PSYCHOLOGY

Kirtland Hall, 203.432.4500
http://psychology.yale.edu
M.S., M.Phil., Ph.D.

Chair
Frank Keil (203.432.4545, frank.keil@yale.edu)

Director of Graduate Studies
Gregory McCarthy (203.432.9261, gregory.mccarthy@yale.edu)

Professors
Woo-kyoung Ahn, Stephen Anderson (Linguistics), Amy Arnsten (Neuroscience), John Bargh, Paul Bloom, Thomas Brown, Tyrone Cannon, B.J. Casey, Marvin Chun, Margaret Clark, Ravi Dhar (School of Management), John Dovidio, Carol Fowler (Haskins Laboratories, Robert Frank (Linguistics), Tamar Gendler (Philosophy), Jeannette Ickovics (Public Health), Jutta Joormann, Dan Kahan (Law School), Alan Kazdin, Frank Keil, Robert Kerns (Veterans Administration Medical Center), Joshua Knobe (Philosophy), Marianne LaFrance (Women’s, Gender & Sexuality Studies), Becca Levy (Public Health), Lawrence Marks (Public Health), Linda Mayes (Child Study Center), Gregory McCarthy, Nathan Novemsky (School of Management), Donald Quinlan (Psychiatry), Jennifer Richeson, Peter Salovey, Laurie Santos, Brian Scholl, Jane Taylor (Psychiatry), Nicholas Turk-Browne, Tom Tyler (Law School), Victor Vroom (School of Management), Karen Wynn

Associate Professors
Walter Gilliam (Child Study Center), Elena Grigorenko (Child Study Center), Joan Kaufman (Psychiatry), Kevin Pelphrey (Psychiatry), Maria Piñango (Linguistics), David Rand, Mary Schwab-Stone (Child Study Center)

Assistant Professors
Arielle Baskin-Sommers, Steve Chang, Molly Crockett, Yarrow Dunham, Dylan Gee, Avram Holmes, Julian Jara-Ettinger, Hedy Kober (Psychiatry)

Lecturers
Nancy Close, Nelson Donegan, Carla Horwitz, Kristi Lockhart, Mary O’Brien, Matthias Siemer

FIELDS OF STUDY
Fields include clinical psychology; cognitive psychology; developmental psychology; neuroscience; and social/personality psychology.

SPECIAL ADMISSIONS REQUIREMENT
The department requires that scores from the GRE General Test accompany an application.

SPECIAL REQUIREMENTS FOR THE PH.D. DEGREE
In order to allow students to be trained in accordance with their own interests and career goals, the general requirements of the department are kept to a minimum. The formal requirements are: (1) Course work selected to meet the individual’s objectives with a minimum of three basic-level courses and one course in data analysis. Two of the three required basic-level courses must be in two different areas of psychology outside the student’s main area of concentration. The basic-level course requirement must be completed by the end of the second year. Students must attain an Honors grade in at least two term courses by the end of the second year of study. (2) Students are required to assist in teaching four courses by the end of their fourth year. (3) Completion of a First-Year Research Paper due by May 10 of the second term. (4) Completion of a predissertation research project, to be initiated not later than the second term and completed not later than May 1 of the second year. Certification of this research project as well as performance in course work and other evidence of scholarly work at a level commensurate with doctoral study, as judged by the faculty, are necessary for continuation beyond the second year. (5) Submission of a dissertation prospectus, and a theme essay that demonstrates the candidate’s comprehensive knowledge and understanding of the area of concentration. Certification of the theme essay completes the qualifying examination. (6) Approval of the dissertation by an advisory committee and the passing of an oral examination on the dissertation and its general scientific implications. The theme essay and the dissertation prospectus are completed during the third year. Students are then formally admitted to Ph.D. candidacy. There are no language requirements.

