

BRAIN EQUALITY: LEGAL IMPLICATIONS OF NEURODIVERSITY IN A COMPARATIVE PERSPECTIVE

ANDREA LOLLINI*

This article inquires into some of the implications of the concept of neurodiversity. First, it analyzes the definition of neurodiversity and its legal dimension. Then, it explores the claim made by part of the neurodiversity movement that people with different neurodevelopment profiles should be considered a new minority. Finally, this article discusses how neurodiversity might require a new interpretation of the idea of constitutional equality. In order to discuss these issues, this article comparatively analyzes neurodiversity-related jurisprudence of the highest North American and European courts over the last fifteen years. Examining these decisions helps determine the current relationship between neurodiverse individuals and legal systems, highlighting that the principle of equality is under intense pressure when the context implicates neurological diversities.

I. INTRODUCTION	70
II. NEURODIVERSITY: DEFINITIONS, AND DEBATES	74
III. LEGAL NEURODIVERSITY	78
A. <i>The Size of the Neurodiverse Population</i>	79
B. <i>Legal Implications of Neurodiversity</i>	83
IV. NEURODIVERSE INDIVIDUALS AS A NEW MINORITY?.	91
V. HIGHEST COURTS AND NEURODIVERSITY-RELATED LITIGATION IN A COMPARATIVE PERSPECTIVE	96
A. <i>Education, Health Care, and Social Services</i>	97
B. <i>Physical Liberty, Competency, and Criminal Law</i>	115

* This article is the result of a research project: NEDBELS (Neurodiversity Between Law and Science). NEDBELS has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie Grant Agreement No 656988 (Individual Global Fellowship). NEDBELS was a collaboration between UCSF-UC Hastings Consortium on Law, Science and Health Policy and the University of Bologna (Dipartimento di Scienze Politiche e Sociali), in partnership with UCSF The Alba Language Neurobiology Lab, the UCSF Star Center for ASD and NDDs, and the Istituto di Scienze Neurologiche di Bologna. NEDBELS is deeply grateful to David Faigman, Maria Luisa Gorno Tempini, Bennett Leventhal, Paola Visconti, Antoine Garapon, Jaime King, Ugo Mattei, Sarah Hooper, Dorit Reiss, Robert Schwartz, Radhika Rao, Tatiana Pollard, Francesco Palermo, Roberto Toniatti, Roberto Bin, Marco Cammelli, Daniela Piana, Giovanna Endrici, Silvia Cei.

C. <i>Discrimination at the Workplace</i>	123
VI. CONCLUSION	126

I. INTRODUCTION

Can atypical neurocognitive traits be considered new constitutional grounds of discrimination? Are brain-based diversities the new frontier of unfair treatment and injustice? What if we ascertained, with the advancement of neuroscience, that a very large portion of the human population interacts socially, de-codifies body communication, uses body-language, processes information and *stimuli*, learns, rationalizes, or makes abstractions with a greater variation than previously postulated? What are the implications of the fact that this diversity in human cognition is often considered a clinical syndrome? What if we assumed that unfriendly, uncaring, or biased social environments could make those diverse neurocognitive traits extremely *maladaptive*? What if, in the end, we discovered that in our current state we lose a considerable human potential—while simultaneously raising the cost of managing those who do not fit what society considers normal patterns of cognition? In other words, are brain attributes one of the cornerstones upon which inequality and injustice are built in Western societies?¹

Modern legal systems recognize different grounds for discrimination such as race, gender, religion, ethnicity, sexual orientation, age, and disability, based on the social and historical processes that shaped the constitutional traditions of each country. Since the second half of the twentieth century, international and regional human rights mechanisms have fostered a strong cosmopolitan culture against the exclusion of groups and individuals on the basis of physical and cultural attributes. Unfortunately, because discrimination is a structural feature of our societies, the path to equality is a never-ending challenge. In the context of this unfinished and ongoing process, several communities have raised a new equality claim: *neurodiversity*.

1. In a social marketplace dominated by communication and networking, by the recognition of a limited range of learning capacities, and by the celebration of status-oriented social conventions—all things rooted in brain functions and structures—that together with the environment contribute to people's socioeconomic welfare—what happens to individuals who, by nature, struggle with these cognitive tasks?

Over the last two decades, a social movement has attempted to redefine the perception of brain-based disorders by reconsidering the nature of atypical perceptual and cognitive performance. This neurodiversity movement is an international civil rights effort that embraces a concept of cognitive traits and brain conditions using either a *narrow* or *broad* definition. More narrowly, some specialists and activists limit neurodiversity to individuals with High-Functioning Neurodevelopmental Disorders (NDDs) such as autism spectrum disorder (ASD).² More broadly, others understand neurodiversity as referring to both “High” and “Low” Functioning³ autistics, as well as to a larger set of other disorders such as attention deficit/hyperactivity disorder, bipolar disorder, developmental dyspraxia, dyslexia, epilepsy, and Tourette Syndrome.⁴ On the whole, the neurodiversity movement encompasses different approaches. It challenges oppressive social norms, stigma, and rejection, and pleads for an expansion of support systems such as inclusion-focused services, accommodation, vocational training, and independent living support. Some of the movement’s activists have more radical positions. They reject the idea that different neurodevelopmental profiles need to be cured, and consider NDDs a natural human variation rather than a pathology.⁵ This view radically shifts the focus of advocacy towards concepts such as human diversity and identity.

2. See Francisco Ortega, *The Cerebral Subject and the Challenge of Neurodiversity*, 4 *BIOsocieties* 425, 427 (2009) (describing the biosocial field of autism and its interaction with the neurodiversity movement); Pier Jaarsma & Stellan Welin, *Autism as a Natural Human Variation: Reflections on the Claims of the Neurodiversity Movement*, 20 *HEALTH CARE ANALYSIS* 20, 21 (2011) (explaining the origin and evolution of the neurodiversity movement).

3. Thomas Owren & Trude Stenhammer, *Neurodiversity: Accepting Autistic Difference*, 16 *LEARNING DISABILITY PRAC.* 32, 35 (2013); see also DANA LEE BAKER, *THE POLITICS OF NEURODIVERSITY: WHY PUBLIC POLICY MATTERS* 17 (2011) (describing the current scope of neurodiversity as it also includes lower functioning autistics); Chong-Ming Lim, *Accommodating Autistics and Treating Autism: Can We Have Both?*, 29 *BIOETHICS* 564, 566 (2015) (discussing the broad definition of neurodiversity).

4. Edward Griffin & David Pollak, *Student Experiences of Neurodiversity in Higher Education: Insights from the BRAINHE Project*, 15 *DYSLEXIA* 23 (2009); Andrew Fenton & Tim Krahn, *Autism, Neurodiversity and Equality Beyond the ‘Normal’*, 2 *J. ETHICS MENTAL HEALTH* 1 (2007).

5. See the analysis of these neurodiversity claims in BAKER, *supra* note 3, at 20–21; and Ortega, *supra* note 2, at 426.

In Western countries, sociopolitical issues are often framed in legal terms, and transformation is implemented through legal change.⁶ The efforts of the neurodiversity movement, that in general constitutes a branch of the disability right movement, do not diverge from these historical patterns, in which social actors relied upon the law and litigation. On the one hand, It pleads for a reconceptualization of the reductive labels traditionally applied to individuals with NDD; on the other hand, from the legal and judicial perspective, it demands an end to the exclusion of people with cognitive diversities and seeks equality. Thanks to this political and legal endeavor, the concept of neurodiversity may soon enrich the constitutional list of grounds of discrimination, and legal systems might embrace the idea of a *brain-based equality* or *brain pluralism*.

The autism rights movement is the most prominent component of the neurodiversity movement.⁷ In the last two decades, perceptions of the polymorphic manifestations of ASD have radically changed in several ways.⁸ First, people on the spectrum are breaking down the wall of silence surrounding their condition using technological communication advances. Second, experts are developing a more comprehensive scientific understanding of NDDs. Third, there has been significant growth in the number and strength of advocacy organizations, followed by an attendant increase in litigation and legal lobbying to establish and defend new rights.

In the face of these efforts, there are vocal critics of the neurodiversity movement. According to the harshest critics, reconceptualizing brain conditions as a form of diversity, instead of as impairing disorders, would undermine the already insufficient services provided to this vulnerable population.⁹ This

6. See William J. Brennan, Jr., *The Equality Principle: A Foundation of American Law*, 20 U.C. DAVIS L. REV. 673 (1987) (describing the use of litigation to effect greater economic and social equality).

7. See Daniela Caruso, *Autism in the U.S.: Social Movement and Legal Change*, 36 AM. J.L. & MED. 483, 487 (2010) (stating that the concept of neuro-diversity will find a perfect home in autism).

8. Ian Hacking, *Humans, Aliens & Autism*, 138 DAEDALUS 44, 46–49 (2009).

9. See Jaarsma & Welin, *supra* note 2, at 27–28 (arguing that, by accepting neurodiversity as a special culture, the autists that need care will face a hard time receiving special treatment).

perspective embodies the contrast between the strict “medical model” of brain diversity, and the neurodiversity movement’s rights and citizenship model.¹⁰ However, the neurodiversity movement does not underestimate the severely maladaptive consequences of these conditions. Rather, they argue that if society considers their diversity a disease, then society does not need to change—differences are subsumed into symptoms, and individuals become merely patients who must be cured in order to eradicate their abnormality whenever possible.¹¹ If the medical model necessitates diagnosis and treatment to change the patient with divergent characteristics, the rights and citizenship approach, on the contrary, aims to modify the social environment to be more inclusive, and to provide better and more accessible physical and social re-habilitation. Their goal is enabling achievement of independence, inclusion, and participation in society by divergent people. The paradigm shift from a medical model towards a rights and citizenship model of disability does not mean that the health care system would be exempt from ensuring services. Instead, such a shift would reorient those services away from erasing diversity in order to achieve normality, towards helping people to achieve their fullest individual potential by alleviating social and physical difficulties they confront.

This article examines some of the implications of the concept of neurodiversity. First, it analyzes the definition of neurodiversity based on the existing literature and academic debates. Then, discusses the legal implications of neurodiversity. Third, it explores the claim made by a large part of the neurodiversity movement that people with different neurodevelopment profiles should be considered a new minority. Finally, this article discusses how neurodiversity might require a new interpretation of the idea of constitutional equality. In order to inquire into these issues, this article comparatively analyzes NDD-related jurisprudence of the highest North American and European courts over the last fifteen years. Examining these decisions helps determine the current relationship between neurodiverse individuals and legal sys-

10. See BAKER, *supra* note 3, at 8–9 (describing the understanding of disability under a medical model and a social model); Jaarsma & Welin, *supra* note 2, at 24–25 (describing the medical model of interpreting behavior).

11. BAKER, *supra* note 3, at 87–88.

tems, highlighting that the principle of equality is under intense pressure when the context implicates neurological diversities.

II. NEURODIVERSITY: DEFINITIONS, AND DEBATES

The concept of neurodiversity refers to a highly variable cluster of atypical neurological mechanisms resulting in maladaptive behaviors.¹² The term neurodiversity refers to a broad spectrum of cognitive, linguistic, and learning functions, and early-onset neurobiological conditions that impair the individual's capacity for social understanding, social interaction, learning, and pragmatic and semantic communication. NDDs and pervasive developmental disorders (PDD) produce overreactions to environmental *stimuli* and, in most cases, repetitive or restricted interests and activities.¹³ Atypical neurological functioning is neither a unitary condition nor the result of a singular genetic, molecular or cellular etiology. Symptoms vary significantly in character and severity, occur in all ethnic and socioeconomic groups, and affect every age.¹⁴

The term neurodiversity first appeared at the end of the twentieth century. It reached the wider public through an article by journalist Harvey Blume published in 1998, in which he stated that “[n]eurodiversity may be every bit as crucial for the human race as biodiversity is for life in general.”¹⁵ One year later, Judy Singer, an Australian sociologist, expanded on this neologism. She is generally credited with the term neurodiversity.¹⁶ Singer articulates a “new category of difference” in the

12. On the concept of maladaptiveness, see Bernard Crespi, *Developmental Heterochrony and the Evolution of Autistic Perception, Cognition and Behavior*, 11 BMC MED. 119 at 6–7 (2013).

13. AM. PSYCHIATRIC ASS'N, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS 50 (5th ed. 2013).

14. *Basics About ASD*, CTR. FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/ncbddd/autism/facts.html> (last updated May 3, 2018).

15. Harvey Blume, *Neurodiversity: On the Neurological Underpinnings of Geekdom*, ATLANTIC (Sept. 1998), <https://www.theatlantic.com/magazine/archive/1998/09/neurodiversity/305909/>; see also Harvey Blume, ‘Autism & the Internet’ or ‘It’s the Wiring, Stupid’, MEDIA TRANSITION (July 1, 1997), http://web.mit.edu/m-i-t/articles/index_blume.html (explaining why neurodiverse individuals will “gain ascendancy”).

16. See JUDY SINGER, NEURODIVERSITY: THE BIRTH OF AN IDEA (2016) (surveying the autism spectrum through the lens of post-modernism, social constructionism, feminism, and disability rights).

human population: individuals diagnosed with NDDs such as ASD and Asperger's Syndrome.¹⁷ She suggests that "the neurologically different represent a new addition to the familiar political categories of class, gender and race."¹⁸

Over the last two decades, specialists in different fields analyzed this concept, proposing several definitions in the growing literature. According to Francisco Ortega: "'neurodiversity' asserts that some features usually described as illnesses are in fact only atypical or 'neurodivergent', i.e. they result from a specific 'neurological wiring'. Therefore, it is merely a human difference that must be respected like any other such difference (be it sex, race or any other attribute)."¹⁹ Pieter Jaarsma and Stellan Welin point out:

What we call the neurodiversity claim consists of at least two parts. One is related to the idea that there are indeed neurological (or brain-wiring) differences among the human population. Being autistic is one of them. One aspect of the neurodiversity claim is that autism (or some other neurological condition) is a natural variation among humans. Being neurodiverse or neurotypical . . . are just different ways of existing as humans. The second aspect of the neurodiversity claim is related to rights, non-discrimi-

17. Judy Singer, 'Why Can't You Be Normal for Once in Your Life?' From a 'Problem with No Name' to the Emergence of a New Category of Difference, in *DISABILITY DISCOURSE* 59 (Mairian Corker & Sally French eds., 1999).

18. *Id.* at 64. In 1999, Michael Ward and Roger Meyer analyzed a new social phenomenon at that time: the appearance of a self-determination movement of ASD people. Michael J. Ward & Roger N. Meyer, *Self-Determination for People with Developmental Disabilities and Autism: Two Self-Advocates' Perspectives*, 14 *FOCUS ON AUTISM & OTHER DEVELOPMENTAL DISABILITIES* 133 (1999). In 2001, Steve Silberman's article "The Geek Syndrome" was published in the magazine *WIRED*. Analyzing the soaring prevalence of children diagnosed with ASD in Silicon Valley, Silberman explored the hypothesis that the area may have a high NDD gene pool due to the gene legacy of the people working, living and becoming parents there. Steve Silberman, *The Geek Syndrome*, *WIRED* (Dec. 1, 2001), <https://www.wired.com/2001/12/aspergers/>; see also STEVE SILBERMAN, *NEUROTRIBES: THE LEGACY OF AUTISM AND THE FUTURE OF NEURODIVERSITY* 10–12 (2015) (explaining how his article "The Geek Syndrome" spurred him to write a book on autism and the concept of neurodiversity).

19. Ortega, *supra* note 2, at 431.

nation and other more political issues. The two aspects often go together.²⁰

Christina Nicolaidis' definition says:

The neurodiversity movement challenges us to re-think autism through the lens of human diversity. It asks us to value diversity in neurobiologic development as we would value diversity in gender, race, ethnicity, religion, or sexual orientation. As opposed to only focusing on impairments, the neurodiversity model sees autistic individuals as possessing a complex combination of cognitive strengths and challenges.²¹

Whereas Chon-Ming Lim affirms:

For the past decade, activists and theorists . . . have been trying to reconceptualize autism. One of their central claims is that autism is not a disorder. For them, autistic traits are the result of *atypical* (rather than abnormal) neurological structures, which give rise to *different* types and levels of functioning from those arising from the structures in neurotypical individuals.²²

For the purpose of this article, Dana Lee Baker's definition depicts this concept in the most precise way:

[N]eurodiversity refers to atypical functionalities found in individuals who have identifiable neurological differences and to their interactions with individuals considered neurologically typical in the context of public infrastructures built around a presumption of neurotypicality. For the most part, this implies that communities referred to as neurodiverse include only those that incorporate individuals who have been formally diagnosed (or could be, given access to professionals) with a disability believed to involve a significant brain-based difference compared to what is currently considered the human norm.²³

20. Jaarsma & Welin, *supra* note 2.

21. Christina Nicolaidis, *What Can Physicians Learn from the Neurodiversity Movement?*, 14 VIRTUAL MENTOR 503 (2012).

22. Lim, *supra* note 3, at 564–65.

23. BAKER, *supra* note 3, at 19.

The concept of neurodiversity, however, generates disagreement. According to neurodiversity critics, severe disruption in otherwise typical human functions cannot be defined as anything other than pathology.²⁴ For them, as promising as the neurodiversity discourse might be, severely maladaptive ASD phenotypes are medical conditions. They maintain that nosology, the branch of medical science that classifies and describes the characteristics of diseases, is not a social construction. They assert that symptoms deeply impact people's lives, and disabling functionalities are ill-defined as mere human diversity.²⁵ Moreover, according to neurodiversity skeptics, the shift away from the medical model and the contextual emphasis on diversity might trigger dangerous outcomes. Francisco Ortega reviewing the complexity of the concept of neurodiversity, states: "parents [are] fighting to obtain governmental support or make health insurance companies pay for the therapy The advocates' claim that autism is not an illness and that attempts to cure it violate autistic rights may therefore provide a legal backing for refusing to subsidize the therapy."²⁶ Furthermore, critics of the neurodiversity movement insist that opposition to the idea of the neurotypical world would not help to increase social awareness of NDDs' implications.²⁷ According to skeptics, the diversity discourse should mobilize only in reference to individuals who display high-functionality or to NDDs²⁸ manifesting less intrusive profiles, such as language-based learning disabilities or attention deficits. Although identity-building agendas are understandable reactions to against past marginalization, skeptics argue that high-functioning individuals might monopolize the

24. See *id.* at 27–44 (describing tensions and disagreements between four competing neurodiversity-related conceptions and policy agendas: cause, care, cure, and celebration).

25. This polarization is analyzed in Nancy Bagatell, *From Cure to Community: Transforming Notions of Autism*, 38 *ETHOS* 33 (2010); Steven K. Kapp et al., *Deficit, Difference, or Both? Autism and Neurodiversity*, 49 *DEVELOPMENTAL PSYCHOLOGY* 59 (2013); and Chloe Silverman, *Fieldwork on Another Planet: Social Science Perspectives on the Autism Spectrum*, 3 *BIOsocieties* 325 (2008).

