

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: Gotham, Katherine O

eRA COMMONS USER NAME (agency login): KGOHAM

POSITION TITLE: Assistant Professor, Clinical Educator Track

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

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Michigan, Ann Arbor, MI	B.A.	05/2000	English Literature
University of Michigan, Ann Arbor, MI	Ph.D.	05/2010	Psychology
University of Michigan, Ann Arbor, MI	Postdoctoral Fellow	08/2011	Clinical Psychology
Vanderbilt Kennedy Center, Nashville, TN	NIH training grant	06/2014	Developmental Psychopathology

A. Personal Statement

I am an Assistant Professor in the Department of Psychiatry and Behavioral Sciences at Vanderbilt University Medical Center. My clinical research focuses on (1) the autism phenotype and its measurement, (2) depression science and its translation to autism spectrum disorder (ASD), and (3) emotional health outcomes in adolescents and adults with ASD.

B. Positions and Honors**Positions and Employment**

2006	Graduate Student Instructor, PSYCH 111: Introduction to Psychology, University of Michigan
2007	Teaching Assistant, PSYCH 673 & 676: Child Assessment Course and Lab, University of Michigan
2008-2009	Clinical Intern, University Center for the Child and Family, University of Michigan
2008-2009	Clinical Intern, University of Michigan Autism and Communication Disorders Center
2010	Graduate Student Instructor, PSYCH 477: <i>Psychopathology of Childhood and Adolescence</i> , and PSYCH 327: <i>Faculty Directed Early Research for Psychology as a Social Science</i> , University of Michigan
2010-2011	Postdoctoral Clinical Research Fellowship, University of Michigan Autism and Communication Disorders Center, Ann Arbor, MI
2012-2014	Postdoctoral Research Fellowship (NIMH training grant T32-MH18921), Vanderbilt Kennedy Center, Vanderbilt University, Nashville, TN
2013-current	Assistant Professor, Clinical Educator Track, Department of Psychiatry and Behavioral Sciences, Vanderbilt University School of Medicine

Honors

1997	Hopwood Award for Creative Writing, Undergraduate Essay
1997-2000	Dean's Merit Scholar; Alumni Scholar, Angell Scholar; University of Michigan, Ann Arbor, MI
2000-2001	Fulbright Scholar, Utrecht, the Netherlands
2006	International Meeting for Autism Research (IMFAR) travel award
2006-2009	Autism Speaks Predoctoral Training Fellowship

2008-2009	Kalter Fellow, University of Michigan Center for the Child and Family
2009	Rackham Graduate Research Award; University of Michigan
2009-2010	Blue Cross Blue Shield of Michigan Foundation Research Award
2010	Marquis Dissertation Award, Department of Psychology, University of Michigan, Ann Arbor, MI
2013	Vanderbilt Kennedy Center Science Day Poster Award; Vanderbilt University
2014	Travel award and selected participant to the Interdisciplinary Training Conference in Developmental Disabilities (R13 HD057709)
2014	Scholarship recipient for the Beck Institute Cognitive Behavioral Workshop, Philadelphia, PA.
2015	Appointed as a Vanderbilt Kennedy Center Investigator, Nashville, TN.

C. Contributions to Science

1. Development and refinement of ASD diagnostic instruments

Prior to my work, the gold-standard ASD diagnostic instrument, the Autism Diagnostic Observation Schedule (ADOS; Lord et al., 2000), had been validated on a small dataset of approximately 200 participants with diverse age and language characteristics. I played a central role in revising the algorithms of this instrument on a very large dataset, resulting in the creation of several new algorithms for narrower age/language groups that had better sensitivity and/or specificity of ASD classification. These algorithms are now used worldwide to aid accuracy in ASD diagnosis. Further, the evidence for combining social and communication symptoms into a single domain that issued from this work was influential to the revision of ASD criteria in DSM-5. I also contributed to the development of a toddler module of the ADOS and a new screening instrument for ASD published in 2016.

- a. Lord, C., Rutter, M., DiLavore, P., Risi, S., Gotham, K., & Bishop, S.L. (2012). *Autism Diagnostic Observation Schedule, 2nd edition (ADOS-2): Manual*. Los Angeles: Western Psychological Services.
- b. Gotham, K., Risi, S., Pickles, A. & Lord, C. (2007). The Autism Diagnostic Observation Schedule (ADOS): Revised algorithms for improved diagnostic validity. *Journal of Autism and Developmental Disorders*, 37(4), 613-627. PMID: 17180459.
- c. Bishop, S., Huerta, M., Gotham, K., Havdahl, K.A., Pickles, A., Duncan, A., Hus Bal, V., Croen, L., & Lord, C. (2016). The Autism Screening Interview, School-age Form: A brief telephone interview to identify Autism Spectrum Disorders in 5-to-12-year-old children. *Autism Research*. PMID In Progress.
- d. Luyster, R., Gotham, K., Guthrie, W., Coffing, M., Petrak, R., Pierce, K ... Lord, C. (2009). The Autism Diagnostic Observation Schedule -- Toddler Module: A new module of a standardized diagnostic measure for Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders*, 39(9), 1305-1320. PMID: PMC2893552.