The faculty considers teaching to be an essential element of the professional preparation of graduate students in Psychology. For this reason participation in the Teaching Fellow Program is a degree requirement for all doctoral students. They are expected to serve as teaching fellows (level 20) for four terms over the course of the second through fourth years in the program. Opportunities for teaching are matched as closely as possible with students’ academic interests.

COMBINED PH.D. PROGRAMS
Psychology offers a combined Ph.D. degree program with African American Studies. For the combined program with African American Studies, students must apply to the African American Studies department, with Psychology indicated as the secondary department.

Psychology also offers a combined Ph.D. degree program with Philosophy. Students interested in this combined degree can apply to the Philosophy department or the Psychology department. However, if a student applies to the Philosophy department for the combined
degree program, that student should also contact one or more Psychology faculty members with compatible interests so that a suitable advisor in Psychology can be identified prior to an admissions decision.

Questions about the combined degree programs may be directed to the Directors of Graduate Studies in the participating departments prior to application.

MASTER’S DEGREES

M.Phil. The academic requirements for the M.Phil. degree are the same as for the Ph.D. degree except for the submission of a prospectus, and the completion and defense of a dissertation, which define the Ph.D.

M.S. (en route to the Ph.D.) The M.S. degree is awarded upon satisfactory completion of a first-year research project, a predissertation research project, and a minimum of eight courses.

Program materials are available online at http://psychology.yale.edu.

COURSES

PSYC 509a, Social Cognition  John Bargh
A course in contemporary social cognition theory and research, in which students fully participate in each week’s class discussion of the assigned readings. The goal of the course is to bring students up to speed, not only on the major themes and programs of research today, but also on the historical roots and context of that research—in other words, why that research is being done in the first place.

PSYC 518a, Multivariate Statistics  Julian Jara-Ettinger
Analysis of tabular data arrays arising usually from experiments. Sums of squares, F-tests, and variance components. The method of contrasts. Data transformations. “Nesting,” “crossings,” and Latin square designs. The analysis of covariance. Aspects of Tukey’s Exploratory Data Analysis such as box plots and median polish. Introduction to computer program packages. How to think about statistics.

PSYC 530a, Foundations of Neuroscience: Biological Bases of Human Behavior  Tyrone Cannon
The purpose of this course is to provide students with an understanding of the biological factors underlying human cognition and behavior. Particular emphasis is placed on the mechanisms associated with individual differences in healthy functions (including emotion regulation, stress sensitivity, higher cognition, reward sensitivity, impulsivity, and social functions) and their relations with psychiatric and neurological disorders. Biological factors to be covered include genetic, neuroanatomical, neurophysiological, biochemical, hormonal, and neuropsychological influences. Several of the initial sessions are devoted to basic topics (e.g., neurons, neuronal signaling, brain systems), before we begin our discussion of the neural basis of behavior and cognition. We also cover seminal work on animal models for mechanistic insights into the neurobiology of human behavior. Graduate students with any neuroscience research interest are encouraged to take this course. For the neuroscience area students, this is a required course.

PSYC 531b, Psychopharmacology  Thomas Brown
The purpose of this course is to provide an overview of pharmacological principles and the properties of psychoactive drugs. Background is furnished on neuroanatomy and neurophysiology. Topics include therapies for neurological and psychiatric disorders as well as drugs of abuse. Special attention is paid to the molecular, cellular, and physiological mechanisms of drug effects.

PSYC 534a, Developmental Psychopathology  Fred Volkmar, Eli Lebowitz, and Denis Sukhodolsky
This course, designed for advanced undergraduates or beginning graduate students, provides an overview of developmental psychopathology during childhood and adolescence. It is team-taught by a child psychiatrist and psychologist and covers aspects of normal development, assessment methods, clinical disorders, treatment, and legal and social policy issues. We begin with a review of normative development and then a discussion of theoretical approaches to understanding developmental aspects of common mental health conditions in childhood. Relevant issues of culture and ethnicity in expression of psychopathology in childhood are also reviewed.