26. Ortega, *supra* note 2, at 429.

27. Margaret Rowland, *Angry and Mad: A Critical Examination of Identity Politics, Neurodiversity, and the Mad Pride Movement*, *J. ETHICS MENTAL HEALTH*, Oct. 5, 2015, at 3.

28. Pier Jaarsma & Stellan Welin, *Autism, Accommodation and Treatment: A Rejoinder to Chong JMing Lim's Critique*, 29 *BIOETHICS* 684 (2015).

neurodiversity discourse at the expense of the most vulnerable, who would then see NDD health-care dangerously downsized.²⁹

Today, the dichotomy of diversity versus pathology appears less rigid, as debates show a variety of nuanced positions.³⁰ Advocates who emphasize the idea of diversity do not deny the importance of health care services, including educational and behavioral individualized interventions.³¹ Instead, they argue that by acting immediately on parental concerns, monitoring behavior and development, asking promptly for a comprehensive evaluation, searching for etiologic and co-morbid conditions, and managing medical issues, neurodiverse people increase their chances of living independently as adults even without being cured.³²

III. LEGAL NEURODIVERSITY

Despite the ongoing social debates surrounding the subject, the concept of neurodiversity displays substantial legal attributes. Advocates' perspective of diversity proposes expansion of protections for neurodiverse individuals by triggering anti-discrimination mechanisms already in place for other human diversities. Neurodiversity also renews debates around the principle of constitutional equality, and fosters a reinterpretation of the theory of justice.³³

Importantly, neurodiversity from a legal perspective does not inherently conflict with the medial approach and its focus

29. See, e.g., Jaarsma & Welin, *supra* note 2 (noting that acceptance of neurodiversity as a separate culture may not be desirable for low-functioning autists who need care).

30. Evrinomy Avdi, *Negotiating a Pathological Identity in the Clinical Dialogue: Discourse Analysis of a Family Therapy*, 78 *PSYCHOL. & PSYCHOTHERAPY* 493 (2005); Fenton & Krahn, *supra* note 4, at 4; Ortega, *supra* note 2, at 441.

31. Editorial, *Pride in Autistic Diversity*, 387 *LANCET* 2479 (2016).

32. Caruso, *supra* note 7, at 514–37; Jaarsma & Welin, *supra* note 2; Kapp et al., *supra* note 25, at 68; Scott Michael Robertson, *Neurodiversity, Quality of Life, and Autistic Adults: Shifting Research and Professional Focuses onto Real-Life Challenges*, 30 *DISABILITY STUD. Q.* no. 1, 2009, <http://dx.doi.org/10.18061/dsq.v30i1.1069>; Editorial, *supra* note 31, at 2477.

33. Martha Nussbaum, *The Capabilities of People with Cognitive Disabilities*, 40 *METAPHILOSOPHY* 331 (2009). See generally MARTHA C. NUSSBAUM, *FRONTIERS OF JUSTICE: DISABILITY, NATIONALITY, SPECIES MEMBERSHIP I* (2006) (identifying “people with physical and mental impairments” as one of the “three unsolved problems of social justice”).

on the pathological dimensions of NDDs. In the legal realm, the two dimensions complement each other: neurodiverse individuals can be considered patients *and* unfairly excluded citizens. As such they may receive more strategies to implement in the public sphere. While people with severely disrupted functioning need more efficient medical systems and might prefer to have symptoms medicalized, less affected individuals might prefer to focus on the identity-diversity level and demand a more inclusive society. Legal neurodiversity respects this individual choice. By adding the discrimination-equality dimension, the concept of legal neurodiversity aims to create more inclusive communities by fostering social change and accommodations. In short, considering the legal implications of neurodiversity suggests that the idea of better-assisted patients is not incompatible with the one of more empowered citizens.

The legal dimension of neurodiversity has theoretical and pragmatic features. From a theoretical perspective, overcoming stigmatization and labelling is the pre-condition for avoiding discrimination. From a pragmatic perspective, three variables arise for consideration: 1) the number of neurodiverse people living in our societies—prevalence data suggest that atypical neurological conditions are sufficiently common in our societies to merit attention; 2) the extent to which people impacted by NDDs struggle to comply with or fit into legal norms and behavioral standards, as well as the legal consequences of this gap; and 3) the growing number of neurodiversity-related litigation cases. This article considers each individually below.

A. *The Size of the Neurodiverse Population*

Considering just ASD alone, the U.S. Center for Disease Control and Prevention (CDC) released data finding that one in 59 children has an ASD.³⁴ The U.S. National Health Inter-

34. Deborah L. Christensen et al., *Prevalence and Characteristics of Autism Spectrum Disorder Among Children Aged 8 Years*, 65 SURVEILLANCE SUMMARIES, Apr. 1, 2016, at 1–23; *Autism Spectrum Disorder (ASD): Data and Statistics*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/ncbddd/autism/data.html> (last updated Apr. 26, 2018). See also Mayada Elsabbagh et al., *Global Prevalence of Autism and Other Pervasive Developmental Disorders*, 5 AUTISM RES. 160, 160 (2012). In a 2009 survey the whole spectrum of PDD is estimated between 60–70/10,000. Eric Fombonne, *Epidemiology of Pervasive Developmental Disorders*, 65 PEDIATRIC RES. 591, 591 (2009). In a successive study

view Survey, a nationwide population study based on in-person, household, and parent interviews, determined that the 2014–2016 ASD prevalence was 2.41%.³⁵ A 2011 study in Stockholm found similar frequency: they found prevalence of ASD of 0.40%, 1.74%, 2.46%, and 1.76% among 0–5, 6–12, 13–17 and 18–27 year olds respectively.³⁶ The corresponding proportion of individuals with an intellectual disability was 17.4%, 22.1%, 26.1%, and 29.4%.³⁷ Between 2001 and 2011, ASD prevalence increased almost 3.5 fold among children aged 2–17 years.³⁸ To explain the increase, researchers highlight an eightfold increase of ASD without intellectual disability, from 0.14 to 1.10 %, while the prevalence of ASD with intellectual disability increased from 0.28 to 0.34%.³⁹ Authors affirm that the soar in ASD prevalence “is likely contributed to by extrinsic factors such as increased awareness and diagnostics.”⁴⁰

If we include other types of atypical neurological functioning in the concept of neurodiversity, prevalence increases dramatically. According to the International Dyslexia Association, between 15% and 20% of the population displays language-based learning disabilities such as dyslexia, dysgraphia,

published in 2011, the same authors refined the estimate to 70/10,000 for all ASD disorders. Eric Fombonne et al., *Epidemiology of Pervasive Developmental Disorders*, in *AUTISM SPECTRUM DISORDERS* 90, 90 (David G. Amaral, Geraldine Dawson & Daniel H. Geschwind eds., 2011). See also Young Shin Kim et al., *Prevalence of Autism Spectrum Disorders in a Total Population Sample*, 168 *AM. J. PSYCHIATRY* 904 (2011) (providing convergent prevalence data). For an assessment of the changes to diagnostic criteria, see Luke Y. Tsai & Mohammad Ghaziuddin, *DSM-5 ASD Moves Forward into the Past*, 44 *J. AUTISM & DEVELOPMENTAL DISORDERS* 321 (2014); Young Shin Kim et al., *A Comparison of DSM-IV Pervasive Developmental Disorder and DSM-5 Autism Spectrum Disorder Prevalence in an Epidemiologic Sample*, 53 *J. AM. ACAD. CHILD & ADOLESCENT PSYCHIATRY* 500 (2014).

35. Guifeng Xu et al., *Prevalence of Autism Spectrum Disorder Among US Children and Adolescents, 2014–2016*, 319 *J. AM. MED. ASS'N* 81 (2018).

36. Selma Idring et al., *Changes in Prevalence of Autism Spectrum Disorders in 2001–2011: Findings from the Stockholm Youth Cohort*, 45 *J. AUTISM & DEVELOPMENTAL DISORDERS* 1766 (2015).

37. *Id.*

38. *Id.*

39. *Id.*

40. *Id.*

and dyscalculia.⁴¹ These learning disabilities affect males and females nearly equally, and rates are consistent across different ethnic and socio-economic backgrounds. In the United States, studies suggest that between 5% and 10% of the population display dyslexic traits alone.⁴² In languages with orthography and phonology exceptions, like Danish and English, dyslexic traits reach up to 12% of the population. With languages like Italian, German, and Dutch, in which there is a higher grapheme-to-phoneme correspondence, prevalence in the population is lower but consistent.⁴³ According to a U.S. report published in 2014 by the Center for Learning Disability, this population typically suffers from low self-esteem, sets low expectations for themselves, struggles with underachievement and underemployment, and engages with the criminal justice system with greater frequency than their non-learning disorder peers.⁴⁴

Although severely maladaptive, NDDs without intellectual impairments, and other atypical neurological conditions such as learning disorders (LDs) that are not associated with diminished intelligence are also widely prevalent.⁴⁵ ASD associated with intellectual disability, for example, only comprises about 30% of the cases of diagnosed autism today,⁴⁶ and impair-

41. See *Frequently Asked Questions*, INT'L DYSLEXIA ASS'N, <https://dyslexiaida.org/frequently-asked-questions-2/> (last visited Oct. 4, 2018).

42. JULIAN G. ELLIOTT & ELENA L. GRIGORENKO, *THE DYSLEXIA DEBATE* 32 (2014); Linda S. Siegel, *Perspectives on Dyslexia*, 11 *PAEDIATRICS & CHILD HEALTH* 581, 582 (2006).

43. Taeko N. Wydell, *Cross-Cultural/Linguistic Differences in the Prevalence of Developmental Dyslexia and the Hypothesis of Granularity and Transparency*, in *DYSLEXIA—A COMPREHENSIVE AND INTERNATIONAL APPROACH* 1, 7 (Taeko Wydell ed., 2012).

44. CANDACE CORTIELLA & SHELDON H. HOROWITZ, *THE STATE OF LEARNING DISABILITIES* 3 (3d ed. 2014); see also Idor Svensson, Ingvar Lundberg & Christer Jacobson, *The Prevalence of Reading and Spelling Difficulties Among Inmates of Institutions for Compulsory Care of Juvenile Delinquents*, 7 *DYSLEXIA* 62, 73 (2001) (discussing the prevalence of reading deficiencies among juveniles within juvenile institutions).

45. Penny Spikins et al., *Are There Alternative Adaptive Strategies to Human Pro-Sociality? The Role of Collaborative Morality in the Emergence of Personality Variation and Autistic Traits*, 9 *TIME & MIND* 289, 294 (2016).

46. It requires organized caring and derives from traumatic brain damage, tuberosc sclerosis, fragile-X-syndrome or de novo genetic mutations. See Ivan Iossifov et al., *The Contribution of De Novo Coding Mutations to Autism Spectrum Disorder*, 515 *NATURE* 216, 216 (2014) (discussing the prevalence of ge-

ments are consistently determined by co-morbid factors. A study by the Californian Department of Developmental Services (DDS) confirms this figure.⁴⁷ According to its 2007 service survey, only 36% of the individuals assessed on the ASD spectrum have mental retardation diagnoses.⁴⁸ This percentage encompasses different levels of mental disability, varying from severe to mild. Although this finding contradicts previous prevalence rates,⁴⁹ the California data parallels the most recent literature.⁵⁰

Based on the above-mentioned prevalence data, both in the United States and in Europe, several millions of adolescents displaying a wide range of neurodiverse conditions, ranging from NDDs to LDs, will transition to adulthood over the next decade. This will significantly impact the labor market as well as health care and social security systems.⁵¹ Atypical neurological conditions are a structural feature of the human pop-

netic mutations). The earliest identified cases of autism were of this type; however, the later identified autism without intellectual impairment is notably distinct, with different genetic causes and much lower levels neurological damage. See Michael Ronemus et al., *The Role of De Novo Mutations in the Genetics of Autism Spectrum Disorders*, 15 NATURE REV.: GENETICS 133, 133 (2014) (discussing de novo mutations as a cause of ASD).

47. ANDREW T. CAVAGNARO, CAL. DEP'T OF DEVELOPMENTAL SERVS., AUTISTIC SPECTRUM DISORDERS: CHANGES IN THE CALIFORNIA CASELOAD: AN UPDATE: JUNE 1987–JUNE 2007, at 27 (2009).

48. *Id.*

49. CAL. DEP'T OF DEVELOPMENTAL SERVS., AUTISTIC SPECTRUM DISORDERS: BEST PRACTICE GUIDELINES FOR SCREENING, DIAGNOSIS AND ASSESSMENT 46 (2002); AM. PSYCHIATRIC ASS'N, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS 72 (4th ed., 2000) (indicating 80% of people on the spectrum have mental retardation).

50. See Elise B. Barbeau et al., *The Level and Nature of Autistic Intelligence III: Inspection Time*, 122 J. ABNORMAL PSYCHOL. 295, 295 (2013) (discussing how different assessment methodologies lead to different results). Inspection time (IT) is a processing speed measure associated with general intelligence in typical individuals. Compared with a Wechsler IQ-matched typical group, the autistic group's visual IT was significantly shorter, a processing speed advantage that vanished when Raven's Progressive Matrices (RPM) was used for group matching. *Id.*; see also Idring et al., *supra* note 36, at 4 (discussing co-morbid rates of autism and intellectual disabilities).

51. Jeffrey A. Cohen et al., *A Legal Review of Autism, a Syndrome Rapidly Gaining Wide Attention Within Our Society*, 77 ALB. L. REV. 389, 391–92 (2014). Lifetime societal costs of ASD in the U.S. range from \$13 to \$76 billion depending on the model. Michael L. Ganz, *The Lifetime Distribution of the Incremental Societal Costs of Autism*, 161 ARCHIVES PEDIATRICS & ADOLESCENT MED. 343, 348 (2007).

ulation. Atypical brain structure and functioning are quantitatively and qualitatively relevant in our societies, crafting a demographic and anthropological reality that cannot be ignored.⁵²

B. *Legal Implications of Neurodiversity*

The question of what the legal consequences of these widespread human cognitive discrepancies are remains.⁵³ It is unclear whether legal systems are equipped to deal with this previously underestimated cognitive pluralism. Diverse cogni-

52. A deepening understanding of the brain is fostering a re-conceptualization of behavioral anthropology as well as of the range and roots of, and the proper response to, an increasing awareness of neurodiversity. Owen D. Jones et al., *Neuroscientists in Court*, 14 NATURE REVS.: NEUROSCIENCE 730 (2013) (discussing the increasingly prevalent role of neuroscientific evidence in courts). New ideas are transforming social science heuristic aspects, vocabulary, and research methodologies. See, e.g., NEUROCULTURES: GLIMPSES INTO AN EXPANDING UNIVERSE (Francisco Ortega & Fernando Vidal eds., 2001) (discussing the cerebral subject); THE NEW BRAIN SCIENCES: PERILS AND PROSPECTS (Dai Rees & Steven Rose eds., 2004) (discussing neurobiologization of selfhood); NIKOLAS ROSE, THE POLITICS OF LIFE ITSELF: BIOMEDICINE, POWER, AND SUBJECTIVITY IN THE TWENTY-FIRST CENTURY (2007) (outlining the neurochemical self); Alain Ehrenberg, *Le Sujet Cérébral*, 309 ESPRIT 130 (2004) (cerebral subjectivation); see also Ortega, *supra* note 2, at 426 (discussing neurodiversity and identity). This movement has developed into a new field of interdisciplinary research: *social neurosciences*. See, e.g., LOUIS COZOLINO, THE NEUROSCIENCE OF HUMAN RELATIONSHIPS: ATTACHMENT AND THE DEVELOPING SOCIAL BRAIN (2d ed. 2014) (exploring the cognitive effects of interpersonal relations); Ralph Adolphs, *Cognitive Neuroscience of Human Social Behavior*, 4 NATURE REVS.: NEUROSCIENCE 165 (2003) (exploring the cognitive underpinnings of interpersonal relations); Editorial, *Focus on Social Neuroscience*, 15 NATURE NEUROSCIENCE 645 (2012) (discussing then-current progress in the field of social neuroscience); Matthew D. Lieberman, *Social Cognitive Neuroscience: A Review of Core Processes*, 58 ANN. REV. PSYCHOL. 259 (2007) (offering a broad overview of key research domains and processing distinctions in social cognitive neuroscience). Over the last decade, studies conducted by scientists and legal scholars have opened a new field of interdisciplinary research probing the intersection of neurosciences and the law. Among a growing literature, see THE IMPACT OF BEHAVIORAL SCIENCES ON CRIMINAL LAW (Nita A. Farahany ed., 2009); INTERNATIONAL NEUROLAW: A COMPARATIVE ANALYSIS (Tade Matthias Spranger ed., 2012); LAW AND THE BRAIN (Semir Zeki & Oliver Goodenough eds., 2006); LAW, MIND AND BRAIN (Michael Freeman & Oliver R. Goodenough eds., 2009); Michael S. Gazzaniga, *The Law and Neuroscience*, 60 NEURON 412 (2008); Michael S. Pardo & Denis Patterson, *Minds, Brains, and Norms*, 4 NEUROETHICS 179 (2011).

53. ROBERT M. SAPOLSKY, BEHAVE: THE BIOLOGY OF HUMANS AT OUR BEST AND WORST 63–64 (2017); Robert M. Sapolsky, *The Frontal Cortex and the Criminal Justice System*, 359 PHIL. TRANSACTIONS ROYAL SOC'Y B 1787 (2004).

tion, diverse sociality,⁵⁴ diverse learning, and diverse *stimuli* processing⁵⁵ exhibited by a large population may deeply affect expected behaviors or intercommunication conventions based on commonly accepted legal and social norms.⁵⁶ This may alter the perception and the understanding of behaviors displayed by neurodiverse individuals with dangerous consequences such as: “mannerisms exhibited by a person suffering from [ASD similar disorders] are very similar to reactions associated with a guilty mind”⁵⁷ as well as restricted or obsessive-compulsive interests may be considered criminal offence or triggering unmotivated suspicions.⁵⁸ Moreover, difficulty with sensory overload, semantics, sarcasm, changes in routine or structure, poor social awareness, and inadequate understanding of nonverbal communications such as body language and facial expressions, are all traits that may create severe responses within society and attendant costs for individuals with

54. Roy Richard Grinker, *Commentary: On Being Autistic, and Social*, 38 ETHOS 172 (2010); Elinor Ochs & Olga Solomon, *Autistic Sociality*, 38 ETHOS 69 (2010).

55. Thomas Armstrong, *The Myth of the Normal Brain: Embracing Neurodiversity*, 17 AMA J. ETHICS 348 (2015). “The mere existence of synesthesia demonstrates that more than one kind of brain—and one kind of mind—is possible.” DAVID M. EAGLEMAN, *INCOGNITO: THE SECRET LIVES OF THE BRAIN* 80 (2011).

