

PSY 1611:
Developmental Disabilities:
Neurobiology, Treatment, and Implications for Health & Education Policy

Instructor:

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Contact Information:

The best way to reach me is via e-mail, which I check several times each day between 9-5pm. I will not check emails on weekends. I will respond to your email within 36 hours, excluding weekends. If you would like to meet, please email me a few days in advance to schedule an appointment. Appointments will be either in William James Hall on Thursdays or during the week in my office at Boston Children's Hospital. Please don't hesitate to make an appointment. You are always very welcome.

Nadine Gaab

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Course time: Thursday 1:00pm – 3:00pm

Course site: <http://canvas.harvard.edu/courses/39786>

Office Hours and Location: Thursdays, 9-10am; WJH office 1380 and by appointment

Course location: William James Hall B1

TF: Joseph Sanfilippo – joseph.sanfilippo@childrens.harvard.edu

Overview of Course

Developmental disabilities are highly prevalent and have a substantial impact on the health and educational outcomes of affected children and their families. This course will provide a comprehensive overview of the most common developmental disabilities, including autism, developmental dyslexia, dyscalculia, attention-deficit hyperactivity disorder, and others. Students will review etiological models from different theoretical perspectives with a primary focus on neurodevelopmental trajectories, cognitive variables, and environmental factors. We will further discuss diagnostic criteria, symptomology, and key interventional strategies, as well as comorbidities and protective factors. This will be embedded into discussions pertaining to the intersection between typical and atypical neurodevelopment and health/education policy.

Objectives: At the end of this course students will understand:

- The symptomology of various developmental disorders
- The different etiologies of various developmental disorders
- The neurobiology of various developmental disorders

Students will further have an overview about:

- Clinical management strategies and common interventions for various developmental disorders
- Common health and education policies for various developmental disorders and the challenges related to policy-making

Expectations: Students will...

- attend class
- do the readings assigned
- engage in class discussions
- fulfill all course requirements by the assigned due dates
- abide by Harvard's Honor Code

Assignments:

- Reading assignments (students should have read the assigned readings for the particular day before entering the class that day)
- Reaction papers (3, 1-2 page papers; 20% of grade)
- Participation (10% of grade)
- Take home exams (2 exams; 50% of grade)
- Group presentation (20% of grade)

Attendance:

As noted elsewhere, participation is an essential aspect of this course. Unexcused late arrival, early departure, and/or absence from class will be considered lapses in participation. If you absolutely must miss a class, you can write a 3-page paper discussing the insights that you gained from the readings. If you miss more than one class you will not be able to fully make up the impact on your grade. Please email me before class if you will be missing that class.

Confidentiality

1. You should not share the personal experiences revealed by other members of this class to anyone outside of class. What is discussed here is confidential.

2. Although sharing personal experiences may often be relevant to this course, you are under no pressure to share personal experiences if you do not want to.

Potential overlap

I am teaching EDU H126: Typical and Atypical Neurodevelopment at the Harvard Graduate School of Education in the fall. Some of the content and readings of that course and PSY1611 may be overlapping. Despite the overlap, the courses are distinctly different.

Course Requirements

Reaction papers (20% of total course grade). Students are required to submit brief reaction papers that articulate the student's own perspective on the issues raised in the lecture, discussed in the readings, or in class discussions themselves (papers must be submitted online via Canvas). Such reaction pieces might, for example, be to critique a scientific paper or to propose a new policy, intervention technique, etc. A total of 3 such reaction papers must be written throughout the semester on the lectures of your choice. Reaction papers must be uploaded by 12:00 p.m. (noon) on Thursday after the lecture they are intended for (e.g. if you plan to write about the lecture on autism spectrum disorder on April 5th then your paper is due April 12th at 12:00 p.m, noon.). All reaction papers are scored out of 3 points:

- Content: Reflects your own insights, observations, or comments about the material presented in lecture or in the readings (**2 point**)
- Length: Each paper should be **1-2 pages**, double-spaced, no fewer than **300 words**, no greater than **500 words**, **APA format** for references (**0.5 points**)
- On time: Submitted on Canvas by **Thursday at 12 pm** (**0.5 points**)

If students score fewer than 3 points on a reaction paper, they can write a new one in its place during a different week. Please make yourself familiar with APA citation format BEFORE class starts. This will not be reviewed during lecture. You can find a helpful link here: <https://owl.english.purdue.edu/owl/resource/560/1/>

Take home exams (50% of total course grade). Students will be required to write two take home exams, the first based on the first half of the course and the second based on the second half of the course (each worth 25% of your final grade). It is expected that these will require 7-9 pages of writing. The two exams are designed to evaluate students' knowledge of the material discussed in lectures and that contained in the readings. The first exam will be released via Canvas on February 22nd before 10pm, and will evaluate your knowledge of the material covered in class through to that day. This exam will be due by 11:59pm on March 9th. The second exam will be administered on April 19th before 10 pm, and will be due on May 4th at 11:59 pm. You can use course readings and lecture content for this exam. No outside research or use of the internet is allowed for this exam.