PSYC 539a, Advanced Psychopathology  Jutta Joormann
The aim of this course is to have students master information on theory and assessment for major forms of psychopathology using cognitive-behavioral approaches. The focus is on learning how behavior can be conceptualized in cognitive-behavioral terms and to review recent models and empirical findings regarding clinical disorders. Students play an active role in this process by participating in class discussions and making presentations on etiological models and empirical findings for various clinical problems.

PSYC 552a / MGMT 752a, Behavioral Decision-Making 1: Choice  Ravi Dhar and Nathan Novemsky
The seminar examines research on the psychology of decision-making, focusing on judgment. Although the normative issue of how decisions should be made is relevant, the descriptive issue of how decisions are made is the main focus of the course. Topics of discussion include judgment heuristics and biases, confidence and calibration, issues of well-being including predictions and experiences, regret and counterfactuals. The goal of the seminar is threefold: to foster a critical appreciation of existing knowledge in behavioral decision theory, to develop the students’ skills in identifying and testing interesting research ideas, and to explore research opportunities for adding to that knowledge. Students generally enroll from a variety of disciplines including cognitive and social psychology, behavioral economics, finance, marketing, political science, medicine, and public health.
PSYC 558b / INP 558b, Computational Methods in Human Neuroscience  Nicholas Turk-Browne
This course provides training on how to use computational science for the advanced analysis of brain imaging data, primarily from functional magnetic resonance imaging (fMRI). Topics include scientific programming, high-performance computing, machine learning, network/graph analysis, real-time neurofeedback, nonparametric statistics, and functional alignment. Prerequisite: some prior experience with programming, data preprocessing, and basic fMRI analysis.

PSYC 602b / MGMT 758b, Foundations of Behavioral Economics  Shane Frederick
The course explores foundational topics in behavioral economics and discusses the dominant prescriptive models (which propose what decision makers should do) and descriptive models (which aim to describe what decision makers actually do). The course incorporates perspectives from economics, psychology, philosophy, decision theory, and finance, and engages long-standing debates about rational choice.

PSYC 604a, Cognition and Emotion  Matthias Siemer
The course presents an overview of current research questions and results in the area of cognition and emotion. We explore basic research questions as well as implications of cognitive approaches toward emotions for domains such as emotional disorders and psychological resilience and well-being.

PSYC 625b, Social Perception  Brian Scholl
When exploring the structure of the mind, we typically think of visual perception as among the earliest and most basic of our cognitive processes, while we think of social cognition as among the most advanced forms of higher-level cognition. In this seminar we explore how these two aspects of the mind connect. Specific topics include the perception of animacy, agency, and goal-directedness; biological motion; face perception (including the perception of facial attractiveness); gaze processing and social attention; thin-slicing and perceptual stereotypes; and social and cultural influences on perception.

PSYC 628a, Neuroscience of Decision-Making  Molly Crockett
An overview and examination of the neuroscience of decision-making. Interdisciplinary course highlighting research from cognitive neuroscience, psychology, behavioral economics, finance, marketing, computer science, and public health. Topics include utility and value, reinforcement learning, risky decision-making, impulsivity and self control, social decision-making, psychopathology, and commercial applications (e.g., neuromarketing and neurofinance).

PSYC 637b, Minds, Brains, and Machines  Julian Jara-Ettinger
Exploration of the implications that the brain is a kind of computer that gives rise to the mind. Readings combine classical and cutting-edge research in psychology, philosophy, and artificial intelligence.

PSYC 684a, Introduction to Psychotherapy: Technique  Mary O’Brien
The focus of the seminar is on formulating and conceptualizing psychological problems from a cognitive-behavioral perspective. Special consideration is paid to individual and cultural diversity in conceptualizing cases and planning treatment. Also discussed are ways in which cognitive-behavioral perspectives can be integrated with other theoretical orientations (e.g., interpersonal theory, experiential therapy).