56. Neurosciences are providing evidence that brain structure and functioning, which determine perceptual and cognitive performance, emotions, social and moral thought, and decision making, are both governed by universal principles and deviations. Discrepancies are visible both in typical and atypical population in relation to age, sex, personality, culture and genetics. At the same time, neurosciences are providing the “first compelling evidence that neuropsychiatric and neurodevelopmental disorders reflect fundamental differences in brain structure and function.” John D. Gabrieli et al., *Prediction as a Humanitarian and Pragmatic Contribution from Human Cognitive Neuroscience*, 85 NEURON 11, 11 (2015). Discrepancies affect the capacity to learn, to judge and to respond to behavioral and pharmacological treatments. They impinge upon the capacity to solve cognitive conflicts implicated in impulsivity (behavioral disinhibiting) and to make decisions. *Id.* While diversities are genetically based or determined by the onset of pathologies, socio-cultural interactions are fundamental in shaping the scale of brain diversity one may carry. *Id.* at 21–22.

57. Sheena Foster, *Autism Is Not a Tragedy . . . Ignorance is: Suppressing Evidence of Asperger’s Syndrome and High-Functioning Autism in Capital Trials Prejudices Defendants for a Death Sentence*, 2 LINCOLN MEM’L U.L. REV. 9, 12 (2015) at 9-12.

58. See Christine N. Cea, *Autism and the Criminal Defendant*, 88 ST. JOHN’S L. REV. 495, 498–99, 501–03 (2014)

NDDs.⁵⁹ Since the description of autism's phenotype in the first half of the twentieth century, the understanding of NDDs has advanced and its legal implications are better understood.⁶⁰ However, the interaction between those conditions and the law still remain problematic.⁶¹

Studies reveal a dramatic relationship between NDDs and the criminal justice system. In 2001 the National Research Council released a report demonstrating that “individuals with neurodevelopmental disabilities are involved, in one role or another, in the criminal justice system at a much higher rate than persons without disabilities.”⁶² The findings of a study conducted in the UK “confirm the presence of a significant number of people with NDD in a male prison” where 87 inmates out of 240 in a prison in London were affected.⁶³ A study conducted in Sweden found 13% of inmates in Swedish forensic settings have ASD.⁶⁴ In North America, a study estimated the prevalence of ASD in U.S. prison to be 4.4%, four

59. Cohen et al., *supra* note 51, at 414. The relationship between criminal evidence—intent, capacity, insanity defense—and intellectual disability in the United States is analyzed in MODERN SCIENTIFIC EVIDENCE: THE LAW AND SCIENCE OF EXPERT TESTIMONY §§ 20.9–.17 (David L. Faigman et al. eds., 2017); Elizabeth Hervey Osborn, *What Happened to ‘Paul’s Law’?: Insights on Advocating for Better Training and Better Outcomes in Encounters Between Law Enforcement and Persons with Autism Spectrum Disorders*, 79 U. COLO. L. REV. 333 (2008).

60. Caruso, *supra* note 7, at 483; Cohen et al., *supra* note 51, at 419.

61. See generally Andrew Cashin & Claire Newman, *Autism in the Criminal Justice Detention System: A Review of the Literature*, 5 J. FORENSIC NURSING 70 (2009) (surveying literature on incarcerated autists); Foster, *supra* note 57 (describing the suppression of evidence of psychological abnormalities); Thomas A. Mayes, *Persons with Autism and Criminal Justice: Core Concepts and Leading Cases*, 5 J. POSITIVE BEHAV. INTERVENTIONS 92 (2003) (surveying cases involving autists).

62. See COMM. ON LAW & JUSTICE, CRIME VICTIMS WITH DEVELOPMENTAL DISABILITIES: REPORT OF A WORKSHOP 22–31 (Joan Petersilia et al. eds., 2001) (detailing risk factors for individuals with disabilities as offenders and victims); see also COMM. ON EDUC. INTERVENTIONS FOR CHILDREN WITH AUTISM, EDUCATING CHILDREN WITH AUTISM 115–32 (Catherine Lord & James P. McGee eds., 2001) (describing problem behaviors of children with ASD).

63. J. McCarthy et al., *Characteristics of Prisoners with Neurodevelopmental Disorders and Difficulties*, 60 J. INTELL. DISABILITY RES. 201, 201 (2015).

64. Henrik Anckarsäter et al., *Autism Spectrum Disorders in Institutionalized Subjects*, 62 NORDIC J. PSYCHIATRY 160, 160 (2008).

times greater than in the general population—out of 1800 inmates in a maximum-security state prison in the Midwest.⁶⁵

In 2015, the U.S. National Council of Disability released a report concluding that many disabled youth in the U.S. juvenile justice and criminal justice systems are deprived of an appropriate education that could disrupt the so-called “School-to-Prison Pipeline.” Among incarcerated youth, 85% have learning and or emotional disabilities, yet only 37% receive special education.⁶⁶ Most of these youth are either undiagnosed or not properly served in school.⁶⁷ Many students have invisible disabilities, such as specific LDs,⁶⁸ emotional disturbance, posttraumatic stress disorder, or attention deficit/hyperactivity disorder.⁶⁹ Moreover, a 2004 survey on state and federal inmates in the United States revealed that 31% self-reported having speech and reading difficulties and 43% reported taking special education classes.⁷⁰ A study conducted in Finland in 2014 determined that between 29% and 36% of the inmates displayed reading and spelling disorders.⁷¹ In the UK, a screening performed in a British institution in 2004 found high levels of speech, language, and communication difficul-

65. Rachel L. Fazio et al., *An Estimate of the Prevalence of Autism-Spectrum Disorders in an Incarcerated Population*, 4 OPEN ACCESS J. FORENSIC PSYCHOL. 69, 69 (2012).

66. NAT'L COUNCIL ON DISABILITY, *BREAKING THE SCHOOL-TO-PRISON PIPELINE FOR STUDENTS WITH DISABILITIES* 6 (2015).

67. *Id.*

68. *Id.*; Elena L. Grigorenko, *Learning Disabilities in Juvenile Offenders*, 15 CHILD & ADOLESCENT PSYCHIATRIC CLINICS N. AM. 353, 354 (2006).

69. NAT'L COUNCIL ON DISABILITY, *supra* note 66, at 6.

70. Jennifer M. Reingle Gonzalez et al., *Disproportionate Prevalence Rate of Prisoners with Disabilities: Evidence from a Nationally Representative Sample*, 27 J. DISABILITY POL'Y STUD. 106, 106, 112 (2016) (“Disability prevalence remained substantially higher among prisoners than among the non-institutionalized population. Prisoners were more likely to report specific learning, sensory, and speech-related disabilities than non-institutionalized adults In summary, 41% of prisoners reported a disability, most commonly, learning disabilities. Prisoners with disabilities were identified as an at-risk group for recidivism, given their pre-incarceration experiences, and limited vocational and work-related training received in prison.”).

71. Tiina Tuominen et al., *Functional Illiteracy and Neurocognitive Deficits Among Male Prisoners: Implications for Rehabilitation*, 16 J. FORENSIC PRAC. 268, 272 (2014).

ties among young offenders.⁷² Multiple studies in northern Europe show an overrepresentation of reading and writing disabilities among inmates in which the prevalence varies between 6 and 70%.⁷³ The reason for this problematic discrepancy is the difficulty in defining and diagnosing reading-writing disabilities and dyslexia. More research on prevalence and interventions is greatly needed.

Although fragmented and incomplete, the available data nevertheless shows a disproportionately high number of neurodiverse people in prison populations.⁷⁴ As several law and criminology scholars point out, this is not determined by intrinsic higher criminal dispositions, but rather by the problematic interaction between NDDs and the criminal justice.⁷⁵ A study published in 2007 found “little evidence to support the notion that offending was a significant problem in people with

72. Karen Bryan, *Preliminary Study of the Prevalence of Speech and Language Difficulties in Young Offenders*, 39 INT'L J. LANGUAGE & COMM. DISORDERS 391, 397 (2004).

73. Idor Svensson, *Reading and Writing Disabilities Among Inmates in Correctional Settings: A Swedish Perspective*, 21 LEARNING & INDIVIDUAL DIFFERENCES 19, 23 (2011). See also Grigorenko, *supra* note 68, at 355–56 (reviewing studies conducted in the United States and in Sweden that found an elevated frequency of learning problems among juvenile delinquents); May Lindgren et al., *Dyslexia and AD/HD Among Swedish Prison Inmates*, 3 J. SCANDINAVIAN STUD. CRIMINOLOGY & CRIME PREVENTION 84, 89 (2002) (summarizing a 2002 study in Sweden that found that 62% of the inmates were diagnosed with dyslexia). But see Stefan Samuelsson et al., *Reading and Writing Difficulties Among Prison Inmates: A Matter of Experiential Factors Rather than Dyslexic Problems*, 7 SCI. STUD. READING 53, 68 (2003) (finding a lower prevalence of dyslexic problems among a sample of inmate population).

74. Claire King & Glynis H. Murphy, *A Systematic Review of People with Autism Spectrum Disorder and the Criminal Justice System*, 44 J. AUTISM & DEVELOPMENTAL DISORDERS 2717, 2721 (2014); Matthew D. Lerner et al., *Emerging Perspectives on Adolescents and Young Adults with High-Functioning Autism Spectrum Disorders, Violence, and Criminal Law*, 40 J. AM. ACAD. PSYCHIATRY & L. 177, 178 (2012); see also Ann Browning & Laura Caulfield, *The Prevalence and Treatment of People with Asperger's Syndrome in the Criminal Justice System*, 11 CRIMINOLOGY & CRIM. JUST. 165 (2011) (surveying the relation between ASD and criminality); Catherine A. Cheely et al., *The Prevalence of Youth with Autism Spectrum Disorders in the Criminal Justice System*, 42 J. AUTISM & DEVELOPMENTAL DISORDERS 1856 (2011) (comparing rates of criminality between youths with and without ASD).

75. See Sissel Berge Helverschou et al., *Personal Experiences of the Criminal Justice System by Individuals with Autism Spectrum Disorders*, 22 AUTISM 460, 466 (2018) (documenting the experiences of offenders with ASD in the criminal justice system).

Asperger.”⁷⁶ Although different opinions suggest that individuals with this condition appear more frequently in forensic populations than the general public,⁷⁷ other studies affirm that “individuals with autism are easily manipulated, and therefore easily enticed into criminal behavior”⁷⁸ and that comorbid psychiatric factors might determine unconventional behaviors.⁷⁹ As Cohen, Dickerson and Forbes point out:

We have a general understanding today that even individuals with high-functioning ASDs can have issues with sensory overload, semantics, sarcasm, have difficulty when dealing with changes in routine or structure, generally have poor social awareness, and inadequate understanding of nonverbal communications such as body language and facial expressions, both on the giving and receiving end. Accordingly, their responses within society can be very difficult and they can often be viewed as exhibiting antisocial behavior. While there is no evidence to suggest that individuals with ASDs will commit crimes at a higher rate than the general population, it stands to reason that offenses may be committed by individuals with ASD. However, as with any offense, intent must be considered, and when considering an individual with an ASD, such intent may have to be evaluated differently.⁸⁰

76. David Allen et al., *Offending Behaviour in Adults with Asperger Syndrome*, 38 J. AUTISM & DEVELOPMENTAL DISORDERS 748, 757 (2008).

77. Barbara G. Haskins & J. Arturo Silva, *Asperger's Disorder and Criminal Behavior: Forensic-Psychiatric Considerations*, 34 J. AM. ACAD. PSYCHIATRY & L. 374, 382 (2006).

78. Nita A. Farahany, *Cruel and Unequal Punishments*, 86 WASH. U.L. REV. 859, 897 (2009); see also the extensive analysis of the available literature in David S. Im, *Template to Perpetrate: An Update on Violence in Autism Spectrum Disorder*, 24 HARV. REV. PSYCHIATRY 14, 15–29 (2016).

79. See Mohammad Ghaziuddin, *Violent Behavior in Autism Spectrum Disorder: Is it a Fact, or Fiction?*, 12 CURRENT PSYCHIATRY 23, 32 (2013) (“When violent crime occurs at the hands of a person with ASD, it is almost always precipitated by a comorbid psychiatric disorder . . .”); Stewart S. Newman & Mohammad Ghaziuddin, *Violent Crime in Asperger Syndrome: The Role of Psychiatric Comorbidity*, 38 J. AUTISM & DEVELOPMENTAL DISORDERS 1848, 1850–51 (2008) (finding that psychiatric disorders in persons with Asperger syndrome may contribute to their offending behavior).

80. Cohen et al., *supra* note 51, at 413 (citations omitted).

Thomas Mayers presents an even more radical point of view on this issue, suggesting, “[t]o the extent that persons with autism are ill-prepared to conform to society’s demands, their newfound membership in society is a cruel illusion: the substitution of incarceration for institutionalization.”⁸¹

Two general aspects frame the debate on the legal neurodiversity. First is the relationship between constitutional principles and neurodiversity, especially equality and non-discrimination. Courts of different countries deal with an increasing number of cases involving autism. While it is difficult to determine accurately the number of cases in Europe due to the diversity of national legal systems, the United States provides a good example of the phenomenon: between 2000 and 2017, U.S. federal courts decided more than 2700 cases in which the word “autism” appeared.⁸² During the same two decades, more than 700 cases mentioning the words “Asperger Syndrome” were decided.⁸³ Within these U.S. cases, a growing number of plaintiffs claimed violations of the equal protection clause of the Fourteenth Amendment of the U.S. Constitution and of the due process of law clause of the Fifth Amendment. The equality principle was also repeatedly challenged in European jurisdictions.⁸⁴

The second aspect is the impact of the UN Convention on the Right of Persons with Disabilities (CRPD) and its Optional Protocol adopted in New York on December 13, 2006.⁸⁵ This Convention is the first international treaty that defines the specific rights of people with disabilities, and thus constitutes a paradigm shift in disability rights.⁸⁶ While the Convention

81. Mayes, *supra* note 61, at 98.

82. LEXISNEXIS, <https://advance.lexis.com> (search “autism” in federal courts between 2000 and 2017 and exclude the words “vaccine” and “vaccines”) (last visited Oct. 18, 2018).

83. LEXISNEXIS, <https://advance.lexis.com> (search “Asperger” and “syndrome” in federal courts between 2000 and 2017 and exclude the words “vaccine” and “vaccines”) (last visited Oct. 18, 2018).

84. See DEBORAH MABBETT, BRUNEL UNIV., *DEFINITIONS OF DISABILITY IN EUROPE: A COMPARATIVE ANALYSIS* 67 (2002) (discussing discrimination and equality in Ireland, the United Kingdom, Sweden, Norway and France).

85. See *generally* G.A. Res. 61/106, Convention on the Rights of Persons with Disabilities (Jan. 24, 2007) (adopting a resolution to protect people with disabilities).

86. See Michael Ashley Stein et al., *Health Care and the UN Disability Rights Convention*, 374 LANCET 1796, 1796 (2009) (noting that the CRPD is the first

does not list any specific disabilities, given the evolving nature of diagnostic labels and concepts of disability, this document specifies that “[p]ersons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society in an equal basis with others.”⁸⁷ Article 3 establishes general principles that are now vital in dealing with neurodiversity:

- 1) Respect for inherent dignity, individual autonomy including the freedom to make one’s own choices, and independence of persons;
- 2) Non-discrimination;
- 3) Full and effective participation and inclusion in society;
- 4) Respect for difference and acceptance of persons with disabilities as part of human diversity and humanity;
- 5) Equality of opportunity;
- 6) Accessibility;
- 7) Equality between men and women;
- 8) Respect for the evolving capacities of children with disabilities and respect for the right of children with disabilities to preserve their identities.⁸⁸

The CRPD also establishes an implementation monitoring mechanism through the Committee on the Right of Persons with Disabilities.⁸⁹ All European states have signed and ratified the CRPD and the Optional Protocol, and the European Union and the Council of Europe are now official members of this international mechanism.⁹⁰ In contrast, the United States

legally binding international instrument that protects the rights of disabled people); see also George Szukler et al., *Mental Health Law and the UN Convention on the Rights of Persons with Disabilities*, 37 INT. J.L. & PSYCHIATRY 245, 245 (2014) (finding that, while the CRPD frames rights for people with disabilities in a way rarely referred to in other international treaties, the CRPD gives states latitude in defining disability in municipal law).

87. G.A. Res. 61/106, *supra* note 85, art. 1.

88. *Id.* art. 3.

89. *Id.* arts. 33–34 (mandating that state parties implement monitoring programs and other governance activities for the rights of persons with disabilities).

90. See Jarlath Clifford, *The UN Disability Convention and its Impact on European Equality Law*, 6 EQUAL RTS. REV. 11, 11 (2011) (noting that this is the first time in history the European Union has ratified an international human rights treaty that has subsequently influenced the European Union to a significant degree).

is one of the few countries that signed Convention, but has not yet ratified it.⁹¹

IV. NEURODIVERSE INDIVIDUALS AS A NEW MINORITY?

In line with Hans Asperger's 1938 statement that autistic traits are "not rare at all," Steven Silberman claims that "given current estimates of prevalence, autistic people constitute one of the largest minorities in the world."⁹² The Autistic Self Advocacy Network (ASAN) affirms that: "[l]ike any other *minority group*, we have the right to respectful and equal treatment in all aspects of society,"⁹³ and "[a]s with other *minority groups*, an inclusive educational system is a vital part of changing social attitudes and creating a culture in which all people are seen as equal participants in society."⁹⁴ Other similar statements coming from within the neurodiverse community consider autistic people a distinct minority group.⁹⁵

While an official legal definition of minority groups does not exist internationally, specialists and UN documents agree that identifying a group as a minority depends on both objective, such as the existence of a shared ethnicity, language or religion, and subjective—individuals must identify themselves as members of a minority—criteria being met.⁹⁶ With this, international law and state constitutions recognize the existence of minority groups living within their territory based on classic objective criteria.⁹⁷ However, over the last decades, the prob-

91. See *Convention on the Rights of Persons with Disabilities*, UNITED NATIONS TREATY COLLECTION, <https://treaties.un.org/doc/Publication/MTDSG/Vol%20I/Chapter%20IV/IV-15.en.pdf> (listing signatories and parties to the Convention).

92. SILBERMAN, *supra* note 18, at 469.

93. *Position Statements*, AUTISTIC SELF ADVOCACY NETWORK, <http://autisticadvocacy.org/about-asan/position-statements/> (emphasis added) (last visited Oct. 5, 2018).

94. *Id.*

95. See, e.g., Amy Nelson, *Declaration from the Autism Community that they are [sic] a Minority Group*, PRWEB (Nov. 18, 2004), <http://www.prweb.com/pdfdownload/179444.pdf>; see also Jaarsma & Welin, *supra* note 2.

96. Francesco Palermo & Jens Woelk, *From Minority Protection to a Law of Diversity? Reflections on the Evolution of Minority Rights*, 3 EUR. Y.B. MINORITY ISSUES 5, 5 (2003).

