

Gerald Hecht

•Maternal Behavior•Cocaine Self Administration•Prenatal Cocaine Exposure•University Teaching•Behavioral Neuropharmacology•Effects of Habitat Change on Animal Behavior•Recognised Innovator in Ecologically Valid Research Designs•Laboratory Supervision

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Recently, a former student of mine approached me in a local supermarket; saying that they just wanted to thank me; that even though (at the time) they didn't always grasp the surface content and/or deeper meaning of my lectures --they did think I was a cool person, and one of their favorite professors/teachers during their time in school. I am always moved by such encounters; and never take them for granted. Here's why: Ultimately, even though I have been working in academia for over a decade, I am as fascinated and passionate about my chosen field of Behavioral Neuropharmacology as I was as an undergraduate and graduate student.

I have considered it a privilege to be able to continue working in university and medical school settings; teaching, and contributing to our shared understanding of the principles of Behavioral Neuropharmacology via engagement in both collaborative and original research spanning multiple levels of analysis from complex behavioral measurement to more molecular phenomena such as in vitro receptor binding assays, single neuronal electrophysiology, immunohistochemistry, fluorescence, etc. and more recently, (harnessing the possibilities offered by modern imaging techniques such as Magnetic Resonance Imaging, Optogenetics, etc.) simultaneous, real time measurement of pharmacologically induced alterations in both biochemical and behavioral phenomena.

My rejoinder to the former student is still fresh in my mind:

"I probably don't need to tell you this, but It often happens in higher education that policy makers, university board members, and administrators have a different vision than what I (as you may recall) refer to as 'faculty students'. My vision has always been education; devoting my energy to:

- 1) developing a love of learning in students and
- 2) strengthening my own love of that feeling of 'leaning a bit too far back in one's chair'; that first step on the way to learning something new." I went on to say that "even though these are uncertain times for traditional higher education --and I continually keep on top of the latest developments in psychology and neuroscience, I am also considering opportunities with younger people, in the areas of STEM or STEAM education --toward the goal of making a difference in students before they even get to college.

I am also open to pursuing opportunities in the environmental industry in research, education, or education in non-traditional settings, i.e., adapting what I've learned in comparative neuroscience in the lab to the 'real world', i.e., into the field; studying various animal species and how they are affected by, and respond to rapidly changing conditions in their traditional habitats --in zoos, estuaries, nature preserves and other 'atypical classrooms'...In fact I would be extremely grateful if you keep me in mind if you hear of any opportunities in any of these areas."

Later I realized that I couldn't have said it better myself; I already had.
Authorized to work in the US for any employer

WORK EXPERIENCE

Associate Professor of Psychology (Granted Tenure and Promoted from Rank of Assistant Professor in 2007)

Southern University Baton Rouge, Department - Baton Rouge, LA - August 1999 to Present

I have engaged in: 1) Teaching undergraduate students. 2) Student Advisement. 3) Serving as a faculty committee member for thesis defenses (multiple). 4) Proposal, development, and implementation of requisite modifications to the undergraduate Physiological Psychology courses for acceptance into Louisiana Substance Abuse Certification Program. 5) Recommendation and implementation of changes to faculty assignments to American Psychological Association (APA) core courses so that all tenure-track faculty taught at least one APA required core course to maintain Accreditation. 6) Serving as the departmental IT Specialist, designing, maintaining, overseeing all aspects of the departmental computer laboratory, the configuration of servers, and "headless", multiple NIC equipped, routers, harnessing best practice Linux OS IP Routing Configuration Protocols; allowing for separate faculty and student Local Area Network (LAN) Segments. 7) Serving as IT contact liaison between the Psychology Department and Campus Office of Technology and Network Management. 8) Teaching of the following APA core Psychology Courses: 'Physiological Psychology', 'Sensation and Perception', 'Psychopharmacology', 'Developmental Psychology', 'Advanced Statistics', 'Learning Theory', and 'History and Systems'. 9) Continued publication of research in peer-reviewed, professional journals, book chapters, and conference presentations.

Adjunct Professor of Psychology

Louisiana State University (LSU) Baton Rouge - Baton Rouge, LA - August 1999 to Present

When requested, I teach undergraduate courses in Psychology. Following the tremendous influx of students from the New Orleans Campus following hurricane Katrina (in 2005), I was teaching an average of four courses per semester for several years, including the following: 'Introductory Psychology (multiple sections)', 'History and Systems (multiple sections)', 'Drugs and Behavior', and 'Psychological Theories of Learning'.

