BIOGRAPHICAL SKETCH

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NAME: Cohen-Gilbert, Julia Elizabeth

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POSITION TITLE: Instructor in 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
University of Pennsylvania, Philadelphia, PA	B.A.	2002	Biological Basis of Behavior
University of Minnesota, Minneapolis, MN	M.A.	2008	Child Psychology
University of Minnesota, Minneapolis, MN	Ph.D.	2010	Child Psychology
McLean Hospital, Belmont, MA	Post Doc	2010-2013	Neuroimaging

A. Personal Statement

I am an Early Stage Investigator working in research full-time as an Associate Neuroscientist at McLean Hospital and Assistant Professor in Psychiatry at Harvard Medical School. I have obtained extensive training in both cognitive neuroscience and developmental psychology. My research uses structural and functional magnetic resonance imaging (MRI), magnetic resonance spectroscopy (MRS) and cognitive measures to examine brain development and alcohol use in adolescence and emerging adulthood. My graduate work focused on normative brain development during adolescence and the developing interaction between emotion and cognitive control. In order to examine the impact of emotional information on inhibitory control in healthy adolescents, I developed a novel Emotional Go-NoGo task to be implemented both as a behavioral measure and in conjunction with fMRI. During my postdoctoral training with Dr. Marisa Silveri, I continued to develop this protocol and extended my research into questions regarding the impact of alcohol use on cognitive control and emotion across adolescence and adulthood. We are currently collecting data using my task in conjunction with fMRI as a component of our longitudinal adolescent neuroimaging R01 study and also in my K01 study of the impact of binge alcohol use in college students. Data show relationships between task-related activation during the emotionally negative condition and recent binge drinking in this cohort of college freshmen (a). My current position at McLean Hospital has further enabled me to extend my knowledge of structural and functional MRI into learning to employ MRS as a research tool to explore the neurochemical correlates of structural and functional brain changes during adolescence (b,c).

My most relevant publications that highlight my experience and qualifications for this project include the following:

a. **Cohen-Gilbert, JE**, Nickerson, LD, Sneider, JT, Oot, EN, Seirakas, AM, Rohan, ML, & Silveri, MM. College binge drinking associated with decreased frontal activation to negative emotional distractors during inhibitory control. Frontiers in Psychology, 2017; 8: 1650. PMCID: PMC5614979. doi:10.3389/fpsyg.2017.01650
b. **Cohen-Gilbert JE**, Jensen JE, Silveri MM. Contributions of magnetic resonance spectroscopy to understanding development: Potential applications in the study of adolescent alcohol use and abuse. Development and Psychopathology, 2014; 26(2): 405-23. PMCID: PMC4498408. doi: 10.1017/S0954579414000030

c. **Cohen-Gilbert JE**, Sneider JT, Crowley DJ, Rosso IM, Jensen JE, Silveri MM. Impact of family history of alcoholism on glutamine/glutamate ratio in anterior cingulate cortex in substance-naïve adolescents. Developmental Cognitive Neuroscience, 2015; 16: 147-154. PMID: 26025607. PMCID: PMC4618784. doi: 10.1016/j.dcn.2015.04.005
d. Silveri MM, Dager, AD, **Cohen-Gilbert JE**, Sneider JT. Neurobiological signatures associated with alcohol and drug use in the human adolescent brain [Review]. Neuroscience and Biobehavioral Reviews, 2016; 70: 244-259. PMCID: PMC5494836. doi: 10.1016/j.neubiorev.2016.06.042

B. Positions and Honors

Positions and Employment

2002-2005	Research Assistant in Brain and Cognitive Science, University of Rochester, Rochester, NY
2013-	Assistant Neuroscientist, McLean Imaging Center, McLean Hospital, Belmont, MA
2013-	Instructor in Psychiatry, Harvard Medical School, Boston, MA

Other Experience and Professional Memberships

2005-2006, 2017-	Cognitive Neuroscience Society
2006-2008, 2011-2015	Society for Research in Child Development
2010-2012	Association for Psychological Science
2012-2013	Society for Neuroscience
2017-	Research Society on Alcoholism

