

BIOGRAPHICAL SKETCH

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NAME: Rebecca J. Houston

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

POSITION TITLE: Senior Research Scientist

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 Arkansas at Little Rock, Little Rock, AR	B.A.	1993-1997	Psychology
University of New Orleans, New Orleans, LA	M.S.	1997-1999	Biopsychology
University of New Orleans, New Orleans, LA	Ph.D.	1999-2002	Biopsychology
University of Connecticut, School of Medicine,	Postdoc	2002-2004	Alcohol & Drug Abuse Res.

A. PERSONAL STATEMENT

My training is in the field of Applied Biopsychology, specifically the clinical applications of neurobehavioral and psychophysiological assessment. This assessment work has particularly focused on biological underpinnings, risk factors, and treatment response for behaviors/disorders characterized by a lack of impulse control (e.g., aggression, substance use, personality disorder). Given the broad applications of these tools, my research portfolio includes a diverse set of foci. I began my career examining the underlying neurocognitive substrates of impulsive and aggressive behavior as well as the impact of pharmacological treatment. As an NIAAA postdoctoral fellow in the Alcohol Research Center at the University of Connecticut School of Medicine, my focus expanded to more broadly address neurocognitive aspects of disinhibited behavior (e.g., borderline personality disorder) in adolescents with a family history of alcohol and drug dependence. After joining the Research Institute on Addictions in 2004, I was involved in a number of projects focusing on neuropsychological and psychophysiological correlates of impulse control, aggression, anger, suicidal ideation and related behaviors (e.g., drinking and driving) in substance dependent and at-risk samples as well as community samples (both older and emerging adults). In the Fall of 2016 I joined the faculty in the Department of Psychology at the Rochester Institute of Technology. I was recently awarded internal funding for a multi-method study on impulsivity among binge drinking college students that includes the application of heart rate variability training as a means for attenuating negative health behaviors characterized by disinhibition. As PI or Co-I on a number of projects, I have gained extensive experience in clinical assessment and the measurement of physiology and neurocognition, including a focus on assessment of impulsivity, in a variety of experimental contexts including alcoholism treatment. For the current proposal, I will set up and oversee all aspects related to psychophysiological assessment including provision of training and supervision on psychophysiological data acquisition and reduction. I will also consult with the PI and co-Investigators regarding data analysis and manuscript preparation.

B. POSITIONS AND HONORS**Employment**

2002-2004	Postdoctoral Fellow, Alcohol Research Center, Department of Psychiatry, University of Connecticut, School of Medicine
2004-2011	Research Scientist, Research Institute on Addictions, University at Buffalo, The State University of New York
2005-2009	Adjunct Assistant Professor, Clinical Program, Department of Psychology, University at Buffalo, The State University of New York

- 2009-2016 Research Assistant Professor, Clinical Program, Department of Psychology, University at Buffalo, The State University of New York
- 2011–2016 Senior Research Scientist, Research Institute on Addictions, University at Buffalo, The State University of New York
- 2016-present Assistant Professor, Department of Psychology, Rochester Institute of Technology

C. CONTRIBUTION TO SCIENCE

1. **Neurobiological Correlates of Impulsive Aggression.** My early research focused on neuropsychological and clinical assessment, impairment in brain function (as measured via event-related brain potentials) and pharmacological treatment in individuals characterized with impulsive aggressive behavior. I served as the lead graduate student or PI on these projects. Together these studies have been cited in well over 100 scientific articles, have solidified the need to assess the nature of aggressive behavior in treatment contexts, and have resulted in the development of a procedures manual for the assessment of aggressive behavior (*Procedures Manual for the Classification of Aggressive/Violent Acts*).
 - a. **Houston, R. J.** & Stanford, M. S. (2001). Mid-latency evoked potentials in self-reported impulsive aggression. *International Journal of Psychophysiology*, 40, 1-15.
 - b. **Houston, R. J.**, Stanford, M. S., Villemarette-Pittman, N. R., Conklin, S. M., Helfritz, L. E. (2003). Neurobiological correlates and clinical implications of aggressive subtypes. *Journal of Forensic Neuropsychology*, 3, 67-87.
 - c. Stanford, M. S., Conklin, S. M., Helfritz, L. E., Villemarette-Pittman, N. R., Greve, K. W., Adams, D., **Houston, R. J.** (2005). A comparison of anticonvulsants in the treatment of impulsive aggression. *Experimental and Clinical Psychopharmacology*, 13, 72-77.
 - d. **Houston, R. J.**, Stanford, M. S. (2005). Electrophysiological substrates of impulsiveness: Potential effects on aggressive behavior. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 29, 305-313.