97. In 1977, Francesco Capotorti, as UN Special Rapporteur, defined a minority as: "[a] group numerically inferior to the rest of the population of a State, in a non-dominant position, whose members—being nationals of the

lem of defining new minority groups—such as gender, LGBT, and disabled people—came to the forefront, and literature established a set of guidelines based on additional objective and subjective criteria for identifying new minorities needing protection against discrimination and redress for past injustices. According to these guidelines, in order to identify as a new minority, a group of people needs: 1) to have significantly less control or power over their lives than members of a dominant or majority group; 2) not to be limited to a mathematical minority; 3) to be interchangeable with a subordinate group; 4) to experience a narrowing of opportunities, such as access to education, jobs, or health care system, compared to society; 5) to suffer discrimination and subordination; 6) to manifest physical and or cultural traits that set them apart, and which are disapproved by the dominant group; 7) to share a sense of collective identity and common burdens, 8) to share social rules around membership; 9) to tend to marry within the group.⁹⁸ According to these criteria, states may not only protect linguistic, ethnic, or religious minorities within their territories and jurisdictions, but also new collective aggregations of citizens sharing visible common attributes who have a common history of unfair treatment.

Under these guidelines, neurodiverse individuals have good reasons for perceiving themselves as a minority and seeking official state recognition as such. According to guidelines 1, 2, 3, and 6 above, NDDs individuals constitute a subordinate group with common traits differing from the general population. However, most importantly, individuals with NDDs are definable as a new minority because of their vulnerable status as outlined in guideline number 4 above. To that end, they

State—possess ethnic, religious or linguistic characteristics differing from those of the rest of the population and show, if only implicitly, a sense of solidarity, directed towards preserving their culture, traditions, religion or language.” Francesco Capotorti (Special Rapporteur of the Sub-Comm’n on Prevention of Discrimination and Protection of Minorities), *Study on the Rights of Persons Belonging to Ethnic, Religious and Linguistic Minorities*, ¶ 568, U.N. Doc. E/CN.4/Sub.2/384/Rev.1 (1979).

98. See RICHARD T. SCHAEFER, *RACIAL AND ETHNIC GROUPS* (2015). For a general discussion of minority groups, see JOE R. FEAGIN, *RACIAL AND ETHNIC RELATIONS* (1984); GAD BARZILAI, *COMMUNITIES AND LAW: POLITICS AND CULTURES OF LEGAL IDENTITIES* (2003). See also the important contribution to minority groups theory in WILL KYMLICKA, *MULTICULTURAL CITIZENSHIP: A LIBERAL THEORY OF MINORITY RIGHTS* (1996).

suffer from higher rates of victimization.⁹⁹ Poor school achievement, “poor social understanding or circumscribed interests; difficulties in adjusting to the diagnosis; and the impact of social exclusion,” all contribute to an increased risk of NDD individuals becoming victims or perpetrators of crimes.¹⁰⁰ Furthermore, in accordance with guideline number 4 above, NDDs individuals belong to a group that experiences a disadvantaged socio-economic position. In the United States, health care data surveys reveal that people with intellectual and developmental disabilities meet most of the governmental criteria to qualify as a “medically underserved populations” (MUP).¹⁰¹ Moreover, out of 2000 autistic adults surveyed in 2016 by the National Autistic Society in the UK, only 16% have full-time paid work and only 32% have some kind of paid work. Full and part-time combined, compared to 47% of disabled people and 80% of non-disabled people. Over three quarters, 77%, of unemployed adults with ASD say they want

99. A study found that children with ASDs are bullied nearly five times as often as their peers, with approximately 46% of ASD children in middle and high school reporting to their parents that they had been victimized at school. Paul R. Sterzing et al., *Bullying Involvement and Autism Spectrum Disorders*, 166 ARCHIVES PEDIATRICS & ADOLESCENT MED. 1058, 1058 (2012); see also Benjamin Zablotsky et al., *Involvement in Bullying Among Children with Autism Spectrum Disorders: Parents’ Perspectives on the Influence of School Factors*, 37 BEHAV. DISORDERS 179, (2012) at 180 (identifying children with Asperger syndrome as having heightened risk of involvement in bullying).

100. It is consistently clear that individuals with NDDs have difficulty picking up social cues and understanding other individuals’ thoughts and intentions, and they are vulnerable to a range of crimes from fraud, theft, and domestic violence to more violent crimes. See Christine N. Cea, *supra* note 57.

101. This formula weighs a population’s lack of primary care providers, its experience with poverty and increased infant mortality, and its percentage of people at or over the age of 65. Designation of Medically Underserved Populations and Health Professions Shortage Areas, 75 Fed. Reg. 26,167, 26,168 (May 11, 2010); see SURGEON GEN.’S CONFERENCE ON HEALTH DISPARITIES & MENTAL RETARDATION, CLOSING THE GAP: A NATIONAL BLUEPRINT TO IMPROVE THE HEALTH OF PERSONS WITH MENTAL RETARDATION xii (2002) (describing disparities in health care access); see also BARBARA L. KORNBLAU, THE CASE FOR DESIGNATING PEOPLE WITH INTELLECTUAL AND DEVELOPMENTAL DISABILITIES AS A MEDICALLY UNDERSERVED POPULATION 1 (2014), http://autisticadvocacy.org/wp-content/uploads/2014/04/MUP_ASAN_Policy_Brief_20140329.pdf (policy brief advocating MUP designation based on individuals’ unmet needs rather than residence).

to work, and four in ten say they have never worked.¹⁰² All of these factors clearly confirm the serious fragility and unprivileged conditions of this population, suggesting the neurodiverse population is vulnerable and deserves to be considered a new minority group.

Although the intrinsic concept of minority entails a numerically smaller entity compared to a majority, it does not mean a demographically negligible size. As a relatively substantial group of people with shared qualities, minorities are more than visible. Neurodiversity prevalence data show that minorities are a numerically consistent population living in our societies. Therefore, the claim that neurodiverse people constitute a new minority does not discredit the fact that they are not a small number of individuals affected by rare symptoms. On the contrary, the minority-group discourse embraced by the neurodiversity community aims to redress the idea of the supposed low-prevalence of NDDs.

However, minority status creates two substantial challenges. First is the issue of determining whether an individual belongs in the group. There are two strategies available for making this determination. Medical diagnosis and assessments may be used, but this approach could have dangerous repercussions. A diagnosis would then acquire additional symbolic meaning as the assessment of specific neuro-biological traits would have consequences beyond the realm of health care. Moreover, using purely diagnostic mechanisms for defining people as part of this specific minority would generate the effect of minority by force, in which external factors determine a person's inclusion, regardless of individual will or identity.¹⁰³ Alternatively, society could rely on individual self-declaration

102. NAT'L AUTISTIC SOC'Y, THE AUTISM EMPLOYMENT GAP: TOO MUCH INFORMATION IN THE WORKPLACE 9 (2016), <https://www.autism.org.uk/get-involved/tmi/employment.aspx>; see also James Richards, *Examining the Exclusion of Employees with Asperger Syndrome from the Workplace*, 41 PERSONNEL REV. 630 (2012) (surveying qualitative data).

103. Dark pages of human history have been written on the use of this mechanism. See, e.g., PIERRE-ANDRÉ TAGUIEFF, *LA FORCE DU PRÉJUGÉ* (1990) (discussing the near impossibility of individuals overcoming socially determined categorizations, namely, race); see also ETIENNE BALIBAR & IMMANUEL WALLERSTEIN, *RACE, NATION, CLASS: AMBIGUOUS IDENTITIES* 71–73 (1991) (discussing the classification of individuals in South Africa according to the legal categorizations prescribed by the government during Apartheid).

of belonging, which is a more flexible scenario emphasizing the intimate free-will aspect of this decision. The second challenge lies in understanding how much individuals with divergent profiles struggle in living their lives. This is important in order to determine the extent of protection required, but inevitably will vary in a NDDs population.¹⁰⁴

The minority framework has at least two results. First, greater attention to minority experience demonstrates that legal norms, social conventions, and *habitus* are often established on the false assumption that they reflect overwhelmingly dominant human attributes,¹⁰⁵ while minority rights efforts call for a redefinition of the concept of normalcy.¹⁰⁶ Second, recognition of neurodiversity as a minority status necessary imposes a political dimension on NDD prevalence. Although people with different neurodevelopmental profiles are demographically relevant, lawmakers and politicians often ignore their needs and characteristics. The famous slogan “nothing about us without us” used by the ASAN demonstrates the political implications of this discourse.¹⁰⁷ By asking for formal recognition as a new minority, neurodiverse people ask for participation, representation, and inclusion.¹⁰⁸ This is a natural conceptual complement of the right and citizenship model of disability as opposed to a rigid medical one. The former implies active participation through empowerment, whereas the latter entails passivity.

104. See Designation of Medically Underserved Populations and Health Professions Shortage Areas, 75 Fed. Reg. 26,168, 26,168 (proposing reforms of the criteria for the Medically Underserved Population (MUP) designation); KORNBLAU, *supra* note 101, at 9 (arguing for the inclusion of people with intellectual and developmental disabilities within its MUP definition to increase access to healthcare and reduce poorer health outcomes); Richards, *supra* note 102 (proposing potential solutions to remediate exclusion of employees with Asperger syndrome).

105. See, e.g., Joshua W. Buckholtz & René Marois, *The Roots of Modern Justice: Cognitive and Neural Foundations of Social Norms and Their Enforcement*, 15 NATURE NEUROSCIENCE 655, at 660 (2012) (identifying neurocognitive foundations as a basis for universal norms).

106. See BAKER, *supra* note 3, at 111 (“No tension is more central to modern disability policy development than the choice to pursue or redefine normalcy [N]egotiating a balance between desirable and non-desirable aspects of functional difference remains a painfully unsettled and unsettling topic in public and political discourse on all disabilities.”).

107. See ASAN’s slogan in <http://autisticadvocacy.org/>

108. See *supra* Section 4 (Neurodiverse Individuals as a New Minority?).

V. HIGHEST COURTS AND NEURODIVERSITY-RELATED LITIGATION IN A COMPARATIVE PERSPECTIVE

In investigating the legal implications of neurodiversity, engaging in a comparative analysis of high court decisions from different jurisdictions that deal with neurodiversity is helpful. As discussed above, neurodiversity encompasses many neurological profiles, each corresponding to a large number of psychiatric diagnoses. Employing a broad definition of neurodiversity from a legal and judicial perspective would complicate and implicate the vast realm of mental health-related jurisprudence. From a judicial perspective it is hard to draw a clear distinction between mental disability and neurodiversity. This article takes a pragmatic approach: because the concept of neurodiversity is rooted in the autism rights movement, this article focuses on highest court jurisprudence on NDDs and ASD-related cases in order to verify the emergence among the most influential jurisdictions of neurodiversity-focused litigation, in a narrow sense.

The United States Supreme Court directly dealt with neurodiversity-related litigation on three occasions: *Winkelman v. Parma City Sch. Dist.*,¹⁰⁹ *Bruesewitz v. Wyeth*,¹¹⁰ and *Andrew F. v. Douglas County School District RE-1*.¹¹¹ The Canadian Supreme Court, in *Auton v. British Columbia*,¹¹² decided an important case on autism, and while the Canadian Human Rights Tribunal engaged with the issue in *Dawson v. Canada Post Corporation*.¹¹³ The United Kingdom Supreme Court has decided at least two major cases involving autism, most notably *P v. Cheshire & Chester Council*,¹¹⁴ and *A v. Essex County Council*.¹¹⁵ The Spanish and the German Constitutional Tribunals decided two cases in 2014 involving equality and the right of education for ASD children.¹¹⁶ The European Court on Human

109. *Winkelman v. Parma City Sch. Dist.*, 550 U.S. 516 (2007).

110. *Bruesewitz v. Wyeth LLC*, 562 U.S. 223 (2011).

111. *F. v. Douglas Cty. Sch. Dist. RE-1*, 137 S. Ct. 988 (2017).

112. *Auton v. British Columbia*, [2004] 3 S.C.R. 657 (Can.).

113. *Dawson v. Can. Post Corp.*, [2008] CHRT 41 (Can.).

114. *P. v. Cheshire West & Cheshire Council* [2014] UKSC 19 (appeal taken from Eng.).

115. *A. v. Essex Cty. Council* [2010] UKSC 33 (appeal taken from Eng.).

116. BVerfG, 1 BvR 3514/14, Feb. 14, 2016, http://www.bverfg.de/e/rk20160214_1bvr351414.html (Ger.); S.T.C., Jan. 27, 2014 (S.T.C., No. 48, p. 47) (Spain).

Rights, in the context of extensive jurisprudence concerning mental health issues, directly dealt with neurodiversity related implications in at least three major cases: *Storck v. Germany*,¹¹⁷ *H.L. v. United Kingdom*,¹¹⁸ *Nelissen v. Netherlands*,¹¹⁹ whereas the European Committee of Social Rights decided *International Association Autism-Europe (IAAE) v. France*.¹²⁰ Although these courts embody diverse legal systems with different powers and jurisdictions, all of them have strong intra-systemic authoritative effects. Drawing on all of these cases, this article highlights the impact of neurodiversity-related case law in three main areas of the law: 1) education, health care, and social services; 2) physical liberty, competency, and criminal law; and 3) discrimination at the workplace.

A. Education, Health Care, and Social Services

Neurodiversity-related cases are often at the crossroads of health care and educational issues as behavioral interventions for diverse neurological conditions involve health and educational therapies. Consequently, this is one of the most litigated areas related to neurodiversity.

Although characterized by contradictions and systemic inequalities, the United States has seen a dramatic boost in the debate around neurodiversity like no other country in the world, mostly driven by the Autistic Self Advocacy Network and similar organizations.¹²¹ Under the pressure of public opinion, Congress has passed a number of new laws in this field over the last two decades.

The Children Health Act of 2000¹²² was the first tangible victory of the autism movement at the federal level. Under this statute, federal agencies must undertake a long-term study of

117. *Storck v. Germany*, App. No. 61603/00, 43 Eur. H.R. Rep. 96 (2005).

118. *H.L. v. United Kingdom*, App. No. 45508/99, 40 Eur. H.R. Rep. 32 (2004).

119. *Nelissen v. Netherlands*, App. No. 6051/07 (2011), <http://hudoc.echr.coe.int/eng?i=001-104357>.

120. *Int'l Assoc. Autism-Eur. (IAAE) v. France*, Compl. No. 13/2002, Decision on the Merits (2003), <http://hudoc.esc.coe.int/eng/?i=CC-13-2002-d-merits-en>.

121. Caruso, *supra* note 7, at 487; Sheryl Dicker & Emily Bennett, *Engulfed by the Spectrum: The Impact of Autism Spectrum Disorders on Law and Policy*, 45 VAL. U.L. REV. 415, 454 (2011).

122. Children's Health Act of 2000, Pub. L. No. 106-310, 114 Stat. 1101.

children's health—and autism is identified as a major research target.¹²³ One year later, Congress approved the No Child Left Behind Act, which focuses on standardized testing and alternative testing for students with disabilities.¹²⁴ The Combating Autism Act of 2006 (CAA)¹²⁵ established the Interagency Autism Coordinating Committee (IACC),¹²⁶ and the Combating Autism Act of 2011¹²⁷ ensures that programs established under the Act of 2006 continued for an additional three years.¹²⁸ In 2013, President Obama, while celebrating World Autism Awareness Day, launched a 100 million dollar initiative, the Advancing Innovative Neuro-Technologies: BRAIN-Initiative, designed to revolutionize the understanding of the human brain and to help researchers find new ways to treat, cure, and prevent brain disorders.¹²⁹ President Obama also signed the Autism Collaboration, Accountability, Research, Education and Support Act in August 2014, which authorized 1.3 billion dollars to fund ASD research, services, and support activities.¹³⁰

Since 1990, the United States has seen an impressive increase in the volume of litigation on NDD-related issues both at the state and federal level, likely buoyed by the lack of universal social services. Many areas of law have experienced a

123. Caruso, *supra* note 7, at 487.

124. No Child Left Behind Act of 2001, Pub. L. No. 107–110, 115 Stat. 1425 (2002); see Shima Kalaci, *Students with Autism Left Behind: No Child Left Behind and the Individuals with Disabilities Education Act*, 30 T. JEFFERSON L. REV. 723, 725 (2008).

125. Combatting Autism Act of 2006, Pub. L. No. 109–416, 120 Stat. 2821.

126. CAA provides federal money for research and establishes Centers of Excellence for autism's epidemiology. *Id.* § 404H. In 2009, the IACC released the STRATEGIC PLAN FOR AUTISM SPECTRUM DISORDER RESEARCH containing recommendations to federal agencies and Congress to improve research. INTERAGENCY AUTISM COORDINATING COMM., 2009 STRATEGIC PLAN FOR AUTISM SPECTRUM DISORDER RESEARCH (2009), https://iacc.hhs.gov/publications/strategic-plan/2009/strategic_plan_2009.pdf.

127. Combatting Autism Reauthorization Act of 2011, Pub. L. No. 112–32, 125 Stat. 361.

128. This Act authorized 924 million dollars of federal investment in autism research, treatment and services. *Id.* § 399EE.

129. See Walter Koroshetz et al., *The State of the NIH BRAIN Initiative*, 38 J. NEUROSCIENCE 6427 (2018) (evaluating the performance of the NIH BRAIN Initiative).

130. Autism Collaboration, Accountability, Research, Education, and Support Act of 2014, Pub. L. No. 113–157, 128 Stat. 1831.

spike in NDD-related cases, including health care law, criminal law, family law, tort, and discrimination in the workplace. One of the most litigated legal issues involves the public education system and its regulation under Individual with Disability Education Act (IDEA).¹³¹ Two major U.S. Supreme Court ASD-related judgments deal with elements pertaining to IDEA.

During the 1970s children with severe disabilities—including ASD—were often excluded from attending school, and institutionalization was a common occurrence.¹³² Autism's etiology, with its supposedly low prevalence, was unclear, and it was not specifically mentioned as a disability category under the Education of the Handicapped Act of 1970.¹³³ In 1975, the U.S. Congress specifically addressed the rights of students with disabilities in the Education for All Handicapped Children Act of 1975 (EAHCA), mandating that children with special needs receive an appropriate education in public school special programs and that they be placed in “the least restrictive environment.”¹³⁴ Congress amended the EAHCA in 1986 in order to create two new programs: 1) Early Intervention for Infants and Toddlers with Disabilities, serving children from birth to age three, and 2) the Pre-School Special Education Program for children from three to five.¹³⁵ Once again, autism was not ex-

131. See Perry A. Zirkel, *Autism Litigation under the IDEA: A New Meaning of “Disproportionality”?*, 24 J. SPECIAL EDUC. LEADERSHIP 92 (2011) [hereinafter Zirkel, *Litigation under the IDEA*] (observing an overrepresentation of autistic children in education litigation); Perry A. Zirkel, *The Autism Case Law: Administrative and Judicial Rulings*, 17 FOCUS ON AUTISM & OTHER DEVELOPMENTAL DISABILITIES 84 (2002) [hereinafter Zirkel, *The Autism Case Law*] (analyzing 290 cases involving students with autism); see also Alison R. Zisser & Maureen van Stone, *Health, Education, Advocacy, and Law: An Innovative Approach to Improving Outcomes for Low-Income Children with Intellectual and Developmental Disabilities*, 12 J. POL'Y & PRAC. INTELL. DISABILITIES 132 (2015) (advocating the incorporation of legal services in clinical practice).