National Institute of Drug Abuse (NIDA) Postdoctoral Fellow

University of Mississippi Medical Center School of Medicine (UMMC), Department of Psychiatry and Human Behavior, Division of Neurobiology and Behavior Research, Dr. William Woolverton --Laboratory Director.

- Jackson, MS - August 1997 to January 1999

My published research focused on investigating (on multiple levels of analysis, ranging from in vitro methods, such as radiolabeled ligand receptor binding assays, to immunofluorescence, up to behavioral analysis , including both Pavlovian, i.e., Conditioned Place Preference (CPP) and Operant behavioral measures, i.e., intravenous Drug Self Administration) relationships between binding affinities of dopaminergic agents at the Dopamine Reuptake Transporter (DAT), presynaptic dopaminergic autoreceptors, postsynaptic dopamine receptor subtypes, and concomitant, real time effects of those agents on Behavior --in both rodent and Rhesus Macaque animal models.

EDUCATION

Ph.D. in Developmental Behavioral Neuropharmacology

State University of New York at Binghamton (Binghamton University) - Binghamton, NY

1993 to 1997

M.A. in Experimental Psychology

West Chester University - West Chester, PA

1990 to 1993

B.A. in Psychology

Rowan University - Glassboro, NJ
1987 to 1989

SKILLS

Anatomy And Physiology (5 years), Linux (10+ years), Public Speaking (10+ years), Data Analysis (10+ years), Teaching (10+ years), Technical Writing (10+ years), Excel (10+ years), Educator (10+ years), Grant Writing (10+ years), Hardware (10+ years), Medical Terminology (10+ years), Research (10+ years), Word (10+ years), Windows (10+ years), Operating Systems (10+ years), Powerpoint (10+ years), Customer Service (10+ years), Creative Writing (10+ years), Blackboard (10+ years), Mentoring (10+ years), Servers (10+ years), Pharmacology (10+ years), Psychology (10+ years), Spss (10+ years), XML (10+ years), Grant Writing (10+ years)

LINKS

<http://www.psiwebsubr.org>

https://drive.google.com/open?id=0B9GW-p_btMtha2tPWGI3SIUyU2s

<https://scholar.google.com/citations?hl=en&user=dciT-kAAAAAJ>

<https://www.linkedin.com/in/drgeraldhecht>

AWARDS

Clyde Davis Award for outstanding undergraduate research project, 1989

May 1989

Award for Most Outstanding Undergraduate Research Project in Mathematics and Science at Rowan University 1989

Selected as one of 8 American Scientists for participation in 1994 NATO-ASI meeting; Behavioral Brain Research in Naturalistic and Seminaturlistic Settings: Possibilities and Perspectives, Acquafredda di Maratea, Italy. NSF travel award for same (ASI Travel Award Program Grant [National Science Foundation], 1994, ASI #930511, \$1000).

September 1994

NATO ADVANCED STUDY INSTITUTE: Behavioral Brain Research in Naturalistic and Seminaturlistic Settings: Possibilities and Perspectives.

Hotel Villa del Mare, Acquafredda di Maratea, Italy

Binghamton University Distinguished Doctoral Dissertation Award Recipient, 1997. Outstanding dissertation in Science and Mathematics.

May 1997

Most Outstanding Doctoral Dissertation in Science and Mathematics at Binghamton University (SUNY Binghamton)

College on Problems of Drug Dependence Travel Award Winner, 1998.

June 1998

<http://cpdd.org/about-us/about-the-college/travel-awards/travel-awards-winners/>

GROUPS

CPDD

September 1997 to Present

<http://cpdd.org/about-us/about-the-college/travel-awards/travel-awards-winners/>

1998 Travel Award Winner

PUBLICATIONS

Changes in progressive ratio responding for intravenous cocaine throughout the reproductive process in female rats.

https://scholar.google.com/citations?view_op=view_citation&hl=en&user=dciT-kAAAAAJ&citation_for_view=dciT-kAAAAAJ:u5HHmVD_uO8C

September 1999

The First Ecologically Valid Animal Model of Prenatal Cocaine Exposure.

PMID 10461127

Pre-quit depression level and smoking expectancies for mood management predict the nature of smoking withdrawal symptoms in college women smokers.

https://scholar.google.com/citations?view_op=view_citation&hl=en&user=dciT-kAAAAAJ&citation_for_view=dciT-kAAAAAJ:2KloaMYe4IUC

May 2009

Results imply that women smokers with baseline depressive symptomatology and expectancies for smoking to relieve negative mood endure greater abstinence-induced mood disturbance, but similar levels of other smoking withdrawal symptoms during initial abstinence. These results may inform smoking cessation efforts.