Group presentation (20% of total course grade). You will be assigned to a team. Together with your teammates, you will develop a policy action plan for one or more developmental disabilities. The action plan should clearly outline a problem in current health and/or public policy and should offer a solution to the problem. Group presentations will be between 10-20 minutes depending on course enrollment.

Grading: Grading of reaction papers and exams will be based on the logic and clarity of arguments, evidence of more than superficial understanding of the material, and the degree to which material from the course is incorporated and integrated. Writing that is thoughtful and reflective, demonstrating a deep understanding of the topics and issues discussed, and that is integrative will receive an “A.” Writing reflecting thoughtful yet less thoroughly researched content but that still reflects accurate thinking about the topic at hand will receive a “B.” Writing reflecting vague or undeveloped responses, poor understanding of course concepts and a failure to integrate materials will receive a “C.” Thoughtful, cogent responses are encouraged whether or not they agree with the viewpoint of the instructors or the authors of the readings. *[Please double- space your work and use 1-inch margins (all around) with 12 point serif typeface (e.g., Times New Roman).] All citations need to be formatted in APA style.*

Collaboration: Reaction papers and exams are to be completed independently, without discussion with other students or individuals within or outside the class. *You may collaborate with the other members of your group on the group presentation.*

Assignments and Late Policy: The assignments are all required, and are described above. The assignments must be submitted on time to receive full credit. Late reaction papers will not be considered. Exams and final papers submitted late will be penalized by one grade step per day late (e.g., an A quality assignment turned in within 24 hours after the due date would receive an A-). If you have an excusable reason to submit an assignment late, please contact me at least one day in advance of the due date, to the extent possible. Medical reasons will require a note from HUHS/medical doctor, other excusable reasons require a note from the student’s resident dean confirming the reason.

If you do not have an excusable reason, you will not receive credit for the assignment.

Computers and Cell phones: The use of computers in class is allowed with the restriction that they are used for note-taking and class-related activities only. The use of cell phones is prohibited during class. Please silence cell phones before class begins.

Ethical Considerations/Academic Integrity: In all of these assignments (above), students will be expected to cite fully any source, including readings on this syllabus, and to indicate source page numbers if anyone’s words are quoted or closely paraphrased. The guidelines for what distinguishes a legitimate paraphrase from plagiarism are remarkably strict – it is worth studying them carefully. Overreliance on the words of others and failure to cite sources is plagiarism, which is a serious academic offense. In fairness to the majority of students who take their academic career seriously, no form of academic dishonesty will be tolerated. Academic dishonesty includes, but is not limited to, looking on others’ tests or letting them look on yours during a test, copying or giving others test answers, and plagiarism. Plagiarism includes copying the words of another in any of your written products (including tests, presentations, and class papers), copying even short phrases from written work that you are using as a reference (even if you cite it properly), handing in work that you have handed in for another class, handing in papers you have gotten from the internet or from other students, etc. Moreover, even if unintentional, failure to cite, reference, or generally give credit to the work of others is still considered plagiarism. Therefore, it is every student’s responsibility to ensure that they have cited the work of others properly. Any suspected cases of plagiarism will be submitted

to the Honor Council for review, and disciplinary action will be taken if cheating or plagiarism is deemed to have occurred.

Additionally, it is a contravention of Harvard's Honor Code to post course materials (including, but not limited to, syllabi, lecture slides, papers, exams, and problem-set solutions) to for-profit organizations and websites such as *Course Hero*.

