MA DIRECTED STUDY OPPORTUNITIES 14/15

Prof. David H. Barlow, Room 630 (648 Beacon St.) My clinical research at the Center for Anxiety and Related Disorders (CARD) focuses on understanding the nature of anxiety and depression and developing new treatments for emotional disorders.

Prof. Peter Blake, Room 137. Our research focuses on how children come to understand the social world. We conduct cognitive and behavioral experiments with children from 2 to 12 years of age. We study things such as cooperation and competition, ownership and private property, fairness and other social norms, and learning through imitation and communication. As a directed study student you would be involved in running studies, recruitment, interacting with participants and parents, study development and entering data.

Prof. Leslie Brody, Room 230 (648 Beacon St.). My current research investigates how coping strategies and gender roles in women with HIV predict their health outcomes. Students in the lab are trained to collaboratively code autobiographical narratives for coping strategies, gender roles, and interpersonal themes; to enter data, and then to select their own research question for further investigation.

Prof. Catherine Caldwell-Harris, Room 123. My research concerns cognition, language, and the brain. I have projects on bilingualism, psycholinguistics, deaf children’s sign acquisition and literacy, and cross-cultural aspects of emotion and language. I encourage students to begin the directed study by working on one of the existing projects in the lab, and then to develop their own study in conjunction with other lab members, if desired.

Prof. James Cherry, Room 402A (2 Cummington Mall 353-3254). Projects are available for students with some background and interest in neurobiology in studies that investigate brain circuitry in the mouse that processes odors used in social communication. Projects typically require animal handling and may use methods that include behavioral observation, neurosurgery, electrophysiology and/or histology/immunohistochemistry.

Prof. Alice Cronin-Golomb, Room 208 (648 Beacon St.) Vision and cognition in Parkinson’s disease and other neurological disorders. I am also conducting studies in cognition with healthy elderly individuals. Students may participate in literature review, data collection, coding and entry, and analysis.

Prof. Stacey Doan, 105B. Research in the lab focuses on contextual factors such as culture, poverty, and family processes affecting the development of emotion and social cognition.

Prof. Margaret Hagen, 125. We have an ongoing research laboratory studying jurors' decision-making in cases involving bullying, inflicting emotional distress, and ruining the reputations of others. Many of our cases center on evolving standards for use of social media and the expectations of privacy people do and do not have on these media.

Prof. Michael Hasselmo, Room 105E (2 Cummington Mall 353-1397). Students with a strong interest in neurophysiological mechanisms of memory function may have the opportunity to perform projects involving training of rats and gathering of physiological data. This requires a strong background in courses related to neuroscience. There are also opportunities for interested students in computer modeling of memory function in cortical networks. This requires some background in mathematics, programming or neural network theory.
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Prof. Stefan G. Hofmann, Room 404 (648 Beacon St.) I am conducting a number of research projects investigating the psychopathology and treatment of anxiety disorders (social phobia, specific phobia, and panic disorder). Furthermore, I am interested in the psychophysiology of emotions. Students will become familiar with various stages of a research project and may assist in conducting psycho physiological experiments, coding video and audio tapes, data entry, data organization, and data reduction.

Prof. Kathleen Kantak, Room 205 (2 Cummington Mall (353-9201). My research uses animal models to conduct translational research related to drug addiction. Using intravenous drug self-administration procedures in rats, one project investigates how cognitive-enhancing therapeutic strategies may be useful for attenuating drug relapse. A second project focuses on neurocognitive deficits in rats with an ADHD phenotype and their response to medications as well as on comorbidity between ADHD and drug abuse risk. A third project utilizes transgenic mice for which different subtypes of serotonergic neurons can be silenced and the role of these neurons in addiction-related behavior is examined.

Prof. Deb Kelemen, Room 121. Research in the Child Cognition Lab focuses on children=s conceptions of animals, people, and human-made objects. Depending on the specific project, directed study participation may include subject recruitment, data entry, assisting in the design stimuli (drawing and Photoshop skills are always in demand!), some child interviewing with training.