PMID 19157715

Further studies of the reinforcing effects of benzotropine analogs in rhesus monkeys.

https://scholar.google.com/citations?view_op=view_citation&hl=en&user=dciT-kAAAAAJ&citation_for_view=dciT-kAAAAAJ:u-x6o8ySG0sC

April 2001

This study confirms and extends previous results suggesting that compounds with high DAT affinity can have strong, moderate, weak, or no effectiveness as reinforcers. The mechanisms that may underlie this variation in reinforcing effectiveness of these DAT ligands remain to be established.

PMID 11349390

Alterations in the reinforcing efficacy of cocaine in adult rats following prenatal exposure to cocaine.

https://scholar.google.com/citations?view_op=view_citation&hl=en&user=dciT-kAAAAAJ&citation_for_view=dciT-kAAAAAJ:9yKSN-GCB0IC

April 1998

These results suggest that the reinforcing efficacy of cocaine may be reduced in animals with a prenatal history of cocaine exposure.

PMID 9588487 [PubMed - indexed for MEDLINE]

Disturbances in the performance of thermal discrimination tasks following cortical ablations in rats.

https://scholar.google.com/citations?view_op=view_citation&hl=en&user=dciT-kAAAAAJ&authorid=7462443543867459883&citation_for_view=dciT-kAAAAAJ:35r97b3x0nAC

September 1993

Results of experiments testing these assumptions indicated that rats can use their snouts to make discriminations of 1 degree C or less, that their acuity is better in the cool than in the warm range, and that somatosensory ablations produce moderate to severe disturbances in the capacity to discriminate between cool stimuli but only slight transitory disturbances in this capacity for warm stimuli. Additionally, the results suggest that the sensorimotor cortex may be involved in the rat's thermal discriminative capacity.

PMID 8242345 [PubMed - indexed for MEDLINE]

Perceptual consequences of electrical stimulation in the gustatory system.

https://scholar.google.com/citations?view_op=view_citation&hl=en&user=dciT-kAAAAAJ&citation_for_view=dciT-kAAAAAJ:d1gkVwhDpl0C

February 1993

To investigate the role of temporal coding in the neural processing of taste, trains of electrical pulses of varying frequency were delivered to the nucleus of the solitary tract (NTS) in awake rats. The temporal patterns of these trains mimicked the temporal patterns of electrophysiological responses of single neurons to natural tastes. In Experiment 1, water-deprived rats were first trained to lick water in an experimental chamber. On training days, licking water produced a sucroselike electrical pulse train in the NTS. At the end of these sessions, experimental animals were made ill by an injection of LiCl and subsequently learned to avoid licking when LiCl was paired with NTS stimulation. In Experiment 2, rats refused to lick water when licking produced a quinelike pattern of NTS stimulation but licked enthusiastically when licking produced a pattern of NTS stimulation similar to the natural response to sucrose.

PMID 8383498 [PubMed - indexed for MEDLINE]

Effects of copper and vitamin B-6 deficiency on taste sensitivity in the rat: a signal detection analysis.

https://scholar.google.com/citations?view_op=view_citation&hl=en&user=dciT-kAAAAAJ&citation_for_view=dciT-kAAAAAJ:2osOgNQ5qMEC

June 1989

The effects of dietary copper and Vitamin B-6 deficiency on NaCl sensitivity in adult male rats were assessed in separate studies using a double-blind protocol, high-precision gustometry, computer-controlled go/no-go operant procedures and signal detection measures of sensitivity and responsivity. The dietary manipulations reduced plasma copper ion content to 40% of baseline levels in the copper deficient group and plasma 5'-pyridoxal phosphate content to 5% of baseline levels in the Vitamin B-6 deficient group and, as expected, altered hematocrit and hemoglobin levels in both groups. These metabolic changes resulted in increased NaCl preference in the Vitamin B-6 deficient group but did not alter sensitivity or responsivity to NaCl, and similar results were obtained in simple and complex taste discrimination tests. The present results demonstrate that dietary copper and Vitamin B-6 deficiencies do not result in altered taste sensitivity in the adult male rat.

