

**BIOGRAPHICAL SKETCH**

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NAME: Daniel P. Dickstein, M.D.

eRA COMMONS USER NAME (credential, e.g., agency login): DICKSTEIND

POSITION TITLE: Hall-Mercer Chair in Psychiatry, McLean Hospital; Professor of Psychiatry

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Brown University, Providence, RI	AB	05/1993	History & Judaic Studies (Double Major)
Brown University School of Medicine, Providence, RI	MD	05/1997	
Brown University/RI Hospital/Hasbro Children's Hospital, Providence, RI	Resident	06/2002	Combined pediatrics, psychiatry, & child/adolescent psychiatry (aka "triple board")
National Institute of Mental Health (NIMH) Division of Intramural Training Program (DIRP), Bethesda, MD	Postdoctoral Fellow	06/2007	NIMH DIRP Post-doctoral Fellow in Pediatric Affective Neuroscience/Neuroimaging

**A. PERSONAL STATEMENT**

I am a clinician/scientist uniquely trained and board-certified in the three fields of pediatrics, adult psychiatry, and child/adolescent psychiatry. My research expertise (detailed in section C contributions to science) is the use of imaging and behavioral tasks to advance our understanding of the mechanisms of psychiatric disorders in children, teens, and young adults—including in bipolar disorder, ADHD, suicide and non-suicidal self-injury.

My **PediMIND research program**—which is moving to McLean Hospital/Harvard Med School in Summer 2020—uses (a) magnetic resonance imaging [MRI] brain scans (structural MRI, functional MRI, rs-fMRI, and diffusion tensor imaging (DTI)); (b) special computer tasks/games; (c) detailed semi-structured psychiatric interviews; and (d) genetic moderators.

I was the first physician selected to receive an NIMH BRAINS R01 (**Bio-behavioral Research Award for Innovative New Scientist**) award—in the first group of NIMH BRAINS R01 recipients—aimed at differentiating those with full-blown type I BD (clear-cut episodes of mania) vs. those with sub-syndromal BD “not otherwise specified” (who have BD symptoms but lack clear-cut episodes **R01MH087513**). I am also the PI of the first NIMH grant to develop a novel, brain-based treatment for pediatric BD using computer-assisted cognitive remediation for reversal learning deficits (**R21/R33MH096850**).

Mentorship and training are also very important parts of my career. I have mentored numerous pre-doctoral research assistants (~30/past 15 years), and since starting my PediMIND Program and obtaining R01 funding have begun mentoring post-doctoral trainees. Of these post-doc mentees, I have served as a mentor or co-mentor five K23/K01 recipients. I am also PI of **K24MH110401**—a mid-career development grant focused on designing and testing a mentorship program for clinicians to gain more comfort understanding and (for some) engaging in neuroimaging research. I have been recognized for my mentorship, including being selected as the 2006 NIMH Division of Intramural Research Programs (NIMH-DIRP) mentor of the year award and receiving the 2015 Department of Psychiatry Educational Excellence Award.

## B. POSITIONS AND HONORS

### Positions and Employment

2002 - 2006	Clinical Research Fellow, National Institute of Mental Health Division of Intramural Research Programs (NIMH-DIRP), Pediatric & Developmental Neuropsychiatry Branch, Bethesda MD
2006 - 2007	Assistant Clinical Investigator, National Institute of Mental Health Division of Intramural Research Programs (NIMH-DIRP), Bethesda MD
2007 - 2020	Director, PediMIND Program, Bradley Hospital, East Providence RI
2007 - 2011	Assistant Professor (Research Scholar Track), Department of Psychiatry & Human Behavior/Division of Child Psychiatry, Alpert Medical School, Providence RI
2019-2020	Professor (Research Scholar Track), Department of Psychiatry & Human Behavior/Division of Child Psychiatry (Primary 2011), Dept. of Pediatrics (Secondary 2011), Alpert Medical School, Providence RI
2020-Present	Director of Child/Adolescent Psychiatry Research Director of PediMIND Program Hall-Mercer Chair in Psychiatry McLean Hospital, Harvard Medical School, Belmont MA

