

Stanford



Tamar Green

Assistant Professor of Psychiatry and Behavioral Sciences (Interdisciplinary Brain Sciences)

Psychiatry and Behavioral Sciences - Interdisciplinary Brain Sciences

CLINICAL OFFICE (PRIMARY)

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ACADEMIC CONTACT INFORMATION

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Bio

BIO

I am a child psychiatrist who works primarily with children with neurodevelopmental disorders such as ADHD and autism as well as with children with known genetic conditions ("neurogenetic syndromes" such as Noonan syndrome and other Rasopathies, Turner syndrome, 22q11.2 deletion syndrome). I gained my training as a child psychiatrist at Tel Aviv University in Israel. I have completed a postdoctoral research fellow in neuroscience at the Center for Interdisciplinary Brain Sciences Research at the Department of Psychiatry and Behavioral Sciences at Stanford University. Currently, I am an Assistant Professor at the department. My research focus is on human genetic models for neurodevelopmental disorders. One of my Lab's interests is the Rasopathies, a collection of syndromes associated with genetic mutations affecting the Ras/MAPK pathway. These studies are directed at uncovering neural correlates associated with deficits in attention, memory, and social skills in this syndrome. Results for this ongoing research also have the potential to yield valuable new insights into the role of the Ras/MAPK pathway in brain development in general, and attention, memory, and social skills.

CLINICAL FOCUS

- Child and Adolescent Psychiatry
- ADHD
- Neurogenetic syndromes

ACADEMIC APPOINTMENTS

- Assistant Professor - University Medical Line, Psychiatry and Behavioral Sciences - Interdisciplinary Brain Sciences
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Chairman's Annual Award for Leadership and Professionalism, The Department for Psychiatry and Behavioral Sciences, Stanford University (2022)
- The Stephen Bechtel Endowed Faculty Scholar in Pediatric Translational Medicine Award, Stanford Maternal & Child Health Research Institute, Stanford University (2022)
- Travel Award, American College of Neuropsychopharmacology (ACNP) (2020)

- The Francis S. Collins Scholar in Neurofibromatosis Clinical and Translational Research, Neurofibromatosis Therapeutic Acceleration Program (NTAP) (2019)
- Jr Investigator Travel Award, RASopathies Symposium (2017)
- Travel Award, Society of Biological Psychiatry (2014)
- Travel Scholarship Award, Turner Resource Network (2014)
- Postdoctoral Fellowship Award, Gazit Globe (2012)
- American Physicians and Friends Fellowship Award, American Physicians and Friends of Israel (2011)
- Israeli Medical Association Fellowship Award, Israeli Medical Association (2011)
- Psychiatry Residency Award (Excellence in Psychiatric Residency), Israel Psychiatric Association (2009)
- Young Investigator Program Award, Israel Society for Biological Psychiatry (2009)
- B.Med.Sc. Graduate, Cum Laude, Medical School, Goldman Medical School, Ben-Gurion University (2001)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Physician and Surgeon, The Medical Board of California (2020 - present)
- Certificate of registration to practice medicine in the state, Medical Board of California, Medical Board of California, USA (2015 - 2020)
- Israeli board certified in Child and Adolescent Psychiatry, Ministry of Health, Israel (2010 - present)
- License to practice in medicine in Israel, Ministry of Health, Israel (2004 - present)

PROFESSIONAL EDUCATION

- Internship: Tel Aviv Sourasky Medical Center (2004) Israel
- Medical Education: Goldman Medical School (2005) Israel
- Board Certification: Child and Adolescent Psychiatry, Ministry of Health State of Israel (2010)

LINKS

- BRIDGE lab: <https://med.stanford.edu/bridge-lab>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

The Brain Imaging, Development, and Genetic (BRIDGE) Lab focuses on disorders associated with child development, such as attention deficits, hyperactivity, and autism spectrum disorders. We apply two unique approaches in our research. Initially, we take a "genetic first" approach studying children with known genetic conditions who present with attention problems, hyperactivity, and deficits in social cognition. This approach contrasts with traditional research focused on the genetic causes of developmental disorders. Second, we apply in-depth phenotyping of the child's brain, genes, and behavior using brain imaging, genetic testing, and behavioral assessment. Consequently, we aim to uncover biological principles of how genetic variation and its associated downstream pathways affect children's developmental disorders.

