charles Dickens, *American Notes* 146 (originally published 1842)).

[67] Haney, *supra* note 3, at 213 (quoting *Adoption of the Separate System in the States of Central Europe—and Its Prospects Else-Where*, 12 Pa. J. Prison Discipline & Philanthropy 79 (1857).

[68] Cherian, *Cruel, Unusual, and Unconstitutional: An Originalist Argument for Ending Long-Term Solitary Confinement*, 56 Am. Crim. L. Rev. 1759, 1775 (2019) (citing Barnes, *The Historical Origin of the Prison System in America*, 12 J. Am. Inst. Crim. L. & Criminology 35, 56 n.54 (1921)).

[69] Smith, *supra* note 1, at 465.

> most cases did not recover sufficient mental activity to be of any subsequent service to the community.[70]

By the early 1900s, any "debate about the effects of solitary confinement was largely settled" and the practice fell into "a long period of relative disuse."[71] To the extent that solitary confinement was still used during this period, it was typically used "sparingly" and only "for relatively brief periods of time."[72]

Research into the effects of sensory deprivation (similar in some ways to solitary confinement) reemerged in the 1950s, following stories of sensory deprivation and brainwashing of U.S. soldiers held as prisoners of war during the Korean War.[73] This new wave of interest and research relied very little on the history of solitary confinement in early modern penitentiaries. Experiments conducted during this period generally did not attempt to recreate the prison setting and subjects were subjected to periods of isolation or sensory deprivation ranging from minutes to some weeks, but were not subjected to the much longer periods sometimes used in prisons (such as the approximately two-and-a-half years Mr. Cintron spent in solitary confinement).[74] The experiments' findings could,

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[70] *In re Medley*, 134 U.S. 160, 168 (1890).

[71] Smith, *supra* note 1, at 442; Haney, *supra* note 3, at 212-213.

[72] Haney, *supra* note 3, at 212-213.

[73] Smith, *supra* note 63, at 1.

[74] Smith, *supra* note 1, at 469-470.

however, be extrapolated to the penal solitary confinement setting. Many subjects subjected to sensory deprivation experienced visual and auditory hallucinations; other common symptoms included "disturbed thought processes, concentration problems, and impaired memory."[75] In the 1960s, researchers studying solitary confinement found that "[e]xcessive deprivation of liberty" or "near complete confinement to the cell, results in deep emotional disturbances."[76]

The use of solitary confinement in prisons increased in the 1990s with the proliferation of super-maximum or "supermax" prisons.[77] Between 1995 and 2005, the number of inmates held in solitary confinement in the United States increased by 40%.[78] Despite the expansion of solitary confinement, the consensus

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[75] *Id.* at 470-471.

[76] Haney, *supra* note 16 at 132 (quoting Cormier & Williams, *Excessive Deprivation of Liberty*, 11 Canadian Psychiatric Ass'n J. 470, 484 (1966)) (citing Gendreau et al., *Changes in EEG Alpha Frequency and Evoked Response Latency During Solitary Confinement,* 79 J. Abnormal Psych. 54 (1972); Scott & Gendreau, *supra* note 25, at 337-341; Walters et al., *Effect of Solitary Confinement on Prisoners*, 119 Am. J. Psychiatry 771 (1963)); *see also* Haney, *The Psychological Effects of Solitary Confinement: A Systematic Critique*, 47 Crime & Just. 365 (2018).

[77] Cloud, *Public Health and Solitary Confinement in the United States*, 105 Am. J. Pub. Health 18, 18-19 (2015); Lobel, *Mass Solitary and Mass Incarceration: Explaining the Dramatic Rise in Prolonged Solitary in America's Prisons*, 115 N.W.U. L. Rev. 159, 162 (2020) (fifty-seven new supermax prisons were constructed in the United States the 1980s and 1990s).

[78] Cloud, *supra* note 77 at 18.

among experts remained that it caused grievous mental and physical health effects, and numerous new studies confirmed the harms.[79]

For decades, international groups have advocated the limiting or abandoning solitary confinement. In 1955, the First United Nations Congress on the Prevention of Crime and the Treatment of Offenders adopted the Standard Minimum Rules for the Treatment of Prisoners.[80] Those rules provided that "punishment that may be prejudicial to the physical or mental health of a prisoner" such as "close confinement … shall never be inflicted unless the medical officer has examined the prisoner and certified in writing that he is fit to sustain it," and "visit[s] daily prisoners undergoing such punishments and … advise[s] the director if he considers the termination or alteration of the punishment necessary on grounds of physical or mental health."[81] In 2007, a group of prominent trauma, mental health, and prison experts issued the "Istanbul Statement on the Use and Effects of Solitary Confinement," which also "concluded that [it] should be

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[79] Smith, *supra* note 1, at 471-487 (reviewing studies); *see also, e.g.*, Grassian, *Psychopathological Effects of Solitary Confinement*, 140 Am. J. Psychiatry 1450, 1450-1454 (1983).