### Other Experience and Professional Memberships

1997 -	Fellow (FAAP), American Academy of Pediatrics (AAP)
2016 -	Distinguished Fellow, American Academy of Child and Adolescent Psychiatry (AACAP)
2001 -	Diplomate General Pediatrics, American Board of Pediatrics (ABP)
2003 -	Diplomate General Psychiatry, American Board of Psychiatry and Neurology (ABPN)
2004-	Diplomate Child & Adolescent Psychiatry, American Board of Psychiatry and Neurology
2016 -	Full Member, American College of Neuropsychopharmacology (ACNP)
2012- 2017	Editorial Board, J Am Academy of Child and Adolescent Psychiatry (JAACAP)
2016-	Consulting Editor, J Clinical Child and Adolescent Psychology
2017-	Board of Consulting Editors, Psychological Assessment
2017-	Co-Chair, Research Committee, Am Acad Child Adolesc Psychiatry (AACAP)

### Honors

1999	Outstanding Resident, American Academy of Child and Adolescent Psychiatry (AACAP)
2000	Fellow in Community Psychiatry, American Psychiatric Association (APA)
2003	Fellows' Award for Research Excellence (FARE), National Institute of Mental Health Division of Intramural Research Programs (NIMH-DIRP)
2004	Richard J. Wyatt Memorial Fellowship Training Award for Outstanding Scientific Accomplishment, National Institute of Mental Health Division of Intramural Research Programs (NIMH-DIRP)
2005	Young Investigator Memorial Travel Award, American College of Neuropsychopharmacology (ACNP)
2006	Mentor of the Year Award, National Institute of Mental Health Division of Intramural Research Programs (NIMH-DIRP)
2009	Bio-behavioral Research Award for Innovative New Scientist (NIMH BRAINS), National Institute of Mental Health (NIMH)
2010	NARSAD Gerald R. Klerman, M.D. Award for Outstanding Clinical Research Achievement
2015	Brown Dept Psychiatry Human Behavior Education Teaching Excellence Award

## C. CONTRIBUTIONS TO SCIENCE (publications selected from >90 published/in-press)

My four most significant contributions to science include:

### 1) Greater understanding of the pathophysiology and phenomenology of irritability in children:

Irritability is the most common reason children are brought for outpatient and ER psychiatric care. Irritability in

childhood is associated with substantial subsequent impairment in adulthood. Initially under the mentorship of Ellen Leibenluft, M.D. and Danny Pine, M.D. while I was a post-doctoral fellow at NIMH, and now in collaboration with both as an independent investigator, I have advanced what is known about the pathophysiology and phenomenology of irritability in children, including those with distinct episodes of euphoria and irritability (“narrow phenotype bipolar disorder” [BD]), those with chronic irritability (“severe mood dysregulation” [SMD] which was the basis for the new DSM-5 “Disruptive Mood Dysregulation Disorder” [DMDD]), ADHD, and generalized anxiety disorder.

Examples of this work include: (a) the first whole-brain structural MRI study of BD youths (Dickstein DP et al. Arch Gen Psych 2005); (b) the first randomized controlled trial of SMD youth (which also included neuroimaging) Dickstein DP et al. J Child Adolesc Psychopharm 2009; (c) the first resting state functional connectivity study of BD youths Dickstein DP et al. Biol Psych 2010; (d) the first developmental meta-analysis of fMRI studies in BD children and adults Wegbreit et al. JAMA Psychiatry 2014.