PSYC 689a, Psychopathology and Diagnostic Assessment  Mary O’Brien
Didactic practicum for first-year clinical students. Main emphasis is initial assessment. Treatment planning and evaluation of progress also covered. Students first observe and then perform initial interviews. Applicable ethics and local laws reviewed.

PSYC 690b, Ethics and Clinical Practice: Legislation and Diversity Issues  Mary O’Brien
Introduction to ethical and legal guidelines for clinical practice. In addition, supervision on diagnostic interview using the Structured Clinical Interview for DSM-IV is provided.

PSYC 702a, Current Work in Cognition  Staff
A weekly seminar in which students, staff, and guests report on their research in cognition and information processing.

PSYC 710a, Current Work in Social Psychology and Personality  Staff
Faculty and students in personality/social psychology meet during lunchtime to hear about and discuss the work of a local or visiting speaker.

PSYC 718a, Diversity in Clinical Science and Practice  Staff
Basic and applied current research in diversity in clinical science and practice is presented by faculty, visiting scientists, and graduate students and examined in terms of theory, methodology, and ethical and professional implications. Students cannot simultaneously enroll in PSYC 720.

PSYC 721a, Research Topics in Infant Cognition  Staff
Investigation of various topics in infant cognition: early mechanisms for representing and reasoning about number; infants’ ability to represent time; early object knowledge; foundations of intentional understanding. Prerequisite: permission of the instructor.

PSYC 724a, Research Topics in Cognition, Emotion, and Psychopathology  Staff
This weekly seminar focuses on the role of cognition and emotion in psychopathology. We discuss recent research on basic mechanisms that underlie risk for psychopathology such as cognitive biases, cognitive control, and biological aspects of psychological disorders. The seminar also focuses on the interaction of cognition and emotion, on the construct of emotion regulation, and on implications for psychopathology.
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PSYC 725a, Research Topics in Human Neuroscience  Staff
Discussion of current and advanced topics in the analysis and interpretation of human neuroimaging and neurophysiology.

PSYC 727a, Research Topics in Clinical Neuroscience  Staff
Current research into the biological bases of schizophrenia and bipolar disorder, including topics related to etiology, treatment, and prevention.

PSYC 728a, Research Topics in Human Cooperation  Staff
Our lab asks why and when people are willing to help others at a cost to themselves, and how we can encourage this cooperative behavior. We combine experiments (mostly using economic games) with computer models, and run studies both in the lab and online.

PSYC 729a, Research Topics in Language and Cognition  Staff
Seminar focusing on ongoing research projects in language, cognition, and development. Prerequisite: permission of the instructor.

PSYC 731a, Research Topics in Cognition and Development  Staff
A weekly seminar discussing research topics concerning cognition and development. Primary focus on high-level cognition, including such issues as the nature of intuitive or folk theories, conceptual change, relations between word meaning and conceptual structure, understandings of divisions of cognitive labor, and reasoning about causal patterns.

PSYC 732a, Research Topics in Visual Cognitive Neuroscience  Staff
Examines current research in visual cognitive neuroscience, including discussion of proposed and ongoing research projects. Topics include visual attention, perception, memory, and contextual learning.

PSYC 733a, Research Methods in Social Cognitive Development  Staff
Investigation of various topics in developmental social cognition. Particular focus on the development of representations of self and other, social groups, and attributes and stereotypes.

PSYC 735a, Research Topics in Thinking and Reasoning  Staff
In this lab students explore how people learn and represent concepts. Weekly discussions include proposed and ongoing research projects. Some topics include computational models of concept acquisition, levels of concepts, natural kinds and artifacts, and applications of some of the issues.