Teaching

COURSES

2023-24

- Developmental Psychopathology, Psychotherapy and Psychopharmacology and Neuroscience: PSYC 211 (Aut)

2022-23

- Developmental Psychopathology, Psychotherapy and Psychopharmacology and Neuroscience: PSYC 211 (Aut)

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Hamed Honari, Julia Rachel Plank, Yaffa Serur Schwarzman

Publications

PUBLICATIONS

- **The 8th International RASopathies Symposium: Expanding research and care practice through global collaboration and advocacy.** *American journal of medical genetics. Part A*
Pierpont, E. I., Bennett, A. M., Schoyer, L., Stronach, B., Anschutz, A., Borrie, S. C., Briggs, B., Burkitt-Wright, E., Castel, P., Cirstea, I. C., Draaisma, F., Ellis, M., Fear, et al
2023
- **THE RARE VARIANTS FRAMEWORK: INSIGHTS INTO NEUROPSYCHIATRIC PHENOTYPES PROVIDED BY STUDIES OF RARE GENETIC VARIANTS**
Green, T., Gur, R.
ELSEVIER SCIENCE INC.2023: S349-S350
- **THE INTERACTIVE EFFECTS OF POLYGENIC RISK SCORES AND SINGLE GENE DISORDERS ON THE SUBCORTICAL STRUCTURE**
Serur, Y., Rai, B., Raman, M., McGee, C., Green, T.
ELSEVIER.2023: S256-S257
- **INSIGHTS INTO THE RAS-MAPK EFFECT ON NEURODEVELOPMENT: MAPPING THE NEUROPSYCHIATRIC AND BRAIN PHENOTYPES IN CHILDREN WITH NOONAN SYNDROME**
Green, T.
ELSEVIER SCIENCE INC.2023: S351
- **Novel effects of Ras-MAPK pathogenic variants on the developing human brain and their link to gene expression and inhibition abilities.** *Translational psychiatry*
Rai, B., Naylor, P. E., Siqueiros-Sanchez, M., Wintermark, M., Raman, M. M., Jo, B., Reiss, A. L., Green, T.
2023; 13 (1): 245
- **Neuropsychiatric phenotypes in children with Noonan syndrome.** *Developmental medicine and child neurology*
Naylor, P. E., Bruno, J. L., Shrestha, S. B., Friedman, M., Jo, B., Reiss, A. L., Green, T.
2023
- **Adolescent brain development in girls with Turner syndrome.** *Human brain mapping*
Lozano Wun, V., Foland-Ross, L. C., Jo, B., Green, T., Hong, D., Ross, J. L., Reiss, A. L.
2023
- **Novel effects of Ras-MAPK pathogenic variants on the developing human brain and their link to gene expression and inhibition abilities.** *Research square*
Rai, B., Naylor, P., Sanchez, M. S., Wintermark, M., Raman, M., Jo, B., Reiss, A., Green, T.
2023
- **Longitudinal investigation of cognition, social competence, and anxiety in children and adolescents with Turner syndrome.** *Hormones and behavior*
Jordan, T. L., Klabunde, M., Green, T., Hong, D. S., Ross, J. L., Jo, B., Reiss, A. L.
2023; 149: 105300
- **Multidimensional Neuropsychiatric Phenotypes in Children With Noonan Syndrome**
Bruno, J., Naylor, P., Green, T.
SPRINGERNATURE.2022: 147-148
- **Syndrome specific neuroanatomical phenotypes in girls with Turner and Noonan Syndromes.** *Biological psychiatry. Cognitive neuroscience and neuroimaging*
Sanchez, M. S., Rai, B., Chowdhury, S., Reiss, A. L., Green, T.
2022