- a) **Dickstein DP**, Milham MP, Nugent AC, Drevets WC, Charney DS, Pine DS, Leibenluft E. Frontotemporal alterations in pediatric bipolar disorder: results of a voxel-based morphometry study. Arch Gen Psychiatry. 2005 Jul;62(7):734-41. PMID: [15997014](#).
- b) **Dickstein DP**, Towbin KE, Van Der Veen JW, Rich BA, Brotman MA, Knopf L, Onelio L, Pine DS, Leibenluft E. Randomized double-blind placebo-controlled trial of lithium in youths with severe mood dysregulation. J Child Adolesc Psychopharmacol. 2009 Feb;19(1):61-73. PubMed PMID: [19232024](#). PMCID: [PMC2692186](#).
- c) **Dickstein DP**, Gorrostieta C, Ombao H, Goldberg LD, Brazel AC, Gable CJ, Kelly C, Gee DG, Zuo XN, Castellanos FX, Milham MP. Fronto-temporal spontaneous resting state functional connectivity in pediatric bipolar disorder. Biol Psychiatry. 2010 Nov 1;68(9):839-46. PMID: [20739018](#); PMCID: [PMC2955843](#).
- d) Wegbreit E, Cushman GK, Puzia ME, Weissman AB, Kim KL, Laird AR, **Dickstein DP**. Developmental meta-analyses of the functional neural correlates of bipolar disorder. JAMA Psychiatry. 2014 Aug;71(8):926-35. PMID: [25100166](#). PMCID: [PMC4545589](#).

**2) Brain/behavior alterations underlying cognitive flexibility in BD youths:** Cognitive flexibility refers to behavioral adaptation in response to reward and punishment. In a line of research, we have shown that BD youths have specific behavioral and brain alterations underlying cognitive flexibility including (a) the first study of neuropsychological performance in BD youths (Dickstein DP et al. Biol Psych 2004); (b) first study comparing cognitive flexibility in BD vs. SMD youths; (c) the first fMRI study of reversal learning in BD youths (Dickstein DP et al. Bipolar Disord 2010); and (d) first study examining the specificity of these reversal learning deficits vs. SMD youths with chronic irritability Adelman NE et al. JAACAP 2011. This line of research enabled us to receive the first NIMH grant to study the potential for computer-assisted cognitive remediation to “retrain the brain” in pediatric BD (R21/R33MH096850).

- a) **Dickstein DP**, Treland JE, Snow J, McClure EB, Mehta MS, Towbin KE, Pine DS, Leibenluft E. Neuropsychological performance in pediatric bipolar disorder. Biol Psychiatry. 2004 Jan 1;55(1):32-9. PMID: [14706422](#).
- b) **Dickstein DP**, Nelson EE, McClure EB, Grimley ME, Knopf L, Brotman MA, Rich BA, Pine DS, Leibenluft E. Cognitive flexibility in phenotypes of pediatric bipolar disorder. J Am Acad Child Adolesc Psychiatry. 2007 Mar;46(3):341-55. PMID: [17314720](#).
- c) **Dickstein DP**, Finger EC, Skup M, Pine DS, Blair JR, Leibenluft E. Altered neural function in pediatric bipolar disorder during reversal learning. Bipolar Disord. 2010 Nov;12(7):707-19. PMID: [21040288](#). PMCID: [PMC3391027](#).
- d) Adelman NE, Kayser R, **Dickstein D**, Blair RJ, Pine D, Leibenluft E. Neural correlates of reversal learning in severe mood dysregulation and pediatric bipolar disorder. J Am Acad Child Adolesc Psychiatry. 2011 Nov;50(11):1173-1185.e2. PMID: [22024005](#). PMCID: [PMC3206630](#).

**3) Advancing what is known about the brain/behavior interactions underlying child psychiatric disorders generally:** Greater mechanistic understanding of psychiatric illnesses and symptoms is a focus of my work, with the ultimate goal of improving our diagnostic and treatment strategies for these problems. This approach follows the successful model of how childhood leukemia has been transformed from an absolute

death sentence to now having a 5-year survival rate >95%. Examples of this work include: (a) my serving as senior author for the American Psychiatric Association's Consensus Report of the Work Group on Neuroimaging Markers of Psychiatric Disorders (First et al. 2012; available on-line); (b) pioneering analysis of resting state fMRI and micromovements in ADHD (Fair et al. 2012); and (c) first developmental meta-analysis of functional MRI alterations in autism (Dickstein et al. JAACAP 2013).

