

**NO. 16-7358**

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**In The United States Court Of Appeals  
For The Fourth Circuit**

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ERIC JOSEPH DEPAOLA,  
*Plaintiff-Appellant,*

DENIS RIVERA; LUIS VELAZQUEZ,  
*Plaintiffs,*

v.

VIRGINIA DEPARTMENT OF CORRECTIONS, ET AL.,  
*Defendants-Appellees,*

EXTERNAL REVIEW TEAM, ET AL.,  
*Defendants.*

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ON APPEAL FROM THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF VIRGINIA, HON. JAMES P. JONES,  
Case No. 7:14-cv-00692

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**BRIEF OF AMICI CURIAE PROFESSORS AND PRACTITIONERS OF  
PSYCHIATRY, PSYCHOLOGY, AND MEDICINE IN SUPPORT OF  
PLAINTIFF-APPELLANT**

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**STATEMENT OF IDENTITY, INTEREST, PARTICIPATION, AND  
AUTHORITY TO FILE**

Amici Curiae are experts in psychology, psychiatry, medicine, and other related fields who have spent decades studying solitary confinement and its psychological and physiological effects on prisoners.<sup>1</sup> Based on their research and assessment of the professional literature, Amici have concluded that prolonged solitary confinement deprives prisoners of two basic human needs—social contact and adequate environmental stimulation—which causes grave damage to their mental and physical health.

Amici are committed to understanding and addressing the effects of solitary confinement on human health and welfare. Accordingly, Amici respectfully submit this brief in support of Plaintiff-Appellant Eric DePaola, who faces ongoing prolonged detention in solitary confinement, to provide this Court with a comprehensive review of the scientific literature and the overwhelming evidence establishing that prolonged solitary confinement deprives prisoners of basic human needs and exposes them to atypical and severe psychological and physiological harms.

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<sup>1</sup> The parties have consented to the filing of the brief pursuant to Rule 29(a)(2) of the Federal Rules of Appellate Procedure. Pursuant to Federal Rule of Appellate Procedure 29(a)(4)(e), counsel for Amici states that no counsel for a party authored this brief in whole or in part, and no person other than Amici or their counsel made a monetary contribution to its preparation or submission.

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2. Stanley L. Brodsky, Ph.D., is Professor Emeritus of Psychology at The University of Alabama. He has worked as Chief of Psychology in the U.S. Disciplinary Barracks at Fort Leavenworth and has assessed many prisoners held in solitary confinement.

3. The Coalition for an Ethical Psychology is a group of psychologists dedicated to the ethical independence of psychologists working in government-supported institutions, including those institutions that use solitary confinement.

4. Karen B. Froming, Ph.D., is Assistant Clinical Professor of Psychiatry at the University of California, San Francisco. She has extensive experience evaluating individuals who have been subjected to severe prison conditions.

5. Carl Fulwiler, M.D., Ph.D., is Associate Professor of Psychiatry and Medicine at the University of Massachusetts Medical School. He specializes in diagnosing and treating mental illness in inmates and has evaluated hundreds of inmates in solitary confinement.

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

7. Craig W. Haney, Ph.D., J.D., is Distinguished Professor of Psychology at the University of California, Santa Cruz. He has done extensive research and published numerous articles on the psychological effects of solitary confinement and has provided expert testimony on the topic, including before the U.S. Senate.

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

9. Mona Lynch, Ph.D., is Professor of Criminology, Law & Society and of Law at the University of California, Irvine. She has published scholarship on the history and effects of solitary confinement and other forms of punishment in numerous journal articles and books.

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16. Brie Williams, M.D., is Professor of Medicine at the University of California, San Francisco.<sup>2</sup> She has published work arguing for improved understanding of the healthcare needs of incarcerated older adults and for the broader inclusion of prisoners in national health datasets.

17. Patricia A. Zapf, Ph.D., is Professor of Psychology at John Jay College of Criminal Justice, The City University of New York. She has conducted over 2,500 prisoner evaluations and has served as an expert witness in numerous cases.

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<sup>2</sup> Williams' support of this brief does not necessarily reflect the opinion of the University of California.

## **SUMMARY OF ARGUMENT**

1. Decades of medical and scientific research—across countries, methodologies, and subjects—establishes that prolonged solitary confinement causes grave psychological and physiological damage. Social interaction and positive environmental stimulation are basic human needs that are essential to human health. Lengthy isolation in an unchanging, monotonous environment is toxic to the brain and produces symptoms ranging from anxiety to hallucinations. Isolating humans from social contact is similarly damaging to the brain and body, destroying their sense of self and identity and eroding their connection to reality.

The hallmark of prolonged solitary confinement is near-total social isolation, which is exacerbated by the deprivation of meaningful activity and absence of positive environmental stimulation. Prisoners are generally confined alone in small, bare cells for twenty-two hours a day or more, often for years at a time. Outside their cells, prisoners are not permitted to participate in group activities, are prohibited from having contact visits, and exercise alone in cages. The little stimulation prisoners do receive from their surroundings is typically negative and noxious (harsh noise, foul smells, bright lights). The cumulative effect is isolation from others, loss of meaningful activity, and the denial of positive environmental stimulation.