- **The seventh international RASopathies symposium: Pathways to a cure-expanding knowledge, enhancing research, and therapeutic discovery.** *American journal of medical genetics. Part A*
Kontaridis, M. I., Roberts, A. E., Schill, L., Schoyer, L., Stronach, B., Andelfinger, G., Aoki, Y., Axelrad, M. E., Bakker, A., Bennett, A. M., Broniscer, A., Castel, P., Chang, et al
2022
- **Altered canonical and striatal-frontal resting state functional connectivity in children with pathogenic variants in the Ras/mitogen-activated protein kinase pathway.** *Molecular psychiatry*
Bruno, J. L., Shrestha, S. B., Reiss, A. L., Saggar, M., Green, T.
2022
- **Parent Cognition and Behavior Predict Variable Outcomes in Children With Ras/mitogen-Activated Protein Kinase (RMK) Pathway Pathogenic Mutations**
Bruno, J., Green, T.
SPRINGERNATURE.2021: 123-124
- **Effect of sex chromosome number variation on attention-deficit/hyperactivity disorder symptoms, executive function, and processing speed.** *Developmental medicine and child neurology*
Green, T., Flash, S., Shankar, G., Bade Shrestha, S., Jo, B., Klabunde, M., Hong, D. S., Reiss, A. L.
2021
- **Novel Effects of Ras-MAPK Activating Mutations on Brain Development and Neuropsychiatry**
Rai, B., Naylor, P., Jo, B., Reiss, A., Green, T.
ELSEVIER SCIENCE INC.2021: S371
- **Activation Mutation in the Ras/MAPK Pathway Alters the Functional Resting-State Architecture Underlining Executive Function and Attention**
Bruno, J., Shrestha, S., Reiss, A., Saggar, M., Green, T.
SPRINGERNATURE.2020: 177–78
- **PTPN11 Mutations in the Ras-MAPK Signaling Pathway Affect Human White Matter Microstructure.** *Cerebral cortex (New York, N.Y. : 1991)*
Fattah, M., Raman, M. M., Reiss, A. L., Green, T.
2020
- **PATHWAYS LEADING TO MENTAL HEALTH PHENOTYPES AND THEIR TREATMENTS: INSIGHTS FROM NEUROGENETIC SYNDROMES**
Gothelf, D., Green, T., Reiss, A. L.
ELSEVIER SCIENCE INC.2020: S266–S267
- **MULTIMODAL BRAIN IMAGING TO BETTER UNDERSTAND THE EFFECTS OF RAS-MITOGEN-ACTIVATED PROTEIN KINASE MUTATIONS ON BRAIN- AND ADHD-RELATED BEHAVIORS**
Green, T.
ELSEVIER SCIENCE INC.2020: S267
- **The sixth international RASopathies symposium: Precision medicine-From promise to practice.** *American journal of medical genetics. Part A*
Gripp, K. W., Schill, L., Schoyer, L., Stronach, B., Bennett, A. M., Blaser, S., Brown, A., Burdine, R., Burkitt-Wright, E., Castel, P., Darilek, S., Dias, A., Dyer, et al
2019
- **On the relationship between mathematics and visuospatial processing in Turner syndrome.** *Journal of psychiatric research*
Baker, J. M., Klabunde, M., Jo, B., Green, T., Reiss, A. L.
2019; 121: 135–42
- **X-chromosome insufficiency alters receptive fields across the human early visual cortex.** *The Journal of neuroscience : the official journal of the Society for Neuroscience*
Green, T., Hosseini, H., Piccirilli, A., Ishak, A., Grill-Spector, K., Reiss, A. L.
2019
- **PTPN11 Gain-of-Function Mutations Affect the Developing Human Brain, Memory, and Attention** *CEREBRAL CORTEX*
Johnson, E. M., Ishak, A. D., Naylor, P. E., Stevenson, D. A., Reiss, A. L., Green, T.
2019; 29 (7): 2915–23
- **Sex differences in psychiatric disorders: what we can learn from sex chromosome aneuploidies** *NEUROPSYCHOPHARMACOLOGY*