- a) First M, Botteron K, Carter C, Castellanos FX, **Dickstein DP**, Drevets W, Kim KL, Pescosolido MF, Rausch S, Seymour KE, Sheline Y, Zubieta JB. Consensus Report of the APA Work Group on Neuroimaging Markers of Psychiatric Disorders. American Psychiatric Association. July 2012 (On Line Publication).
- b) Fair DA, Nigg JT, Iyer S, Bathula D, Mills KL, Dosenbach NU, Schlaggar BL, Mennes M, Gutman D, Bangaru S, Buitelaar JK, **Dickstein DP**, Di Martino A, Kennedy DN, Kelly C, Luna B, Schweitzer JB, Velanova K, Wang YF, Mostofsky S, Castellanos FX, Milham MP. Distinct neural signatures detected for ADHD subtypes after controlling for micro-movements in resting state functional connectivity MRI data. *Front Syst Neurosci.* 2012;6:80. PMID: [23382713](#); PMCID: [PMC3563110](#).
- c) **Dickstein DP**, Pescosolido MF, Reidy BL, Galvan T, Kim KL, Seymour KE, Laird AR, Di Martino A, Barrett RP. Developmental meta-analysis of the functional neural correlates of autism spectrum disorders. *J Am Acad Child Adolesc Psychiatry.* 2013 Mar;52(3):279-289.e16. PMID: [23452684](#); PMCID: PMC5441228.
- d) Saletin JM, Jackvony S, Rodriguez KA, **Dickstein DP**. A coordinate-based meta-analysis comparing brain activation between attention deficit hyperactivity disorder and total sleep deprivation. *Sleep.* 2019 March 1; 42(3). PMID: 30541103. PMCID: [PMC6771770](#).

#### **4) Behavior/brain alterations among teens engaged in non-suicidal self-injury (NSSI) vs. teen suicide attempters:**

In collaboration with colleagues including Anthony Spirito, Ph.D., Matthew Nock, Ph.D., and Erin Tone, Ph.D., we have begun to test out the dogma about how teens engaged in NSSI vs. those who have made a suicide attempt are the same/different, initially using behavioral tasks supported by the American Foundation for Suicide Prevention (AFSP). Examples of this work includes: (a) first study of psychopathology among teens engaged in NSSI-only vs. suicide attempters only (i.e., no history of NSSI) (Kim KL et al. *Suicide Lifethreat Behav* 2014); (b) first study comparing implicit attitudes towards suicide, death, and cutting among NSSI-only vs. suicide attempting-only teens (Dickstein DP et al. *J Child Psychiatry Psychol* 2015); (c) and first study using a behavioral task of interpersonal stress and collaboration among teens engaged in NSSI-only vs. suicide attempting-only teens (Kim KL et al. *Psychiatric Research In Press* 2015). We are now working to secure funding so that we can use fMRI to probe the neural mechanism of these behavioral deficits.

- a) Kim KL, Galvan T, Puzia ME, Cushman GK, Seymour KE, Vanmali R, Jones RN, Spirito A, **Dickstein DP**. Psychiatric and self-injury profiles of adolescent suicide attempters versus adolescents engaged in nonsuicidal self-injury. *Suicide Life Threat Behav.* 2015 Feb;45(1):37-50. PMID: [25060743](#).
- b) **Dickstein DP**, Puzia ME, Cushman GK, Weissman AB, Wegbreit E, Kim KL, Nock MK, Spirito A. Self-Injurious Implicit Attitudes Among Adolescent Suicide Attempters Versus Those Engaged in Non-Suicidal Self-Injury. *J Child Psychology and Psychiatry.* 2015 Feb 11 Epub. PMID: 25677262.
- c) Kim KL, Cushman GK, Weissman AB, Puzia ME, Wegbreit E, Tone EB, Spirito A, **Dickstein DP**. Behavioral and Emotional Responses to Interpersonal Stress: A Comparison of Adolescents Engaged in Non-Suicidal Self-Injury to Adolescent Suicide Attempters. *Psychiatric Research* 2015 May 09 PMID: 26003509