The medical and scientific literature has consistently documented the severe

and sometimes permanent damage caused by prolonged solitary confinement. Psychological symptoms include anxiety, panic, hallucinations, loss of self-control, and rage, among others. Physiological symptoms include headaches, heart palpitations, digestive problems, and severe cognitive dysfunction. The harsh nature of solitary confinement also drives many prisoners to self-mutilation, and to suicidal thoughts and actions. These and other adverse symptoms have been consistently documented among inmates and other groups subject to similar forms of confinement, such as prisoners of war, military pilots, and hostages.

2. The profound damage that prolonged solitary confinement inflicts on prisoners is atypical and severe compared to that suffered by prisoners confined in the general prison population. The cluster of symptoms caused by prolonged solitary confinement is so unique that some experts have described it as a distinct syndrome whose unique harms are potentially permanent and disabling. Prisoners with preexisting mental illness are at particular risk, because solitary confinement exacerbates their mental illness and accelerates psychiatric deterioration. Nevertheless, even psychologically resilient prisoners and those without preexisting mental illness often suffer the same severe symptoms and psychological syndrome when segregated in solitary confinement.

Furthermore, prisoners in prolonged solitary confinement can experience long-lasting or permanent behavioral changes that inhibit their reintegration into

the general prison population or into society upon release. “Adjustment” to abnormal, near-total isolation requires prisoners to “adapt” in ways that are dysfunctional and disabling. For example, isolated prisoners often become anxious around others, lose the ability to conceptualize time or control emotions and impulses, and even deteriorate into catatonic states. These pathological adaptations are especially disabling when isolated prisoners are returned to the general prison population or society. They can become permanent states of being that can interfere with or prevent prisoners’ reintegration into more normal social environments.

## **ARGUMENT**

### **I. Prolonged Solitary Confinement Causes Grave Psychological and Physical Harms**

Senator John McCain, who endured severe physical beatings as a prisoner of war in Vietnam, nonetheless said that solitary confinement “crushes your spirit and weakens your resistance more effectively than any other form of mistreatment.”

Richard Kozar, *John McCain (Overcoming Adversity)* 53 (2001). Scientific research conclusively shows that prolonged solitary confinement causes grave and often permanent psychological and physiological harms. Psychological and medical experts have long established that social contact and positive environmental stimulation are basic human needs that are as necessary for health and well-being as food and shelter. Persons confined alone for years in a cell for

twenty-two or more hours a day, who have virtually no opportunity for meaningful social contact and who are denied positive environmental stimulation, suffer serious mental and physical harm. This is true of even the most resilient prisoners and those without preexisting mental illness.

**A. The Hallmark of Solitary Confinement Is Social Isolation and Restricted Environmental Stimulation**

“Solitary confinement,” as typically used in the international medical and legal literature and throughout this brief, refers to the segregation of a prisoner alone in a cell for twenty-two to twenty-four hours a day without meaningful social interaction or positive environmental stimulation.<sup>3</sup> *See, e.g., Wilkinson v. Austin*, 545 U.S. 209, 223-24 (2005); Letter from Thomas E. Perez, Assistant Att’y Gen., U.S. Dep’t of Justice, to Hon. Tom Corbett, Governor of Pa., at 5 (May 31, 2013); Peter Scharff Smith, *The Effects of Solitary Confinement on Prison Inmates: A Brief History and Review of the Literature*, 34 *Crime & Just.* 441, 443 (2006).

“Prolonged” refers to a year or more of segregation in solitary confinement.<sup>4</sup>

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<sup>3</sup> Solitary confinement may be referred to as “administrative segregation” or by other terms. *See Davis v. Ayala*, 135 S. Ct. 2187, 2208 (2015) (Kennedy, J., concurring).

<sup>4</sup> Although this brief focuses on the negative effects of solitary confinement exceeding one year, shorter periods of solitary confinement may also cause irreparable damage. *See, e.g.,* Juan E. Méndez (Special Rapporteur of the Human Rights Council), *Interim Report on Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment*, 9, U.N. Doc A/66/268 (Aug. 5, 2011) (concluding that the negative psychological effects of solitary confinement “can become irreversible” after fifteen days).

Throughout this brief, the term “solitary confinement” is used to describe solitary confinement that is prolonged.