2. Development of a method of measuring autism severity, and studies of severity course over time

Prior to this work, Autism Diagnostic Observation Schedule (ADOS) raw totals were widely used as a research measure of autism severity, despite the facts that these diagnostic scores were affected by chronological age and IQ and lacked standardization to compare across time. I led efforts to calibrate ADOS scores within a large dataset to minimize the effects of age, IQ, and language changes over time, providing an option for a stand-in autism severity metric that has been used in numerous behavioral and genetic studies of ASD. I also contributed to the creation of severity metrics within the specific subdomains of the ADOS, and have written about operationalizing severity in ASD from other perspectives.

- a. Gotham, K., Pickles, A., & Lord, C. (2009). Standardizing ADOS scores for a measure of severity in autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 39(5), 693-705. PMID: PMC2922918.
- b. Gotham, K., Pickles, A., & Lord, C. (2012). Trajectories of autism severity in children using standardized ADOS scores. *Pediatrics*, 130(5), e1278-84. PMID: PMC3483889.
- c. Hus, V., Gotham, K., & Lord, C. (2012). Standardizing ADOS domain scores: Separating severity of Social Affect and Restricted & Repetitive Behaviors. *Journal of Autism and Developmental Disorders*, 1-13. PMID: PMC3612387.

- d. Weitlauf, A. S., Gotham, K., Vehorn, A. C., & Warren, Z. E. (2013). Brief Report: DSM-5 “Levels of Support:” A comment on discrepant conceptualizations of severity in ASD. *Journal of Autism and Developmental Disorders*, 1-6. PMID: PMC3989992.

3. Depression measurement and mechanisms in ASD

Depression is one of the most common and impairing comorbidities in ASD, particularly for adolescents and adults. To this point, most of the research on depression in ASD has focused on its prevalence in convenience samples. I strive to characterize this comorbidity more fully, in terms of symptom profiles, trajectories over time, and measurement issues specific to the autism spectrum. I also have contributed to the field some of the only empirical data on potential mechanisms underlying depression in ASD. I continue to work on this understudied topic using behavioral and psychophysiological measures via my early career development funding, and recently submitted to *Lancet Psychiatry* a first-authored manuscript from my K01 data which reports a positive association between self-reported rumination and pupil measures of sustained neural arousal to emotionally-salient stimuli.

- a. Gotham, K., Bishop, S., Brunwasser, S., & Lord, C. (2014). Rumination and perceived impairment associated with depressive symptoms in a verbal adolescent-adult ASD sample. *Autism Research*, 7(3), 381-391. PMID: PMC4429601.
- b. Gotham, K., Unruh, K., & Lord, C. (2014). Depression and its measurement in verbal adolescents and adults with autism spectrum disorder. *Autism*, 19(4), 491–504. PMID: PMC4467786.
- c. Gotham, K., Brunwasser, S., & Lord, C. (2015). Depressive and anxiety symptom trajectories from school-age through young adulthood in autism spectrum and developmentally delayed samples. *Journal of the American Academy of Child and Adolescent Psychiatry*, 54(5), 369-376. PMID: PMC4407021.
- d. *Greenlee, J., *Mosley, A., Veenstra-Vander Weele, J., & Gotham, K. (2016). Medical and behavioral correlates of depression history in children and adolescents with Autism Spectrum Disorder. *Pediatrics*, 137 (2), S105-S114. Special Issue on Autism Treatment from the Autism Intervention Research Network on Physical Health (AIR-P). PMID: PMC4915738. *Trainees supervised by Dr. Gotham.

4. Advances in behavioral research on adulthood in ASD

Most of my work on adults with ASD focuses specifically on comorbid mood and anxiety problems, however I recently contributed to the field one of very few published reports of participant priorities for ASD research. This 2015 empirical report, which also contained data on adult outcomes in a large ASD sample from an online registry, is particularly important given the growing recognition of the necessity for precision medicine and the value of patient-centered outcomes. An encouraging finding from this work is that the perspectives of both self-reporting adults and legal guardians (representing less-able adults) converged in several places to highlight the need for (1) life skills training and supports for adults with ASD, and (2) public understanding and acceptance of individuals with ASD. These emerged as top priorities across functioning levels and out of many presented options that spanned broad topics associated with current funding, practical areas associated with daily living and quality of life, and specific treatment modalities for future research.