- Green, T., Flash, S., Reiss, A. L.
2019; 44 (1): 9–21
- **Brain Development in School-Age and Adolescent Girls: Effects of Turner Syndrome, Estrogen Therapy, and Genomic Imprinting.** *Biological psychiatry*
O'Donoghue, S. n., Green, T. n., Ross, J. L., Hallmayer, J. n., Lin, X. n., Jo, B. n., Huffman, L. C., Hong, D. S., Reiss, A. L.
2019
 - **X-Chromosome Effects on Attention Networks: Insights from Imaging Resting-State Networks in Turner Syndrome** *CEREBRAL CORTEX*
Green, T., Saggar, M., Ishak, A., Hong, D. S., Reiss, A. L.
2018; 28 (9): 3176–83
 - **PTPN11 Gain-of-Function Mutations Affect the Developing Human Brain, Memory, and Attention.** *Cerebral cortex (New York, N.Y. : 1991)*
Johnson, E. M., Ishak, A. D., Naylor, P. E., Stevenson, D. A., Reiss, A. L., Green, T.
2018
 - **Sex differences in psychiatric disorders: what we can learn from sex chromosome aneuploidies.** *Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology*
Green, T., Flash, S., Reiss, A. L.
2018
 - **The Effectiveness and Safety of Antipsychotic and Antidepressant Medications in Individuals with 22q11.2 Deletion Syndrome** *JOURNAL OF CHILD AND ADOLESCENT PSYCHOPHARMACOLOGY*
Dori, N., Green, T., Weizman, A., Gothelf, D.
2017; 27 (1): 83-?
 - **Multi-Table Differential Correlation Analysis of Neuroanatomical and Cognitive Interactions in Turner Syndrome.** *Neuroinformatics*
Seiler, C. n., Green, T. n., Hong, D. n., Chromik, L. n., Huffman, L. n., Holmes, S. n., Reiss, A. L.
2017
 - **Attention deficit hyperactivity disorder (ADHD) in phenotypically similar neurogenetic conditions: Turner syndrome and the RASopathies.** *Journal of neurodevelopmental disorders*
Green, T. n., Naylor, P. E., Davies, W. n.
2017; 9: 25
 - **X-Chromosome Effects on Attention Networks: Insights from Imaging Resting-State Networks in Turner Syndrome.** *Cerebral cortex (New York, N.Y. : 1991)*
Green, T. n., Saggar, M. n., Ishak, A. n., Hong, D. S., Reiss, A. L.
2017: 1–8
 - **Sex Differences in Amygdala Shape: Insights from Turner Syndrome**
Green, T., Fierro, K. C., Raman, M., Foland-Ross, L., Hong, D. S., Reiss, A. L.
ELSEVIER SCIENCE INC.2016: 109S
 - **Cover Image, Volume 171B, Number 3, April 2016.** *American journal of medical genetics. Part B, Neuropsychiatric genetics : the official publication of the International Society of Psychiatric Genetics*
Green, T., Fierro, K. C., Raman, M. M., Saggar, M., Sheau, K. E., Reiss, A. L.
2016; 171 (3): i-?
 - **Surface-based morphometry reveals distinct cortical thickness and surface area profiles in Williams syndrome** *AMERICAN JOURNAL OF MEDICAL GENETICS PART B-NEUROPSYCHIATRIC GENETICS*
Green, T., Fierro, K. C., Raman, M. M., Saggar, M., Sheau, K. E., Reiss, A. L.
2016; 171 (3): 402-413
 - **Sex differences in amygdala shape: Insights from Turner syndrome.** *Human brain mapping*
Green, T., Fierro, K. C., Raman, M. M., Foland-Ross, L., Hong, D. S., Reiss, A. L.
2016; 37 (4): 1593-1601
 - **Surface-based morphometry reveals distinct cortical thickness and surface area profiles in Williams syndrome.** *American journal of medical genetics. Part B, Neuropsychiatric genetics : the official publication of the International Society of Psychiatric Genetics*
Green, T., Fierro, K. C., Raman, M. M., Saggar, M., Sheau, K. E., Reiss, A. L.
2016; 171B (3): 402-413

