

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Skinner, Ph.D., Sandra

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

POSITION TITLE: Clinical Research Associate

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 <i>(if applicable)</i>	Completion Date MM/YYYY	FIELD OF STUDY
Stony Brook University, Stony Brook, NY	B.A.	05/2008	Psychology
Stony Brook University, Stony Brook, NY	M.S.	08/2010	Psychology
Stony Brook University, Stony Brook, NY	Ph.D.	08/2014	Psychology

A. Personal Statement

My contribution to the Translational Workforce Development workstream will be in program evaluation and iteration. My skill set makes me uniquely qualified for this role. While I have training in traditional scientific research and experience with clinical trials, the bulk of my experience consists of program evaluation and teaching research methodology.

My role as a research specialist for a large school district supporting 240 schools (serving over 200,000 students) focused on evaluating academic, behavioral, and social and emotional programs as well as reporting on school, student, and teacher performance measures. Examples include evaluating the impact of specific software programs in math and English language arts, examining the effectiveness of different tracks of math course progression, monitoring the effectiveness of school attendance initiatives and evaluating the effectiveness of alternative compared to traditional discipline programs. This information drove data-based decisions regarding program, policy, and strategy selection and implementation. An important part of this work involved setting up the infrastructure for program evaluation to take place by working with personnel to operationalize independent and dependent variables, identify confounding variables, and establish fidelity of implementation and outcome measures.

While at the school district I also had the opportunity to launch a major social and emotional learning (SEL) initiative as project manager for the SEL work stream of Reimagining Middle Grades, a major strategic plan initiative supported by a \$3 million grant. In this role I assembled a leadership team consisting of school- and district-based staff, surveyed teachers and students to identify needs, researched social and emotional learning programs to identify research- and evidence-based programs that would meet the needs of teachers and students, worked with the team to create a framework for the SEL program, and designed and implemented training and support for teachers, school administrators and district personnel. A crucial component of program rollout included collecting feedback through surveys and focus groups from the programs participants (teachers and school administrators) as well as recipients (students) to assist in improving the delivery of the program in

the subsequent year. This informed of the strategies needed to make the second year even more successful than the first.

As an adjunct professor for the Principal Rapid Orientation and Preparation for Educational Leadership (PROPEL) program at Florida Atlantic University, I taught research methodology to elementary, middle, and high school teachers and administrators who were selected by their principals to participate in this master's degree granting program. I also served on a team assembled to redesign the curriculum for the program. We made adjustments based on student and instructor feedback obtained through surveys and interviews which resulted in a tremendous increase in enthusiasm and learning in the cohorts who participated after the re-design while maintaining the original goals and objective of the course.

B. Positions, Scientific Appointments, and Honors

2021 – present	Huntington Study Group Publications Committee member and reviewer for abstracts for annual meeting
2019 - present	Clinical Research Associate, Stony Brook University
2018 - 2019	PROPEL Program Redesign Team (member)
2018 - 2019	Human Protections Administrator for the Institutional Review Board
2018 - 2019	Measurement and Research Sub-committee of Social and Emotional Learning District Leadership Team (chair)
2017 - 2019	Reimagining Middle Grades Social and Emotional Learning Project Manager
2017 - 2019	Equity Liaison
2017 - 2019	Gifted Procedural Guide Task Force (member)
2016 - 2019	Adjunct Professor, Florida Atlantic University
2015 - 2019	Social and Emotional Learning District Leadership Team (member)
2015 - 2019	Multi-tiered System of Support District Leadership Team (member)
2015 - 2018	Institutional Review Board Committee Member/Reviewer
2014 – 2019	Research Specialist, Broward County Public Schools
2009 – 2013	Instructor, Stony Brook University
2008 – 2014	Graduate Student, Stony Brook University
2008 – 2013	Teaching Assistant, Stony Brook University

C. Contributions to Science

Association Between Neurological Disorders, Medications, and Atopic Conditions in Children