[80] Gilmour, *supra* note 60.

[81] *Standard Minimum Rules for the Treatment of Prisoners*, First United Nations Congress on the Prevention of Crime and the Treatment of Offenders.

employed only in exceptional circumstances, as an absolute last resort, and then only for as short a time as necessary."[82]

On June 16, 2016, the Rhode Island House of Representatives unanimously passed House Resolution H8206 (Sub A), titled "Creating a Special Legislative Commission to Study and Assess the Use of Solitary Confinement in the Rhode Island [Adult Correctional Institutions]." That Commission issued a 2017 final report recommending (1) a 15-day maximum sentence for disciplinary confinement and (2) exclusion of inmates with serious and persistent mental illness from solitary confinement.[83]

VI. SOLITARY CONFINEMENT DOES NOT TREAT OPIOID ADDICTION AND CAN EXACERBATE ITS HARMS

Individuals with opioid addictions or those recovering from opioid additions, like Mr. Cintron, are more likely to be placed in solitary confinement and acutely suffer its harms. Under Bureau of Prisons regulations, possession and use of narcotics in federal prison qualify as "Greatest Severity Level Prohibited Acts" and can result in an inmate's placement in disciplinary segregation for up to twelve

[82] Haney et al., *Consensus Statement from the Santa Cruz Summit on Solitary Confinement and Health*, 115 N.W.U. L. Rev. 335, 338 (2020).

[83] Special Commission, *Report of the Special Legislative Commission to Study and Assess the Use of Solitary Confinement at the Rhode Island ACI* at 12-13, 16 (Jun. 29, 2017).

months.[84] Proper pharmacological addiction treatment such as methadone, buprenorphine, Suboxone and other opiate replacement therapies ("ORT"), enables individuals suffering from addiction to better resist opioids[85] and avoid solitary confinement.[86] Yet, jails and prisons often fail to provide the necessary treatment to incarcerated individuals suffering from addiction. Despite a congressional mandate requiring the Bureau of Prisons to offer medications to treat addiction, federal prisons provide treatment to less than 10% of the approximately 15,000 inmates who qualify.[87] One 2009 study found that 45% of state and federal prison systems failed to offer methadone therapies at all.[88] The majority of the systems that do provide methadone therapy only offer it to pregnant women and individuals

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[84] 28 C.F.R. § 541.3.

[85] Nunn et al, *Methadone and Buprenorphine Prescribing and Referral Practices in U.S. Prison Systems: Results from a Nationwide Survey*, NIH Public Access at 2-3.

[86] One prison administrator observed that once his institution began treating inmates with Suboxone, the number of inmates in solitary confinement reduced and "[t]here were less fights. There were less debts. The drug dealers on the compound went out of business." Schartzapfel & Blakinger, *Federal Prisons Were Told to Provide Addiction Medications. Instead, They Punish People Who Use Them*, The Marshall Project (Dec. 12, 2022).

[87] Schartzapfel & Blakinger, *supra* note 86.

[88] The 2009 study of prison ORT practices found that prisons most frequently refused to offer ORT because they "favored drug-free detoxification" due to "misperceptions about the nature of addiction" and "incorrectly associat[ed] forced detoxification with curing opiate dependence." This "attitude ignores important evidence about common relapse to addiction after forced detoxification."

suffering from acute opiate withdrawal or requiring management of chronic pain.[89] Meanwhile, others—like Mr. Cintron—are punished for acquiring opiates on the illegal market, relapsing, and/or overdosing. These punishments can include lengthy stays in solitary confinement, often without access to ORT.[90]

Solitary confinement is especially harmful to those suffering from addiction. Heroin users have a much higher incidence of depression than the general public: 25-30% of heroin users have been diagnosed with depression versus only 8% in the U.S. general population.[91] "[E]xperiences of isolation and loneliness"—like that experienced in solitary confinement—"are risk factors for a depressive episode."[92] During his years of solitary confinement, Mr. Cintron experienced severe depression and anxiety, which required medical intervention with prescription antidepressants and sleep medication.[93] Before solitary confinement, however, Mr. Cintron did not take mental health medication.[94]

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[89] Nunn, *supra* note 85, at 5, 6.

[90] Schartzapfel & Blakinger, *supra* note 86; Blakinger, *They Put Me in Solitary for Drugs I Didn't Have*, The Marshall Project (Oct. 13, 2021); *Barred from Treatment: Punishment of Drug Users in New York State Prisons*, Human Rights Watch (Mar. 24, 2009) ("No treatment is offered in disciplinary confinement.").

[91] Christie, *The role of social isolation in opioid addiction*,16 Social Cognitive and Affective Neuroscience 645, 648 (2021).

[92] *Id.*

[93] A.0014; A.0025.

[94] A.0025.