2. **The Impulsive-Premeditated Aggression Scales.** A specific contribution related to the work described above was the creation of a self-report measure assessing functions of aggressive behavior, the Impulsive-Premeditated Aggression Scales (IPAS). I was involved in the original content development and preliminary studies using this measure and have continued to refine and apply the measure in broader samples such as substance use disordered individuals, criminal offenders, heavy drinking couples, and non-clinical emerging adults.
 - a. **Houston, R. J.** & Stanford, M. S. (2006). Characterization of aggressive behavior and phenytoin response. *Aggressive Behavior*, 32, 38-43.
 - b. Stanford, M. S., **Houston, R. J.**, & Baldridge, R. M. (2008). Comparison of impulsive and premeditated perpetrators of intimate partner violence. *Behavioral Sciences and the Law*, 26, 709-722.
 - c. Conner, K. R., **Houston, R. J.**, Sworts, L. M., & Meldrum, S. (2007). Reliability of the Impulsive-Premeditated Aggression Scale (IPAS) in treated opiate dependent individuals. *Addictive Behaviors*, 32, 655-659.
 - d. Ostrov, J. M. & **Houston, R. J.** (2008). The utility of forms and functions of aggression in emerging adulthood: Association with personality disorder symptomatology. *Journal of Youth and Adolescence*, 37, 1147-1158.

3. **Neurocognitive Correlates of Borderline Personality Disorder.** My interest in neurocognitive implications of impulse control problems led to a series of studies examining neurocognitive correlates of Borderline Personality Disorder (BPD) in adolescents with a family history of alcohol and/or drug use. These studies were the first to systematically examine event-related potentials indices of cognitive decrements associated with BPD and the first to do so in adolescents that exhibited BPD symptomatology as opposed to adult patients with a long clinical history of BPD. These were conducted as secondary data analyses on pre-existing data; my main role was in development of the idea and carrying out the analyses and manuscript production.

- a. **Houston, R. J.**, Bauer, L. O. & Hesselbrock, V. M. (2004). Effects of Borderline Personality Disorder features and a family history of alcohol or drug dependence on P300 in adolescents. *International Journal of Psychophysiology*, 53, 57-70.
 - b. **Houston, R. J.**, Ceballos, N. A., Bauer, L. O. & Hesselbrock, V. M. (2005). Borderline Personality Disorder features in adolescent girls: P300 evidence of altered brain maturation. *Clinical Neurophysiology*, 116, 1424-1432.
 - c. Ceballos, N. A., **Houston, R. J.**, Bauer, L. O. & Hesselbrock, V. M. (2006). Brain maturation in conduct disorder versus borderline personality disorder. *Neuropsychobiology*, 53, 94-100.
4. **Suicide Attempt and Ideation.** As part of a team of collaborators, I was also involved in two major projects (as Co-I; site PI for multi-site portion) examining factors contributing to and protective against suicide attempt and ideation. These studies have focused primarily on high risk individuals such as those in residential treatment for substance use disorders and adolescents with a family history of alcohol and substance use problems. The findings from this line of work have highlighted the role of stressful life events and parent-child interactions as risk or protective factors for suicide attempt.
- a. Conner, K. R., **Houston, R. J.**, Swogger, M. T., Conwell, Y., You, S., He, H., Gamble, S. A., Watts, A., Duberstein, P. (2012). Stressful life events and suicidal behavior: Role of event, severity and timing. *Drug and Alcohol Dependence*, 120, 155-161. PMID: PMC3235540
 - b. Conner, K. R., Gamble, S. A., Bagge, C. L., He, H., Swogger, M. T., Watts, A. & **Houston, R. J.** (2014). Substance-induced depression and independent depression in proximal risk for suicidal behavior. *Journal of Studies on Alcohol and Drugs*, 75, 567-572. PMC Journal - In Process
 - c. Conner, K. R., Bossarte, R. M., Lu, N., Kaukeinen, K., Chan, G., Wyman, P., Tu, X., Goldston, D., **Houston, R. J.**, Bucholz, K. K., Hesselbrock, V. M. (2014). Parent- and child psychopathology and suicide attempts among children of parents with alcohol use disorder. *Archives of Suicide Research*, 18, 117-130. PMID: PMC4059391
 - d. Conner, K. R., Wyman, P., Goldston, D. B., Bossarte, R. M., Lu, N., Kaukeinen, K., Tu, X. M., **Houston, R. J.**, Lamis, D. A., Chan, G., Bucholz, K. K., & Hesselbrock, V. M. (2016). Two studies of connectedness to parents and suicidal thoughts and behavior in children and adolescents. *Journal of Clinical Child and Adolescent Psychology*, 13, 1-12. PMC Journal - In Process
5. **Impulse Control and Alcohol Consumption.** My most recent work has focused on the biobehavioral study of impulse control and related factors in the context of alcohol consumption and treatment. This has included an examination of impulse control as a mechanisms of change during alcoholism treatment, a demonstration of executive cognitive functioning deficits and evidence that differential patterns of alcohol consumption/expectancies influence outcomes in heavy drinking couples. I have been involved as both a PI and Co-I in these studies.
- a. **Houston, R. J.**, Englert, T. M., Dearing, R. L., Connors, G. J., & Homish, G. G. (2009). Effects of cognitive-behavior therapy on perseverative responding in alcohol dependent men and women. *Psychophysiology*, 46, S154.
 - b. **Houston, R. J.**, Derrick, J. L., Leonard, K. E., Testa, M., Quigley, B. M., Kubiak, A. (2014). Effects of heavy drinking on executive cognitive functioning in a community sample. *Addictive Behaviors*, 39, 345-349. PMID: PMC4101901
 - c. Derrick, J. L., **Houston, R. J.**, Quigley, B. M., Testa, M., Kubiak, A., Levitt, A., Homish, G. G., & Leonard, K. E. (2016). (Dis)similarity in impulsivity and marital satisfaction: A comparison of volatility, compatibility, and incompatibility hypotheses. *Journal of Research in Personality*, 61, 35-49. PMID: PMC4774250
 - d. **Houston, R.J.** & Schlien, N.J. (2018) Event-related potentials as an index of behavior change in substance use disorder treatment. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, 3, 30-40. PMC Journal - In Process