Solitary confinement is marked by almost total deprivation of meaningful social contact and positive environmental stimulation. Prisoners spend nearly all their time in windowless (or nearly windowless) cells that may be as small as sixty to eighty square feet. As a result, they “sleep, eat, and defecate in their cells, in spaces that are no more than a few feet apart.” *Reassessing Solitary Confinement: The Human Rights, Fiscal, and Public Safety Consequences: Hearing Before the Subcomm. on the Constitution, Civil Rights, and Human Rights of the S. Comm. on the Judiciary*, 112th Cong. 72, 75 (2012) [hereinafter Haney Statement] (statement of Dr. Craig Haney, Professor, University of California, Santa Cruz); Elizabeth Bennion, *Banning the Bing: Why Extreme Solitary Confinement is Cruel and Far Too Usual Punishment*, 90 Ind. L. J. 741, 742-43, 753 (2015). In their cells, prisoners endure sustained periods of idleness since access to library books and work is limited or prohibited, and “[f]ew, if any, rehabilitation or education programs exist.” Terry A. Kupers, *Isolated Confinement: Effective Method for Behavior Change or Punishment for Punishment’s Sake?*, in *The Routledge Handbook for Int’l Crime & Just. Studies* 213, 213 (Bruce A. Arrigo & Heather Y. Bersot eds., 2014); see also Craig Haney, *Mental Health Issues in Long-Term Solitary and “Supermax” Confinement*, 49 *Crime & Delinq.* 124, 126 (2003).

The brief periods that solitary-confinement prisoners are allowed outside their cells do not provide opportunities for any meaningful human contact or positive environmental exposure. Prisoners in solitary confinement are rarely allowed contact visits. Haney, *Mental Health, supra*, at 126. For many prisoners, years may pass “without ever touching another person with affection.” Redacted Expert Report of Craig Haney at 31, *Ashker v. Brown*, No. 4:09 CV 05796 CW (N.D. Cal. 2015), [https://ccrjustice.org/sites/default/files/attach/2015/07/Redacted\\_Haney%20Expert%20Report.pdf](https://ccrjustice.org/sites/default/files/attach/2015/07/Redacted_Haney%20Expert%20Report.pdf) [hereinafter Expert Report]; *see also* Bennion, *supra*, at 743, 753; Haney, *Mental Health, supra*, at 126.

Prisoners in solitary confinement are generally denied opportunities to participate in group activities or socialize. Haney, *Mental Health, supra*, at 126. Recreation is typically spent alone “in caged-in or cement-walled areas that are so constraining they are often referred to as ‘dog runs.’” *Id.* Recreation is also generally preceded by an intrusive strip and cavity search. *See Williams v. Sec’y Pa. Dep’t of Corrs.*, 848 F.3d 549, 554 (3d Cir. 2017) (describing strip searches so invasive that a prisoner sacrificed the opportunity to exercise for nearly seven years to avoid them); *see also Incumaa v. Stirling*, 791 F.3d 517, 531 (4th Cir. 2015) (noting that a prisoner in solitary confinement experienced “near-daily cavity and strip searches”). The few human interactions prisoners are permitted



typically occur while the prisoner is restrained by multiple types of restraints like leashes, cuffs, or cages. Haney, *Mental Health, supra*, at 126, 143. As a result, prisoners' sole physical contact with another person may be with a correctional officer when being placed in restraints. Thomas L. Hafemeister & Jeff 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, 17 (2012).

Technology has made solitary confinement even more completely and severely isolating. Cameras, intercoms, and automated doors enable guards to perform their jobs with minimal personal contact with prisoners. Haney, *Mental Health, supra*, at 126. The cumulative effect is “near-total isolation.” *Id.*

Some prisons purport to mitigate some of the harms associated with solitary confinement by implementing procedures that provide prisoners with “privileges” for good behavior—for example, limited access to television, books, and work opportunities. These limited privileges, however, are no substitute for sustained and meaningful social interaction and positive environmental stimulation. For example, a report on Canadian prisoners in solitary confinement noted that they experienced dramatic psychological harms despite having the ability to earn limited privileges (*e.g.*, access to television, a common room, an exercise yard). *See* Craig Haney & Mona Lynch, *Regulating Prisons of the Future: A*

*Psychological Analysis of Supermax and Solitary Confinement*, 23 N.Y.U. Rev. L. & Soc. Change 477, 512-13, 513 n.177 (1997). In fact, access to television may reinforce the social isolation of prisoners in solitary confinement because it leads them to interact and engage socially with fictional television characters instead of real people. Expert Report, *supra*, at 78. Thus, even prisoners who are granted these kinds of limited privileges continue to experience the severe harms caused by social isolation and deprivation of positive environmental stimulation.

**B. Meaningful Social Interaction and Adequate Environmental Stimuli Are Basic Human Needs**

Just as food and shelter are necessary to maintain physical health, meaningful contact with others and positive interactions with one's environment are critical to maintaining mental health. *See Haney & Lynch, Regulating Prisons, supra*, at 504-07. Extensive scientific research demonstrates that people consistently suffer “a number of dysfunctional psychological states and outcomes” when deprived of social contact and a normal range of sensory input for long periods of time. *Id.* at 505, 507.