Isolation may also intensify the urge to use opioids, which can simulate "the experience of belongingness and inclusion."[95] Chronic opioid use can "make it more difficult for individuals to experience the rewarding feeling of 'natural' rewards, such as positive social interaction," causing users to simulate those feelings through continued drug use resulting in a self-perpetuating cycle.[96] As one formerly incarcerated individual explained: "Each time I was released from solitary, my drug cravings got worse. This is because each time I went to solitary, I lost a little more of myself. … Solitary took my depression from a four up to a seven on a scale from one to ten. … Worst of all, solitary increased my need for drugs."[97]

Solitary confinement also exacerbates obsessive thoughts that often already plague sufferers of opioid addiction. At baseline, individuals with opioid dependence are more likely to meet the diagnostic criteria for obsessive-compulsive disorder ("OCD"), which is "distinguished by intrusive thoughts" and compulsivity.[98] People subjected to solitary confinement who are deprived of

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[95] Christie, *supra* note 91, at 651.

[96] *Id.*

[97] Ruggeri, *Voices from Solitary: Solitary Confinement's Cycle of Addiction*, Solitary Watch (Aug. 27, 2019).

[98] Kheradmand, et al., *Obsessive compulsive disorder among patients enrolled in methadone maintenance therapy*, 23 Heroin Addiction & Related Clin. Probl. 59,

normal activities, social interactions, and other stimuli often experience obsessive thoughts.[99] They may experience a kind of "'tunnel vision' in which the individual's attention becomes stuck" and "obsessively fixated" on something, "perhaps most commonly, [on] some bodily sensation. Tortured by it, such individuals are unable to stop dwelling" on these obsessions.[100]

Evidence shows that those most severely affected by solitary confinement "are often individuals with evidence of … attention deficit disorder ["ADD"]"[101] a diagnosis more prevalent among individuals with opioid addictions.[102] These individuals often suffer from hallucinations, psychotic delirium, and "intense agitation and paranoia" while in solitary conditions. [103]

59, 61 (2021); Friedman, *Compulsivity and Obsessionality in Opioid Addiction*, 188 J. Nervous & Mental Disease 155 (2000).

[99] Grassian, *supra* note 37, at 331-332; Western, *Inside the Box: Safety, Health, and Isolation in Prison*, 35 J. Econ. Perspectives 97, (2021).

[100] Grassian, *supra* note 37, at 331.

[101] *Id.* at 332.

[102] Biederman, *Impact of Comorbidity in Adults with Attention-Deficit/Hyperactivity Disorder*, 65 J. Clin. Psychiatry 3, 5-6 (2004); Lugoboni et al*., Co-occurring Attention Deficit Hyperactivity Disorder symptoms in adults affected by heroin dependence: Patients characteristics and treatment needs*, 250 Psychiatry Res. 210 (2017).

[103] Grassian, *supra* note 37, at 332; Buadze et al., *Perceptions and Attitudes of Correctional Staff Toward ADHD—A Challenging Disorder in Everyday Prison Life*, Front. Psychiatr. at 12 (2021) (individuals with ADHD do particularly poorly in solitary, due in part to an inability to engage in physical activity, which "mitigates ADHD symptoms").

Such psychological harms can manifest in physical deterioration, as seen in Mr. Cintron.[104] During his approximately two-and-a-half years in solitary confinement, Mr. Cintron lost almost 70 pounds and began exhibiting self-injurious behavior.[105] He injured his hand from punching the walls of his cell and started pulling his hair out.[106]

Based on this research, it is no surprise that incarcerated individuals suffering from opioid addiction are particularly vulnerable to solitary confinement's harms. Indeed, individuals subjected to such confinement while in prison have an increased risk of premature death by opioid overdose following release.[107]

CONCLUSION

Overwhelming and long-standing scientific and professional consensus establish that solitary confinement deprives inmates of basic human needs; produces severe negative psychological and physical symptoms; and risks serious and irreversible harm to those who endure it. Research further suggests that solitary confinement's harmful effects may be particularly pronounced in

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[104] Grassian, *supra* note 37, at 336, 338, 377-378 (prisoners in solitary sometimes engage in self-harm).

[105] A.0025.

[106] *Id.*

[107] Brinkley-Rubinstein, *supra* note 47.

individuals like Mr. Cintron, who suffer from opioid addiction. This case should be decided with due regard for the harms that solitary confinement causes to individuals like Mr. Cintron.

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CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 32(g), the undersigned hereby certifies that this brief complies with the type-volume limitation of Fed. R. App. P. 32(a)(7)(B)(i).

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CERTIFICATE OF SERVICE

I hereby certify that I filed the foregoing Brief of Amici Curiae in Support of Appellee with the Clerk of the United States Court of Appeals for the First Circuit via the CM/ECF system this 10th day of May, 2023 to be served on the following counsel of record via ECF:

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