Honors

2002	Edward J. Pugh award for Outstanding Academic Excellence
2005-2006	University of Minnesota Graduate School Fellowship
2006	Center for Neurobehavioral Development Seed Grant
2006-2008	Center for Cognitive Science Predoctoral Traineeship
2008	Institute of Child Development Student Small Grant
2008	Center for Magnetic Resonance Research Predoctoral Magnet Time Grant
2008-2009	Center for Neurobehavioral Development Predoctoral Fellowship
2009	Center for Neurobehavioral Development Travel Award
2009	Wisconsin Symposium on Emotion Travel Award
2009	Center for Neurobehavioral Development Seed Grant
2009-2010	Eva O. Miller Fellowship
2010	Center for Neurobehavioral Development Travel Award
2010	Institute of Child Development Student Small Grant
2010	University of Minnesota Thesis Research Grant
2012	O'Keefe Family Junior Investigator Award for Excellence in Imaging Research
2015	Cold Spring Harbor Selected Attendee and Travel Award Recipient – Cellular Biology of Addiction

C. Contributions to Science

1. My earliest work examined the ***impact of environmental factors on constructive visual memory skills and visual attention***. Specifically, I collected and analyzed data from a sample of congenitally deaf individuals and hearing individuals on a battery of tasks examining visuospatial abilities. Findings from this study showed an absence of previously reported memory deficits in the Deaf population relative to the hearing sample, suggesting that reported deficits were more likely due to the use of language-based memory tasks and the testing of Deaf individuals who were deprived of early language exposure (a). I also conducted a training study in which video-game naïve individuals were exposed to thirty hours of video game training and subsequently demonstrated improvements in several aspects of visual-spatial attention. This study helped specify aspects of video game play that were crucial to the modification of visual attention skills (b).
   a. Hauser PE, **Cohen J**, Dye M, Bavelier D. Assessment of visual constructive and visual motor skills in Deaf adults. Journal of Deaf Studies and Deaf Education, 2006; 12(2): 148-157. PMID: 17194846. doi: 10.1093/deafed/enl030

b. **Cohen JE**, Green CS, Bavelier D. Training visual attention with video games: Not all games are created equal. In O'Neil, H and Perez, R. (ed.): Computer Games and Team and Individual Learning, Oxford: Elsevier Ltd, 2007.

2. In my graduate and postdoctoral work, I conducted studies and published results describing ***developmental changes in adolescent emotion processing and executive function***. These studies employed a number of behavioral measures that varied in emotional content and motivational salience in order to examine the relative impact of development of prefrontal cortex and limbic brain areas on adolescent cognitive functioning (a). I developed an emotional Go-NoGo task that probes the interaction of emotion regulation and executive functioning, specifically the impact of emotional distraction on a response inhibition task. This task enabled me to identify a potential window of risk during adolescent development when negative emotional stimuli are particularly disruptive to inhibitory control (b). I have also applied a drift-diffusion computational model to the analysis of emotional Go-NoGo data in order to identify specific aspects of the decision-making process that are altered in the transition from adolescence to adulthood (c). Application of my emotional Go-NoGo task in a sample of young adolescents who were internationally adopted following early life spent in orphanages showed a detrimental impact of increasing early stress (increased duration in orphanage care) on inhibitory control only in individuals who possessed a risk-associated methionine (Met) allele in the Val66Met polymorphism of the BDNF gene (d).
   a. Prencipe A, Kesek A, **Cohen JE,** Zelazo PD. Development of hot and cool executive function during the transition to adolescence. Journal of Experimental Child Psychology, 2011; 108(3): 621-637. PMID: 21044790. doi: 10.1016/j.jecp.2010.09.008
   b. **Cohen-Gilbert JE,** Thomas KM. Inhibitory control during emotional distraction across adolescence and early adulthood. Child Development, 2013; 84(6): 1954-1966. PMCID: PMC3688699. doi: 10.1111/cdev.12085
   c. **Cohen-Gilbert JE**, Killgore WDS, Schwab ZJ, Crowley DJ, Covell MJ, Acharya D, Sneider JT, Silveri MM. Differential influence of safe versus threatening facial expressions on inhibitory control across adolescence and adulthood. Developmental Science, 2014; 17(2):12-23. PMCID: PMC4465543. doi: 10.1111/desc.12123
   d. **Cohen-Gilbert JE**, Stein ER, Gunnar MR & Thomas KM. Association of early stress and BDNF genotype with response inhibition during emotional distraction in adolescence. The Journal of Early Adolescence, 2016; 38(9): 1265-1285. doi: 10.1177/0272431616675975