Prolonged placement in an “unchanging monotonous environment” deprives the “sensory organs of normal levels of stimulation.” Bennion, *supra*, at 759. Without normal and positive environmental interactions (such as, for example, exposure to natural light, outdoor sounds, and varying colors), certain cognitive functions go unutilized. Mental alertness, concentration, and the ability to plan

often suffer. *See, e.g.*, G.D. Scott & Paul Gendreau, *Psychiatric Implications of Sensory Deprivation in a Maximum Security Prison*, 14 Can. Psychol. Ass'n J. 337, 337, 339 (1969). The brain processes the deprivation of positive stimulation as stress, which causes increased hormone levels that can produce anxiety and paranoia or interfere with memory. Bennion, *supra*, at 759. More extreme or prolonged deprivation of positive environmental stimuli can cause “perceptual distortions [and] hallucinatory experiences.” Haney & Lynch, *Regulating Prisons*, *supra*, at 500.

Solitary confinement magnifies the damage that results from underexposure to positive stimuli by simultaneously overexposing prisoners to noxious stimuli. These negative stimuli can include the shouting of officers and inmates and other loud noises, offensive smells such as feces and blood, and constant fluorescent lights. *See* Hafemeister & George, *supra*, at 39 & n.217; Kupers, *supra*, at 216. These noxious stimuli are abrasive and aggravating in solitary confinement. They do not provide the type of *positive* environmental stimulation that is essential to maintaining health and well-being. Prisoners’ inability to control or escape from these noxious stimuli adds to their aversive, harmful effects. Exposure to this constant, uncontrollable negative stimulation causes many prisoners to suffer from chronic sleeplessness, which “intensifies psychiatric symptoms . . . [and] creates fatigue and magnifies cognitive problems, memory deficits, confusion, anxiety,

and sluggishness.” Kupers, *supra*, at 216.

Most importantly, solitary confinement deprives prisoners of meaningful social contact in ways that are extremely damaging to their health and well-being. When deprived of adequate social interaction, together with a lack of 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.” Stuart Grassian, *Psychiatric Effects of Solitary Confinement*, 22 Wash. U. J. L. & Pol’y 325, 330-31 (2006). The scientific literature has shown that, because feedback from meaningful social interaction and social contact shapes and affirms who we are, severe social isolation erodes one’s sense of self and connection to reality. Haney & Lynch, *Regulating Prisons*, *supra*, at 504-06; Kupers, *supra*, at 215.

Researchers have recorded symptoms in a variety of settings outside prison. *See* Haney, *Mental Health*, *supra*, at 130. For example, workers isolated over the winter in small group settings in Antarctica experienced progressively worsening depression, hostility, sleep disturbance, impaired cognitive functioning, and paranoia. Grassian, *Psychiatric Effects*, *supra*, at 358-59. Solo sailors and high-altitude military pilots suffered mental disturbances ranging from anxiety to hallucinations, delusions, and detachment from reality. *Id.* at 356, 361; Bennion, *supra*, at 760.

Accounts from former hostages and political prisoners who endured solitary confinement likewise illustrate the harmful psychological and physiological effects. American soldiers imprisoned in North Vietnam described social isolation and inactivity as “among the most serious problems” they faced. *See* John E. Deaton et al., *Coping Activities in Solitary Confinement of U.S. Navy POWs in Vietnam*, 7 J. Applied Soc. Psychol. 239, 241 (1977). Sarah Shourd, an American political prisoner detained in Iran for fourteen months, recalled that, after only “two months with next to no human contact, [her] mind began to slip.” Sarah Shourd, *Tortured by Solitude*, N.Y. Times (Nov. 5, 2011), <http://www.nytimes.com/2011/11/06/opinion/sunday/in-an-iranian-prison-tortured-by-solitude.html>. At one point, Shourd “heard someone screaming, and it wasn’t until [she] felt the hands of one of the friendlier guards on [her] face, trying to revive [her], that [she] realized the screams were [her] own.” *Id.* Terry Anderson, a journalist captured and held hostage in Lebanon for seven years, likewise reported that, after just weeks in solitary confinement, his mind went “dead”—“There [was] nothing there, just a formless, gray-black misery.” *See* Atul Gawande, *Hellhole*, New Yorker (Mar. 30, 2009), <http://www.newyorker.com/magazine/2009/03/30/hellhole>. After being returned to isolation after a short break, Anderson found himself “trembling sometimes for

no reason” and feared he would “lose control completely.” *Id.*<sup>5</sup>

### **C. Prolonged Solitary Confinement Consistently Causes Severe Mental and Physical Harm in Prisoners**

Extreme social isolation and the deprivation of positive environmental stimulation combine to inflict grave psychological and physiological harms on prisoners in solitary confinement. Studies of prisoners who have been held in solitary confinement reveal “strikingly consistent” psychological and physiological harms. Grassian, *Psychiatric Effects*, *supra*, at 335, 335-38; *see also, e.g.*, Haney & Lynch, *Regulating Prisons*, *supra*, at 515-24, 530. These robust findings come from scientific studies that employed diverse methods (including, for example, historical accounts, personal accounts, observational studies, and systematic and direct research on prisoners in “supermax” confinement or the equivalent) and were conducted over many decades by researchers on several different continents. Haney, *Mental Health*, *supra*, at 130.

