

***Listing of Psychological Research Opportunities  
for undergraduates interested in research assistantships***

(Revised August 2018)

There are numerous and varied opportunities for students to become involved in ongoing psychological research conducted within the Department of Psychological & Brain Sciences and affiliated programs. This booklet lists most of those opportunities, including information on the research itself as well as duties of a research assistant in each lab.

Students should speak with the contact individual identified on the listing with whom they would like to work. The student may receive academic credit by enrolling in Psych 333, Independent Study, after receiving verbal approval from that person and submitting the electronic *Petition for Supervision of Independent Study* form (<http://eyes.wustl.edu/psych333/>). The form will route to the sponsoring faculty for approval and then to Shelley Kohlman, who will then register you for the appropriate section. ***N.B.*** *For research in departments outside Psychological & Brain Sciences, a paper petition form must be submitted, available from Shelley Kohlman (207B Psychology).* The petition form must be completed, signed by the sponsoring faculty, and brought to Ms. Kohlman before the add/drop deadlines. It is required that a minimum of 50-60 total hours (about 3-4 hours/week) for 15 weeks be devoted to aspects of the research for each unit of credit to be earned.

The following are some of the goals we hope are accomplished by engaging in Independent Study:

- (1) expose the student to various aspects of empirical research and the functions of a psychology laboratory;
- (2) provide the student with the opportunity to practice and refine research skills;
- (3) give the student a deeper and fuller understanding of a particular topic or field of psychological inquiry;
- (4) promote and support research in the department and the discipline by providing researchers with interested, qualified assistants;
- (5) train students interested in continuing in psychology to be prepared and effective in pursuing these goals and contributing to the scientific world.

To accomplish these goals, the following guidelines are suggested:

- (1) Students are expected to devote a minimum total of 50-60 hours (about 3-4 hours per week for 15 weeks) to aspects of the research for *each* unit of credit to be earned. This includes working in the laboratory, attending laboratory meetings, meeting with supervisors, and reading material related to the project.
- (2) The student should meet with the supervisor in charge at the beginning of the semester and establish what is expected from each side. The student should be informed as to which project(s) the student will be involved, and in what capacities they are expected to assist.
- (3) It is recommended that there be at least one assessment/feedback session during the course of the semester between the professor and student.

Assessment of the student's work and effort for the Independent Study and any additional requirements are the responsibility of the student's research mentor. Papers, presentations, and/or discussions of material are all possibilities that the mentor may require of the student. These expectations should be outlined at the beginning of the semester. **N.B.** *For Psych 333 work completed, only Cr/NCr credit will be given.*

In addition to research opportunities, the Department also offers *Internships in Psychology* (Psych 225) and a *Practicum in Applied Behavior Analysis: Autism Spectrum Disorder* (Psych 235). The *Internship* provides students with the opportunity to apply psychological principles to applied settings, such as social service agencies, medical settings, and business and industry. For further details, and a listing of approved Internship placements, see the *Guide to Internships in Psychology*. The *Practicum* offers an opportunity to be trained in applied behavior analytic techniques and work with a child with autism spectrum disorder. For additional details, see the brochure, *Practicum in Applied Behavior Analysis: Autism Spectrum Disorder*.

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**General Area of Research:**

Vision, cognition, and performance.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

It is helpful to have had some prior coursework in experimental psychology or cognitive psychology (courses such as *Cognitive Psychology*, *Cognitive Neuroscience*, *Sensation & Perception*, and *Experimental Psychology*), but these are not essential. It is also helpful to have some programming experience (we use a variety of different software systems; experience with the Python language would be useful at the moment!), but this is also not essential.

**Description of Research:**

Research in our lab examines questions about visual attention, the control of action, and the connection between the two. We address these questions using mainly behavioral experiments in which participants make decisions about visual or auditory stimuli and respond by making eye and/or hand movements. In one line of experiments, we examine the changes in perception that occur for stimuli that are near a person's hands. In another line of experiments, we study how making or preparing a simple hand movement can also change perception.

For more information about our research and laboratory see: <http://rabrams.net> . Look at the "papers" page to see some of our recent papers.

**Duties of Research Assistant:**

Students can participate in any (or many) of the activities of the laboratory, depending on their individual skills and interests. This includes: literature search, reading and discussing research articles, planning new experiments, computer programming (if desired), scheduling and running subjects in experiments, analyzing data, writing papers.

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**General Area of Research:**

The interplay amongst Language, Memory and Attention and the changes that occur in these systems in both healthy older adults and in individuals with early stage Alzheimer's Disease.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

None

**Description of Research:**

- 1) Retrieval of information from long-term memory. In these experiments, the major interest is in the structure of long-term memory and the processes that are used during the retrieval of information from that structure. We are also interested in how retrieval processes from semantic memory are involved in visual word recognition and in reading.
- 2) Age-related and disease-related changes in executive control mechanisms. This work is directed at developing better understanding of the cognitive markers that discriminate healthy aging from early stage Alzheimer's Disease. These studies involve attention selection tasks, and more subtle measures such as reaction time variability and measures of personality.
- 3) Mental Chronometry. This work involves better understanding the moment by moment changes in cognitive processes that are reflected via reaction time distributional analyses across a variety of tasks. The goal here is to best understand how to isolate separate processes.

**Duties of Research Assistant:**

Research assistants will be involved in all aspects of a given research project; from collecting the data, to data analyses and interpretation. Also, assistants will have the opportunity to develop future research topics in regularly scheduled meetings.

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**General Area of Research:**

Studies of cognitive and emotional deficits in disorders such as schizophrenia and depression, and the neurobiological mechanisms that contribute to such deficits. My research includes behavioral and neuroimaging studies with healthy and clinical populations. One line of research examines the cognitive and neural mechanisms that contribute to difficulties regulating thoughts, memories and emotional responses in schizophrenia. Another line of research examine the neural and psychological mechanisms that contribute to risk for depression in children and adolescents.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Some basic computer skills would be preferred, particularly basic knowledge of how to use an Apple computer.

**Description of Research:**

The cognitive and neurobiological mechanisms contributing to cognitive, motivational, and emotional regulation deficits in individuals with schizophrenia and those at risk for psychopathology, with a particular focus on schizophrenia and depression. In these studies, we have several goals. One of our goals is to determine exactly which cognitive and emotional processes are disturbed in schizophrenia and depression. Another one of our goals is to determine what neurobiological mechanisms contribute to such cognitive and emotional deficits, with a particular focus on dorsolateral prefrontal cortex, the anterior cingulate, and their interactions with the dopamine systems. These studies involve conducting behavioral experiments and functional magnetic resonance imaging experiments with both healthy and clinical populations.

**Duties of Research Assistant:**

Duties would include experiment preparation (i.e., designing stimuli and experimental paradigms), collecting data (i.e., scheduling and testing participants), data analysis (i.e., data entry and statistical analysis), and participation in lab meetings. Interested and motivated students may also become involved with conducting and analyzing functional magnetic resonance imaging studies.