PSYC 736a, Research Topics in Stereotyping and Prejudice  Staff
Explores the nature of prejudice in its traditional and contemporary forms. Although the emphasis is on the causes and consequences of racial bias in the United States, the dynamics of intergroup relations are considered more broadly as well. Emphasis is on developing critical thinking, reading, and research skills to test ideas relevant to understanding and combating stereotyping, prejudice, and discrimination.

PSYC 737a, Research Topics in Clinical and Affective Neuroscience  Staff
Seminar focusing on ongoing research projects in clinical, cognitive, and translation neuroscience. Prerequisite: permission of the instructor.

PSYC 741a, Research Topics in Emotion and Relationships  Staff
Members of this laboratory read, discuss, and critique current theoretical and empirical articles on relationships and on emotion (especially those relevant to the functions emotions serve within relationships). In addition, ongoing research on these topics is discussed along with designs for future research.

PSYC 744a, Research Topics in Philosophical Psychology  Staff
The lab group focuses on topics in the philosophical aspects of psychology.

PSYC 745a, Research Topics in Disinhibitory Psychopathology  Staff
This laboratory course focuses on the study of cognitive and affective mechanisms contributing to disinhibition. We discuss various forms of disinhibition from trait (e.g., impulsivity, low constraint, externalizing) to disorder (e.g., antisocial personality disorder, psychopathy, substance use disorders), diverse methods (e.g., psychophysiology, self-report, neuroimaging, interventions), and multiple levels of analysis (e.g., neural, environmental, social). Members of this laboratory read and critique current articles, discuss ongoing research, and plan future studies.

PSYC 752a, Research Topics in Social Neurosciences  Staff
A weekly seminar discussing recent advances in social neurosciences. We discuss recent progress in research projects by the lab members as well as go over recently published papers in depth. Our primary topics include neural basis of social decision-making, social preference formation, and social information processing. Our lab studies these topics by combining neurophysiological and neuroendocrinological techniques in nonhuman animals.

PSYC 753a, Research Topics in Law and Psychology  Staff
Lab focusing on ongoing research projects in law and psychology.

PSYC 754a, Research Topics in Clinical Affective Neuroscience and Development  Staff
This weekly seminar focuses on current research related to the developmental neurobiology of child and adolescent psychopathology. Topics include typical and atypical neurodevelopmental trajectories, the development of fear learning and emotion regulation, effects of
early life stress and trauma, environmental and genetic influences associated with risk and resilience, and interventions for anxiety and stress-related disorders in youth.

**PSYC 755a, Research Topics in Intergroup Relations**  
Staff  
Students in this laboratory course are introduced to and participate in social-psychological research examining interactions and broader relations between members of socioculturally advantaged and disadvantaged groups. For instance, we examine the phenomena and processes associated with one’s beliefs about members of social groups (stereotypes), attitudes and evaluative responses toward group members (prejudice), and behaviors toward members of a social group based on their group membership (discrimination). We also study how these issues shape the experiences of social group members, especially when they are members of low-status and/or minority groups. We primarily focus on large societal groups that differ on cultural dimensions of identity, with a focus on race, ethnicity, and gender. Notably, we apply the theoretical and empirical work to current events and relevant policy issues.

**PSYC 756a, Research Topics in the Fundamentals of Adolescent Brain and Behavior**  
Staff  
We examine and discuss how the brain is sculpted by biological and experiential factors to adapt to the unique challenges of adolescence using behavioral, psychophysiological, genetic, and brain-imaging methods. Emphasis is on how the capacity for self-control changes with age and across different social and emotional situations.

**PSYC 766a, Research Topics in Perception and Cognition**  
Staff  
Seminar-style discussion of recent research in perception and cognition, covering both recent studies from the literature and the ongoing research in the Yale Perception and Cognition Laboratory.

**PSYC 771a, Research Topics in Nonconscious Processes**  
Staff  
The lab group focuses on nonconscious influences of motivation, attitudes, social power, and social representations (e.g., stereotypes) as they impact on interpersonal behavior, as well as the development and maintenance of close relationships.