132. Dicker & Bennett, *supra* note 121, at 417.

133. Amendments with Respect to Handicapped and Neglected or Delinquent Children, Pub. L. No 91-230, § 105(a)(5), 84 Stat. 121, 123 (1970) (providing grants for the education of “handicapped children (including mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, crippled, or other health impaired children who by reason thereof require special education . . .”).

134. Education for All Handicapped Children Act of 1975, Pub. L. No. 94-142, § 618(d)(2)(A), 89 Stat. 773, 792.

135. Education of the Handicapped Act Amendments of 1986, Pub. L. No. 99-457, 100 Stat. 1145.

publicly mentioned in the 1986 amendments. In 1990, Congress amended the act again, and autism was finally listed as one of the disorders under the definition of the term “children with disabilities.”¹³⁶ In subsequent reauthorization, the EAHCA was renamed the Individuals with Disabilities Education Act (IDEA).¹³⁷ In the aftermath of the No Child Left Behind Act, Congress reauthorized and amended IDEA by the Individuals with Disabilities Education Improvement Act of 2004,¹³⁸ which emphasizes accountability.¹³⁹ The IDEA constitutes a cornerstone in the evolution of the right to education for NDD children by conditioning federal funding to states on compliance with IDEA statutory requirements. States must provide to every eligible child a “free and appropriate public education” (FAPE) by means of a uniquely tailored individualized education program (IEP) in a “least restrictive environment” that each family negotiates directly with schools.¹⁴⁰ In this *special education framework*—that created a separate environment from the regular education system based on a deficit-oriented policy for “slow learners”¹⁴¹—*Winkelman v. Parma* made some important improvements to the IEP complaint mechanism,¹⁴² and *Andrew F. v. Douglas* subsequently provided

136. See Dicker & Bennett, *supra* note 121, at 418 (describing the amendments).

137. Education of the Handicapped Act Amendments of 1990, Pub. L. No. 101-476, § 901(a), 104 Stat. 1103, 1141-42. For more historical context, see SUSAN M. SCHWEIK, *THE UGLY LAWS: DISABILITY IN PUBLIC* (2009) (discussing the American concept of disability in public from the late 19th to early 20th century and how disability was iconographic in controlling the poor and less fortunate).

138. Individuals with Disabilities Education Improvement Act of 2004, Pub. L. No. 108-446, 118 Stat. 2647.

139. Caruso, *supra* note 7, at 516 n.217; see Stacey Gordon, *Making Sense of the Inclusion Debate under IDEA*, *BYU EDUC. & L.J.* 189, 190-91 (2006) (analyzing IDEA and how it reinforces the historical tensions between access, process, outcomes and accountability).

140. See Wendy F. Hensel, *Sharing the Short Bus: Eligibility and Identity Under the IDEA*, 58 *HASTINGS L.J.* 1147, 1148, 1178 (2007) (arguing against rendering “special education” too broad lest school districts cannot manage programs).

141. See H. Rutherford Turnbull, III et al., *A Brief Overview of Special Education Law with Focus on Autism*, 32 *J. AUTISM & DEVELOPMENTAL DISORDERS* 479, 482 (2002) (defining “special education” under IDEA).

142. *Winkelman v. Parma City Sch. Dist.*, 550 U.S. 516, 535 (2007) (recognizing parents’ rights to recover when dissatisfied with education plans provided by schools).

new standards for evaluating if a state's education programs for disabled children are appropriate under the requirements of the IDEA.

The two judgments are intimately interconnected, as both critique the design of education for disabled pupils. Justice Kennedy, writing the opinion in *Winkelman v. Parma*, points out the issue underlying this case:

The question is whether parents, either on their own behalf or as representatives of the child, may proceed in court unrepresented by counsel though they are not trained or licensed as attorneys. Resolution of this issue requires us to examine and explain the provisions of IDEA to determine if it accords to parents rights of their own that can be vindicated in court proceedings, or alternatively, whether the Act allows them, in their status as parents, to represent their child in court proceedings.¹⁴³

By responding affirmatively to this question, the Supreme Court seems aware of the inequalities generated by this system and takes into account the burden placed on families struggling with the disabilities of their children and fighting to receive vital services. Families not only have to negotiate the IEP, but they also have to sustain court expenses and legal fees if their needs are not met.

Daniela Caruso clearly delineates the core problem of this way of organizing special education:

Autism was added to the IDEA in 1991 . . . The machine of due process, however, was set in motion, and parents began to use it to create from scratch what is now a rich culture of autism education After fifteen years of IDEA practice, with its principled emphasis on individualized educational plans and parental due process, special education litigation had already become what it is now: a myriad of unrelated, atomistic disputes, each focused by definition around only one child.¹⁴⁴

143. *Id.* at 520.

144. Caruso, *supra* note 7, at 516–17; for further discussion of *Winkelman* and relevant policy implications, see Zirkel, *Autism Litigation under the IDEA*, *supra* note 131; Zirkel, *The Autism Case Law*, *supra* note 131;; Zisser & van Stone, *supra* note 131.

The case *Andrew F. v. Douglas* addressed an even more delicate aspect of the special education system in the United States, namely the standards of programs schools must provide to comply with federal requirements. Before this early 2017 judgment, the Supreme Court established the standard in *Board of Education v. Rowley*, in which the Court held that federal law does not require maximization of a child's learning potential, or that students with disabilities be brought up to the level of their peers.¹⁴⁵ School Districts interpreted the IDEA standard differently, some of them much more generously,¹⁴⁶ effectively amplifying the differences in services delivered across the United States. On a federal level, *Rowley* establishes that a school is not obligated to provide a student with ASD with the *best* program, but rather a program that is reasonably calculated to help the child achieve some educational benefit.¹⁴⁷

In *F. v. Douglas Cnty. Sch. Dist. Re-1*, doctors diagnosed plaintiff Andrew F. with ASD. When his progress in school stalled, his parents challenged his public school IEP and asked for private school tuition reimbursement. On appeal from the lower courts, the Tenth Circuit interpreted the *Rowley* decision, affirming "a child's IEP is adequate as long as it is calculated to confer an educational benefit [that is] merely . . . more than *de minimis* . . . [and] Andrew's IEP had been reason-

145. *Bd. of Educ. v. Rowley*, 458 U.S. 176, 190 (1982); *see also*, Dicker & Bennett, *supra* note 121, at 420 (noting standards between IDEA standards and clinical practice).

146. The Ninth Circuit concluded, based on post-*Rowley* amendments to the IDEA, that an IEP is required "to confer a 'meaningful educational benefit.'" *N.B. v. Hellgate Elementary Sch. Dist.*, 541 F.3d 1202, 1213 (9th Cir. 2008); *see also* Lester Aron, *Too Much or Not Enough: How Have the Circuit Courts Defined a Free Appropriate Public Education After Rowley?*, 39 SUFFOLK U.L. REV. 1, 7 (2005) (identifying circuit court splits); Dicker & Bennett, *supra* note 121, at 424 (comparing various circuits' approaches). All of that does not prevent states from establishing increased standards. Thus, in *Burilovich ex rel. Burilovich v. Bd. of Education*, 208 F.3d 560, 565 (6th Cir. 2000), Michigan's statute added to the federal FAPE mandates by requiring that an IEP be designed to develop the "maximum potential" of a child. Dicker & Bennett, *supra* note 121, at 429.

147. *See* Chad Hinson, Note, *A Supreme Paradox: Autism Spectrum Disorder and Rowley Misapplication of a Judicial Relic to an Unprecedented Social Epidemic*, 5 FLA. AGRIC. & MANUFACTURING U.L. REV. 87 (2009) (identifying issues in the application of *Rowley*).

ably calculated to enable [him] to make *some* progress.”¹⁴⁸ Although the Supreme Court, after granting *certiorari*, was clearly dissatisfied with the Tenth Circuit’s narrow application of the *Rowley* standard, it did not agree with the plaintiffs’ vision that the IDEA “requires States to provide children with disabilities educational opportunities that are *substantially equal to the opportunities afforded children without disabilities*.”¹⁴⁹ Justice Roberts, writing for the majority, remanded the case, calling for the application of a more generous standard, and affirming that schools have to offer IEPs reasonably calculated to enable children to make progress appropriate in light of a child’s circumstances.¹⁵⁰ According to the Court, the language of the IDEA implies that educational programs should allow children with disabilities to progress from grade to grade if possible, but schools must always consider appropriate ambitions in light of a child’s circumstances: “[t]he goals may differ, but every child should have the chance to meet challenging objectives.”¹⁵¹ While the Court rejected the idea that disabled children should achieve academic success and attain self-sufficiency, it maintained that the judiciary should not substitute its own judgment for that of school officials.¹⁵² Instead, the Court considered a range of interpretations of the educational standards required for disability, ranging from “merely more than *de minimis*”, to IEPs able to give “appropriate ambitions in the light of a child’s circumstances,” through to maximizing the disabled child’s potential as it is equally done for non-disabled students.¹⁵³

While *Endrew* marked a major advancement and a clear victory for families and activists, the Court did not fully embrace the claims of the neurodiversity movement—that individuals with disabilities, and in this case people with different neurodevelopmental profiles, have the same rights, as a matter

148. See *F. v. Douglas Cty. Sch. Dist. RE-1*, 137 S. Ct. 988, 991 (2017) (summarizing the 10th Circuit’s decision).

149. *Id.* at 992 (emphasis added).

150. *Id.* at 999.

151. *Id.* at 1000.

152. See Amy Howe, *Opinion Analysis: Court’s Decision Rejecting Low Bar for Students with Disabilities, under the Spotlight*, SCOTUS BLOG (Mar. 23, 2017, 11:26 AM), <http://www.scotusblog.com/2017/03/opinion-analysis-courts-decision-rejecting-low-bar-students-disabilities-spotlight/>.

153. *F. v. Douglas Cty. Sch. Dist. RE-1*, 137 S. Ct. at 999–1000.

of equality and dignity, to maximize their potential through the public educational system, no matter their pre-existing conditions. In a neurodiversity-oriented perspective, this parity of entitlement would be the only way to avoid differential citizenship and to create the pre-conditions necessary for social inclusion.

Section 15(1)¹⁵⁴ of the Canadian Charter is one of the few constitutional provisions in the world— together with Section 9(3)¹⁵⁵ of the 1996 South African Constitution—that recognizes mental health or disability as formal ground of discrimination. Despite the fact that the Canadian system strongly protects substantial equality, indirect impact, and redistribution, the Court in Ottawa unexpectedly decided a case on autism that disappointed civil and disability rights activists.¹⁵⁶ In *Auton v. British Columbia*, before the Canadian Supreme Court, parents of autistic children challenged British Columbia's failure to provide for a form of behavioral therapy called Applied Behavioral Analysis (ABA) for pre-school autistic children in the provincial public health plan.¹⁵⁷ ABA was the first treatment identified by researchers as an effective therapeutic strategy for children with autism and is now the mostly commonly used therapeutic protocol for several diverse neurodevelopmental conditions.¹⁵⁸ The Canadian Supreme Court refused to recog-

154. The Charter protects equality, mobility, legal, democratic and linguistic rights of Canadians. In particular, Section 15 ensures equal treatment before and under the law for five designated groups: people with disabilities, women, ethnic minorities, Aboriginal people, sexual and transgendered minorities. Canadian Charter of Rights and Freedoms, Part I of the Constitution Act, 1982, § 15(1), *being* Schedule B to the Canada Act, 1982, c 11 (Can.).

155. The Bill of Rights of South African Constitution of 1996, drafted after the end of the *Apartheid era*, recognizes in section 9(3) a large sets of grounds of discrimination. According to this provision: "The state may not unfairly discriminate directly or indirectly against anyone on one or more grounds, including race, gender, sex, pregnancy, marital status, ethnic or social origin, colour, sexual orientation, age, *disability*, religion, conscience, belief, culture, language and birth" (emphasis added).

156. *See* Mel Cousins, *Health Care and Human Rights After Auton and Chaoulli*, 54 MCGILL L.J. 717 (2009) (criticizing the court's narrow approach in *Auton*).

157. *Auton v. British Columbia*, [2004] 3 S.C.R. 657 (Can.).

158. This makes this Canadian case highly comparable with the US situation, as FAPE and IEP requirements have been repeatedly challenged in courts in order to compel schools to offer ABA as an essential educational

nize the public health care system's obligation to provide this therapy for the following reasons: 1) the fact that ABA is often still considered a non-core service, despite growing medical and scientific support for the therapy's efficacy. In this perspective, according to the Court: "the Canada Health Act and the relevant British Columbia legislation do not promise that any Canadian will receive funding for all medically required treatment".¹⁵⁹ Therefore, the exclusion of ABA for autistic children from non-core benefits does not amount to discrimination; and 2) the specific appropriate comparator group targeted by the Court in testing whether the equality was infringed.¹⁶⁰

In terms of the legal implications for neurodiversity efforts, especially where equality is concerned, the most significant portion of the Canadian decision is the second point. The type of discrimination potentially involved in this case is not a violation of the equal protection clause, but rather is experienced as an indirect impact concerning substantive equality. The Canadian Supreme Court has vast jurisprudence providing specific hermeneutical tests to solve cases involving indirect discrimination.¹⁶¹ As in any other constitutional system fighting systemic discrimination, one of the most complicated heuristic operations is determining the right comparator group to the one supposedly discriminated against by the disputed legislation. Equality is normally understood as a comparative concept requiring a claimant to point to some person

program. U.S. standard of judicial interpretation of FAPE imposes restrictions and limits on what type of services children with ASD may receive. There has been much controversy surrounding whether parents are entitled to ABA. Courts, as in *J.P. ex rel. Popson v. West Clark Cmty. Sch.*, 230 F. Supp. 2d 910 (S.D. Ind. 2002), often decide that a child is not necessarily entitled to an ABA program—even when parents prove the effectiveness of this program for their child—if the school provides an alternative program that gives the child some meaningful benefit. See Dicker & Bennett, *supra* note 121, at 426 (identifying *J.P. ex rel. Popson* as part of a trend).

159. *Auton v. British Columbia*, [2004] 3 S.C.R. 657 at 669.

160. *Auton v. British Columbia*, [2004] 3 S.C.R. 657, ¶¶ 43–47 (Can.).

161. For further discussion, see Kate O'Regan & Nick Friedman, *Equality*, in *COMPARATIVE CONSTITUTIONAL LAW* 473 (Tom Ginsburg & Rosalind Dixon eds., 2011); Jonnette Watson Hamilton, & Daniel Shea, *The Value of Equality in the Supreme Court of Canada: End, Means or Something Else?*, 29 WINDSOR REV. L. & SOC. ISSUES 125, at 127 (2010) (analyzing judgments of the Canadian Supreme Court between 1989 and 2005, authors discuss three different types of value for equality).

who has been treated better as the foundation for a claim.¹⁶² According to the plaintiffs in the *Auton* case, the Court failed in this portion of the reasoning by not selecting the “non-disabled children and their parents, as well as adult persons with mental illness” as a comparator group.¹⁶³ Justice McLachlin, on behalf of a unanimous court, rejected these groups with the following rationale: “the comparator group should mirror the characteristics of the claimant or claimant group relevant to the benefit or advantage sought, except for the personal characteristic related to the enumerated or analogous ground raised as the basis for discrimination.”¹⁶⁴ Applying these criteria, the Court held that the

[A]ppropriate comparator group is a non-disabled person or a person suffering a disability other than a mental disability (here autism) seeking or receiving funding for a non-core therapy important for his or her present and future health, which is emergent and only recently becoming recognized as medically required.¹⁶⁵

The judges in Ottawa concluded that there was no evidence of a comparator group that had received access to a non-core therapy. Consequently, they rejected the claim.¹⁶⁶

162. Sophia Reibetanz Moreau, *Equality Rights and the Relevance of Comparator Groups*, 5 J.L. & EQUALITY 81, 81 (2006); see also SANDRA FREDMAN, *DISCRIMINATION LAW* (2011) (discussing “equality” in the philosophical, social, and legal contexts).

163. *Auton v. British Columbia*, [2004] 3 S.C.R. 657, ¶ 49 (Can.).

164. *Id.* ¶ 53.

165. *Id.* ¶ 55.

166. Although U.S. schools are not compelled to provide ABA if they have alternative programs, districts cannot refuse in principle to provide it. In *Deal v. Hamilton Cnty. Bd. of Educ.*, 392 F.3d 840, 858 (6th Cir. 2004), the school district did not include ABA among its educational programs, as it had previously invested in an alternative approach. In rejecting the district’s determination, the court stated that IEPs should be based on the specific needs of the child, and that a school district cannot refuse to consider a specific method of treatment. See Dicker & Bennett, *supra* note 121, at 428 (“[E]ven though schools are not required by the IDEA to maximize a disabled child’s educational benefit, they must still consider any and all programs that may help a particular child learn . . . [S]chool districts cannot have all-or-nothing policies; they cannot ban or only use ABA therapy.”). The judiciary displays a lack of understanding of ASD as a social and behavioral disability. For example, in *Thompson R2-J Sch. District v. Luke P.*, 540 F.3d 1143, at 1151 (10th Cir. 2008), the Court required only that the student be

In the UK, the Supreme Court dealt with a similar NDD-related case in *A v. Essex County Council*.¹⁶⁷ Parents of a twelve year old autistic boy who also had serious learning difficulties, a severe communication disorder, epilepsy and behavioral challenges, claimed that their son's educational and welfare rights under the 1998 H.R. Act and his right to education under Article 2 of the Protocol of the European Convention on Human Rights were denied as a result of the Essex County educational system's failure in establishing appropriate special school accommodation.¹⁶⁸ Both parents and school staff deemed the boy unable to attend ordinary school classes due to the severity of his health and behavioral issues.¹⁶⁹ However, Essex County school authorities were unable to find a proper permanent placement over a period of eighteen months, in which the boy's behavioral and cognitive situation deteriorated.¹⁷⁰ Unfortunately, the facts were relatively clear. Although the worsening of symptoms were due to: "(ii) lack of sensory stimulation, boredom, and lack of meaningful occupation; (ii) inability to clearly communicate his needs and be clearly understood by those around him,"—things reasonably connected to the blunt interruption of school activities—the Court established that "Essex were doing their utmost to have [the complainant] properly appraised and thereafter did their utmost to arrange residential care, for which they paid."¹⁷¹ The court held that the plaintiff was not denied the "very essence" of his right to education.¹⁷² This case shows the potential severity of impairments and highlights the vulnerability of ASD individuals and their families.¹⁷³

making some progress in school; the goal of self-sufficiency is not a guarantee. Furthermore, the U.S. District Court of New Mexico, in *Chavez v. Bd. of Educ.*, 614 F. Supp. 2d 1184, 1223–24 (D.N.M. 2009), "held that the IDEA only seeks to provide academic educational services and rejected social skills programming for a student. This focus on academic education reflects a belief that socializing is a beneficial, but incidental, by-product of public education." Dicker & Bennett, *supra* note 121, at 429.