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**General Area of Research:**

Genetics  
Neuroscience  
Psychopathology  
Behavior

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Interested undergraduates should have a general background in psychology and neuroscience, as well as a general understanding of genetics. They should be especially passionate about understanding the biological mechanisms that underlie psychiatric disorders. This would be an excellent lab in which to gain experience if you are interested in pursuing graduate study in research oriented clinical psychology or psychiatrically-relevant neuroscience or genetics. While previous research experience is desirable it is in no way required. Computer skills are a plus but are not required.

**Description of Research:**

In the BRAIN (Behavioral Research And Imaging Neurogenetics) lab we evaluate how genetic variation and environmental experience influence brain function and behavior in order to better understand the causes of psychiatric disorders. We are particularly interested in threat and reward – related brain function and its relevance to conditions such as depression, anxiety, and substance use. We use the following methods: fMRI, EEG, molecular genetics, pharmacologic challenge, behavioral testing, self-report.

**Duties of Research Assistant:**

Undergraduate research assistants can be involved in a host of different tasks within the laboratory including: running research participants, analyzing genetic, behavioral, EEG and fMRI data, conducting literature reviews, attending and presenting at lab meetings. Undergraduate students will have the opportunity to work closely with graduate students on research projects. With significant experience in the lab, there is the opportunity to conduct theses and independent research within the laboratory.

Please contact Dr. Bogdan if you are interested.

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**General Area of Research:**

Positive Psychology, Personality, and College Student Development

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Introduction to Psychology, experience with Excel, and preferably a course in research methods or statistics.

**Description of Research:**

I am interested in the science of well-being, especially as it relates to young adults making the transition from high school to college. Most of my work involves analyzing longitudinal data sets that college freshmen have completed during their first semesters on campus. In particular, I have an interest in the behaviors, mindsets, and approaches to college life that are associated with overall psychological health and well-being.

**Duties of Research Assistant:**

Research assistants may become involved in a number of activities. These include entering data, running analyses, coding transcripts, and assisting with literature reviews. Some future projects may include running participants in a lab setting. Every effort is made to tailor specific duties to the strengths and interests of each individual RA.

**Name:** Todd Braver, Ph.D.  
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**General Area of Research:**

Cognitive neuroscience: Studies of attention, working memory and executive control using a variety of methods including behavioral analysis, functional neuroimaging, individual differences, special populations and computational modeling.

In particular, my research examines the psychological and neural mechanisms by which people actively maintain information such as goals, instructions, plans, or specific prior events for short-periods of time, and use this information to appropriately guide and control their behavior. We are also interested in individual differences in these abilities, and how they interact with affect and motivation.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Responsible, reliable, and highly motivated. Basic computer skills are very much preferred, as most of the research involves computer work. Knowledge of statistics, statistical software, and computer programming is also a plus. However, any student with a willingness to learn and work hard should feel free to contact Dr. Braver.

**Description of Research:**

Ongoing projects examine working memory, attention, inhibition, multi-tasking and decision-making, individual differences in these domain, and interactions with emotion/motivation. We have begun a new line of research examining how mindfulness training impacts executive control and psychological function, using both behavioral and brain imaging measures.

**Duties of Research Assistant:**

Students will conduct literature searches, read/discuss relevant journal articles, and participate in lab meetings where ongoing research is presented and discussed. They will also gain experience with data collection and analysis of behavioral and psychophysiological (e.g., pupil dilation, EMG) experiments with young adults. Particularly motivated, able and committed students may also have the opportunity to assist with:

- 1) Collection and analysis of functional neuroimaging data (fMRI)
- 2) Studies in different populations (e.g., older adults)
- 3) Studies involving mindfulness training
- 4) Simulations with neural models of behavioral and physiological phenomena.

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**General Area of Research:**

Cognitive Control, Prospective Memory, and Aging

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Research assistants will be trained on the requisite technical skills that are required in the lab. Although prior completion of Experimental Psychology would be useful, more important is that the student is highly motivated, conscientious, and eager to contribute to the research process.

**Description of Research:**

Our research examines the cognitive control mechanisms that humans use in attentionally demanding situations. For instance, we examine susceptibility to distraction (e.g., trying to ignore the Facebook page a neighboring student is updating while attending to an instructor's lecture), mind wandering, and task switching. We explore questions such as: Are we less susceptible to distractors if we can anticipate their occurrence? Is mind wandering harmful or helpful? Under what conditions are there age-differences in performance on cognitive control tasks and under what conditions might older adults (60 yrs +) perform just as well as young adults (18 - 25 yrs)? How is impulsivity in real life related to laboratory tasks of cognitive control? Can we improve our ability to attend selectively to goal relevant information?

Our research also examines prospective memory, which refers to remembering to perform an action at the appropriate time in the future (e.g., remembering to attend a Psy100 research study you signed up for on Experimentrix; remembering to take medication). We are especially interested in the role of attention in prospective memory success and failure, and the processes that enable us to deactivate prospective memory tasks that have already been completed.

**Duties of Research Assistant:**

Research assistants assume a variety of roles, with duties varying as a function of experience in the lab. A new research assistant can expect to contribute to all of the following: data collection; data scoring; and participation in lab meetings in which members of the lab discuss the findings of ongoing studies, ideas for future studies, and relevant journal articles. With experience in the lab, research assistants have the opportunity to contribute more greatly to the conceptualization and design of new experiments, analysis of data, and possibly conduct their own study (e.g., as a thesis project or independent study).

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**General Area of Research:**

Behavioral medicine, clinical health psychology

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

None

**Description of Research:**

Our studies focus on the effects of depression on the etiology, course, and outcome of coronary heart disease. We conducted one of the first studies to show that depression more than doubles the risk for mortality and morbidity in patients with stable heart disease. In addition we are conducting studies to determine how depression increases the risk for dying in these patients. Finally, we are testing tailored forms of psychotherapy and antidepressant medications to determine the most effective, safest treatments for depression in patients with heart disease. We are currently conducting a randomized, placebo-controlled clinical trial to determine whether omega-3 supplements enhance the effects of antidepressants in the treatment of depression in patients with stable heart disease.

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**General Area of Research:**

Aging, Alzheimer's disease, family relationships, and end-of-life issues.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Varies with each project.

**Description of Research:**

1. How purpose in life changes after receiving a diagnosis of Alzheimer's disease.

This project is conducted in collaboration with the Memory Diagnostic Center on the Wash U medical campus. We interview people before and after their receive a diagnosis of Alzheimer's disease to see how their sense of purpose and meaning in life changes in the first year of living with the diagnosis. We conduct parallel interviews with their care partner. Work on this project involves scheduling interviews with participants and conducting interviews with them. In addition, students are involved in managing data from the project and tracking early results.

2. Attitudes about physician-assisted suicide.

Physician-assisted suicide (more recently called "medical aid in dying") is legal in six U.S. states and several other countries. This practice enables people with a terminal illness to request from their physician a lethal dose of a medication that they can take to end their life. Although public support has increased in recent years, medical aid in dying remains controversial. In this project we are surveying healthcare professionals about their opinions regarding medical aid in dying. Research assistants help to identify professionals to complete the survey, recruit participants, and analyze survey data as it comes in.