- For more information on how to cite others' work, please consult the Harvard Guide to Using Sources: <http://usingsources.fas.harvard.edu/icb/icb.do>
- For more information on academic integrity, please consult the FAS Handbook for Students <https://handbook.fas.harvard.edu/book/academic-integrity>

Basis for evaluation/Grading Overview:

Assigned letter grade

A	Outstanding, exceptional work
A-	Excellent work
B+	Very good work
B	Good work
B- or lower	Work is flawed

Accessibility:

Any student needing academic adjustments or accommodations is requested to present their letter from the Accessible Education Office (AEO) and speak with me by the end of the second week of the term (February 2nd, 2018). Failure to do so may result in my inability to respond in a timely manner. All discussions will remain confidential, although AEO may be consulted to discuss appropriate implementation.

Thank you for reading through the syllabus carefully. If you made it until here, please email me a picture of a sleeping sloth no later than 10:00 a.m. on 2/1/2018. You can find my email address on page 1. You will receive extra credit points added to your participation in class discussions. Please do not tell any current classmates or possible future students about this, please let them discover it on their own. This ensures it remains a reward for those who diligently read through the syllabus.

Weekly Topics and Required Readings

Required Textbook: There is no required textbook. However, many readings are chapters in this book, which is available online through Harvard Library:

Thapar, A., Pine, D.S., Leckman, J.F., Scott, S., Snowling, M.J., & Taylor, E.A. (Eds.) (2015). *Rutter's Child and Adolescent Psychiatry. 6th Edition*. Hoboken, NJ: Wiley-Blackwell.

Date	Topic and Readings	Assignment
January 25 th	Introduction to the course <i>Learning objective 1: to understand the goals, expectations, and policies of the course</i> Suggested reading: Solomon, A. (2013). Chapter 1: Son. In <i>Far From the Tree</i> . New York, NY: Scribner & Sons.	No Reaction Paper Opportunity this week

	<i>(please note: I uploaded the pdf of this reading via Canvas on January 9th)</i>	
February 1 st	<p>Introduction to brain development & etiologies of developmental disabilities</p> <p>Introduction to Developmental disabilities: classifications, definitions, and research methods</p> <p><i>Learning objective 1: to understand the stages of brain development from conception to early childhood and the known etiologies of developmental disabilities</i></p> <p><i>Learning objective 2: to understand the methods used to investigate developmental disabilities</i></p> <p><i>Learning objective 3: to understand how developmental disabilities are classified and defined, and to understand the use of appropriate terminology</i></p> <p>Stiles, J., & Jernigan, T. L. (2010). The Basics of Brain Development. <i>Neuropsychology Review</i>, 20(4), 327-348. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1007/s11065-010-9148-4?nosfx=y</p> <p>Rutter, M & Pine, D. (2015). Chapter 2: Diagnostic Formulations and Classification. In <i>Rutter's Child and Adolescent Psychiatry, 6th Edition</i>. Hoboken, NJ: Wiley-Blackwell. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1002/9781118381953?nosfx=y</p> <p>Thapar, A. & Rutter, M. (2015). Chapter 3: Neurodevelopmental Disorders. In <i>Rutter's Child and Adolescent Psychiatry, 6th Edition</i>. Hoboken, NJ: Wiley-Blackwell. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1002/9781118381953?nosfx=y</p> <p>Gazzaniga, M., Ivry, R. B., & Mangun, G. R. (2013). Methods of Cognitive Neuroscience. In <i>Cognitive Neuroscience: The Biology of the Mind, 4th Edition</i> (pp. 71-117). New York NY: Norton. <i>(please note: I uploaded the pdf of this reading via Canvas on January 9th)</i></p>	<p>Reaction Paper Opportunity (1 of 3)</p>
February 8 th	Language-based learning disabilities (Dyslexia, Dysgraphia)	Reaction paper