- a. Gotham, K., Marvin, A., Taylor, J.L., Warren, Z., Anderson, C.M., Law, P., Law, J.K., Lipkin, P. (2015). Characterizing the daily life, needs, and priorities of adults with ASD from Interactive Autism Network data. *Autism: Special Issue on Autism in Adulthood*. PMID: PMC4581903.
- b. Taylor, J.L., & Gotham, K. (2016). Cumulative life events, traumatic experiences, and psychiatric symptomatology in transition-aged youth with autism spectrum disorder. *Journal of Neurodevelopmental Disorders*, 8(28). PMID: PMC4962443.
- c. Carter, E., Harvey, M.N., Taylor, J.L., & Gotham, K. (2013). Connecting youth and young adults with Autism Spectrum Disorders to community life. *Psychology in the Schools: Special Issue on Adolescents and Adults on the Autism Spectrum*, 50(9), 888-898. PMID: PMC4520705.
- d. Gotham, K. (May, 2010). *Measuring outcome and addressing the needs of adolescents and adults with ASD: Assessment and treatment of co-occurring psychopathology*. Invited Educational Symposium at the International Meeting for Autism Research (IMFAR), Philadelphia, Pennsylvania.

5. Contributions to theory of diagnosis in ASD

In addition to my work refining diagnostic instruments, I also have engaged in commentary that has shaped our understanding of “best practices” in ASD diagnostic assessment. I co-authored one paper that used empirical data to highlight the need to combine parent interview and child observation for maximum predictive validity. I spent a great deal of time on a multi-site collaboration and co-authored a resulting paper that emphasized the relative lack of reliability of clinical judgment of ASD, even when it is based on standardized assessments. Such discussions are crucial in setting field standards for clinical and research assessment and have far-reaching implications for ASD prevalence estimates and validity of research samples.

- a. Risi, S., Lord, C., Gotham, K., Corsello, C., Chrysler, C., Szatmari, P., Cook, E., Leventhal, B., & Pickles, A. (2006). Combining information from multiple sources in the diagnosis of autism spectrum disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 45(9), 1094-1103. PMID:16926617.
- b. Lord, C., et al. (2012). A multisite study of the clinical diagnosis of different Autism Spectrum Disorders. *Archives of General Psychiatry*, 69(3), 306-313. PMID: PMC3626112.
- c. Charman, T. & Gotham, K. (2013). Screening and diagnostic instruments for Autism Spectrum Disorders: Lessons from research and practice. *Child and Adolescent Mental Health*, 18(1), 52-63. PMID: PMC3607539.
- d. Gotham, K., Bishop, S.L., & Lord, C. (2011). Diagnosis of autism spectrum disorders. In D. Amaral, D. Geschwind & G. Dawson (Eds.) *Autism Spectrum Disorders*. Oxford, England: Oxford University Press.

A list of all PMID-compliant published work in MyBibliography can be found at:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/katherine.gotham.1/bibliography/47933209/public/?sort=date&direction=ascending>

D. Research Support

Ongoing Research Support

2014/09/15--2018/07/31

K01 MH103500, National Institute of Mental Health (NIMH)

Gotham, Katherine O (PI)

Autism Spectrum Disorders and Depression: Shared Mechanisms in Brain and Behavior

This project seeks to identify candidate mechanisms underlying depression in ASD by comparing adults with ASD, depression, and healthy typical development on known deficits associated with depression (aberrant affect modulation, social motivation, rumination, and anxiety) using behavioral and psychophysiological methods. This career developmental award provides salary support for Dr. Gotham to train on eye-tracking, pupillometry, and experience sampling.

Role: PI

2016/09/01—2018/08/31

Trans-Institutional Programs Award, Vanderbilt University

Malow, Beth (PI)

Optimizing Health and Well-Being in Adults with Autism Spectrum Disorders

This project integrates resources across departments at Vanderbilt University and Vanderbilt University Medical Center, with the goal of examining the relation between health and well-being in adults with ASD and testing a structured summer program as an intervention to enhance well-being in this population.

Role: Co-I

Completed Research Support

2012/07/01--2014/06/30

T32 MH018921-22, National Institute of Mental Health (NIMH)

Garber, Judy (PI)

Development of Psychopathology: From Brain and Behavioral Science to Intervention

This training grant supports developmental neuroscience training for clinical scientists who have backgrounds in psychopathology research. I used the protected time and training opportunities to develop expertise in depression science, influenced by Drs. Judy Garber, Steven D. Hollon, Andrew Tomarken, and David Zald.

Role: Postdoctoral Research Fellow

09/01/10—08/31/11

R01-MH081873, National Institute of Mental Health (NIMH)

Lord, C., Bishop, S. (Co-PI's)

Development of a Screening Interview for Research Studies of Autism Spectrum Disorders

I was a postdoctoral clinical and research fellow on this project aimed at developing a short interview for screening ASD caseness for research and clinical triage purposes.

Role: Postdoctoral Clinical and Research Fellow

01/01/07—12/30/09

Predocotrinal Training Fellowship, Autism Speaks Foundation

Lord, C. (PI)

Quantifying Severity in Autism Spectrum Disorders

This fellowship provided funding for my graduate training as well as research support to standardize Autism Diagnostic Observation Schedule (ADOS) scores and adapt them to be used as a severity metric for autism symptomatology.

Role: Predocotrinal Training Fellow