Complete List of Published Work in MyBibliography:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/rebecca.houston.1/bibliography/47792909/public/?sort=date&direction=descending>

D. RESEARCH SUPPORT

Current Research Support

Rochester Institute of Technology Grant Writer's Bootcamp Award (Houston) 06/01/17-05/31/18

Binge Drinking and Impulsivity: A Multi-method Study

This internally supported project is designed to compare multiple facets and measurements of the impulsivity construct using self-report, behavioral, and event-related brain potential assessment in binge drinking versus non-binge drinking college students. In addition, pilot/feasibility data will be gathered on the application of heart rate variability (HRV) training over a 4 week period in a subset of binge drinking participants.

Role: Principal Investigator

Advance RIT Connect Grant (Schenkel)

Training on a School-based Research Protocol for Substance Abuse Prevention Services for Children with Conduct Disorders.

05/01/17-04/30/18

The Advance Connect Grants are funded via RIT's larger NSF-funded ADVANCE Institution Transformation grant (NSF 1209115). This award provides support for the investigators to receive training on a specific intervention protocol for substance abuse, including components targeted self-regulation and biofeedback.

Role: Co-Investigator

Completed Research Support

R21 AA021924 (Wu) 08/01/13-07/31/16

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

Detect and Interrupt Alcohol Impaired Driving with a New 3D Camera System

This goal of this project is to develop and test a three-dimensional traffic camera system for more accurate detection of alcohol impaired driving. This will involve an alcohol administration study supervised by Co-I Houston, a field driving study and a real-world application of the camera system.

Role: Co-Investigator

DT RT13-G-UTC32 (Wu) 06/01/15-11/30/16

United States Department of Transportation (USDOT)

Drinking and Driving Interruption and Prevention Research Cluster Team: A Multidisciplinary Research to Solve a Critical Transportation Safety Problem

Funding for a team of experts in the Western New York area for promoting research pertaining to drinking and driving interruption and prevention. Activities as part of the funding include the organization of a conference, a website and online discussion forums to promote research and future grant proposals with a long term goal of creating a grant-based research center focused on interruption and prevention of drinking and driving.

Role: Co-Principal Investigator and Associate Director

R21 DA034068 (Derrick) 07/15/12-06/30/15

NIDA

Partner Influence, Self-Control, and Smoking Cessation: A Study Using EMA

The goal of the project is to examine how partners influence self-control and smoking outcomes in smokers trying to quit smoking. The study will use ecological momentary assessment (EMA) to follow both partners over 21 days while one partner makes a quit attempt.

Role: Co-Investigator

Western New York STEM Cell supplemental grant (Bass) 06/01/14-06/01/15

Biomarkers of AUD Treatment Resistance from Participant Derived iPS cells

This pilot project provides funding for the collection of fibroblast tissue from two Alcohol Use Disordered (AUD) individuals, one treatment resistant and one treatment responsive. The primary goal of this project is to demonstrate the feasibility of the induction of pluripotent iPS cells from these AUD individuals.

Role: Co-Investigator