167. *A v. Essex Cty. Council* [2010] UKSC 33 (appeal taken from Eng.).

168. *Id.* at [3].

169. *Id.* at [24].

170. *Id.*

171. *Id.* at [32].

172. *Id.* at [43].

173. See Robin Mackenzie et al., *Supporting Aspirations—or Not? Recent Reforms on Equality, the Green Paper on Special Educational Needs and the Potential of*

In 2014 and 2016, the Spanish and German Constitutional Tribunals also decided two cases on issues related to NDDs and the public education system.¹⁷⁴ These cases demonstrate how challenging the governance of special education services can be when related to children with ASD or Asperger's syndrome. Although the two cases are facially different—as one challenges the decision to assign an ASD child to the special education system, while the other claims a delay in special education services—they demonstrate the deep concerns of families and caregivers, as well as the hurdles and difficulties they encounter in navigating the public school system.

In 2016, the German Constitutional Tribunal decided a neurodiversity-related case involving public school special services.¹⁷⁵ A family of a child diagnosed with Asperger's syndrome claimed violation of several fundamental constitutional rights, namely Articles 2 and 3 of the German Constitution, for delay of special educational services and extra teaching hours conducted by a specialized teacher at the beginning of the school year.¹⁷⁶ The German Constitutional Court struck down the appeal, holding that the plaintiffs failed to establish meaningful concerns about the delay of special education services, and that the Administrative Tribunal fairly applied both the substantial and procedural law on social service, public schooling and mental disability.¹⁷⁷ Perhaps most significantly, this case demonstrates that similar litigation is emerging in the United States and within Europe.

The Spanish Constitutional Tribunal, with its 2014 *Recurso de Amparo*, was the second European constitutional jurisdiction that issued a decision in autism-related litigation.¹⁷⁸ In this case, the parents of an autistic child claimed a violation of his

a Neurodiversity Spectrum Statement, 17 TIZARD LEARNING DISABILITY REV. 36 (2012) (analyzing laws, policies and reforms focused on special educational needs and equality in England and to suggest a Neurodiversity spectrum statement).

174. BVerfG, 1 BvR 3514/14, Feb. 14, 2016, http://www.bverfg.de/e/rk20160214_1bvr351414.html (Ger.); S.T.C., Jan. 27, 2014 (S.T.C., No. 48, p. 47) (Spain).

175. BVerfG, 1 BvR 3514/14, Feb. 14, 2016, http://www.bverfg.de/e/rk20160214_1bvr351414.html (Ger.).

176. *Id.* ¶¶ 2, 5.

177. *Id.* ¶¶ 6–8.

178. S.T.C., Jan. 27, 2014 (S.T.C., No. 48, p. 47) (Spain).

right to public education. Their child was placed in a special education facility separated from ordinary public education classes, and his parents claimed the decision constituted discrimination.¹⁷⁹ They claimed a violation of the constitutional principle of equality due to the unequal treatment inflicted upon their son as well as a violation of moral integrity and dignity.¹⁸⁰ Although the Constitutional Tribunal recognized that Spain had ratified the UN Convention on the Right of Persons with Disabilities, and that Article 74.1 of the *Ley Orgánica 2/2006* affirms that education for children with special needs must follow the principles of normalization, inclusion, non-discrimination, and equality in access to the educational system, they nevertheless held that enrollment in special educational facilities is legally and constitutionally permitted if its aim is protection of the education of children with special needs.¹⁸¹ The Court also held that the school authorities' justification for this decision must be reasonable, and inclusion in an ordinary public education school must be pursued if the special child needs are not disproportionate.¹⁸² On the facts of the instant case, the Constitutional Tribunal ruled that the school administration did not act on disproportionate or unreasonable grounds in deciding to place the child in a special educational facility.¹⁸³ From a comparative perspective, this case matches similar interpretations in the United States and UK on special educational arrangements. In these jurisdictions special educational programs where children with special needs are placed in separated school environments are perfectly legal.¹⁸⁴

The European Committee on Social Rights of the Council of Europe (ECSR) has decided two cases related to NDDs and public education issues.¹⁸⁵ The European Social Charter

179. *Id.* at 48–51.

180. *Id.* at 51.

181. *Id.* at 57–58.

182. *Id.* at 61–62.

183. *Id.*

184. The remaining question—involving a more thorough pedagogical analysis that goes beyond our purposes here— is whether special education programs have positive effects in making NDD children acquiring better academic or behavioral results.

185. Int'l Assoc. Autism-Eur. (IAAE) v. France, Compl. No. 13/2002, Decision on the Merits (2003), [http://hudoc.esc.coe.int/eng/?i=CC-13-2002-d-merits-en](http://hudoc.esc.coe.int/eng/?i=CC-13-2002-d-merits-en;); Eur. Action of the Disabled v. France, Compl. No. 81/2012, Deci-

(ESC), an international treaty supplementing the European Convention on Human Rights in the field of economic and social rights, entrenches fundamental rights and freedoms and establishes a supervisory mechanism based on a system of collective complaints and national reports, guaranteeing their respect by state Parties.¹⁸⁶ After amendment of the Charter in 1996, it is now ratified by forty three of the forty seven Council of Europe Member States.¹⁸⁷ One of the major elements of the ESC was the establishment of a specific judicial body, the ECSR, whose mission is determining if state parties are in conformity in law and in practice with the provisions of the ESC.¹⁸⁸ The ECSR also has the power to adopt conclusions and issue decisions regarding collective complaints for state violations of the Social Charter.¹⁸⁹ Under a protocol opened for signature in 1995, which entered into force in 1998, complaints of violations of the Charter may be lodged with the European Committee of Social Rights.¹⁹⁰

One of the first comprehensive judicial evaluations of state public special education programs emerged in *International Association Autism-Europe (IAAE) v. France*,¹⁹¹ in which the ECSR decided a case brought by Autism Europe against France for violation of Articles 15 and 17 of the ESC, as well as violation of the principle of non-discrimination entrenched by Article E of the ESC. The ECSR concluded that France failed to meet its obligations to people with autism under the ESC on several bases. First, the ESC, which requires that states guarantee the right to education to people with disabilities, clearly includes both children and adults with autism. Second, notwithstanding debates about the number of persons concerned

sion on the Merits (2013), <http://hudoc.esc.coe.int/eng/?i=CC-81-2012-d-merits-en>.

186. European Social Charter, Oct. 18, 1961, E.T.S. No. 35.

187. Additional Protocol to the European Social Charter Providing for a System of Collective Complaints, Nov. 9, 1995, E.T.S. No. 158; *Signatures & Ratifications*, COUNCIL OF EUR. (Mar. 21, 2016), <https://www.coe.int/en/web/turin-european-social-charter/signatures-ratifications>.

188. Additional Protocol, *supra* note 187, art. 5 (establishing a Committee of Independent Experts).

189. *Id.* art. 8.

190. *Id.* arts. 5–8.

191. Int'l Assoc. Autism-Eur. (IAAE) v. France, Compl. No. 13/2002, Decision on the Merits (2003), <http://hudoc.esc.coe.int/eng/?i=CC-13-2002-d-merits-en>.

and the relevant strategies required, France failed to achieve sufficient progress in advancing the provision of education for persons with autism. Third, France still used a more restrictive definition of autism than the one adopted by the World Health Organization (WHO) in violation of the ESC. Finally, the proportion of children with autism receiving education in either general or special schools was much lower than other children, whether or not disabled.¹⁹² The decision highlights that autistic people are an excluded group within the excluded. The decision also notes a chronic shortage of care and support for autistic adults.¹⁹³ In addition, since Article E prohibits not only direct discrimination but also indirect discrimination arising when people with autism are given “inappropriate treatment,” France must use available resources to meet the needs of people with autism and their families.¹⁹⁴ This decision has been used extensively as a precedent in subsequent cases before the ECSR.¹⁹⁵

France was again challenged before the ECSR in *European Action of the Disabled (AEH) v. France*¹⁹⁶ in 2012 for violation of Article 15(1) in connection to Article E. In this case, the Committee found that France recognizes autism as a disability under the old laws of 1975 and 1996, which remain in force today.¹⁹⁷ It also observed that under this legislation, the state prioritizes educating children and adolescents with autism in mainstream schools. In 2005, the State established the right for all children with disabilities, including those with autism, to be enrolled in a mainstream school, and provided alternatives such as individual schooling in mainstream classes with

192. *Id.* ¶¶ 47–54.

193. *Id.* ¶ 54.

194. *See id.* (explaining that indirect discrimination is demonstrated by the proportion of autistic children being educated in either mainstream or special schools, which was significantly lower than that of other children with or without a disability).

195. *Mental Disability Advocacy Ctr. v. Bulgaria*, Compl. No. 41/2007, Decision on the Merits, ¶ 39 (2008), <http://hudoc.esc.coe.int/eng/?i=CC-41-2007-dmerits-en>; *Int’l Fed’n of Human Rights v. Belgium*, Compl. No. 62/2010, Decision on the Merits, ¶ 113 (2012), <http://hudoc.esc.coe.int/eng/?i=CC-62-2010-dmerits-en>.

196. *Eur. Action of the Disabled v. France*, Compl. No. 81/2012, Decision on the Merits (2013), <http://hudoc.esc.coe.int/eng/?i=CC-81-2012-dmerits-en>.

197. *Id.* ¶ 82.

the help of a school assistant. Provision was also made for teaching in separate classes at mainstream schools that a collective school assistant runs. These school integration classes occur at the early childhood and primary levels, and lower and upper secondary levels.¹⁹⁸ In its decision, the ECSR affirmed:

[T]he lack of opportunities for special classes to integrate with mainstream classes; the scarcity of joint lessons with mainstream classes; the fact that children with autism do not have their recreational and lunch breaks at the same time as other children in the school; the isolation of classrooms for special classes from other buildings and overcrowding of these classes; the fact that children with all types of disability are mixed together in special classes; a high rotation of teaching teams, conducive neither to regular teaching nor to the consistent implementation of suitable teaching programmes; the lack of specific training for teachers about autism, with the result both that they are reluctant to allow children with autism to join their class and that unsuitable teaching methods may be adopted and; the fact that teachers who are concerned about the proper integration of children and adolescents with autism are left to arrange their own training on autism.¹⁹⁹

Although French legislation and policy did progress since the first judgment in 2003, the ECSR still identified a number of violations of the Social Charter such as: a) “the limited funds in the state’s social budget for the education of children and adolescents with autism indirectly disadvantages these persons with disabilities,”²⁰⁰ and b) “families have no other choice than to leave the national territory in order to educate their children with autism in a specialised school, which constitutes a direct discrimination against them”²⁰¹

198. The ECSR would point out that the number of children with autism in school decreases significantly: 87% of children with attend primary school, 11% lower secondary school and 1.2% upper secondary school. *Id.* ¶ 83.

199. *Id.* ¶ 90.

200. *Id.* ¶ 145.

201. *Id.* Conclusion.

A final significant health care and neurodiversity-related litigation is *Bruesewitz v. Wyeth LLC*, in which autism drew the U.S. Supreme Court's attention for different reasons: the very controversial establishment of a cause-effect connection between vaccines and the onset of these conditions in American children, and the consequential damage compensation claimed by thousands of plaintiffs in the United States.²⁰² In the face of converging scientific evidence from dozens of epidemiologic studies that autism is not an immune-mediated disease,²⁰³ the officially discredited theories postulating a connection between MMR vaccines and NDDs fueled the global anti-vaccine movement.²⁰⁴ In 1986, the U.S. legislature established the National Vaccine Injury Compensation Program by adopting the National Childhood Vaccine Injury Act (NCVIA). With this act, Congress assigned jurisdiction to the Court of Federal Claims for implementation of a no-fault compensation program in the hopes of stabilizing a vaccine market adversely affected by an increase in vaccine-related tort litigation.²⁰⁵ This consequently created the Omnibus Autism Proceeding (OAP), a mechanism to adjudicate thousands of peti-

202. See Jennifer Keelan & Kumanan Wilson, *Balancing Vaccine Science and National Policy Objectives: Lessons from the National Vaccine Injury Compensation Program Omnibus Autism Proceedings*, 101 AM. J. PUB. HEALTH 2016, 2019 (2011) (discussing the consequences of *Bruesewitz* and similar cases); Regina Moreland, *National Vaccine Injury Compensation Program*, 29 J. LEGAL MED. 363 (2008) (examining implications of the National Vaccine Injury Compensation Program).

203. Jeffrey S. Gerber & Paul A. Offit, *Vaccines and Autism: A Tale of Shifting Hypotheses*, 48 CLINICAL INFECTIOUS DISEASES 456 (2009) (reviewing twenty studies performed in several countries by different investigators who have employed a multitude of epidemiologic and statistical methods); Anjali Jain et al., *Autism Occurrence by MMR Vaccine Status Among US Children with Older Siblings with and Without Autism*, 313 J. AM. MED. ASS'N 1534 (2015).

204. See PAUL A. OFFIT, *AUTISM'S FALSE PROPHETS: BAD SCIENCE, RISKY MEDICINE, AND THE SEARCH FOR A CURE* 184, 193, 202–03 (2008) (outlining how the media's reporting of discredited scientific articles that established a causal connection between the MMR vaccine and autism induced parents to avoid vaccinating their children); Dorit Rubinstein Reiss, *Compensating the Victims of Failure to Vaccinate: What Are the Options?*, 23 CORNELL J.L. & PUB. POL'Y 595, 602–04 (2014).

205. Katherine M. Cook & Geoffrey Evans, *The National Vaccine Injury Compensation Program*, 127 PEDIATRICS S74, S75 (2011).

tions filed by parents and families under the legal framework.²⁰⁶

In *Bruesewitz v. Wyeth LLC*, the Supreme Court held that the NCVIA “pre-empts all design-defect claims against vaccine manufacturers brought by plaintiffs who seek compensation for injury or death caused by vaccine side effects.” In so doing, the Court closed the door on thousands of claims by parents alleging a link between vaccines and childhood autism.²⁰⁷ With Justices Sotomayor and Ginsburg dissenting, the Court dealt with the highly complex structure of vaccine regulation in relation to the NCVIA. Among several issues decided by the Court, one of the most important was that the licenses issued for vaccines require warnings, directions, and manufacturing methods.²⁰⁸ Although the FDA does not regulate design defects, the NCVIA “micromanages manufacturers” except on “how to evaluate competing designs.”²⁰⁹ According to the majority, the Act focuses on the benefits of design-defect torts by encouraging improvement of vaccine design by federal agencies, and by compensating victims.²¹⁰ The Court concluded that Congress’s omission of design-defect liability reflects a “sensible choice to leave complex epidemiological judgments” to experts instead of jurors.²¹¹ Although extensive OAP litigation confirmed that no correlation between vaccines and NDDs has been determined, “unavoidable” side effects might occur.²¹² Instead of facilitating extremely complex and highly expensive vaccine design-defect litigation to address these side effects, NCVIA establishes a victim compensation mechanism based on a manufacturer’s fund.

This third NDD-related case decided by the U.S. Supreme Court, and the thousands of applications filed under the OAP, evince families’ deep concerns and profound difficulties dealing with these challenges. Compensation might help them deal with a disability health and social care system that pro-

206. Keelan & Wilson, *supra* note 202, at 2016; *see also* Paul A. Offit, *Vaccines and Autism Revisited—The Hannah Poling Case*, 358 *NEW ENG. J. MED.* 2089, 2090 (2008) (explaining implications of the NCVIA framework).

207. *Bruesewitz v. Wyeth LLC*, 562 U.S. 223, 243 (2011).

208. *Id.* at 237.

209. *Id.* at 238.

210. *Id.*

211. *Id.* at 239.

212. *Id.* at 230.

vides insufficient support. Interestingly, these cases have a common premise: the search for a unique cause of NDDs. This constitutes one of the major conceptual and agenda-related clashes between neurodiversity self-advocates and other stakeholders, including some parents' organizations.

B. *Physical Liberty, Competency, and Criminal Law*

Criminal law, physical liberty, and competency are other extremely sensitive neurodiversity-related areas. In the last decade, European jurisdictions dealt with several such cases both at national and supranational level. The 2014 UK Supreme Court case *P v. Cheshire and Chester Council et al.; P and Q v. Surrey County Council*²¹³ dealt with a sensitive aspect of neurodiversity-related litigation, namely "the criteria for judging whether the living arrangements made for a mentally incapacitated [or autistic] person amount to a deprivation of liberty. If they do," the Court maintained, "then the deprivation has to be authorised, either by a court or by the procedures known as the deprivation of liberty safeguards"²¹⁴ The Court continued: "human rights are for everyone, including the most disabled members of our community, and . . . those rights include the same right to liberty as has everyone else."²¹⁵ The complainants were two sisters, MEG and MIG, with a history of neurodevelopmental issues, such as learning disabilities, problems with hearing, difficulties in communication, autistic traits, and challenging behaviors. The other complainant, P., had cerebral palsy and Down syndrome requiring twenty-four hour care.²¹⁶ The two sisters were placed in foster families after experiencing abuse and ill-treatment in their original family.²¹⁷ They received differently organized living arrangements that the Court of Protection ultimately determined did not amount to a deprivation of liberty.²¹⁸ P., after his mother was no longer able to be the principal caregiver, was placed in Z. house, in which he received living arrange-

213. *P. v. Cheshire West & Cheshire Council* [2014] UKSC 19 (appeal taken from Eng.).

214. *Id.* at [1].

215. *Id.*

216. *Id.* at [16].

217. *Id.* at [12].

218. *Id.* at [14]–[15].

ments that the Court of Appeal decided did not constitute a deprivation of liberty.

The three plaintiffs were individuals who needed intense support and control. As the UK Supreme Court meaningfully states:

[P]eople with disabilities, both mental and physical, have the same human rights as the rest of the human race. It may be that those rights have sometimes to be limited or restricted because of their disabilities, but the starting point should be the same as that for everyone else. This flows inexorably from the universal character of human rights, founded on the inherent dignity of all human beings, and is confirmed in the United Nations Convention on the Rights of Persons with Disabilities. Far from disability entitling the state to deny such people human rights: rather it places upon the state (and upon others) the duty to make reasonable accommodation²¹⁹

This case is “a good illustration of the sort of benevolent living arrangements which many might find difficult to characterise as a deprivation of liberty.”²²⁰ In such situations, the Court must decide if the complainant’s living arrangements constitute a deprivation of *physical* liberty. In discussing the right to physical liberty in the context of NDDs, the Court wrote,

This is not a right to do or to go where one pleases. It is a more focused right, not to be deprived of that physical liberty. But . . . what it means to be deprived of liberty must be the same for everyone, whether or not they have physical or mental disabilities. If it would be a deprivation of my liberty to be obliged to live in a particular place, subject to constant monitoring and control, only allowed out with close supervision, and unable to move away without permission even if such an opportunity became available, then it must also be a deprivation of the liberty of a disabled person. The fact that my living arrangements are comfortable, and indeed make my life as enjoyable as

219. *Id.* at [45].