3. Validation of the Verbal Naming Test.

In this project, older adults visit our laboratory to complete a set of neuropsychological tests that measure, among other cognitive abilities, verbal naming (i.e., the ability to name a familiar object). Our data collection also involves visiting senior living communities in small teams from the lab to administer these tests to residents. Research assistants learn to administer the neuropsychological tests and assist with recruiting older adults and analyzing data.

**Duties of Research Assistant:**

Depending on the project, Research Assistants will recruit participants, conduct interviews, collect data, manage data, perform basic statistical analyses, review results with the project team, and participate in weekly lab meetings where we review our findings and collaborate to develop new projects.

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**General Area of Research:**

The psychology of consumer decision making.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

An introductory psychology or marketing course is a sufficient start. More exposure to research-based courses and methods is even better.

**Description of Research:**

Topics studied in the Consumer Behavior Lab in the Olin Business School include:

Judgment and Decision Making  
Morality  
Intertemporal preferences  
Happiness and well-being  
Consumer spending and debt decisions  
Prosocial behavior

For more information, visit the webpages of Cynthia Cryder, Robyn LeBoeuf, Steve Nowlis, Hannah Perfecto, Scott Roeder, and Sydney Scott (Consumer Behavior Lab Faculty)

**Duties of Research Assistant:**

Attend and participate in lab meetings  
Collect data in the lab  
Collect data in the field  
Data entry  
Literature Reviews

**Name:** Teresa Deshields, Ph.D.  
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**General Area of Research:**

Psycho-oncology, psychological well-being and quality of life of cancer patients and/or caregivers of cancer patients, resilience in cancer patients, communication about symptoms in the cancer clinic.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Required skills include familiarity with basic computer operating systems and programs (including SPSS) and comfort working in a medical setting. Previous experience with data management and data entry is preferred. This position will likely include interactions with individuals with cancer in person or by phone. The research assistant will need to complete CITI training for protection of human subjects.

**Description of Research:**

The Siteman Counseling Service provides psychological support, in outpatient and inpatient settings of the Siteman Cancer Center, for cancer patients, survivors, and their family caregivers. The Service is staffed by 3 licensed psychologists, a postdoctoral fellow, a psychology intern, and 3 graduate-level practicum students. Our research activities are clinically oriented. Recent projects address predictors of resilience among cancer survivors, symptom communication in the cancer clinic, impact of mindfulness practice on cancer survivors and caregivers, and distress screening in the cancer clinic. Authorship credit may be possible for posters presented at a national conference and/or published manuscripts, depending on the level of RA's involvement in the project.

**Duties of Research Assistant:**

Responsibilities of the RA may include patient recruitment in medical clinics (including consenting and data collection), data entry, literature reviews, and related administrative tasks. Assistance with data analysis is also a possibility. There is the opportunity to participate in writing abstracts for conference presentation, creating posters for conference presentation, and collaborating on manuscripts for publication – particularly for students who work with the Service for more than 1 semester. Opportunities for shadowing clinical encounters with patients may also be available, for the interested student.

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**General Area of Research:**

Cognitive psychology, human memory, brain imaging, eye tracking, pupillometry

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Experience with spreadsheets and computers preferred, but not required.

**Description of Research:**

Our research primarily examines the purposeful and incidental recovery of memories. In the lab we use behavioral studies along with brain imaging methods and eye tracking/pupillometry to examine how people search for, and render judgments about, their memories. This is an excellent opportunity to learn how to program experiments and get initial exposure to functional magnetic resonance imaging of memory retrieval or the measurement of eye position and pupil diameter. Initial research duties will be geared around behavioral studies that examine how various manipulations affect subjects' confidence in their memory reports. For example, will subjects often spontaneously reverse memory reports if allowed to do so, and if so, under what conditions? Another line of research examines the role of subtle feedback manipulations in changing the willingness of subjects to report memories. These investigations will likely lead to similar paradigms that will be used while subjects are being scanned using functional magnetic resonance imaging (fMRI) or their eye position and pupil size are measured. Examples of the types of research can be seen at [pages.wustl.edu/dobbinslab](http://pages.wustl.edu/dobbinslab).

**Duties of Research Assistant:**

Preparing stimuli for experiments, running participants in experiments, coding and entering data, basic statistical analyses, literature reviews.

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**General Area of Research:**

Persuasion and Influence, Leadership, Power and Politics in Organization, Social Hierarchy, Organizational Behavior, Management and Human Resource Management

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

An introductory psychology course is required. More exposure to research-based courses and methods is a plus.

**Description of Research:**

In organizational behavior, we examine the impact that individuals, groups and structure have on behavior within organizations.

I specifically investigate how individuals' social status and power influence their perceptions, attitudes and behaviors. I also examine issues related to gender and diversity. Finally, I study group identification, development and dynamics.

**Duties of Research Assistant:**

Collect data in the lab  
Collect data in the field  
Data entry  
Literature reviews

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**General Area of Research:**

emotion; relationships; aging; culture

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Research Assistants who are responsible, conscientious, and excited to learn more about emotion research will fit well in the lab. No prerequisites or special skills are required.

**Description of Research:**

The Emotion & Relationships Lab focuses on how and why emotion regulation impacts social, psychological, and physical well-being across the life span. We take a multi-method approach to our research questions, conducting laboratory-based and naturalistic (e.g., daily diary) studies with assessments of self-reported experience, partner and peer reports, and behavior.

**Duties of Research Assistant:**

Research Assistants will perform a range of tasks:

1. Conduct literature searches
2. Read and discuss lab-relevant journal articles
3. Attend and participate in lab meetings
4. Recruit and schedule participants for ongoing studies
5. Run study sessions
6. Code participant interactions and behaviors

**Name:** Leonard Green, Ph.D.  
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**General Area of Research:**

Choice and decision-making in people and animals (pigeons); self-control (choice of a larger-later reward over a smaller-sooner reward) and impulsivity; behavioral economics; discounting of delayed and probabilistic outcomes (gains and losses).

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Commitment to careful, accurate, quality work. Independence, reliability, and initiative. Some experimental and relevant academic background preferred (e.g., Psy 301, Psy 361, Economics, Mathematics). Programming skills highly valuable.