- **Elucidating X chromosome influences on Attention Deficit Hyperactivity Disorder and executive function.** *Journal of psychiatric research*
Green, T., Bade Shrestha, S., Chromik, L. C., Rutledge, K., Pennington, B. F., Hong, D. S., Reiss, A. L.
2015; 68: 217-225
- **Specific effect of the fragile-X mental retardation-1 gene (FMR1) on white matter microstructure** *BRITISH JOURNAL OF PSYCHIATRY*
Green, T., Barnea-Goraly, N., Raman, M., Hall, S. S., Lightbody, A. A., Bruno, J. L., Quintin, E., Reiss, A. L.
2015; 207 (2): 143-148
- **Hyperactive auditory processing in Williams syndrome: Evidence from auditory evoked potentials** *PSYCHOPHYSIOLOGY*
Zarchi, O., Avni, C., Attias, J., Frisch, A., Carmel, M., Michaelovsky, E., Green, T., Weizman, A., Gothelf, D.
2015; 52 (6): 782-789
- **Neurodevelopmental risk factors for psychosis in 22q11.2 deletion syndrome and their treatment**
Gothelf, D., Mekoria, E., Weinberger, R., Midbaria, Y., Dorib, N., Green, T., Weizman, A.
SPRINGER.2015: S76-S77
- **Cognitive Decline Preceding the Onset of Psychosis in Patients With 22q11.2 Deletion Syndrome** *JAMA PSYCHIATRY*
Vorstman, J. S., Breetvelt, E. J., Duijff, S. N., Eliez, S., Schneider, M., Jalbrzikowski, M., Armando, M., Vicari, S., Shashi, V., Hooper, S. R., Chow, E. C., Fung, W., Butcher, et al
2015; 72 (4): 377-85
- **The Outcome of Severe Internalizing and Disruptive Disorders from Preschool into Adolescence:A Follow-up Study.** *Israel journal of psychiatry and related sciences*
Spitzer, S., Freudenstein, O., Peskin, M., Tyano, S., Shrira, A., Pearson, T., Eilam, A., Zalsman, G., Green, T., Gothelf, D.
2015; 52 (2): 100-105
- **Aberrant parietal cortex developmental trajectories in girls with Turner syndrome and related visual-spatial cognitive development: a preliminary study.** *American journal of medical genetics. Part B, Neuropsychiatric genetics : the official publication of the International Society of Psychiatric Genetics*
Green, T., Chromik, L. C., Mazaika, P. K., Fierro, K., Raman, M. M., Lazzeroni, L. C., Hong, D. S., Reiss, A. L.
2014; 165B (6): 531-540
- **Aberrant parietal cortex developmental trajectories in girls with turner syndrome and related visual-spatial cognitive development: A preliminary study.** *American journal of medical genetics. Part B, Neuropsychiatric genetics : the official publication of the International Society of Psychiatric Genetics*
Green, T., Chromik, L. C., Mazaika, P. K., Fierro, K., Raman, M. M., Lazzeroni, L. C., Hong, D. S., Reiss, A. L.
2014; 165 (6): 531-540
- **Psychiatric Disorders From Childhood to Adulthood in 22q11.2 Deletion Syndrome: Results From the International Consortium on Brain and Behavior in 22q11.2 Deletion Syndrome** *AMERICAN JOURNAL OF PSYCHIATRY*
Schneider, M., Debbane, M., Bassett, A. S., Chow, E. W., Fung, W. L., van den Bree, M. B., Owen, M., Murphy, K. C., Niarchou, M., Kates, W. R., Antshel, K. M., Fremont, W., McDonald-McGinn, et al
2014; 171 (6): 627-639
- **Aberrant Parietal Cortex Developmental Trajectories in Girls with Turner Syndrome and Related Visual-Spatial Cognitive Development: A Preliminary Study** *69th Annual Scientific Convention and Meeting of the Society-of-Biological-Psychiatry*
Green, T., Chromik, L. C., Mazaika, P. K., Fierro, K., Raman, M. M., Lazzeroni, L., Hong, D. S., Reiss, A. L.
ELSEVIER SCIENCE INC.2014: 346S-346S
- **How Fragile X Syndrome Influences White Matter Structure? Investigating Differences in White Matter Between Individuals with Fragile X Syndrome and IQ-matched Controls**
Green, T., Barnea-Goraly, N., Raman, M. M., Quintin, E., Reiss, A. L.
ELSEVIER SCIENCE INC.2014: 99S
- **Risk Factors and the Evolution of Psychosis in 22q11.2 Deletion Syndrome: A Longitudinal 2-Site Study** *JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY*
Gothelf, D., Schneider, M., Green, T., Debbane, M., Frisch, A., Glaser, B., Zilkha, H., Schaer, M., Weizman, A., Eliez, S.
2013; 52 (11): 1192-1203
- **Schizophrenia-like neurophysiological abnormalities in 22q11.2 deletion syndrome and their association to COMT and PRODH genotypes.** *J Psychiatr Res.*
Zarchi , O., Carmel , , Avni, C., Attias, J., Frisch, A., Michaelovsky, E., Patya, M., Green, T., Weinberger, R., Weizman, A., Gothelf, D.
2013