220. *Id.* at [10].

it could possibly be, should make no difference. A gilded cage is still a cage.”²²¹

The Court’s arguments touch a sensitive area of the idea of equality, rejecting the idea of “relative normality” in which disabled people’s life situation must be compared to another disabled individual’s life.²²² Instead, deprivation of physical liberty occurs when a person is under continuous supervision and control and is not free to leave if he expresses the desire to do so, regardless of ability. In conclusion, the Court states that: “[i]f the acid test is whether a person is under the complete supervision and control of those caring for her and is not free to leave the place where she lives . . . both MIG and MEG are being deprived of their liberty.”²²³ In addition: “[b]ecause of the extreme vulnerability of people like P, MIG and MEG . . . [t]hey need a periodic independent check on whether the arrangements made for them are in their best interests . . . [t]hey are a recognition of their equal dignity and status as human beings like the rest of us.”²²⁴

This legal and ethical problem of what constitutes deprivation of liberty in the context of NDDs is widely discussed in other legal systems in which “least restrictive means” and periodic reporting and review of guardianship requirements are becoming the more common approach.²²⁵ This transformative and liberating approach comes after decades during which courts deemed people with mental impairments wholly incapable of retaining any legal rights or autonomy.²²⁶ The right of

221. *Id.* at [46].

222. *Id.* at [47]. The National Autistic Society and Mind, intervening in this case, expressed a favorable opinion. *See id.* at [50] (noting the National Autistic Society’s adoption of a similar test, rejecting the notion of “relative normality”).

223. *Id.* at [54]. The Court continues: “that deprivation is the responsibility of the state. Similar constraints would not necessarily amount to a deprivation of liberty for the purpose of article 5 if imposed by parents in the exercise of their ordinary parental responsibilities and outside the legal framework governing state intervention in the lives of children or people who lack the capacity to make their own decisions.” *Id.*

224. *Id.* at [57].

225. Kristin Booth Glen, *Changing Paradigms: Mental Capacity, Legal Capacity, Guardianship, and Beyond*, 44 COLUM. HUM. RTS. L. REV. 93, 98 (2012).

226. Cohen et al., *supra* note 51, at 408; *see also* Robert D. Dinerstein, *Implementing Legal Capacity under Article 12 of the UN Convention on the Rights of Persons with Disabilities: The Difficult Road from Guardianship to Supported Deci-*

physical liberty is one of the pivotal fundamental rights, and as such, it is protected in the UK by human rights statutes, by Article 5 of the European Convention on Human Rights, and by the 2007 Mental Capacity Act (MCA).²²⁷ Although “[t]hroughout the 19th century it was assumed that persons of unsound mind (then known as either ‘lunatics’ or ‘idiots’) should be kept in some form of confinement and reformers concentrated upon providing more and better institutions where they could live,”²²⁸ deprivation of liberty is now impermissible under the MCA, save in three circumstances: 1) when authorized by the Court of Protection; 2) when authorized under the procedures provided for in Schedule A1, which relates only to deprivations in hospitals and in care homes falling within the meaning of the Care Standards Act 2000; and 3) if deprivation is necessary in order to give life sustaining treatment or to prevent a serious deterioration of the person’s condition while a case is pending before a court.²²⁹

The European Court on Human Rights (ECtHR) decided similarly significant cases. That Court rules on individual or state applications alleging violations of the European Convention on Human Rights. Since 1998 it has sat as a full-time court to which individuals can apply directly. In this context, the ECtHR decided an extensive number of cases on mental health issues and civil liberties.²³⁰

In *H.L. v. United Kingdom*, the ECtHR dealt with the allegations from an autistic applicant who claimed to have been

sion-Making, 19 HUM. RTS. BRIEF. 8 (2011) (explaining that states have historically assumed people with mental disabilities lack autonomy and legal capacity). See generally J. L. Hewitt, *Dangerousness and Mental Health Policy*, 15 J. PSYCHIATRIC & MENTAL HEALTH NURSING 186 (2008) (outlining how people with mental disabilities historically suffered from stigma, intolerance, and resulting legal alienation).

227. See *P v. Cheshire & Chester Council* [2014] UKSC 19 [19], [46] (appeal taken from Eng.) (referencing a right to physical liberty in three sources).

228. *Id.* at [2].

229. *Id.* at [8].

230. See, e.g., *Ashingdane v. United Kingdom*, 93 Eur. Ct. H.R. (ser. A) (1985) (holding that a compulsory patient is deprived of his liberty in the hospital where he is detained irrespective of the openness or other conditions in a case involving a patient detained in a secure hospital when he did not need to be there); *Stanev v. Bulgaria*, 2012-I Eur. Ct. H.R. 83 (placement of a mentally disabled man in a care home rather than a hospital).

detained in a psychiatric institution as an “informal patient.” The applicant alleged that the review procedures available regarding the legality of his detention, as well as his treatment in that institution, did not satisfy the requirements of the Convention.²³¹ Before reaching the ECtHR, the UK Court of Appeal in 1997 and by the House of Lords in 1998 heard the case.²³² During these procedures, it was established that the applicant’s detention in a psychiatric facility was justified under a common law doctrine of necessity according to the Mental Health Act of 1983.²³³ In its decision, the ECtHR established that the “absence of procedural safeguards fails to protect against arbitrary deprivations of liberty on grounds of necessity and, consequently, to comply with the essential purpose of Art. 5 [of the Convention].”²³⁴ With this, the Court held that the UK authorities, in deciding the applicant’s stay in the facility without procedural safeguards, violated the Convention.

One year later, the ECtHR heard another similar case, *Storck v. Germany*, in which an applicant showing signs of autism challenged her repeated placement in a psychiatric institution.²³⁵ The applicant (who is currently 100% disabled²³⁶) has spent almost twenty years of her life in psychiatric institutions and other hospitals.²³⁷ The Court also uncovered evidence of serious conflicts between the applicant and her parents, and that her father believed her to be suffering from psychosis. Judges of the ECtHR, establishing the background circumstances, affirmed that:

The applicant—who by that time had attained the age of majority—had not been placed under guardianship, had never signed a declaration that she had consented to her placement in the institution, and there had been no judicial decision authorising her detention in a psychiatric hospital. The private clinic

231. *H.L. v. United Kingdom*, App. No. 45508/99, 40 Eur. H.R. Rep. 32, ¶¶ 3, 9 (2004).

232. *Id.* ¶¶ 33–37.

233. *Id.* ¶ 12.

234. *Id.* ¶ 124.

235. *Storck v. Germany*, App. No. 61603/00, 43 Eur. H.R. Rep. 96, ¶ 18 (2005).

236. *Id.* ¶ 12.

237. *Id.*

was not entitled to detain patients who were to be kept in accordance with the Act of the *Land* of Bremen on the detention of mentally insane persons, mentally deficient persons and drug addicts [T]he police brought the applicant back to the clinic by force after she had attempted to escape.²³⁸

Due to the long stay at the clinic, the applicant was unable to maintain social connections with persons outside the clinic, and she developed additional physical pathologies that required different medical interventions. Significantly, subsequent psychiatric evaluations assessed that the applicant: “at no point in time suffered from a schizophrenia-type psychosis . . . and that her intemperate behaviour had resulted from conflicts with her family.”²³⁹ An additional evaluation determined that: “the applicant had never suffered from an early onset of schizophrenia”²⁴⁰ According to the Court, this case entailed “deprivation of liberty without a judicial decision, [and the] absence of a legal basis for the detention”²⁴¹

After national judicial remedies proved fruitless and the Federal Constitutional Tribunal refused to accept the applicant’s constitutional complaint, the applicant brought her case before the ECtHR. The Court considered the following elements pertinent: the applicant,

[T]ried on several occasions to escape. She had to be shackled in order to prevent her from absconding and brought back to the clinic by the police when she managed to escape on one occasion. Under these circumstances, the Court is unable to discern any factual basis for the assumption that the applicant—presuming that she had the capacity to consent—agreed to her continued stay in the clinic. In the alternative, assuming that the applicant was no longer capable of consenting following her treatment with strong medication, she cannot in any event be considered to have validly agreed.²⁴²

238. *Id.* ¶ 15.

239. *Id.* ¶ 22.

240. *Id.* ¶ 23.

241. *Id.*

242. *Id.* ¶ 76.

This case involves the problem of if and how vulnerable individuals have the right to express their wish to stay or leave psychiatric facilities, and whether this expression of will and its refusal determines that their right to physical liberty has been infringed. Here, the Court found a violation of Article 5(1) of the European Convention for some of the plaintiff's periods of confinement.²⁴³

The ECtHR case *Nelissen v. The Netherlands* centered on compulsive and repetitive behaviors resulting in restricted interests, a common symptom of NDDs. The phenomenology of these behaviors can worsen when individuals with neurodiverse conditions suffer unfamiliar or stressful events that trigger disruptive and deregulated reactions. As noted above, serious problems may arise when the law considers the object of the restrictive interests, or the circumstances related to them, a criminal offence.²⁴⁴ In the course of criminal proceedings in the Netherlands, it emerged that the applicant in *Nelissen v. The Netherlands* was a pathological collector of devotional obituary cards for the recently deceased. As the ECtHR later reported, "whenever possible [he] would gatecrash funerals in the Maastricht area."²⁴⁵ In 2003, the applicant went to the home of the victim and demanded that she give him an obituary card of her sister who had recently died. On being met with a refusal, he forced his way into the victim's home, causing her to fall.²⁴⁶ The applicant "had met [the victim] at her sister's funeral, from which [the applicant] had been turned away by the undertaker. At the time of his visit to [the victim's] home, he had been under the mistaken impression that he had propitiated the victim by sending her a blessed candle beforehand."²⁴⁷ In pre-trial detention, the applicant underwent a psychiatric assessment: "[e]xaminations of the applicant's mental state by two psychiatrists and a psychologist showed that the applicant was . . . suffering from a mental im-

243. *Id.* ¶ 112.

244. See Newman & Ghaziuddin, *supra* note 79, at 1851 ("Persons with Asperger syndrome have been described as lacking in conscience, which increases their risk for committing crime. However . . . aggressive behavior is not one of its defining or discriminating features.")

245. *Nelissen v. Netherlands*, App. No. 6051/07, Judgment, ¶ 7 (Apr. 5, 2011), <http://hudoc.echr.coe.int/eng?i=001-104357>.

246. *Id.* ¶ 6.

247. *Id.* ¶ 7.

pairment. The report of the psychiatrists diagnosed it as ‘a paranoid form of schizophrenia in which autistiform characteristics are unusually prominent and . . . an obsessive compulsive personality disorder.’”²⁴⁸ Moreover:

[B]oth the psychiatrists’ report and that of the psychologist considered it very likely that the applicant would reoffend if given the chance. Both reports mentioned the applicant’s lack of awareness of his condition, which made him difficult to treat. They concurred in recommending that the applicant undergo compulsory treatment in a closed setting. In addition, a psychologist attached to a mental hospital where the applicant had been held previously, under the Psychiatric Hospitals (Compulsory Admission) Act . . . gave evidence in open court to the effect that the applicant had absconded before and would resist ‘all possible forms of interference in his personal life’ if he could.²⁴⁹

In 2004, the ‘s-Hertogenbosch Court of Appeal in the Netherlands sentenced the applicant to seven months imprisonment and confinement in a custodial clinic.²⁵⁰ Before the ECtHR the applicant challenged the excessive length of deprivation of liberty calculation, the pre-trial detention, prison detention, and confinement in a custodial clinic. While the ECtHR found a violation of Article 5.1 of the ECHR,²⁵¹ the statement by the Government of the Netherlands is significant:

[T]he applicant suffered from Asperger’s syndrome and obsessive compulsive disorder. Although Asperger’s syndrome was a congenital condition and incurable, the reports on the applicant’s mental state suggested that his behavioural problems could be made manageable. This was important, since, as was commonly the case with Asperger’s syndrome, any

248. *Id.* ¶ 9.

249. *Id.*

250. *Id.* ¶ 3.

251. *See id.* ¶ 60 (“[T]he TBS order [confinement in a custodial clinic] imposed on the applicant became final and enforceable on 14 February 2006. The applicant was admitted to a custodial clinic on 20 March 2007, that is one year, one month and six days later. Such a time lapse cannot be considered acceptable.”).

loss of structure in the applicant's life could lead to aggression. This in turn could lead to a heightened risk of the applicant's reoffending. Given the nature of the applicant's disorders, the applicant's detention had been reviewed with sufficient frequency.²⁵²

Specialists may easily recognize here common NDD traits. Given the commonality of some of these traits, three elements should be considered: 1) the importance of expanding wide social services for individuals with NDDs so that they can manage potentially disruptive behaviors; 2) creating greater awareness and understanding of NDD possible behavioral phenomenology within the legal system;²⁵³ and 3) introducing some sort of flexible legal approach able to fairly evaluate when specific offences are clearly connected to NDD clinical conditions. These three elements are reasonably in line with an approach encompassing neurodiversity and brain equality.

C. *Discrimination at the Workplace*

Working environments can create consistent difficulties for individuals with NDDs and discrimination at the workplace generates sensitive neurodiversity-related cases.²⁵⁴ On this subject, the Canadian Human Rights Tribunal decided *Dawson v. Canada Post Corporation*. Section 15 of the Charter of Rights and Freedoms (the Charter) establishes a wide equality and non-discrimination framework binding the federal and provin-

252. *Id.* ¶ 65.

253. The need to expand scientific knowledge within the legal system, especially when it comes to brain functioning and related behaviors is explained by David L. Faigman et al., *A Matter of Fit: The Law of Discrimination and the Science of Implicit Bias*, 59 HASTINGS L.J. 1389, at 1432 (2008); see also Jones et al., *supra* note 52, at 3-4 (discussing the use of neurological evidence in court); SAPOLSKY, *supra* note 53, at 580; Owen D. Jones, *Law, Evolution and the Brain: Applications and Open Questions*, 359 PHIL. TRANSACTIONS ROYAL SOC. B 1697 (2004) (advocating the use of neuroscience and evolutionary biology to make the legal system more effective); Sapolsky, *supra* note 53, at 1793 (surveying literature on neuroscience and the criminal justice system).

254. See generally JANINE BOOTH, *AUTISM EQUALITY IN THE WORKPLACE: REMOVING BARRIERS AND CHALLENGING DISCRIMINATION* (2016) (describing how workplaces can create difficulties for autistic workers); JANINE BOOTH, *AUTISM IN THE WORKPLACE* (2014), <https://www.tuc.org.uk/sites/default/files/Autism.pdf>.

cial governments.²⁵⁵ The Canadian Human Rights Act is the most important federal statute implementing the principles of the Charter.²⁵⁶ Moreover, all the provinces have enacted Human Rights Codes to protect from unfair discrimination by private individuals and associations and provide remedies.²⁵⁷ In most provinces, Human Rights Commissions have been established to administer human rights legislation.²⁵⁸ Commissions receive complaints, investigate and seek to settle them. A commission, after investigation, may refer to the relevant Human Rights Tribunal for adjudication of claim. The jurisprudence developed by the Canadian Supreme Court in respect of Section 15 of the Charter is important to the determination of discrimination complaints lodged under the Canadian Human Rights Act as well as the various Human Rights Codes.²⁵⁹

Dawson v. Canada Post is of utmost importance for: 1) the high level of analysis provided by the expert testimony and by the complainant herself; and 2) the type of remedies ordered by the Tribunal that accord with the requirements of a neurodiverse approach. The complainant, a person with ASD, alleged that the respondent discriminated against her on the basis of her disability. She alleged suffering adverse differential treatment by reason of her disability due to respondent treating her in an intolerant and paternalistic way and negligently failing to provide a harassment-free work environment—all in breach of Section 7 of the Canadian Human Rights Act.²⁶⁰ On top of these allegations, the complainant claimed that the structure of the hearing procedure before the Tribunal did not meet the needs and characteristics of an ASD individual.

255. See O'Regan & Friedman, *supra* note 161, at 476 (discussing section 15 of the Charter of Rights and Freedoms).

256. Canadian Human Rights Act, R.S.C. 1985, c H-6.

257. *Provincial & Territorial Human Rights Agencies*, CAN. HUMAN RIGHTS COMM'N, <http://www.chrc-ccdp.gc.ca/eng/content/provincial-territorial-human-rights-agencies> (last visited Oct. 5, 2018).

258. *Id.*

259. See W.S. Tarnopolsky, *Discrimination and the Law in Canada*, 41 U. NEW BRUNSWICK L.J. 215, 229–34 (1992) (discussing case law under Section 15). For a comparative perspective, see FREDMAN, *supra* note 162, at 49; O'Regan & Friedman, *supra* note 161, at 473 (providing a comparative analysis of the principle of Equality between the United States, the Canadian and the South African constitutional systems).

260. *Dawson v. Can. Post Corp.*, [2008] CHRT 41, ¶ 4 (Can.).

An expert witness emphasized that the “level of impairment that appears may be completely discrepant with the actual level of intelligence for autistic people . . . the idea of curing autism is meaningless.”²⁶¹ Moreover, “what characterizes autism is that the specific part of the brain which is in charge of social activities is broken in an autistic brain . . . [A]utistic people are vulnerable to the malice of their peers and that they are stigmatized in society. Autistic people are not violent by definition.”²⁶² In contrast, the expert testified that “people are intimately convinced that most autistic individuals are violent, even if it is not true. In general, non-autistic people have a poor understanding of autistic people.”²⁶³ More importantly, among several core statements about the implications of neurocognitive differences on behaviors, the expert stated: “autistic people live in fact in a world that is not made for them.”²⁶⁴ The conclusions of the Tribunal were thus striking:

An autistic person should expect that his workplace be free of any misperception or misconception about his condition. It goes to the right of autistic individuals to be treated equally, with dignity and respect, free of any discrimination or harassment related to their condition. In this respect, in a society where human rights are paramount, an employer has the duty to dispel such misconception or misperception about such individuals . . . To discriminate on the basis of somebody’s physical appearance or social behavior might be one of the cruelest forms of discrimination.²⁶⁵

As a result, the Tribunal ordered that the respondent: a) work for a period of one year with the Commission to modify its existing policies to conform with human rights law of Canada; and b) retain, in consultation with the Commission, appropriate persons to conduct workplace equity, accommodation and sensitivity training for managers and staff, notably in relation to autism.

261. *Id.* ¶ 102.

262. *Id.* ¶ 103–04.

263. *Id.* ¶ 104.

264. *Id.* ¶ 108.

265. *Id.* ¶¶ 243, 246.