**Description of Research:**

1. Self-Control: Our behavioral model views self-control as choice of a larger, delayed reward over a smaller, sooner reward, and impulsivity as choice of the smaller-sooner over the larger-later reward. So, too, self-control may be defined as choice of a smaller, certain (or low-risk) reward over a larger, but riskier reward. In this case, impulsivity would be the choice of the larger, risky reward. Ongoing work evaluates whether these represent a unitary trait of impulsivity or multiple impulsivities.
2. Human research on the discounting of delayed and probabilistic outcomes:
  - A. Comparisons of the discounting function for delayed and probabilistic losses as well as for delayed and probabilistic gains: This work evaluates the discounting functions for gains and losses, and explores the underlying decision-making processes. Specifically, it compares the mathematical form of the discounting function for delayed rewards, probabilistic rewards, delayed losses, and probabilistic losses, and evaluates different mathematical functions that have been offered as descriptions of the discounting process (e.g., an economic exponential model; a psychological hyperboloid function).
  - B. Discounting of outcomes that are both delayed and probabilistic, both in younger and older adults: This work examines the effects on decision making when outcomes are both delayed and probabilistic. Most prior research has studied discounting of outcomes that are only delayed or only probabilistic. However, everyday situations often involve outcomes that are both delayed and uncertain. Will the same mathematical descriptions that describe simple choice scenarios also account for decisions involving outcomes that are both delayed and probabilistic? Will choices under the simple situations predict how people make decisions in these more complex choice settings? In addition, we plan to evaluate whether fundamentally different processes underlie discounting by younger versus older adults.
  - C. Debt-Averse and Loss-Averse Individuals: When losses are delayed in time, it typically is found that the aversiveness of a loss decreases as the delay to that loss increases (loss-averse individuals). Our lab has recently found that there is a subgroup of individuals for

whom the aversiveness actually increases as the delay increases (debt-averse individuals). We will investigate this phenomenon further and develop a systematic method for classifying individuals.

- D. We are conducting a series of online (MTurk) studies, investigating relations among delay and probabilistic discounting of gains and of losses using a newly developed discounting questionnaire. As well, we will be evaluating differences in discounting across individuals as a function of smoking status, degree of gambling, and alcohol use.
  - E. Additional studies will be evaluating the effects of trauma on discounting, genetics in degree of discounting, and the combination of gains with losses (e.g., a gain now followed by a delayed loss; a loss now followed by a delayed gain) and whether our newly developed quantitative model will provide a fine description of such combinations.
3. Discounting in animals:
- A. Discounting of rewards that are both delayed and probabilistic in pigeons: We developed a procedure to study the discounting of probabilistic reinforcers in animals, thereby allowing us to compare delay and probability discounting directly in animals. We are now investigating pigeons' discounting of food reinforcers that are both delayed and probabilistic.

**Duties of Research Assistant:**

- For the animal studies: handling and weighing of the animals (pigeons); running them in the experiments; recording data; plotting results; laboratory cleaning and maintenance.
- For the human studies: scheduling participants; running participants in the experiments; recording and analyzing data. With experience, RAs have the opportunity to help develop and conduct future experiments.
- Careful monitoring of the experiments is essential.
- Availability/flexibility to be in the lab and engage in research during blocks of time during the day.
- Attendance at weekly laboratory research meetings and reading of assigned material required.

**Name:** Sandra Hale, Ph.D.  
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**General Area of Research:**

Cognitive changes associated with development during childhood and aging during late adulthood. In particular, we are studying age-related changes in speed of processing, working memory, learning, face-processing, and higher-order cognitive abilities across the life span from a perspective influenced by both traditional cognitive psychology and current research concerning brain structure and brain function.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Coursework in research methods (i.e., Experimental Psychology) preferred. Coursework in one of the following areas would be helpful: cognitive psychology, developmental psychology, or the psychology of aging. Working knowledge of spreadsheets (e.g., EXCEL), word processing, photo-shop programs and/or statistical software (e.g., SPSS or SYSTAT) is desirable.

**Description of Research:**

The studies conducted in our Cognitive Development Laboratory usually include tests or measurements of processing speed, working memory, learning, face processing, and reasoning abilities. Participants in these studies include children as young as 7 years and extend to adults up to 100 years old. Data collection primarily takes place in the laboratory. Virtually all data is collected via computer programs developed in our laboratory.

**Duties of Research Assistant:**

Experiment preparation (including the designing and developing of stimuli), data collection (including scheduling and testing participants), data analysis (including data entry and statistical analysis), and participation in lab meetings. Occasional duties include poster preparation and library research.

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**General Area of Research:**

Neuropsychology of aging, structural and functional correlates of cognitive aging,

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Familiarity with computers, good social and communication skills, and basic knowledge of neuroanatomy are helpful.

**Description of Research:**

The overall goal of the research is to examine the neural correlates of cognitive aging. One line of research uses MRI-based measures of regional brain volumes in conjunction with behavioral measures to gain insight into the pattern of brain and cognitive changes that occur with aging. A major focus is on frontostriatal and hippocampal circuits and the role of executive control processes in cognitive skill acquisition. In addition, we are examining the role of cardiovascular health factors, such as hypertension and exercise, on cognitive and brain aging. A developing line of research is examining age differences in route learning using virtual reality (VR) technology. The goal of this research is to take advantage of VR to examine the specific aspects of route learning that are difficult for older adults and to combine VR with fMRI to assess for neural correlates of the age-related difficulties.

**Duties of Research Assistant:**

Students can participate in multiple phases of research projects depending on experience and interest. Involvement may include literature review and background reading, experiment preparation, behavioral testing, data processing and interpretation, participation/presentation in lab meetings. In addition, students will potentially have the opportunity to design and implement an independent project.

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**General Area of Research:**

- 1) Neuropathophysiology underlying cognitive and mood aspects of Parkinson's disease and other dopaminergic disorders.
- 2) Neuropathophysiological and behavioral effects of obesity, diabetes and Wolfram Syndrome.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

- 1) Computer and statistics knowledge desirable
- 2) Detail-oriented, conscientious and self-driven

**Description of Research:**

Using neuroimaging (MRI, fMRI and PET) and neuropsychological techniques, we study:

- 1) effects of Parkinson's disease on cognitive and mood processes; how deep brain stimulation of the subthalamic nucleus affects brain function.
- 2) effects of severe hypoglycemia and hyperglycemia on the brain in children and adults with type 1 diabetes mellitus.
- 3) neurodevelopmental and neurodegenerative changes in Wolfram syndrome
- 4) relationship between obesity and dopamine receptors in the brain, their relationship to behavioral features and weight loss.

**Duties of Research Assistant:**

- 1) Scoring, coding, analyzing and entering data
- 2) Reviewing literature
- 3) Occasionally helping with studies

**Name:** Patrick Hill, Ph.D.  
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**General Area of Research:**

Personality development and healthy aging

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Hardworking, punctual, and responsible individuals with interests in personality, positive, developmental, and/or health psychology.

**Description of Research:**

Our lab is currently involved in multiple projects along four primary research topics:

- 1) Understanding what it means to have a purpose in life, including the physical and psychological health benefits associated with a sense of purpose
- 2) Identifying the processes that underlie personality development at different stages of the lifespan
- 3) Uncovering the behavioral, affective, and cognitive mechanisms linking individual dispositions to health outcomes
- 4) Considering how to promote adaptive transitions into college, the workplace, and retirement

**Duties of Research Assistant:**

Depending on the ongoing lab projects, research assistants would contribute by running participants in experimental studies, assisting with literature reviews, coding audio and visual recording data, and attending weekly lab meetings that involve reading assignments and in-group discussion of ongoing studies.