	<p><u>Learning objective 1:</u> to differentiate the symptomologies of the three language based learning disabilities (Reading, Spelling, Writing)</p> <p><u>Learning objective 2:</u> to understand known etiologies and clinical and educational management for language based learning disabilities and to understand the experiences of those who have developmental disabilities</p> <p>Ozernov-Palchik, O., Yu, X., Wang, Y., & Gaab, N. (2016). Lessons to be learned: How a comprehensive neurobiological framework of atypical reading development can inform educational practice. <i>Current Opinion in Behavioral Sciences</i>, 10, 45-58. http://thegaablab.com/imgs/Ozernov_Palchik_2016_ResearchGate.pdf</p> <p>Snowling, M. & Hulme, C. (2015). Chapter 53: Disorders of Reading, Mathematical, and Motor Development. In <i>Rutter's Child and Adolescent Psychiatry, 6th Edition</i>. Hoboken, NJ: Wiley-Blackwell. (only until page 708). http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1002/9781118381953?nosfx=y</p> <p>Fletcher, J.M. (2009). Dyslexia: The evolution of a scientific concept. <i>Journal of the International Neuropsychological Society</i>, 15(4), 501-508. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1017/S1355617709090900?nosfx=y</p> <p>Clarke P.J., Snowling M. J., Truelove E., & Hulme C. (2010). Ameliorating children's reading-comprehension difficulties: A randomized controlled trial. <i>Psychological Science</i>, 21, 1106–1116. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1177/0956797610375449?nosfx=y</p>	<p>Opportunity (1 of 3)</p>
February 15 th	<p>TODAY: Visit of Landmark School Student Advocates</p> <p>https://www.landmarkschool.org/2017-2018-student-advocates</p>	<p>Reaction paper Opportunity (1 of 3)</p>
February 22nd	<p>Speech and Language disorders (Childhood apraxia of speech, Specific language impairments, Pragmatic language impairments)</p> <p>Susan Lambrecht Smith, PhD., CCC-SLP Assistant Professor, Department of Communication Sciences and Disorders; MGH Institute of Health Professions</p> <p><u>Learning objective 1:</u> to understand the different types of speech and</p>	<p>Reaction paper Opportunity (1 of 3)</p>

	<p><i>language disorders</i></p> <p><u>Learning objective 2: to understand known etiologies and clinical management for speech and language disorders</u></p> <p>Rosenbaum, S., & Simon, P. (2016). Chapter 2: Childhood Speech and Language Disorders in the General U.S. Population. In <i>Speech and Language Disorders in Children: Implications for the Social Security Administration's Supplemental Security Income Program</i>. Washington, D.C.: The National Academies Press. (NOTE: This reading was uploaded via Canvas on January 9th)</p> <p>Rosenbaum, S., & Simon, P. (2016). Chapter 3: Treatment and Persistence of Speech and Language Disorders. In <i>Speech and Language Disorders in Children: Implications for the Social Security Administration's Supplemental Security Income Program</i>. Washington, D.C.: The National Academies Press. (NOTE: This reading was uploaded via Canvas on January 9th)</p> <p>Wittke, K. & Spaulding, T.J. (2017). Which preschool children with specific language impairment receive language intervention? <i>Language, Speech, and Hearing Services in Schools</i>, 29 November 2017, 1-13. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1044/2017_LSHSS-17-0024?nosfx=y</p> <p>Parladé, M.V. & Iverson, J.M. (2015). The development of coordinated communication in infants at heightened risk for autism spectrum disorder. <i>The Journal of Autism and Developmental Disorders</i>, 45(7), 2218-2234. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1007/s10803-015-2391-z?nosfx=y</p>	
March 1st	<p>Interventions for Speech and Language disorders and language-based learning disabilities & Dyslexia simulation</p> <p>TODAY: Demonstrations by interventionists and Dyslexia simulation</p> <p>Eileen Catizone, MA (Reading Coach in Arlington Public Schools) Melisa Orkin, PhD (Center for Reading and Language Research at Tufts University)</p> <p><u>Learning objective 1: to get an overview about the common interventions used in clinical management for speech and language disorders and language-based learning disabilities</u></p>	<p>Reaction paper Opportunity (1 of 3)</p>

	<p><i>Learning objective 2: to understand the importance of evidence-based interventions in clinical management and school settings</i></p> <p>Kraemer, H.C. (2015). Chapter 14: Evaluating Interventions. In <i>Rutter's Child and Adolescent Psychiatry, 6th Edition</i>. Hoboken, NJ: Wiley-Blackwell. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1002/9781118381953?nosfx=y</p> <p>Hulme, C. & Melby-Lervag. (2015). Chapter 41: Educational Interventions for Children's Learning Difficulties. In <i>Rutter's Child and Adolescent Psychiatry, 6th Edition</i>. Hoboken, NJ: Wiley-Blackwell. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1002/9781118381953?nosfx=y</p>	
March 8th	<p>Math disabilities (Dyscalculia)</p> <p><i>Learning objective 1: to understand the broad symptomology of math disabilities</i></p> <p><i>Learning objective 2: to understand known etiologies and clinical/educational management for math disabilities</i></p> <p>Price, G. R. & Ansari, D. (2013). Developmental dyscalculia. <i>Handbook of Clinical Neurology</i>, 111, 241-4. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1016/B978-0-444-52891-9.00025-7?nosfx=y</p> <p>Fias, W., Menon, V., & Szucs, D. (2013). Multiple components of developmental dyscalculia. <i>Trends in Neuroscience and Education</i>, 2(2), 43-47. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1016/j.tine.2013.06.006?nosfx=y</p>	<p>Reaction paper Opportunity (1 of 3)</p>
<p>Midterm exam released on February 22nd, 10:00 p.m. Assignment due on March 9th, 11:59 pm.</p>		
March 15 th	SPRING BREAK	
March 22 nd	Attention-deficit/hyperactivity disorder (ADHD)	Reaction