VI. CONCLUSION

This study provides some preliminary results. First, judicial analysis shows that there are substantial neurodiversity-related cases brought before European and North American courts. The litigation confirms the importance of the legal implications of the concept of neurodiversity. Second, the case law analyzed presents a preponderance of social equality claims. This matches some of the priorities of NDD-rights agendas. Comparatively, these social justice claims are highly similar across legal cultures. In this perspective, according to the case law analyzed, litigants demand wider public education services in the United States, the UK, Spain, Germany and France. This represents the most urgent equality request of neurodiverse people and their families. Individuals also seek an expansion of health care and social services in Canada, the United States, and the UK. European courts, in connection with the ECtHR, address neurodiversity-related litigation involving criminal law, physical liberty, and competency more than U.S. and Canadian courts. Courts that decide NDD-related cases involving the limitation of physical liberty are aware that thorough safeguards are required when health or social care bodies determine living arrangements for neurodiverse individuals.

From a legal perspective, the concept of neurodiversity fuels the debate around complex, open questions of modern constitutionalism. In particular, the hypothesis that brain-based diversities should receive wider constitutional recognition centralizes discussion on the doctrine of constitutional equality. First, it stresses the problem of ensuring pluralism while preventing the fragmentation of legal systems into countless differential norms. This implies considering if and to what extent a certain degree of disparate impact, without clear discriminatory intent, is an unavoidable effect of the social cohesion pursued by the universality and generality of the law.²⁶⁶ Second, the legal recognition of neurodiversity falls into the dichotomy of *essentializing* or *de-essentializing* identity—anti-subordination versus anti-classification—which triggers the prob-

266. See Kenji Yoshino, *The New Equal Protection*, 124 HARV. L. REV. 747, 774 (2011) (“[I]n the *Smith* [494 U.S. 872, 885 (1990)] decision . . . the Court underscores that exempting religious practices from laws of general applicability would permit every citizen ‘to become a law unto himself.’”).

lem of harmonizing different ideologies about the public relevance of elements belonging to the private sphere.²⁶⁷ This debate revolves around the problem of how to harmonize two diverging needs: containing the proliferation of protected groups, and, at the same time, recognizing group-based diversity claims.²⁶⁸ Contemporary centrifugal forces undermining the unity of social and political bodies in Western countries influence this polarization. Although analysts raises concerns about the group-rights framework, and warn against subgrouping emphasis (balkanization),²⁶⁹ the worsening of the conditions of unprivileged, excluded, and neglected groups is nonetheless a socio-economic reality. In conclusion, the concept of neurodiversity fuels the discussion on how to determine legally precise criteria of group classification. In the field of different neurological profiles this is even more problematic. A formal group classification based on neurobiological traits would have a highly controversial *bio-political* meaning.

It is important to note, however, that it is unlikely that the definition of neurodiverse individuals as a minority group would directly provide them with any extra-legal protection, as the status of collective rights is controversial or poorly imple-

267. See Julie Chi-hye Suk, *Equal by Comparison: Unsettling Assumptions of Antidiscrimination Law*, 55 AM. J. COMP. L. 295 (2007) (contrasting the French anti-classification approach with the American anti-subordination approach).

268. Deborah Mabbett, *Some are More Equal than Others: Definitions of Disability in Social Policy and Discrimination Law in Europe*, 34 J. SOC. POL'Y 215 (2005) (analyzing the effect of classification versus universalization on equality policy and anti-discrimination in the field of disability).

269. See, e.g., DAVID A. HOLLINGER, *POSTETHNIC AMERICA* 3 (2000) ("A post-ethnic perspective resists the grounding of knowledge and moral values in blood and history."); ARTHUR M. SCHLESINGER, JR., *THE DISUNITING OF AMERICA: REFLECTIONS ON A MULTICULTURAL SOCIETY* 21 (1998) ("Instead of a nation composed of individuals making their own unhampered choices, America increasingly sees itself as composed of groups more or less ineradicable in their ethnic character."); Samuel P. Huntington, *The Erosion of American National Interests*, 76 FOREIGN AFF. 28, 29 (1997) ("Without a sure sense of national identity, Americans have become unable to define their national interests, and as a result subnational commercial interests and transnational and nonnational ethnic interests have come to dominate foreign policy."). Diversity and pluralism have different outcomes over the short, medium, and long terms: Robert D. Putnam, *E Pluribus Unum, Diversity and Community in the Twenty-First Century*, 30 SCANDINAVIAN POL. STUD. 137, 138–39 (2007).

mented in most national legal systems.²⁷⁰ At the same time, international protection of minority rights still encounters resistance and difficulty since international conventions are not universally ratified, not directly enforced, and international jurisdictions have little power to force states to abide by them.²⁷¹

The legal implications of neurodiversity must therefore be contextualized in contemporary theories and practices of the constitutional equality. Over the past decades, the traditional group-based equality jurisprudence in the United States was limited due to growing concerns about dynamics of social division, also known as pluralism anxiety. Therefore, social fragmentation is governed by limiting the range of legally relevant diversity-group equality claims.²⁷² Instead, U.S. scholars report a move toward liberty-based dignity claims under the due process guarantees of the Fifth and Fourteenth Amendments.²⁷³ In this context, despite consistent advancement both in legisla-

270. See Roberto Toniatti, *Minorities and Protected Minorities: Constitutional Models Compared*, in CITIZENSHIP AND RIGHTS IN MULTICULTURAL SOCIETIES 195 (Michael Dunne & Tiziano Bonazzi eds., 1995); Francesco Palermo, *Accommodating Differences: The Present and Future of the Law of Diversity*, 30 VT. L. REV. 431, 431 (2006) (arguing against “one size fits all” and “once and for all” definitions of minorities); Francesco Palermo & Matteo Nicolini, *For a New Semantics of Differences: Cultural Exception and the Law*, 8 POLEMOS 95, 96 (2014) (“The need to ‘manage differences’ often emerges in court cases first, and subsequently at a legislative level.”).

271. See Palermo & Woelk, *supra* note 95, at 10 (2003) (surveying the history and status of minority rights in international law).

272. Yoshino, *supra* note 266, at 774 (discussing of two types of pluralism anxiety: proliferation of classifications and proliferation of classes within classifications. Both “operate to curtail the equal protection jurisprudence.”) In *City of Cleburne v. Cleburne Living*, 473 U.S. 432 (1985), “[t]he Court declined to grant classifications discriminating against individuals with mental retardation heightened scrutiny.” *Id.* at 758. Moreover, in *Bd. of Trustees of Univ. of Alabama v. Garrett*, 531 U.S. 356 (2001), “Chief Justice Rehnquist [affirmed] that classifications based on disability drew only rational basis review under Section I of the Fourteenth Amendment.” *Id.* at 773.

273. *Id.* at 776–802; see Rebecca L. Brown, *Liberty, the New Equality*, 77 N.Y.U. L. REV. 1491 (2002) (advocating a liberty-based approach); Kenneth L. Karst, *The Liberties of Equal Citizens: Groups and the Due Process Clause*, 55 UCLA L. REV. 99, (2007) (portraying *Lawrence* as the result of substantive due process developments arising from concerns of group subordination); Laurence H. Tribe, *Lawrence v. Texas: The “Fundamental Right” that Dare Not Speak its Name*, 117 HARV. L. REV. 1893, at 1918 (2004) (observing how the Court’s substantive due process jurisprudence following *Bowers* influenced and gave way to *Lawrence*); see also Reva B. Siegel, *Dignity and the Politics of Protection: Abortion Restrictions under Casey/Carhart*, 117 YALE L.J. 1694, at

tion and jurisprudence in the field of ASD and NDDs, in the United States the right to education does not yet maximize a disabled child's potential as it does for non-disabled students.

The Canadian constitutional ethos traditionally includes pluralism and group-based equality.²⁷⁴ The inclusion of people with mental disability as a designated group for formal constitutional protection under Section 15 of the Canadian Charter was viewed as a triumph of disability advocacy. However, as commentators point out, despite its symbolic power and several cases decided by the Supreme Court, the substantial impact of this framework is not very encouraging.²⁷⁵ Over the last two decades, Canadian specialists reported persistent difficulty in blending the medical model of mental disability with a more inclusive social model of disability.²⁷⁶

In Europe, the multilayer configuration of the EU, the ECHR, and domestic constitutional systems, produces a highly complex legal structure. Criteria for determining disability as well as anti-discrimination mechanisms provided by national legislation differ widely throughout EU Member states.²⁷⁷ As a consequence, it is difficult to paint a comprehensive picture.

1694 (2008) (highlighting the interpretation of individual rights guarantees *vis-à-vis* abortion).

274. See Hamilton & Shea, *supra* note 157, at 127 (analyzing five Supreme Court of Canada judges' approaches to equality).

275. See YVONNE PETERS, COUNCIL OF CANADIANS WITH DISABILITIES, TWENTY YEARS OF LITIGATING FOR DISABILITY EQUALITY RIGHTS: HAS IT MADE A DIFFERENCE? (2004), <http://www.ccdonline.ca/en/humanrights/promoting/20years> (expressing disappointment with persistent disputes regarding the right of persons with disabilities to basic access); Bruce Porter, *Twenty Years of Equality Rights: Reclaiming Expectations*, 23 WINDSOR Y.B. ACCESS JUST. 145 (2005) (describing expectations for Section 15 as largely unrealized); see also *Auton v. British Columbia*, [2004] 3 S.C.R. 657 (Can.) (holding against a requirement to provide ABA).

276. See H. Archibald Kaiser, *Canadian Mental Health Law: The Slow Process of Redirecting the Ship of State*, 17 HEALTH L.J. 139 (2009) (arguing that extant legislation remains anchored in the medical model).

277. See MABBETT, *supra* note 83, at 230 (discussing institutional entrenchment of approaches to disability); Sandra Fredman, *Disability Equality: A Challenge to the Existing Anti-Discrimination Paradigm?*, in *DISABILITY RIGHTS IN EUROPE: FROM THEORY TO PRACTICE* (Anna Lawson & Caroline Gooding eds., 2005) (observing differences between EU and UK law); Vlad Perju, *Impairment, Discrimination, and the Legal Construction of Disability in the European Union and the United States*, 44 CORNELL INT'L L.J. 279, at 288 (2011) (discussing political reasons for differences among EU member states).

However, despite a proliferation of national strategy plans, special legislation and policy documents pleading for an inclusive concept of disability, especially in the realm of mental disability and NDDs,²⁷⁸ experts suggest that disability substantive discrimination and exclusion on the basis of disability still remain insufficiently accommodated.²⁷⁹

Analysis of the neurodiversity-equality relationship must also consider additional underlying lines of reasoning. From a constitutional perspective, one assumes that individuals are born equals.²⁸⁰ However, by nature, human beings are innately different. Some of these differences are irrelevant for people's lives. Some impact individuals' lives only because of bigotry, such as in the case of racism based on skin phenotypes, misogyny or sexual orientation. Others, such as disabilities, profoundly impact individual existence. In the case of diverse neurodevelopmental profiles, these differences collide with the way behavioral standards and social and legal norms

278. See Valentina Della Fina, *Domestic Laws and National Plans or Strategies for the Protection of the Rights of People with Autism: An Appraisal*, in PROTECTING THE RIGHTS OF PEOPLE WITH AUTISM IN THE FIELDS OF EDUCATION AND EMPLOYMENT: INTERNATIONAL, EUROPEAN AND NATIONAL PERSPECTIVES 25, at 25 (Valentina Della Fina & Rachele Cera eds., 2015) (describing the growing prevalence of NDD-related legislation).

279. Perju, *supra* note 277, at 316–35 (explaining the lack of progress).

280. With different combinations and range of constitutionalized grounds of discrimination, all world constitutions protect equality and fight discriminations. This is granted through equal protection clauses (formal equality), substantial equality (also defined as indirect or disparate impact as well as indirect or systemic discrimination), and the duty of accommodation and affirmative actions. See generally SANDRA FREDMAN, *COMPARATIVE STUDY OF ANTI-DISCRIMINATION AND EQUALITY LAWS OF THE US, CANADA, SOUTH AFRICA AND INDIA* (2012). Although the implementation of the idea of equality is an endless legal, political and cultural process, modern constitutions embody provisions limiting states' power to adopt laws discriminating classes of people on the basis of race, gender, religion, nationality, ethnicity, origins, opinions as well as state statutes preventing horizontal discriminations perpetrated by private actors. For further discussion, see RONALD DWORKIN, *SOVEREIGN VIRTUE: THE THEORY AND PRACTICE OF EQUALITY* (2002) (analyzing the theoretical implications of social unequal distribution); ANTONY FLEW, *EQUALITY IN LIBERTY AND JUSTICE* (1989) (discussing the tension between equal outcomes and equal justice); FREDMAN, *supra* note 162; David B. Openheimer, *Sources of United States Equality Law: The View from 10,000 Meters*, 10 ANTI-DISCRIMINATION L. REV. 20 (2010) (analyzing the anti-discrimination Law in the U.S.); O'Regan & Friedman, *supra* note 161.

are designed—the so-called neurotypical environment.²⁸¹ In this context, it is unlikely that state legislations would deliberately discriminate against neurodiverse people. As a result, direct discrimination and violation of equal protection do not seem to be an actual threat, while indirect discrimination appears to be a much more problematic issue. Where neurodiverse traits are concerned, individuals suffer and are often excluded from social and civil citizenship. Substantial equality, through the expansion of education, health care and social services, should be consequentially strengthened.²⁸² Providing services meant to allow neurodiverse people to expand their capacity to operate in social environments is, however, only a one-way solution oriented toward individuals.

A neurodiversity approach goes beyond this strategy. More accurately—by considering the *adaptive* or *maladaptive* nature of human attributes—it suggests operating in a bi-directional way, both toward individuals and social structures.²⁸³ While some NDD cognitive phenotypes are *maladaptive per se* and should be accommodated with the *medical model of disability*, other phenotypes associated with neurodiverse conditions are maladaptive due to social environments structures—the *social model of disability*.²⁸⁴ Oliver Sachs saw this reality at work.

281. Either atypical attributes are underestimated (or not considered) so individuals are equal no matter what diversities they display (anti-classification), or abnormal attributes determine that an individual is different and he should be treated differently (anti-subordination), triggering the risks of segregation and indirect exclusion. See Dana Lee Baker, *Neurodiversity, Neurological Disability and the Public Sector: Notes on the Autism Spectrum*, 21 *DISABILITY & Soc'y* 15, 16 (2006).

282. Michael Ashley Stein & Penelope J.S. Stein, *Beyond Disability Civil Rights*, 58 *HASTINGS L.J.* 1203, 1205 (2007) (advocating a “disability human rights paradigm”); Michael Ashley Stein & Michael E. Waterstone, *Disability, Disparate Impact, and Class Actions*, 56 *DUKE L.J.* 861 (2006) (advocating workplace reforms); Michael Ashley Stein, *Disability Human Rights*, 95 *CAL. L. REV.* 75 (2007) (advocating the notion of disability rights as an individual’s human rights); Michael Ashley Stein, *Same Struggle, Different Difference: ADA Accommodations as Antidiscrimination*, 153 *U. PA. L. REV.* 579 (2004) (advocating use of ADA accommodations as antidiscrimination measures); Michael Ashley Stein, *The Law and Economics of Disability Accommodations*, 53 *DUKE L.J.* 79 (2003) (measuring disability accommodations).

283. Physical, biological, behavioral or neurocognitive. See Crespi, *supra* note 12, at 6 (describing various phenotypes of autism).

284. See BAKER, *supra* note 3, at 7 (“Conception of disability is socially relative and, therefore, at least somewhat unique to time and place

Observing the *La Crete* community in the United States, where there was a high prevalence of people affected by Tourette Syndrome, Sachs affirms that: “[t]he La Crete visit was extraordinary in many ways and broadened my sense of the range of Tourette’s syndrome and of people’s reactions to it. It also gave me a sense of how strongly Tourette’s, though neurological in origin, could be modified by context and culture”²⁸⁵

Similarly, neurodiversity de-emphasizes the binary judgment of normal-abnormal and shifts the focus on an analysis of the functional interaction between human traits and social environments. This idea, cyclically discussed in psychiatry as well as in disability studies, assumes that social conventions consider only limited ways of performing cognitive tasks typical. It implies that only selected ways of learning, reasoning, socializing, perceiving *stimuli*, and processing emotions give people competitive benefits in schools, jobs, and social marketplaces. As a result, certain expressions of intelligence are labeled and stigmatized, precluding people from having access to social capital.²⁸⁶ Due to those mechanisms, potentially adaptive traits are misconceived, downgraded, or lost.²⁸⁷

Thus, the neurodiversity paradigm proposes being more inclusive of potentially valuable cognitive phenotypes. In contemporary complex societies, a new Theory of Justice parameter should be considered: the way through which cultures and legal systems perceive and select *valuable* cognitive capacities. It could be defined as *brain equality*. Traits are the result of unpredictable combinations of weaknesses and strengths, compensation and expansion of brain networks, speed and slowness in *stimuli* processing, neurophysiology, traumas, life ex-

[U]nderstandings of disability are described as existing along a continuum from purely essentialist to purely constructivist.”).

285. OLIVER SACKS, *ON THE MOVE: A LIFE* 262 (2015).

286. See BAKER, *supra* note 3, at 216 (“For much of human history, the prevailing social context of the politics of neurodiversity and neurological difference has been the unquestioned hegemony of neurotypicality. Minds falling outside the established norm were at best tolerated as charmingly quirky, but were generally identified only as potential threats to sane society and human decency.”).

287. See Pamela Fisher, *Experiential Knowledge Challenges ‘Normality’ and Individualized Citizenship: Towards ‘Another Way of Being,’* 22 *DISABILITY & SOC’Y* 283 (2007) (discussing society’s failure to value neurodiversity).

periences, education, and so on.²⁸⁸ How these traits perform depend on their interaction with modifiable social environments. By changing these environments, certain traits may become more adaptive or vice versa.

In conclusion, the notion of equality rooted in neurodiversity turns into an idea of *fair bilateral endeavor*. People with different NDD profiles, with adequate support, accept what it takes to be able to operate in society. As scientific research, clinical practice and biographical accounts demonstrate, divergent neuro-conditions differ enormously from one another. Every individual and family has to overcome extremely different hurdles. It is a challenge to translate this complexity into law. However, plaintiffs' claims for more educational services prove the commitment and the desire to move toward society. On the basis of the same endeavor—by reconsidering bias and misconceptions—society can behave in a bidirectional dynamic of expanding inclusion. Interpreted as *bilateral commitment* to move toward each other, the concept of neurodiversity contributes to deepening the debate around one of the core missions of modern constitutionalism, that is, establishing a societal *sense of we* balancing uniformity and diversity.²⁸⁹ The lack of cultural, political, and legal recognition of the phenomenology of *human intelligence pluralism* is detrimental not only for individuals who experience rejection, but also for societies and communities that ultimately lose tremendous human potential.

288. See generally SAPOLSKY, *supra* note 53.

289. See Putnam, *supra* note 269 (discussing the value of social solidarity).