Prof. Jacqueline Liederman, Room 118C. I like to refer to myself as a Developmental Neuropsychologist; I am interested in the neural mechanisms underlying behavior and how these change in the context of development and/or disease. My training is primarily in physiological psychology. Research Interests: (1) how the two hemispheres collaborate and compete during information processing and how that is affected by split-brain surgery, learning disability and developmental maturation; (2) why boys are two to five times more likely to have a neurodevelopmental disorder than girls, including autism, dyslexia, learning disabilities, attention deficit disorder, etc. (Our current research examines factors underlying this male vulnerability during the prenatal period.); (3) attentional phenomena such as blindsight and change blindness (i.e., circumstances when awareness and perception are dissociated.)

Prof. Kathleen Malley-Morrison, Room 112B. At present, my major research project focuses on cross-cultural and international perspectives on war, other forms of institutional violence, and peace, in relation to variables such as nationality, gender, ethnicity, religion, and other characteristics. I am also doing some work on apology, forgiveness, and reconciliation. My research group, the Group on International Perspectives on Governmental Aggression and Peace (GIPGAP) is doing some work in collaboration with the Peace Abbey in Sherborn, MA, and are exploring the role of art in the promotion of peace. We would love some new members with artistic talents, as well as students interested in the role of the media in promoting tolerance of war or promotion of peace.

Assoc. Prof. Susan R. McGurk, (Center for Psychiatric Rehabilitation, 940 Commonwealth Ave.) My training is in both clinical and neuropsychology. My research addresses cognitive impairments in psychiatric illness, and their relationship with community functioning. Our research program is focused on the development and evaluation of cognitive enhancement strategies, such as restorative task practice and compensatory strategies, in improving work functioning in persons with serious psychiatric illness.
Prof. David I. Mostofsky, Room 135. My research interests relate to topics in Behavioral Medicine. Currently, my active research is concentrated on (1) heart rate variability (2) anorexia (3) incorporating behavioral medicine developments to treatment protocols in local and worldwide settings.

Prof. Kim T. Mueser, (Center for Psychiatric Rehabilitation, 940 Commonwealth Ave). My research and clinical interests at the Center for Psychiatric Rehabilitation focus on the development and evaluation of psychosocial treatments for persons with a serious mental illnesses such as schizophrenia, bipolar disorder, or treatment refractory depression. My ongoing and past work has involved a variety of different interventions, including teaching illness self-management (Illness Management and Recovery program), cognitive behavioral therapy for PTSD or psychosis, integrated treatment for co-occurring substance use disorders, family psychoeducation, social skills training, supported employment, cognitive remediation, treatment of first episode psychosis, and health promotion/disease management interventions.

Prof. Michael W. Otto, 5th Floor (648 Beacon St.) Much of my current research focuses on strategies to increase the retention of therapeutic learning - strategies that are designed to provide more efficient treatment of anxiety, mood, and substance use disorders. In addition to pharmacologic strategies (use of d-cycloserine or yohimbine in conjunction with cognitive-behavior therapy) our newest projects will examine the role of exercise in creating brain conditions for faster learning. This work complements (1) our ongoing focus on (1) identifying core factors in psychopathology and its treatment (with an emphasis on the role of distress intolerance across a wide variety of disorders), (2) issues in the acquisition or maintenance of health behaviors (smoking, exercise, and medication adherence), and (3) predictors of extinction learning.

Prof. Tibor Palfai, Room 410 (648 Beacon St.). My primary research interests are: (1) understanding the cognitive-motivational processes that underlie hazardous drinking, smoking, substance use, and other health risk behaviors (e.g., low physical activity, poor eating patterns) (2) clarifying the factors that facilitate and interfere with efforts to change these behaviors, and (3) developing interventions to promote health behavior change. I am particularly interested in the study of addictive behaviors among college student and medical populations.
Projects for 14-15
1) Brief interventions for college student drinking: understanding processes of change
2) Self-change processes among college student smokers
3) Self-regulation and exercise behavior