**PSYC 772a or b, Experimental Jurisprudence**  
Joshua Knobe  
Investigation of legally relevant concepts using systematic experimental methods. Topics include the concepts of causation, consent, similarity, intention. Emphasis is on helping students develop and implement their own experimental studies.

**PSYC 773a, Research Topics in Animal Cognition**  
Staff  
Investigation of various topics in animal cognition, including what nonhuman primates know about tools and foods; how nonhuman primates represent objects and number; whether nonhuman primates possess a theory of mind. Prerequisite: permission of the instructor.

**PSYC 777a / WGSS 767a, Research Topics in Gender and Psychology**  
Staff  
The "Gender Lab" meets weekly to consider research being done in the Psychology department that bears on some gender-related issue.

**PSYC 778a, Research Topics in Clinical and Affective Neuropsychology**  
Staff  
Lab meeting is held once a week throughout the year and is attended by undergraduate and graduate students, research staff, postdoctoral fellows, and other researchers interested in the weekly topics. In a rotating fashion, both internal and external speakers present data and ideas from various research projects, and/or research and methods papers in related areas, including the use of functional magnetic resonance imaging to answer questions in clinical and affective psychology.

**PSYC 779a, Research Topics in Depression and Treatment Response**  
Staff  
This weekly lab seminar focuses on the molecular and cellular mechanisms that underlie the neuronal and behavioral deficits caused by stress and depression, and conversely the signaling mechanisms underlying the therapeutic actions of antidepressants, including synaptic and behavioral responses.

**PSYC 801a, Clinical Internship (Child)**  
Staff  
Advanced training in clinical psychology with children. Adapted to meet individual needs with location at a suitable APA-approved internship setting.

**PSYC 802a, Clinical Internship (Adult)**  
Staff  
Advanced training in clinical psychology with adults. Adapted to meet individual needs with location at a suitable APA-approved internship setting.

**PSYC 806a, Practicum in Childhood Intervention**  
Staff  
Advanced supervised work in settings where child and family policies are developed and/or implemented. Adapted to meet individual needs with location at suitable sites.

**PSYC 808a, Practicum in Child Psychology**  
Staff  
The Yale Child Study Center offers a yearlong practicum, which includes assessment of children, psychotherapy, team meetings, supervision, and didactic experiences.

**PSYC 809a, Practicum in Assessment of School-Aged Children**  
Staff  
Students gain practical experience in testing with children.

**PSYC 810a, Practicum in Developmental Assessment**  
Staff  
PRACTICUM in early childhood screening and assessment of infants and toddlers at high risk for social adaptive and emotional developmental problems.
PSYC 811a, Mood and Anxiety Disorders Practicum  Staff
Discussion of current topics in psychopathology and treatment of anxiety disorders. Group supervision of therapy cases involving OCD, panic, social phobia.

PSYC 816a, Practicum in Developmental Disabilities and Developmental Assessment  Staff
An introduction to approaches in developmental assessment in infants and young children (under age five years) with a range of developmental difficulties. Students observe and/or participate in developmental assessments. Students are exposed to a range of assessment instruments including developmental tests, speech-communication assessments, and psychiatric diagnostic instruments appropriate to this age group. Prerequisite: permission of the instructor.

PSYC 817a, Other Clinical Practica  Staff
For credit under this course number, clinical students register for practicum experiences other than those listed elsewhere in clinical psychology, so that transcripts reflect accurately the various practicum experiences completed.

PSYC 883a, Practicum in Clinical Assessment  Staff
Supervised psychological assessment using measures of intellectual functioning, projective testing, and neuropsychological testing with patients.

PSYC 920a, First-Year Research  Staff
By arrangement with faculty.

PSYC 923a, Individual Study: Theme Essay  Staff
By arrangement with faculty.

PSYC 925a, Individual Tutorial  Staff
By arrangement with faculty and approval of DGS.