Immunological factors are increasingly recognized as playing a role in a range of neurodevelopmental disorders. Environmental triggers, such as group A streptococcal infections and exposure to xenobiotics have been hypothesized to lead to the production of brain-directed autoantibodies in genetically susceptible individuals, manifesting in neuropsychiatric disorders such as obsessive-compulsive disorder (OCD), attention-deficit hyperactivity disorder (ADHD) and tic disorders including Tourette's syndrome (TS). Patients with TS demonstrate alterations in their immune responses and histamine receptor signaling, with changes in gene expression in peripheral immune cells, alteration in the relative frequency of specific lymphocyte subpopulations, and an increased plasma concentration of pro-inflammatory cytokines which may ultimately alter the maturation of brain pathways.

This study utilized data from the TriNetX database, a global health research network that combines de-identified data from over 80 million electronic health records belonging to 58 participating health care organizations, to calculate odds ratios for having an atopic condition for children with tic disorder, ADHD, and/or OCD compared

to children without these disorders. Medications commonly used by children with these disorders were also examined to see if they were uniquely associated with atopic risk.

Compared to children without a tic, ADHD, or OCD diagnosis, odds ratios for having a comorbid atopic disorder were increased for Tic (OR 1.65; 95% CI 1.56-1.75; $p < 0.001$), ADHD (OR 1.61; 95% CI 1.59-1.63; $p < 0.001$), OCD (OR 1.50; 95% CI 1.36-1.66; $p < 0.001$) and for children with more than one of these disorders (OR 1.95; 95% CI 1.83-2.08; $p < 0.001$). Although co-administration of multiple medications under investigation in this study limited the ability to examine the extensive list of medications used to treat these disorders, those available for analysis all had a significantly higher association with atopy, ranging from methylphenidate (OR 1.18; 95% CI 1.05-1.32; $p=0.005$) to clonidine (OR 2.68; 95% CI 1.78-4.05; $p < 0.001$).

This work demonstrates that there is an association between certain neurological disorders and atopic conditions. The further association between medications used to treat these disorders and the development of atopic conditions suggests a possible causal role.

My role in this study was to prepare the data and design and conduct the data analysis.

Hakimi, M., Skinner, S. & Maurer, CM (2022) Tic disorders, anti-tic medications, and risk of atopy. *Under review*.

Attachment Interventions

Attachment security in children is associated with a host of positive outcomes throughout the life course. Securely attached children are less likely to develop psychopathology, abuse drugs, and engage in criminal behavior and are more likely to have happy close relationships. Caregiver sensitivity predicts attachment classification in infants. Intensive interventions aimed at increasing sensitivity in caregivers have been successful but are difficult to scale due to the time and expense involved. This study found that a brief video-based intervention was effective in teaching scenario-based sensitivity in mother-child interactions, and that participants were able to consolidate the knowledge learned in one set of scenarios and apply it to other scenarios. Finding a relatively brief and easy to administer intervention to be successful in teaching secure-base script knowledge to caregivers is significant because a scalable attachment intervention can lead to large increases in the prevalence of attachment security and thus lower the percent of the population experiencing negative outcomes such as psychopathology and addiction as well as increase the percent of people with positive outcomes.

I conducted all aspects of this research, including the literature review, study design, creation of attachment intervention, hiring research assistants, overseeing running of subjects and collection of data, creation of study instruments, data analysis, and write-up of materials.

Apetroaia, A., Skinner, S., & Waters, H. (2009). *Intergenerational Transmission of Attachment*. Poster session presented at the biennial meeting of the Society for Research in Child Development, Denver, CO.

Skinner, S., Gomes, V., & Waters, H.S. (2011). *Attachment Script Knowledge and Evaluations of Parenting Behavior*. Poster presented at the biennial meeting of the Society for Research in Child Development, Montreal, Canada.

Skinner, S. (2014). Modeling secure base parenting cognitions (doctoral dissertation). Available from ProQuest Dissertations and Theses database (UMI No. 3641862).