**Name:** Josh Jackson, Ph.D.  
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**General Area of Research:**

Personality assessment and personality development

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Successful research assistants are conscientious (hardworking, responsible) and have an interest in personality/development/health/educational psychology.

**Description of Research:**

Our lab is currently involved in three different but overlapping research topics.

First, we are interested in understanding the patterns and mechanisms involved in personality development across the life span. Does your personality change over time? If so, what are some of the experiences or reasons that may be responsible for this change? Topics of investigation include romantic partners, educational experiences and health.

Second, the lab studies how best to assess or measure personality. Some topics include deciding what questions should be included in personality questionnaires. For example, do we need to know whether a person likes to go to parties to meaningfully understand their personality? Additional topics look at how others perceive personality and how personality manifests itself in real world behaviors.

A third line of inquiry involves the predictive validity of personality. Simple personality questionnaires can predict how long you live, how much money you make, and how long your marriage will last – decades in advance. Current studies attempt to understand the intervening mechanisms that relate personality with divorce and health, for example.

**Duties of Research Assistant:**

Depending on the type of projects that are currently being run in the lab, research assistants would contribute by: Running participants, performing data management tasks, coding of data (e.g., videos, audio files), and facilitating the collection of materials for meta-analyses. Additionally, weekly lab meetings will include reading assignments based on research being conducted in the lab.

**Name:** Alan J. Lambert, Ph.D.  
**Office:** Psychology, 319B; Attitude and Decision Making Laboratory  
(311/313)  
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### **General Area of Research:**

I am a social psychologist, and like most researchers in the field I have a broad interest in attitudes and emotions, and how these factors can affect social judgment and behavior.

### **Description of Research:**

#### **Political psychology, broadly defined**

- Factors that induce “shift to the right” effects—which would include the tendency for liberals to temporarily respond in a more conservative manner
- Rally ‘round the flag effects (e.g. after the 9-11 attacks)
- Consequences of mortality salience for political judgment
- Cognitive and affective biases surrounding choices for political candidates
- The psychology of the “undecided voter”

#### **Biases in Judgment and Decision Making**

- “Wishful thinking” effects
- The role of expertise in increasing and decreasing judgment bias
- Personality dynamics behind “conspiracy theories” (e.g. what type of person tends to hold such beliefs?)

#### **“The justice motive”**

- The role of “just world beliefs” in driving judgment and behavior
- Emotional consequences of revenge
- “Sins of the father effects”; how and why people transfer blame across generations
- Perceptions of fairness
- Distribution of wealth and resources across ethnic groups (e.g. Whites vs. Blacks vs. Hispanics)

### **Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Some basic computer skills would be helpful but is not mandatory.

### **Duties of Research Assistant:**

Assist in the planning of experiments, “running” the experiments with undergraduates, helping to enter, analyze, and interpret data from experiments.

**Name:** Calvin Lai, Ph.D.  
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**General Area of Research:**

Prejudice, Stereotyping, Social Cognition, Implicit Bias, Intervention Science

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

The primary requirement is interest. We want research assistants who are passionate about learning the nuts and bolts of doing psychological research.

**Description of Research:**

The Diversity Science Lab (<https://calvinklai.wordpress.com>) studies how people create, interpret, and maintain group distinctions. We are particularly interested in implicit biases: automatic or unconscious mental processes that create a gap between what people value (e.g., racial equality) and what people do (e.g., racial discrimination). Presently, we are interested in three questions about implicit bias:

1. *What is the nature of implicit bias?* Learning what implicit biases are, what their function is, and how they form tells us about how the mind works. In this research, we empirically test different theories about the structure of implicit bias and map out new types of mental associations.
2. *How can you change implicit biases?* Many approaches for changing implicit bias have been identified, but relatively little is known about what approaches are most effective. In this research, we seek to find the approaches that are most influential for implicit biases in-the-moment and over longer periods of time.
2. *When does implicit bias relate to behavior?* Understanding when implicit bias influences behavior is helpful for developing better effective interventions to prevent their influence. It can also be helpful for understanding the function of implicit biases. In this research, we seek to figure out when implicit bias correlates with behavior (or not). We also test the efficacy of interventions that prevent individuals from acting on their implicit biases.

**Duties of Research Assistant:**

Without undergraduate research assistants, research would simply not get done! Our RAs are involved in almost all aspects of the research process: recruit & run participants in lab studies, assist with literature reviews, design study materials, code qualitative data, or organize collected data. We seek to tailor specific duties to the interests and strengths of each RA. More advanced research assistants will take on more independent roles in research projects.

**Name:** Randy Larsen, Ph.D.  
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**General Area of Research:**

Emotion in general, with specific interests in how people cognitive process emotional stimuli, and whether emotional stimuli (words, pictures, objects such as spiders) evoke specialized cognitive processes.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

High level of motivation and responsibility.

**Description of Research:**

Currently I am studying the interaction of cognition and emotion. For example, do some kinds of emotional stimuli attract and hold attention longer than non-emotional stimuli? Do we have lower perceptual thresholds for detecting threatening stimuli in our environments (i.e., can we spot a snake in the grass faster than we could spot a stick in the grass?). Or why is our memory for how we felt about some event longer lasting than our memory for the facts of the event? Are subliminal effects stronger for emotional stimuli than factual stimuli? In what other ways do “hot” and “cold” cognition differ? In the past I have also studied topics such as mood variability, vulnerability to positive and negative moods, and strategies for the self-management of emotion and mood and still have some interests in these areas of research. Some emphasis is on understanding how and why individuals differ from each other in terms of their emotional lives.

**Duties of Research Assistant:**

Assist with running subjects, coordinate with graduate students, and attend lab meetings

**Name:** Dr. Eric J. Lenze  
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**Phone:** 314-362-5154  
**E-mail:** [brownsj@wustl.edu](mailto:brownsj@wustl.edu) (Stephanie J. Brown)

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**General Area of Research:**

We are a clinical trial research group at Washington University School of Medicine in St. Louis, Missouri, led by Eric J. Lenze, M.D., geriatric psychiatrist. We carry out federally-funded treatment studies for older adults, with a focus on depression, anxiety, and age-related cognitive decline. Our research seeks to: prevent the negative effects of anxiety and depression on health and cognition, understand personalized treatment for these disorders, create novel interventions, and develop precise and innovative measurement of outcomes.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Students must be responsible, mature, willing, and motivated to assist on a variety of projects and tasks. A professional demeanor and interpersonal skills are essential. Organizational skills and computer literacy are also helpful. A psychology major or minor is preferred but not required.

**Description of Research:**

We are currently starting a multi-site study (in collaboration with UCSD) looking at the effectiveness of pairing Mindfulness-Based Stress Reduction (MBSR) and exercise for cognition/memory of older adults.

**Duties of Research Assistant:**

Undergraduate research assistants will be responsible for ongoing data entry or data coding tasks, literature reviews or summaries of coded data, organization of study materials, participant monitoring, and any other clerical or administrative tasks. Given that the lab's research projects are in different stages of development, you may be working on multiple projects on as needed basis. We appreciate your flexibility in this matter.