3. My current work has extended and applied my understanding of developmental changes in the adolescent and emerging adult brain and has incorporated neuroimaging techniques, such as fMRI (a), structural MRI (b,c), and MRS (d), to identify ***neurological impacts of binge drinking in adolescence and emerging adulthood***. I am currently completing a K01 Career Development grant to extend this line of research to develop a predictive neurobiological profile for heavy and light-drinking college freshmen in order to identify those at greater risk for developing long-term negative outcomes including alcohol use disorders, other forms of psychopathology, and academic or social problems.
   a. **Cohen-Gilbert, JE**, Nickerson, LD, Sneider, JT, Oot, EN, Seirakas, AM, Rohan, ML, & Silveri, MM. College binge drinking associated with decreased frontal activation to negative emotional distractors during inhibitory control. Frontiers in Psychology, 2017; 8: 1650. PMCID: PMC5614979. doi:10.3389/fpsyg.2017.01650
   b. Mashhoon Y, Czerkawski C, Crowley DJ, **Cohen-Gilbert JE**, Sneider JT, Silveri MM. Binge alcohol consumption in emerging adults: Anterior cingulate cortical 'thinness' is associated with alcohol use patterns. Alcoholism: Clinical and Experimental Research, 2014; 38(7): 1955-64. PMCID: PMC4107054. doi: 10.1111/acer.12475
   c. Maksimovskiy AL, Oot EN, Seraikas AM, Rieselbach M, Caine C, Sneider JT, **Cohen-Gilbert JE**, Harris SK, Nickerson LD, Rohan ML and Silveri MM. Morphometric biomarkers of adolescents with familial risk for alcohol use disorder. Alcoholism: Clinical and Experimental Research, 2019; EPub Early View. doi: https://doi.org/10.1111/acer.14201.
   d. Silveri MM, **Cohen-Gilbert JE**, Crowley DJ, Rosso IM, Jensen JE, Sneider JT. Altered anterior cingulate neurochemistry in emerging adult binge drinkers with a history of alcohol-induced blackouts. Alcoholism: Clinical and Experimental Research, 2014; 38(4): 969-79. PMCID: PMC4465537. doi: 10.1111/acer.12346

4. In collaboration with Dr. Jennifer Sneider I have also examined the ***impact of development and binge drinking on spatial memory and related brain circuitry***. My publications in this area have reported a negative impact of binge drinking on verbal memory in healthy young adults (a), the emergence of sex differences in spatial memory between adolescence and early adulthood (b), and the implication of hippocampus and prefrontal brain areas in spatial navigation and memory in young adolescents (c).
   a. Sneider JT, **Cohen-Gilbert JE**, Crowley DJ, Paul MD & Silveri MM. Differential effects of binge drinking on learning and memory in emerging adults. Journal of Addiction Research and Therapy, 2013: S7: 38-43. PMCID: PMC3881421. doi: 10.4172/2155-6105.S7-006
   b. Sneider, JT, Hamilton, DA, **Cohen-Gilbert, JE**, Crowley, DJ, Rosso, IM & Silveri, MM. Sex differences in spatial navigation and perception in human adolescents and emerging adults. Behavioral Processes. 2015; 111: 42-50. PMCID: PMC4304985. doi:10.1016/j.beproc.2014.11.015
   c. Sneider, JT, **Cohen-Gilbert, JE**, Hamilton, DA, Stein, ER, Golan N, Oot, EN, Seraikas A, Rohan ML, Harris, SK, Nickerson LD, Silveri, MM. Adolescent hippocampal and prefrontal brain activation during performance of the virtual Morris Water Task. Frontiers in Human Neuroscience, 2018; 12: 238. PMID: 29997486

Complete List of Published Works in MyBibliography:
http://www.ncbi.nlm.nih.gov/sites/myncbi/julia.cohen-gilbert.1/bibliography/48144815/public/?sort=date&direction=ascending

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

K01 AA022392-04 Cohen-Gilbert (PI) 08/14 – 07/19 [NCE]
Neural and Cognitive Factors Predicting Adverse Outcomes in College Drinkers
This study will integrate fMRI and MRS with behavioral and self-report measures of emotion-related impulsivity in college students, who will be followed over two subsequent one-year time points via online surveys to assess psychological well-being, emotion-related impulsivity and alcohol use.
Role: Principal Investigator

R01 AA022493-04 Silveri (PI) 09/14 – 08/19 [NCE]
Consequences of Adolescent Alcohol Use on Brain Development
This study employs an innovative strategy that combines multiple neuroimaging and neuropsychological approaches to identify neurodevelopmental vulnerabilities associated with early and escalating alcohol use during adolescence.
Role: Collaborator

Completed Research Support

R01 AA018153 Silveri (PI) 01/10 – 06/15 [NCE]
NIAAA
Neurobiological Consequences of Binge Alcohol Consumption in Young Adults
The overall aim is to examine the effects of binge alcohol consumption on brain metabolites using magnetic resonance spectroscopy (MRS) and neuropsychological performance in 18-24 year olds.
Role: Collaborator