PMID 2813538 [PubMed - indexed for MEDLINE]

Quality-specific differences in rat taste detection performance as a function of stimulus volume.

https://scholar.google.com/citations?view_op=view_citation&hl=en&user=dciT-kAAAAAJ&citation_for_view=dciT-kAAAAAJ:qjMakFHDy7sC

October 1991

Taste detection performance for representatives of the four taste qualities as a function of stimulus volume (5×10^{-4} to 1×10^{-1} ml) was examined in rats using high-precision gustometry, computer-controlled operant procedures, nonparametric signal detection measures of sensitivity and responsivity, and blind control procedures. The overall sensitivity index was positively related to stimulus volume ($r_s = .60$), with optimal detection performance attained with a 5×10^{-3} ml stimulus volume for salty tastants and a 1×10^{-2} ml stimulus volume for the other taste qualities. The overall responsivity index was inversely related to stimulus volume ($r_s = -.47$), especially for sour and bitter tastants. These results are consistent with prior observations

and demonstrate that operant methods using small tastant samples produce sensitive estimates of the rat's taste detection performance and response bias.

PMID 1775544 [PubMed - indexed for MEDLINE]

ADDITIONAL INFORMATION

METHODOLOGIES

Receptor Binding Assays, Single-cell recording/stimulation, microiontophoresis, intravenous drug self administration, drug-state discrimination, Conditioned Place Preference, Conditioned, Taste Aversion, Operant Psychophysics, Smoking Topography Analysis in Human Subjects, Stereotaxic Neurosurgery in rodents and primates, Vascular microsurgery in rodents and primates, basic histology of brain tissue, HPLC, GC and associated imaging software

TEACHING/COURSES TAUGHT

Introduction to Psychology, Physiological Psychology, History & Systems in Psychology, Information Technology in the teaching of Psychology and Psychological research (Seminar), Substance Abuse and Human Behavior, Sensation and Perception, Advanced Statistics, Learning Theories in Psychology.

PUBLICATIONS/BOOK CHAPTERS

Copeland AL, Kulesza M, Hecht GS. Pre-quit depression level and smoking expectancies for mood management predict the nature of smoking withdrawal symptoms in college women smokers. *Addict Behav.* 2009 May;34(5):481-3. Epub 2008 Dec 24.

Woolverton, W.L., Hecht, G.S., Katz, J.L., Newman, A.H. (2001). Further studies of the reinforcing effects of benzotropine analogs in rhesus monkeys. *Psychopharmacology, (Berl)*. 2001 Apr;154(4):375-82.

Hecht, G.S., Spear, N.E., and Spear, L.P. (1999). Changes in progressive ratio responding for intravenous cocaine throughout the reproductive process in female rats. *Dev Psychobiol, Sep*;35(2):136-45.

Hecht, G.S., Spear, N.E., and Spear, L.P. (1998). Alterations in the reinforcing efficacy of cocaine in adult rats following prenatal exposure to cocaine. *Behavioral Neuroscience*, 112(2) 1-9.

Hecht, G.S., Riccio, L., Spear, L.P. and Spear, N.E. (1996). Intravenous self-administration of cocaine in pregnant and lactating rats. *Developmental Psychobiology*, 29(3):36.

Nadel, L. et al. Hippocampus. (1995). In E. Alleva et al. (eds.), *Behavioural Brain Research in Naturalistic and Semi-Naturalistic settings*, pp 353-355. Kluwer Academic Publishers. Netherlands.

Porter, L.H., Hecht, G.S. and Sheaffer, R. (1993). Disturbances in the performance of thermal discrimination tasks following cortical ablations in rats. *Brain Research*, 621, 319-330.

DiLorenzo, P.M. and Hecht, G.S. (1993a). Perceptual consequences of electrical stimulation in the gustatory system. *Behavioral Neuroscience*, 107(1), 130-138.

Hecht, G.S., Brosvic, G.M. and Porter, L.H. (1993b). Influences of amiloride hydrochloride on the taste detection performance.

Brosvic, G.M., Hecht, G.S. and La Haye, S. (1992). Quality-specific differences in rat taste detection performance as a function of stimulus volume. *Physiology and Behavior*, 50, 711-718.

Hecht, G.S. (1990). Influences of amiloride hydrochloride on taste detection performance: a signal detection analysis. Masters Thesis, West Chester University, Dr. Louis Porter Committee Chair.

Brosvic, G.M. and Hecht, G.S. (1989). The role of copper and vitamin B-6 in taste sensitivity in the rat: A signal detection analysis. *Physiology and Behavior*, 45, 1139-1145.