In a wide range of case studies and personal accounts provided by mental health and prison staff, experts have described the psychological harms as including insomnia, lethargy, and depression, as well as anxiety, panic, paranoia,

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<sup>5</sup> Because social interaction and normal sensory stimulation are basic human needs, solitary confinement “is among the most frequently used psychological torture techniques.” Haney & Lynch, *Regulating Prisons*, *supra*, at 508. Its use as a torture tactic has been largely condemned in the international community. *See* Méndez, *supra*, at 2; *see also* World Health Organization, Regional Office for Europe, *Prisons and Health* 13, 32 (2014).

hallucinations, loss of self-control, irritability, aggression, rage, and withdrawal. *Id.* at 130-31 (collecting more than twenty studies); *see also* Grassian, *Psychiatric Effects*, *supra*, at 335-37; Smith, *supra*, at 492. Moreover, studies consistently show that prisoners in solitary confinement experience hypersensitivity to stimuli. Haney, *Mental Health*, *supra*, at 134; *see also, e.g.*, Grassian, *Psychiatric Effects*, *supra*, at 335, 370-71.

For example, in a 1993 study involving a random, representative sample of one hundred prisoners housed at California's Pelican Bay supermax prison for varying lengths of time ("Pelican Bay Study"), *almost all* the isolated prisoners were found to have experienced "psychopathological symptoms," including intrusive thoughts, hypersensitivity to stimuli, and irrational anger. Haney, *Mental Health*, *supra*, at 133-34. More than 90% experienced nervousness and anxiety; headaches and chronic tiredness were common to 88% and 84%, respectively; 70% "felt themselves on the verge of an emotional breakdown"; approximately 75% experienced chronic depression and mood swings; and almost half experienced perceptual distortions or hallucinations. *Id.*

Likewise, in a 1983 in-depth study of fourteen prisoners held in solitary confinement in Massachusetts, eleven reported hypersensitivity to external stimuli such as noise and smells. Stuart Grassian, *Psychopathological Effects of Solitary Confinement*, 140 *Am. J. Psychiatry* 1450, 1452 (1983). Ten reported

experiencing “massive free-floating” anxiety, and eight of those also experienced physical symptoms such as sweating, shortness of breath, and tachycardia. *Id.* Half suffered from visual or auditory hallucinations or illusions, and over half reported suffering from an inability to concentrate, disorientation, and memory failures. *See id.* at 1452-53.

The physiological harms are also severe and consistent across inmates segregated in solitary confinement. These include headaches, heart palpitations, digestive problems, and weight loss. Haney, *Mental Health, supra*, at 133; Smith, *supra*, at 488-89. The Pelican Bay Study revealed that well over half the prisoners in solitary confinement suffered from symptoms of hypertension. Haney, *Mental Health, supra*, at 133.

Segregated prisoners also demonstrate cognitive dysfunction and engage in potentially life-threatening behaviors such as self-mutilation and suicidal ideation. Grassian, *Psychiatric Effects, supra*, at 349. For example, approximately 35% of prisoners in the Massachusetts study reported losing control and engaging in random violence while in solitary confinement. Grassian, *Psychopathological Effects, supra*, at 1453. Alarming, 20% reported deliberately cutting themselves. *Id.* After three years as a hostage in solitary confinement, journalist Terry Anderson slammed his head against a wall dozens of times until his guards stopped him. Gawande, *supra*. Likewise, political prisoner Sarah Shourd “beat at the walls



until [her] knuckles bled” while being held in solitary confinement in Iran.

Shourd, *supra*.

The scientific literature also shows that the pain and harm of solitary confinement are exacerbated by its indefinite nature and punitive purpose or intent. *See* Haney & Lynch, *Regulating Prisons, supra*, at 501-02. Prisoners who do not know if or when they will be released from solitary confinement are under greater psychological stress and at risk of more serious harm. *See* Smith, *supra*, at 498. The broad discretion of correctional staff to increase the duration of a prisoner’s solitary confinement means that this uncertainty is widespread (even among prisoners who supposedly have a “release date”). *See* Kupers, *supra*, at 220-21. Similarly, prisoners who perceive their isolation as intended to punish or threaten them are “more likely to develop adverse psychiatric reactions.” Grassian, *Psychiatric Effects, supra*, at 347. In contrast, prisoners who are in solitary confinement for their own protection are less likely to report the same degree of psychological distress as prisoners in solitary confinement for punitive reasons. *See* Haney, *Mental Health, supra*, at 135-37.