- **Genotype-phenotype correlation in 22q11.2 deletion syndrome** *BMC MEDICAL GENETICS*
Michaelovsky, E., Frisch, A., Carmel, M., Patya, M., Zarchi, O., Green, T., Basel-Vanagaite, L., Weizman, A., Gothelf, D.
2012; 13
- **The feasibility and safety of S-adenosyl-l-methionine (SAMe) for the treatment of neuropsychiatric symptoms in 22q11.2 deletion syndrome: a double-blind placebo-controlled trial** *JOURNAL OF NEURAL TRANSMISSION*
Green, T., Steingart, L., Frisch, A., Zarchi, O., Weizman, A., Gothelf, D.
2012; 119 (11): 1417-1423
- **Phenotypic psychiatric characterization of children with Williams syndrome and response of those with ADHD to methylphenidate treatment** *AMERICAN JOURNAL OF MEDICAL GENETICS PART B-NEUROPSYCHIATRIC GENETICS*
Green, T., Avda, S., Dotan, I., Zarchi, O., Basel-Vanagaite, L., Zalsman, G., Weizman, A., Gothelf, D.
2012; 159B (1): 13-20
- **The Effect of Methylphenidate on Prefrontal Cognitive Functioning, Inattention, and Hyperactivity in Velocardiofacial Syndrome** *JOURNAL OF CHILD AND ADOLESCENT PSYCHOPHARMACOLOGY*
Green, T., Weinberger, R., Diamond, A., Berant, M., Hirschfeld, L., Frisch, A., Zarchi, O., Weizman, A., Gothelf, D.
2011; 21 (6): 589-595
- **[The metabolic syndrome and antipsychotics in children and adolescents].** *Harefuah*
Dori, N., Green, T.
2011; 150 (10): 791-?
- **Psychiatric Disorders and Intellectual Functioning Throughout Development in Velocardiofacial (22q11.2 Deletion) Syndrome** *JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY*
Green, T., Gothelf, D., Glaser, B., Debbane, M., Frisch, A., Kotler, M., Weizman, A., Eliez, S.
2009; 48 (11): 1060-1068
- **Creatine monohydrate in resistant depression: a preliminary study** *BIPOLAR DISORDERS*
Roitman, S., Green, T., Osher, Y., Karni, N., Levine, J.
2007; 9 (7): 754-758
- **[Complex posttraumatic stress disorder].** *Harefuah*
Green, T., Kotler, M.
2007; 146 (11): 883-?
- **[The treatment of mood stabilizers in children and adolescents suffering from bipolar affective disorder].** *Harefuah*
Green, T., Shoval, G., Weizman, A.
2005; 144 (11): 810-?
- **Relative-assessed psychological factors predict sedation requirement in critically ill patients** *PSYCHOSOMATIC MEDICINE*
Green, T., Gidron, Y., Friger, M., Almog, Y.
2005; 67 (2): 295-300
- **Acute myelogenous leukemia with splenic infarcts presenting as fulminant multi-organ failure** *LEUKEMIA & LYMPHOMA*
Green, T., Rabinovitz, A., Sinelnikov, I., Yermiah, T., Almog, Y.
2003; 44 (12): 2143-2145