	<p>Guest lecturer: Jason Fogler, PhD; Staff Psychologist; Co-Director of ADHD Services; Boston Children's Hospital</p> <p><i>Learning objective 1: to understand the symptomology of ADHD and the current debate on diagnostic criteria of ADHD</i></p> <p><i>Learning objective 2: to understand known etiologies and clinical and educational management for ADHD</i></p> <p>Faraone, S.V., Asherson, P., Banaschewski, T., Buitelaar, J.K., Ramos-Quiroga, J.A., Rohde, L.A. ... Franke, B. (2015). Attention-deficit/hyperactivity disorder. <i>Nature Reviews Disease Primers</i>, 15020. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1038/nrdp.2015.20?nosfx=y</p> <p>Harrison, J.R., Bunford, N., Evans, S.W., & Sarno Owens, J. (2013). Educational Accommodations for Students With Behavioral Challenges: A Systematic Review of the Literature. <i>Review of Educational Research</i>, 83(4), 551-597. https://doi-org.ezp-prod1.hul.harvard.edu/10.3102/0034654313497517</p> <p>Evans, S.W., Sarno Owens, J., & Bunford, N. (2013). Evidence-Based Psychosocial Treatments for Children and Adolescents with Attention-Deficit/Hyperactivity Disorder. <i>Journal of Clinical Child & Adolescent Psychology</i>, 43(4), 527-551. https://doi-org.ezp-prod1.hul.harvard.edu/10.1080/15374416.2013.850700</p> <p>Chan, E., Fogler, J.M., & Hammerness, P.G. (2016). Treatment of Attention-Deficit/Hyperactivity Disorder in Adolescents: A Systematic Review. <i>Journal of the American Medical Association</i>, 315(18), 1997-2008. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1001/jama.2016.5453?nosfx=y</p>	<p>paper Opportunity (1 of 3)</p>
March 29 th	<p>Learning differences caused by environmental 'insult': Early Adversity, Poverty</p> <p>Guest lecture: Prof. Charles Nelson, Boston Children's Hospital and Harvard Medical School</p> <p><i>Learning objective 1: to understand the influence of adversity and</i></p>	<p>Reaction paper Opportunity (1 of 3)</p>

	<p><i>poverty on brain development</i></p> <p><u>Learning objective 2: to understand clinical and educational management for children affected by early childhood adversity in utero.</u></p> <p>Jenkins, J., Madigan, S., & Arsenau, L. (2015). Chapter 26: Psychosocial adversity. In <i>Rutter's Child and Adolescent Psychiatry, 6th Edition</i>. Hoboken, NJ: Wiley-Blackwell. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1002/9781118381953?nosfx=y</p> <p>Nelson C.A., Fox, N.A., & Zeanah, C.H. (2013). Anguish of the abandoned child. <i>Scientific American</i>, 308(4), 62-67. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1038/scientificamerican0413-62?nosfx=y</p> <p>Shonkoff, J. P. & Gardner, A. (2012). The Lifelong Effects of Early Childhood Adversity and Toxic Stress. <i>Pediatrics</i>, 129(1), e232-246. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1542/peds.2011-2663?nosfx=y</p> <p>Ostrander, M. (2015, June 4). What poverty does to the young brain. <i>The New Yorker</i>. https://www.newyorker.com/tech/elements/what-poverty-does-to-the-young-brain</p>	
April 5 th	<p>Autism Spectrum Disorder (ASD) Guest lecture: Susan Faja, PhD (clinical psychologist at Boston Children's Hospital)</p> <p><u>Learning objective 1: to understand symptomologies of ASD</u></p> <p><u>Learning objective 2: to understand known etiologies and clinical management for ASD</u></p> <p>Faja, S., & Dawson, G. (2017). Autism spectrum disorders. In T. P. Beauchaine & S. P. Hinshaw (Eds.), <i>Child and Adolescent Psychopathology, 3rd Edition</i>. Hoboken, NJ: John Wiley & Sons, Inc.</p> <p>Le Couteur, A., & Szatmari, P. (2015). Chapter 51: Autism spectrum disorder. In <i>Rutter's Child and Adolescent Psychiatry, 6th Edition</i>. Hoboken, NJ: Wiley-Blackwell.</p>	<p>Reaction paper Opportunity (1 of 3)</p>