**Complete Publication List:** <https://www.ncbi.nlm.nih.gov/myncbi/daniel.dickstein.1/bibliography/public/>

#### **D. RESEARCH SUPPORT (NOTE: These grants are in process of being transferred to McLean)**

##### **Ongoing Research Support**

**K24MH110401    NIMH/NIH    Dickstein DP (PI)    07/01/18-06/30/22**

##### **Mid-Career Mentorship and Research in Imaging-Related Patient-Oriented Research**

The goal of this project is to (a) advance my skills in computational psychiatry and diffusion imaging methods (b) extend what is known about brain/behavior mechanisms underlying irritability in teens, and (c) to design a tiered mentorship program in neuroimaging for trainees/early career faculty.

**Role: PI**

**R01MH110379 NIMH/NIH Dickstein DP (PI) 03/22/17-02/28/22**

**Non-Suicidal Self-Injury in Children: Brain/behavior Alterations and Risk for Suicidal Behavior**

The goal of this project is to identify the brain/behavior mechanisms underlying non-suicidal self-injury and subsequent risk for suicide in children.

**Role: PI**

**R01MH111542 NIMH/NIH Dickstein DP (PI) 01/12/17-11/30/21**

**Brain and Behavior Mechanisms of Irritability and Cognitive Flexibility in Children**

The goal of this project is to identify the brain/behavior mechanisms underlying irritability and cognitive flexibility in a sample of children drawn trans-diagnostically across the range of impairment, rather than from a single psychiatric disorder.

**Role: PI**

**R01MH110449 NIMH/NIH Steve Rasmussen (PI) 09/15/16–06/30/21**

**Harm avoidance and incompleteness as dimensional endophenotypes in anxiety and OC spectrum disorders**

This study will use imaging, cognitive/emotive tasks, and clinical assessments to differentiate harm avoidance and incompleteness dimensional endophenotypes in two hundred anxiety and OC spectrum disorders.

**Role: Co-I**

**R01MH112674 NIMH/NIH Michael Armev (PI) 08/09/17-05/31/22**

**Functional imaging of cortico-limbic predictors of emotion regulation/reactivity and risk for suicidal ideation/behavior.**

This grant will use ecological momentary assessment and neuroimaging to advance our understanding of mechanisms of suicidal ideation in adults.

**Role: Co-I/PI of imaging subcontract**

**R01MH083320-08 NIMH/NIH PI=D Kennedy & J Frazier (U Mass Worcester) 09/23/16-09/22/21**

**Exposing the Deep Content of the Publication: Knowledge Extraction for Neuroimaging in Child Psychiatry.**

This grant seeks to use the Child Psychiatry Portal for combining published neuroimaging studies for more detailed analyses and meta-analyses.

**Role: Co-I**

**R33MH096850 NIMH/NIH Dickstein DP (PI) No Cost Extension 09/01/14-08/31/20**

**“COGFLEX: Pilot Translational Intervention of Pediatric Bipolar Disorder”**

The goal of this R33 grant—the first NIMH funded project to develop a novel mechanism-based treatment for pediatric BD—is to test our computer-assisted cognitive remediation developed under the R21 in a double-blind placebo-controlled randomized trial. This was funded as a combined R21/R33 mechanism.

**Role: PI**

**Completed Research Support Includes**

NIMH BRAINS R01 R01MH087513. 09/18/09-06/30/14 (1<sup>st</sup> group of NIMH BRAINS Awardees/1<sup>st</sup> Physician)  
Dickstein Daniel Paul (PI)

Bio-Behavioral Markers of Bipolar Conversion

Role: PI

R01MH099703, NIMH 09/01/12-07/01/16

Spirito, A. / Esposito-Smythers, C. (PI)

Intensive Outpatient Risk Protocol with High Risk Suicidal Teens

Role: Co-Investigator