**Name:** Joan Luby, M.D. Professor of Psychiatry (Child)  
**Office:** Early Emotional Development Program  
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**General Area of Research:**

Developmental Psychopathology and Emotional Development in Early Childhood—Preschool Children/  
Mood Disorders

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Research Assistants must have completed 6 units of 300-level psychology courses or discuss course experience with Dr. Luby. Because of the extensive training required to work with this unique study sample, we ask students to make a minimum 2-semester commitment to the lab. Learning our procedures is time consuming and students often take much of the first semester simply learning the procedures in the lab. Thus, RAs gain better experience by spending at least two semesters in the lab. Often, students are given more responsibility and have the opportunity to learn new skills after their second semester. We also ask RAs to work a minimum of 12 hours per week.

**Description of Research:**

The EEDP has several ongoing, grant-funded studies. RAs may have the opportunity to assist with two new studies. One study is examining how the development of a characteristic of ‘over-control’ in 5-6 year old children relates to their social relationships, moods, behaviors and symptoms of anxiety. After thorough training, RAs administer child assessments, such as the KBIT, and assist with EEGs. Additionally, a new study is starting up and will involve developmental testing, neuroimaging, and eye tracking of infants. The lab will follow these infants into early childhood with a goal of understanding the mechanisms of brain development when exposed to early life adversity and the subsequent cognitive and mental health outcomes. The role of RAs in this study has yet to be determined.

RAs may also be involved in a longitudinal study of mood disorders (depression and mania) in children. At the beginning of the study, children were preschool ages 3-6 from a large community-based sample. Currently, many of the participants are now 18 + years old. Assessments include a diagnostic psychiatric interview, cognitive measures, and task-based EEG and fMRI.

With these studies, research assistants gain hands-on experience using state of the art assessment techniques, are exposed to current trends in diagnostic assessment, and become familiar with diagnostic criteria for mental disorders in young children. Students will gain understanding of the logistics of conducting research and with the administration of study protocols in a research setting.

**Duties of Research Assistant:**

Research assistants have a very important role in our lab. Students’ responsibilities include assisting in the collection, coding, and entry of data obtained from parent and child assessments. Students have various administrative duties such as organizing research-related materials, assisting in the quarterly newsletter, and obtaining the most current published data. Students also take an active role interacting with subjects during assessments, in EEGs, and occasionally when assisting with childcare.

**Name:** Patrick Lustman, Ph.D.  
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**General Area of Research:**

Mind-body interactions in health and disease and substance use disorders, particularly those involving opioid use/misuse in veterans.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Interest in research, ability to work with people, some knowledge of DSM-based psychiatric diagnosis, computers, and statistics.

**Description of Research:**

Our research group studies the impact of psychiatric and substance use disorders on the risk and progression of cardiometabolic diseases. As these mind-body interactions frequently are bidirectional in nature, we also study the impact of cardiometabolic disease factors on the risk and progression of psychiatric substance use disorders. The work seeks to identify biopsychosocial mechanisms involved in these mind-body interactions. Clinical trials provide a setting for these investigations and allow us to contribute to efforts to improve the potency of psychiatric and psychological.

**Duties of Research Assistant:**

Will assist the PI in conducting research projects involving the interaction of medical and psychiatric illness and those focused on opioid use disorders. Tasks include data entry and management, miscellaneous filing, and clerical tasks. The RA assists in literature searches and manuscript preparation as assigned, but all students are afforded the opportunity to write and publish.

**Name:** Matthew MacEwan, Ph.D.  
**Office:** McMillen Hospital, Washington University School of Medicine  
**Contact:** For information, contact Nikhil Chandra: [chandra@wustl.edu](mailto:chandra@wustl.edu)  
The research is conducted on the Danforth Campus

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**General Area of Research:**

An animal (rodent) model for the development of technologies that restore sensory feedback from prosthetic limbs in amputee populations.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Commitment to careful, accurate, quality work. Independence, reliability, and initiative. Experimental/research experience or academic background preferred. Programming skills highly valuable.

**Description of Research:**

A significant drawback of contemporary prostheses is their inability to replicate the nuanced sensory feedback afforded by the body's natural tactile and proprioceptive mechanoreceptors. Amputees compensate for this loss of feedback by relying instead on visual cues to maintain effective control of their prosthetic limbs. An electrode interface to the peripheral nervous system could overcome this drawback by inducing action potentials corresponding to embedded sensors in the prosthesis. These would be interpreted by the brain as sensations originating in the phantom limb.

The current research is focused on a unique electrode interface called the macrosieve electrode (MSE). We are conducting a series of behavioral experiments in a rat model to characterize the MSE's ability to elicit localizable sensory percepts at current amplitudes that are low enough to be applied over multiple cycles of activation.

**Duties of Research Assistant:**

- Handling and weighing of the animals (rats); running them in the experiments; recording data; plotting results; general laboratory cleaning and maintenance.
- Careful monitoring of the experiments is essential.
- Availability/flexibility to be in the lab and engage in research during blocks of time during the day.
- Attendance at weekly or biweekly laboratory research meetings and reading of assigned material required.

**Name:** Lori Markson, Ph.D.  
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**Phone:** 314-935-3482  
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**General Area of Research:**

Cognitive and social-cognitive development

**Prerequisites/Skills Required of Undergraduate Research Assistants:**

A course in Developmental Psychology, Cognitive Psychology, or Cognitive Science is useful, but not essential. Primary requirement is an interest in experimental research, and in particular, the development of social cognition and cognitive and conceptual development. Experience with children is not necessary, but you should be comfortable/open to interacting with young children, parents, and preschool teachers.

**Description of Research:**

Research in the Cognition & Development Lab investigates how infants and children think, reason, and learn about the world around them, with a focus on the development of conceptual and social-cognitive capacities. Some of our current projects explore children's thinking about race, social reasoning in infants and preschoolers, and the development of optimism.

**Duties of Research Assistant:**

Research assistants typically participate in all aspects of the lab including maintaining our child database, recruiting participants, experimental design and stimuli construction, testing children in experiments, data coding and analysis, and attending weekly lab meetings where current research is discussed. Willingness to assist with data collection off campus at local preschools and/or the St Louis Science Center is useful. A minimum 1-year (two-semester) commitment is required, and 2-3 hour blocks of available time, especially in the morning, is strongly preferred.

**Name:** Mark McDaniel, Ph.D.  
**Office:** 235 F  
**Phone:** 935-8030  
**E-mail:** markmcdaniel@wustl.edu

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**General Area of Research:**

Human learning and memory

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Comfortable interacting with people; attentive to details; like working with numbers; course work in statistics useful but not required

**Description of Research:**

**Prospective memory.** A common memory task in daily activities is remembering to perform some intended action at a particular point in the future (termed prospective memory). We have developed several laboratory paradigms to study prospective memory, and we are using these paradigms to conduct experiments investigating different aspects of this important memory process in both younger and older adults. We are also extending this work to real-time sampling of prospective memory thoughts and processes in people's daily lives.