	<p>http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1002/9781118381953?nosfx=y</p> <p>Mandell, D., Barry, C., Marcus, S., Xie, M., Shea, K., Mullan, K., & Epstein, A. (2016). Effects of Autism Spectrum Disorder Insurance Mandates on the Treated Prevalence of Autism Spectrum Disorder. <i>JAMA Pediatrics</i>, 170(9), 887-893.</p> <p>Buescher, A., Cidav, Z., Knapp, M., & Mandell, D. (2014). Costs of Autism Spectrum Disorders in the United Kingdom and the United States. <i>JAMA Pediatrics</i>, 168(8): 721-728.</p>	
April 12th	<p>Genetic/chromosomal disorders (22q deletion syndrome/Fragile X syndrome) Guest lecture: Paula Goldenberg, MD; Clinical Director of Medical Genetics; Massachusetts General Hospital</p> <p><i>Learning objective 1: to differentiate the symptomologies of Tourette Syndrome and Fragile X syndrome.</i></p> <p><i>Learning objective 2: to understand known the genetic pathways implicated and the clinical management for 22q deletion syndrome and Fragile X syndrome.</i></p> <p>McDonald-McGinn, D., Sullivan, K., Marino, B., Philip, N., Swillen, A., Vorstman, J., . . . & Bassett, A. (2015). 22q11.2 deletion syndrome. <i>Nature Reviews Disease Primers</i>, 1, 15071. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1038/nrdp.2015.71?nosfx=y</p> <p>Bales, A., Zaleski, C., & McPherson, E. (2010). Newborn screening programs: Should 22q11 deletion syndrome be added? <i>Genetics in Medicine</i>, 12(3), 135-144. http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1097/GIM.0b013e3181cdeb9a?nosfx=y</p> <p>Goldenberg, P. (2018). 22q11.2 Deletion Syndrome. <i>The SAGE Encyclopedia of Intellectual and Developmental Disorders</i> Thousand Oaks, CA: Sage Publications, Inc. (PDF to be provided on Canvas)</p> <p>Rajaratnam, A., Shergill, J., Salcedo-Arellano, M., Saldarriaga, W., Duan, X., & Hagerman, R. (2017). Fragile X syndrome and fragile X-associated disorders. <i>F1000Research</i>, 6, 2112.</p>	<p>Reaction paper Opportunity (1 of 3)</p>

	<p>http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.12688/f1000research.11885.1?nosfx=y</p> <p>Bailey, D., Wheeler, A., Berry-Kravis, E., Hagerman, R., Tassone, F., Powell, Powell, C., . . . & Sideris, John. (2015). Maternal consequences of the detection of fragile X carriers in newborn screening. <i>Pediatrics</i>, 136(2), E433-40.</p> <p>http://ezp-prod1.hul.harvard.edu/login?url=http://dx.doi.org/10.1542/peds.2015-0414?nosfx=y</p>	
April 19th	<p>Policy exercise/US law, discussion and summary</p> <p>Group presentations</p> <p><i><u>Learning objective 1:</u> To get an overview about basic disability laws in the US and current educational policies related to learning disabilities</i></p> <p><i><u>Learning objective 2:</u> to develop a set of new policy proposals for learning disabilities in the US</i></p> <p>Solomon, A. (2013). Chapter 1: Son. In <i>Far From the Tree</i>. New York, NY: Scribner & Sons.</p> <p>Mittnacht, M., & Robison, R.J. (2015). Parent Guide to Special Education. <i>Federation for Children with Special Needs and The Massachusetts Department of Education</i>. Retrieved from http://fcsn.org/parents_guide/pgenglish.pdf.</p>	<p>Reaction paper Opportunity (1 of 3)</p>
<p>Final exam released on April 19th, 10:00 p.m. The Final Exam is due May 4th, 11:59 pm.</p>		

Please note: If a link to a reading is not working in this syllabus, then please obtain the article/chapter directly from the Harvard Library online. If you do not know how to do this, please contact me **48 hours prior** the lecture for which the reading is due.