Contemporary studies conducted in prisons across other countries corroborate the findings of American researchers.<sup>6</sup> *See* Smith, *supra*, at 476-87

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<sup>6</sup> The evidence of symptoms documented in research studies of solitary confinement practiced overseas is even more telling, because the conditions of

(describing studies from South Africa and across Europe). For example, the prevalence rates of harm reported by Dr. Haney in the Pelican Bay Study, *Mental Health, supra*, at 133-34, are similar to those in studies conducted in other countries, including a 2001 Norwegian study finding that “94 percent suffered from adverse symptoms after four weeks; many suffered from serious symptoms such as depression and anxiety . . . and 13 percent had mutilated themselves,” Smith, *supra*, at 494. *See also id.* at 493-94 (summarizing European and American studies finding similar results).

Historical evidence of the harms caused by prolonged solitary confinement is consistent with modern research findings. *See, e.g., id.* at 456-69. Beginning in the late 1700s, state prisons in America experimented with an extremely strict form of solitary confinement. *See In re Medley*, 134 U.S. 160, 167-68 (1890); Grassian, *Psychiatric Effects, supra*, at 328-29. But by 1890, the practice was vanishing because, as the United States Supreme Court observed, solitary confinement quickly produced “a semi-fatuous condition” and “violence[ly] insan[ity]” in many prisoners and led others to commit suicide. *In re Medley*, 134 U.S. at 168; Grassian, *Psychiatric Effects, supra*, at 338-43 (describing the history of solitary confinement in the nineteenth century).

The same effects were noted in Germany, which by the early nineteenth

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confinement are generally less restrictive and isolating than those in the United States. *See Smith, supra*, at 502.

century had adopted American practices of extreme solitary confinement. *See* Grassian, *Psychiatric Effects*, *supra*, at 342. From 1854 to 1909, “thirty-seven articles appeared in German scientific journals on the subject of psychotic disturbances among prisoners, summarizing years of work and hundreds of cases.” *Id.* at 342, 367-72. Germany subsequently abandoned the practice. Nicholas Turner & Jeremy Travis, *What We Learned from German Prisons*, N.Y. Times (Aug. 6, 2015), <https://www.nytimes.com/2015/08/07/opinion/what-we-learned-from-german-prisons.html>. Now “[s]olitary confinement is rare in Germany, and generally limited to no more than a few days, with four weeks being the outer extreme.” *Id.*

A small minority of researchers have asserted that solitary confinement is not significantly detrimental to inmates. *See* Robert Morgan et al., *Quantitative Syntheses of the Effects of Administrative Segregation on Inmates’ Well-Being*, 22 *Psychol. Pub. Pol’y & L.* 439 (2016) [hereinafter *Quantitative Syntheses*]; Maureen L. O’Keefe et al., *One Year Longitudinal Study of the Psychological Effects of Administrative Segregation*, Nat’l Institute of Justice, Office of Justice Programs, U.S. Dep’t of Justice (2010) [hereinafter *Colorado Study*]. However, these conclusions are at odds with the overwhelming scientific consensus that has established the significant harms caused by solitary confinement. *See, e.g., Williams*, 848 F.3d at 567 (“Now, with the abundance of medical and

psychological literature, the ‘dehumanizing effect’ of solitary confinement is firmly established.”). In addition to the numerous “fatal flaws” in the Colorado Study and *Quantitative Syntheses* (which is primarily based on the Colorado Study, see Morgan et al., *supra*, at 447-50),<sup>7</sup> the prisoners in the study were kept in solitary confinement for “only” up to one year. Morgan et al., *supra*, at 457; O’Keefe et al., *supra*, at 80. Thus the results did not and could not address the cumulative effect of *prolonged* social isolation and the deprivation of positive environmental stimulation exceeding one year.<sup>8</sup> See *id.* Indeed, the authors of *Quantitative Syntheses* have acknowledged that their findings “are not justification for [solitary confinement’s] continued use at current levels or for the extreme length of time (*e.g.*, several years) inmates often spend there.” Morgan et al., *supra*, at 457.

As Justice Kennedy observed, “research still confirms what this Court suggested over a century ago: Years on end of near-total isolation exact a terrible

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<sup>7</sup> The Colorado Study has been criticized by experts for its “very flawed” methodology. See Stuart Grassian & Terry Kupers, *The Colorado Study vs. The Reality of Supermax Confinement*, Correctional Mental Health Rep. (May/June 2011).

<sup>8</sup> One estimate suggests that an average prisoner subjected to solitary confinement in a federal supermax prison spends approximately 8.2 years there. See Amnesty International, *Entombed: Isolation in the US Federal Prison System*, 20 (July 2014), <http://www.amnestyusa.org/sites/default/files/amr510402014en.pdf>. Even setting that limitation aside, the data from the Colorado Study nonetheless shows that prisoners in solitary confinement suffered more than prisoners in the general population. See Grassian & Kupers, *supra*, at 7-8.

price.” *Ayala*, 135 S. Ct. at 2210 (Kennedy, J., concurring). The scientific consensus establishes that prisoners held in solitary confinement experience serious, often debilitating, and even irreparable, mental and physical harms because they are deprived of the basic human needs of social interaction and normal environmental stimulation.