**Encoding and Retrieval Processes in Memory.** We study the kinds of encoding and retrieval processes that support good memory. Much of our work focuses on educationally relevant materials and tasks, including how different encoding tasks (such as embedded questions, outlining, note-taking, using flashcards) can enhance learning and memory for low-ability versus high-ability readers. In a similar vein, we are focusing on the effects of testing on subsequent learning and retention as it applies to educational and classroom applications (test-enhanced learning)

**Concept Learning.** We are engaged in both laboratory and classroom research that is exploring how learners acquire and represent concepts. Our work is showing that some individuals tend to focus on learning and remembering the particular examples presented to illustrate the concept, whereas other learners tend to focus on abstracting the underlying rule or theory that captures the commonalities of the examples. These differences appear to persist across various laboratory concept learning tasks, and they fundamentally affect transfer performance on new examples. We are investigating how these differences might impact students' learning in chemistry, psychology, and biology classes.

**Duties of Research Assistant:**

Assist with data collection (e.g., testing subjects in experiments), scoring data, entering data into computer files, materials development, and participate in interpretation of results.

**Name:** Kathleen McDermott, Ph.D.  
**Office:** Psychology 343 B  
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**General Area of Research:**

Human memory

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

We prefer students with strong interests in cognitive psychology. We will consider those without extensive class backgrounds in psychology.

**Description of Research:**

The work in my laboratory focuses on human memory. Specifically, one line of research involves individual differences in the speed and durability of learning. What makes some people more facile at learning than others? Another line of work centers on why practicing retrieving recently-learned information facilitates our ability to remember it at a later time. In addition, we study how memory is critical in enabling us to envision potential scenarios that might unfold in the future.

**Duties of Research Assistant:**

Research assistants will assist graduate students or postdoctoral fellows in conducting research projects. Typically, the undergraduate research assistant will be asked to do some background reading in a certain topic area, will be included in discussions with the graduate student(s) or postdoc(s) and with Dr. McDermott involving the design of a new experiment, and will help to test participants, code data, and analyze data. Appropriate guidance is given at all stages, such that one of the most important qualities we look for is an eagerness to learn about the research process. Although some knowledge of statistics or experimental design can be helpful, they are not necessary for a successful semester in the lab.

**Name:** Amy McQueen, Ph.D.  
**Office:** Washington University School of Medicine, Division of General Medical Sciences, 600 South Taylor Ave., St Louis 63110  
**Or** Health Communication Research Lab, Goldfarb 338 on the Danforth Campus  
**Phone:** 314-286-2016; 314-395-3715  
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**General Area of Research:**

Background in Social Psychology and Public Health  
Research focused on health behaviors, specifically cancer screening, tobacco cessation, type 2 diabetes

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

- Junior or senior psychology major with a minimum 3.0 GPA
- Excellent organization and communication skills
- Attention to details
- Ability to work independently

**Description of Research:**

Through multiple studies, Dr. McQueen examines the association of psychosocial factors on health behaviors and tests interventions designed to impact intermediate outcomes (e.g., psychosocial factors like attitudes, self-efficacy) and ultimately change health behaviors (e.g., cancer screening, smoking cessation). Research areas of particular interest are: 1) defensive information processes (i.e., rationalizations, biases) that inhibit behavior change and intention to change, 2) health communication strategies (e.g., testimonials) as potential interventions to reduce defensive processing and increase motivation for behavior change, and 3) examining the mediating and moderating pathways of influence to better understand the impact of interventions on both perceptions and actions. Two current projects focus on low-income populations and tests whether providing help with unmet basic needs (housing, food, utilities) improves health outcomes (smoking cessation, management of type 2 diabetes).

**Duties of Research Assistant:**

Dr. McQueen is happy to talk with students interested in gaining research experience and tailor their internship to best suit their needs and goals. Ongoing data entry or data coding tasks, literature reviews or summaries of coded data, and/or other “mini” projects may be assigned to research assistants. Students with previous experience may be allowed to interact with participants to collect data or conduct basic data analyses, perhaps for a research presentation of their own.

**Name:** Tom Oltmanns, Ph.D.  
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**General Area of Research:**

Multiple-Source Assessment and Longitudinal Course of Personality Disorders

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

At least six credits of psychology, and preferably a course in methods or experimental design and statistics.

**Description of Research:**

I am interested in the assessment of personality disorders, particularly with regard to discrepancies between people's descriptions of themselves and the ways in which they are described by others. Most of my work lies directly at the intersection of personality psychology and psychopathology research. It depends heavily on methods and concepts developed by investigators studying interpersonal perception, and it is concerned with the link between personality and consequential outcomes in people's lives. My lab is currently conducting a prospective, longitudinal study of the stability and impact of personality pathology in later life. The project is concerned with connections among personality traits, personality disorders, health, and social adjustment in a representative, community-based sample of 1,600 persons between the ages of 55 and 64---those approaching the challenges of later life. It will identify ways in which personality and personality disorders influence the ability to adapt successfully to important life transitions. For more information, see: <http://psychnet.wustl.edu/SPANLAB/>

**Duties of Research Assistant:**

Research assistants may become involved in a number of activities. Most involve the multi-faceted process of data collection. Responsibilities of an undergraduate RA include a variety of tasks, ranging from phone recruiting and administrative duties, to running participants follow-up and attending our weekly lab meetings. Because our lab offers a wide range of opportunities for undergraduates, we will attempt to cater to your strengths as best we can. We expect that each RA will devote a minimum of 4 hours per week to the project.

**Name:** Thomas Rodebaugh, Ph.D.  
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**General Area of Research:**

Affiliation and attachment in adults and interpersonal functioning generally (e.g., social support), including the effects of oxytocin; psychopathology, interpersonal aspects of, and treatment of social anxiety disorder and the anxiety disorders in general; behavioral economics; cognitive behavioral therapy; psychotherapy outcome and process; mindfulness, acceptance, and related psychotherapies.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

No prerequisites or special skills are required. The following are helpful, but **not** expected: (a) Having taken one or more classes related to clinical psychology (e.g., Abnormal Psychology). (b) Computer skills, including standard Microsoft software, as well as data entry and some familiarity with the use of statistical packages (such as SPSS or R). (c) Experience with clinical populations.

**Description of Research:**

Several research projects are ongoing. Here is one primary area of current work:

*The causes and mental health consequences of interpersonal dysfunction.* Partially because of our work with social anxiety disorder, we have focused on what mental health has to do with social functioning. We had expected that mental health was a strong driver of interpersonal functioning, but instead we are accumulating findings that interpersonal functioning has a strong effect on mental health.

The research conducted in the lab varies semester to semester and depends greatly on the interest of current graduate students. Updated descriptions of our research interests can be found at any time on [www.anxlab.com](http://www.anxlab.com)

**Duties of Research Assistant:**

Basic duties include coding videotaped interactions or speeches, data entry, data management, and running experimental sessions in which undergraduates take part. Research assistants also attend laboratory meetings. More advanced research assistants will take on additional duties commensurate with ability and demonstrated level of responsibility. The most senior research assistants may assist with studies involving clinical populations (e.g., people with social anxiety disorder) and matched control participants.