Dr. Brenda Caldwell Phillips, Room 133. My research explores the social-cognitive factors that facilitate children's conceptual development in both formal and informal learning environments. The overarching goal of my research program is to (a) identify the mechanisms that facilitate knowledge acquisition, (b) examine the influence of emergent intuitive causal explanations on conceptual development and conceptual change, and (c) identify empirically-based intervention strategies for school and community-based programs. Most recently my interests have culminated in an applied research program dedicated to fostering children's understanding of evolution and biological conservation (see http://sdr.seas.harvard.edu/).
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Prof. Mark A Richardson, Room 232 (648 Beacon St.). Current research priorities include assessment of HIV risk behavior, HIV primary and secondary prevention among adults with serious mental illness, and the contribution of neuropsychological factors on changing knowledge about and engagement in risky behavior. I am also involved in a longitudinal study of cognitive and psychosocial adaptation following prenatal exposure to substances of abuse. Please note that current research activities are based at Boston Medical Center.

Prof. Michele Rucci, Room 248. The Active Perception Laboratory focuses on the interactions between perception and behavior. Ongoing studies include theoretical and computational analysis of the impact motor activity on sensory perception, psychophysical experiments with human subjects, and experiments with robots replicating human behaviors. Available facilities include devices for measuring eye and body movements, sophisticated virtual reality environments, and humanoid robots. Multiple research opportunities exist for interested students. Please contact Prof. Rucci for details.

Prof. Kim Saudino, Room 105A. My research is in the area of early childhood temperament. I am currently working a twin study examining developmental change in temperament across the preschool period. The temperament dimensions of negative emotionality, positive emotionality, activity level, attention, persistence, shyness and inhibitory control is longitudinally assessed via multiple methods (e.g., behavioral tests, observations, actigraphy and parent ratings) in a sample of 300 twin pairs at 3, 4, and 5 years of age. Parent report and observational measures of parenting behavior are also obtained at each age. Developmental outcome measures include externalizing and internalizing behavior problems, prosocial behavior, and academic readiness. The specific aims of the study are to: 1) Explore individual differences in developmental change across the preschool period using observational measures of temperament in addition to parent ratings; 2) Assess links between child temperament and parenting trajectories. 3) Explore relations between temperament trajectories and developmental outcomes at age 5; and 4) Examine genetic and environmental influences on individual differences in temperament trajectories.

Prof. David Somers, Room 209 (2 Cummington Mall). I am interested in the mechanisms of visual perception, recognition, and attention. How is visual information encoded in the mind and brain? How is it used for recognizing objects? How does attention modulate these representations and processes? Can we achieve a computational understanding of the brain mechanisms that support these functions? My research employs visual psychophysics and functional magnetic resonance imaging (fMRI) of human brain activity. In addition, computational modeling techniques are used. Students interested in any of these methods and topics are welcome to apply.

Prof. Helen Tager-Flusberg, Room 170E. Current projects all focus on autism spectrum disorder with a strong focus on language and communication. Projects fall into 3 areas: infants at high risk for ASD; the psycholinguistic and neural bases for language processing in children with ASD; children and adolescents who fail to acquire spoken language. Methods include standardized behavioral assessments, observational measures, language transcription and coding, electrophysiology and MRI. Directed Study Students need to make a 2-semester commitment; the Directed Study is done in the second semester. Projects focus primarily on coding observational data, language transcription and analysis. Students who can only do one semester of research can apply for internships in the lab.
Prof. Amanda Tarullo, Room 113. My research focuses on brain-behavior links in early childhood. I am interested in how early life stress impacts the neural, social, and cognitive development of infants and young children. In the Brain and Early Experiences Lab, students learn to measure infant brain activity using EEG. At least one semester as a volunteer is required prior to directed study. Students with strong interests in developmental neuroscience are welcome to apply.

Prof. Martha Tompson, Room 407 (648 Beacon St.). My current work emphasizes understanding both family processes and designing and testing family-based treatment models for preadolescent-onset depression. My lab is conducting a clinical trial comparing a family-based to an individually-based treatment for preadolescent depression. Directed study students working in my lab learn about diagnosis and evaluation of depressive symptoms and disorder in youth, about family and individual treatment models for depression, and about the implementation of clinical trials of psychotherapeutic interventions. Students work in the lab 7 hours per week and participate in a 1 hour weekly lab meeting.