## **II. Solitary Confinement Imposes Atypical and Significant Hardship on Prisoners**

Because prisoners in the general population are given opportunities to socialize and engage in group activities, they are not subjected to the extreme social isolation and deprivation of positive environmental stimuli that characterize solitary confinement. Research findings consistently show that solitary confinement causes distinct and more severe psychological and physiological harms than “ordinary” imprisonment. The harms of solitary confinement also often result in permanent behavioral changes that inhibit prisoners’ ability to reintegrate into normal prison conditions and, subsequently, society.

### **A. The Harmful Effects of Solitary Confinement Are Distinct and Severe Compared to the Effects of Imprisonment Among the General Prison Population**

“Nearly every scientific inquiry into the effects of solitary confinement over the past 150 years has concluded that subjecting an individual to more than 10 days of involuntary segregation results in a distinct set of emotional, cognitive, social, and physical pathologies.” David H. Cloud et al., *Public Health and Solitary*

*Confinement in the United States*, 105 Am. J. Pub. Health 18, 21 (2015). The consistency and prevalence of these pathologies have led a number of experts to identify a distinct “isolation syndrome”—a unique cluster of psychological and physiological harms primarily evidenced in prisoners held in solitary confinement, including hypersensitivity, distorted perceptions, panic attacks, difficulty thinking and concentrating, intrusive thoughts, impulse control, and overt paranoia. Grassian, *Psychiatric Effects*, *supra*, at 335-36; Haney & Lynch, *Regulating Prisons*, *supra*, at 518; Smith, *supra*, at 484.

Studies that directly compare symptoms of psychological and physiological harms among prisoners held in solitary confinement against those of prisoners held in the general population underscore the unique nature of the harms that occur in solitary confinement—harms that are far more widespread and severe than the symptoms and adverse effects caused by prison in general. For example, in a follow up to the Pelican Bay Study, Dr. Haney compared the psychological reactions of prisoners in solitary confinement with those of inmates held in the Pelican Bay general population. He found that although a significant number of general population prisoners “were suffering and in distress . . . there was absolutely no comparison to the level of suffering and distress reported by the PBSHU [segregated] prisoners.” Expert Report, *supra*, at 81. “On nearly every single specific dimension [] measured, the PBSHU sample was in significantly

more pain, were more traumatized and stressed, and manifested more isolation-related pathological reactions.” *Id.* Two Norwegian studies similarly concluded that prisoners “in solitary confinement suffered significantly more both physically and psychologically than the prisoners in the [non-isolated] control group.” Smith, *supra*, at 477.

Prisoners in solitary confinement also attempt and commit suicide at startling rates compared to prisoners in the general population. Although prisoners in solitary confinement comprise only 2-8% of the total U.S. prison population, they account for 50% of all suicides by prisoners.<sup>9</sup> Grassian & Kupers, *supra*, at 1. In one Maine prison, for example, “almost every prisoner in the isolation unit had attempted suicide.” Haney & Lynch, *Regulating Prisons, supra*, at 518.

Prisoners in solitary confinement are also more likely to self-harm than general population prisoners. Haney, *Mental Health, supra*, at 131. For example, “[a]n analysis of . . . 902 self-mutilation incidents in the North Carolina Department of Corrections occurring between 1958 and 1966 revealed that nearly half occurred in segregation units.” Haney & Lynch, *Regulating Prisons, supra*, at 525. A similar study at a Virginia prison revealed “that 51% of the self-mutilation incidents . . . over the preceding year had taken place in isolation units.” *Id.* A

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<sup>9</sup> Even data collected from the flawed Colorado Study found higher rates of suicidal behavior, self-destructive behavior, and psychotic symptoms in mentally ill prisoners in solitary confinement than in mentally ill prisoners in the general prison population. See Grassian & Kupers, *supra*, at 7-8.

recent study examining self-harming behaviors in New York City jails similarly found that, even controlling for serious mental illness, prisoners assigned to solitary confinement were nearly seven times more likely to commit acts of self-harm. See Homer Venters et al., *Solitary Confinement and Risk of Self-Harm Among Jail Inmates*, 104 Am. J. Pub. Health 442, 445 (2014).

Prisoners held in solitary confinement are also much more likely to suffer from mental illness than prisoners in the general population. For example, a comprehensive study of prisoners in Washington state's supermax prisons concluded that mental illness was about twice as common in segregated prisoners; a Canadian study found "almost identical results." Hafemeister & George, *supra*, at 46-47. Several methodologically rigorous European studies reveal similar mental health disparities between prisoners held in isolation and those in the general population. Smith, *supra*, at 476-80 (summarizing similar findings across several clinical studies in Switzerland, Denmark, and Norway). For example, a large-scale Danish study found that psychiatric disorders were about twice as common in segregated prisoners as in prisoners in the general prison population and almost three times as common in prisoners segregated for over two months. *Id.* at 477-78.

Although prisoners with mental illness are often more likely to be placed in solitary confinement because of their diminished capacity to adhere to the



numerous, strictly-enforced prison rules and regulations, *see, e.g., Haney, Mental Health, supra*, at 142-43, it is unlikely that the higher rates of mental illness and psychiatric symptoms among segregated prisoners can be attributed to that fact alone. A more comprehensive explanation includes not only that prisoners with mental illness are at higher risk of being placed in solitary confinement, but also that solitary confinement causes “the appearance of an acute mental illness in individuals who had previously been free of any such illness.” *See Grassian, Psychiatric Effects, supra*, at 333.

Prisoners with mental illness are *the most* vulnerable to the specific psychological and physiological harms caused by solitary confinement. Research shows that solitary confinement “exacerbates . . . mental illness and too often results in suicide.” Kupers, *supra*, at 215; *see also* Grassian, *Psychiatric Effects, supra*, at 349. Prisoners with mental illness are also at the greatest risk of suffering “permanent and disabling” harms. *See Haney, Mental Health, supra*, at 142; *see also* Hafemeister & George, *supra*, at 38-39.

Even the most psychologically resilient prisoners “inevitably suffer severe psychological pain as a result of [solitary] confinement.” Grassian, *Psychiatric Effects, supra*, at 354. Moreover, the reported symptoms among solitary-confinement prisoners are simply too pervasive and consistent to be attributed to the manifestation of preexisting conditions alone. *See Haney &*

Lynch, *Regulating Prisons, supra*, at 532-33. For example, a large-scale Danish study concluded that differences in prisoners' health outcomes were driven "mainly by different conditions of [solitary confinement] and non-[solitary confinement]." Smith, *supra*, at 478.

**B. Solitary Confinement Can Cause Permanent Behavioral Changes that Inhibit Reintegration into the General Prison Population and Society Upon Release**

The experience of nearly complete isolation that occurs in solitary confinement changes many prisoners' thoughts, feelings, actions, and even their personalities or ways of being. See Haney, *Mental Health, supra*, at 138.

Although these changes are "functional—even *necessary*—under the isolated conditions in which [prisoners] live," they are "pathological" reactions made in response to a pathological environment. Expert Report, *supra*, at 27-28; see also *id.* at 47 (describing the results of re-interviewing prisoners who had been in solitary confinement since Dr. Haney's original 1993 study); Haney, *Mental Health, supra*, at 137-41. Their pathological, dysfunctional nature becomes more apparent (and potentially disabling) when prisoners return to more normal, less isolated conditions. Haney, *Mental Health, supra*, at 137-41. Because these "adaptations" become more permanent as the duration of isolation increases, they are especially problematic for prisoners in prolonged isolation. *Id.* at 138-41. For example, prisoners in solitary confinement are forced to adapt to the fact that

nearly every aspect of their existence is tightly controlled by prison staff. *Id.* at 138-39. After release from solitary confinement, many prisoners struggle to initiate behavior on their own or set their own limits, and some “become uncomfortable with even small amounts of freedom.” *Id.* at 139; *see also* Haney Statement, *supra*, at 83.

These “social pathologies” can significantly interfere with prisoners’ attempts to connect socially and interact with others appropriately once they are removed from solitary confinement. Expert Report, *supra*, at 28-29; *see also* Smith, *supra*, at 496 (citing Canadian, Danish, and American studies). For example, upon meeting his lawyer after just several months in solitary confinement, one prisoner recalled finding himself unable to follow or reciprocate “words and hand gestures.” Gawande, *supra*. Frank Reed, an American private-school director held in isolation for three-and-a-half years as a hostage, deteriorated into a semi-catatonic state and required admission to a psychiatric hospital upon his release. *Id.*

The harmful effects of solitary confinement persist for many prisoners long after they leave, even if their psychological and physiological symptoms improve with time. Solitary confinement forces changes in prisoners’ thinking, emotions, conduct, and even personalities—sometimes rendering them permanently ill-suited to life outside solitary confinement, let alone life outside the prison. Grassian,

*Psychiatric Effects, supra*, at 332-33. Indeed, “[o]ne of the paradoxes of solitary confinement is that, as starved as people become for companionship, the experience typically leaves them unfit for social interaction.” Gawande, *supra*.

### **CONCLUSION**

The overwhelming scientific consensus firmly establishes that solitary confinement deprives inmates of basic human needs; produces severe, negative, and atypical psychological symptoms and reactions; and can cause grave and lasting harm to those who endure it.

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Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that on June 30, 2017, I caused the foregoing Brief of Amici Curiae Professors and Practitioners of Psychiatry, Psychology, and Medicine in Support of Plaintiff-Appellant to be filed with the Clerk of the Court using the CM/ECF system, which will then send a notification of such filing to the following:

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