**Name:** Henry L. Roediger, III, Ph.D.  
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**E-mail:** roediger@wustl.edu

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**General Area of Research:**

Cognitive Psychology, particularly human memory.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Interest in processes of human memory; willingness to work hard and carefully. Completion of Psychology 300 and 301 is preferred, but not required.

**Description of Research:**

My research interests lie in human learning and memory. Although I am interested in many different topics in this broad area, my current research is primarily concerned with several interrelated issues.

A question of central interest (in my lab, but also in the field at large) is how people can improve their memories. What strategies for learning can show significant improvements? Over the years, we have studied many factors that enhance retention.

A closely related line of research is concerned with applying what researchers know about learning and memory to education. In particular, laboratory studies have shown many strategies and techniques that promote better learning and retention, yet not many of these have made their way to educational practice. A second program of research attempts to bridge from laboratory studies to educational practice to enhance student learning.

On the same theme of improving memory, I study people with superior memories (mnemonists or “memory athletes,” Jeopardy contestants, Bible verse memorizers and others).

On the flip side of the above interests, I am interested in memory illusions and the occurrence of false memories. Memory illusions are cases in which recollection of an event systematically deviates from the event’s actual occurrence in the past. In the most striking case, people remember events that never happened to them. My students and I have developed several laboratory methods of inducing false memories and we are interested in uncovering the processes involved. Some of this research has practical applications (e.g., for eyewitness testimony in legal cases).

My students and I have been investigating processes involved in eyewitness memory, such as the best way to present faces in a lineup. We are also interested in the issue of confidence and memory: When is confidence a good guide to our accuracy and when is confidence misplaced? That is, we are highly confident that we are remembering something correctly but actually we are wrong – the event did not happen that way.

Finally, I am also interested in social and collective memory processes, of how processes may differ when people remember as part of a group rather than when alone. Collective memory refers to how groups of people (e.g., Americans) use salient events from the past as indicators of their identities, for example, how most Americans identify with events from the Revolutionary War in 1776 and from more recent events such as 9/11. Currently, my students and I are working on collecting data from people in 11 different countries on how they remember events of World War II and how they apportion responsibility for winning (and losing) the way.

**Name:** Cynthia Rogers, M.D.  
**Office:** Division of Child and Adolescent Psychiatry  
Washington University Department of Psychiatry  
**Phone:** 314-286-0540  
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**General Area of Research:**

**Perinatal Mood Disorders.** This project aims to address perinatal mental health symptoms, particularly depression, in the early postpartum period.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

We are looking for Undergraduate RAs that have a genuine interest in research, are responsible, energetic, and who are able to work independently after completion of training. Experience working with participants from diverse backgrounds is preferred. RA should also have basic computer skills including Microsoft Word and Excel.

**Description of Research:**

Postpartum depression is a significant public health issue with rates reported between 10% and 15% in the general population. Data from the Missouri Pregnancy Risk Assessment Monitoring System reported that 14% of mothers reported postpartum depression symptoms.

The Perinatal Behavioral Health Service (PBHS) project has two aims. It provides screening for perinatal mood disorders to pregnant mothers in the outpatient OB clinic, mothers of infants in the St. Louis Children's Hospital Neonatal Intensive Care Unit (NICU) and all women giving birth at Barnes Jewish Hospital. Project staff coordinates referrals for mental health and substance abuse treatment and supportive services provided by the BJC hospital system and community partners.

The research component of this program will help determine if this program is effective for screening and referring mothers for treatment who have symptoms of postpartum depression. The study will examine the risk factors for postpartum depression and will also show what percentage of mothers had symptoms of postpartum depression, were referred for treatment, and followed up with services.

**Duties of Research Assistant:**

RAs will be involved in several activities essential to our research. Most involve data entry and cleaning. More advanced students will be trained to follow up with patients over the phone and work on program development initiatives. RAs will also assist in doing literature search for studies related to postpartum depression and contacting community agencies that offer services specific to our area to which we can refer patients. Sometimes students will be asked to help out with daily administrative tasks like preparing and mailing study materials, working with confidential files etc. It is possible to register for academic credit by enrolling in PSY 333(Independent Study). You must receive approval from Dr. Rogers and complete the Petition to Enroll form. It is expected that 3-4 hours per week for 15 weeks will be devoted to aspects of the research for each unit of credit to be earned (e.g., 9-12 hours per week for 3 units of credit).

For more information about becoming involved in the Perinatal Mood Disorders program, please contact our research coordinator, Tara Tinnin, at [tinnint@wustl.edu](mailto:tinnint@wustl.edu)

Following is a second project being conducted by Dr. Rogers:

**General Area of Research:**

**Early Childhood Psychopathology:** This project aims to investigate the rates of early childhood psychopathology and neuroimaging correlates in a cohort of preterm infants.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

We are looking for undergraduate RAs that have a genuine interest in research and are responsible, energetic, and who are able to work independently after completion of training. RA should also have basic computer skills including Microsoft Word and Excel. Prior knowledge of basic statistics and REDCap is helpful but not necessary.

**Description of Research:**

Preterm infants are at increased risk for childhood psychiatric disorders including autism, anxiety disorders, and ADHD. Additionally, they are at increased risk for both alterations in early brain development as well as exposure to adverse early life stressors like exposure to parental psychopathology and child maltreatment. The Washington University Neonatal Research Program follows cohorts of high risk infants including infants born prematurely. These longitudinal studies include follow-up evaluations at ages 2, 5 and 8-9 that assess development including social and emotional development. Maternal psychopathology and parent child interaction are also assessed. These infants underwent MRI evaluation during the neonatal period and this data is analyzed for alterations in brain development which are also related to later child social-emotional development. The children will undergo MRI again at school-age.

**Duties of Research Assistant:**

RAs will be involved in several activities essential to our research. Most involve data scoring, entry and cleaning for the neurodevelopmental follow-up of our preterm infants and control subjects. Sometimes they will be asked to help out with daily administrative tasks like preparing study materials, mailing study materials, working with confidential files etc. RAs are also welcome to observe neurodevelopmental follow-up testing. It is possible to register for academic credit by enrolling in PSY 333 (Independent Study). You must receive approval from Dr. Rogers and complete the Petition to Enroll form. It is expected that 3-4 hours per week for 15 weeks will be devoted to aspects of the research for each unit of credit to be earned (e.g., 9-12 hours per week for 3 units of credit).

For more information about becoming involved in the Early Childhood Psychopathology program, please contact Karen Lob at [karen.lob@wustl.edu](mailto:karen.lob@wustl.edu) or Jessica Perkins at [jessica.conners@wustl.edu](mailto:jessica.conners@wustl.edu).

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**General Area of Research:**

Speech perception and auditory processing in young listeners, older adults, and Alzheimer's patients. Hearing impairment and its effects on speech perception.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Some experience using computers and software packages (word processing, spread sheets) would be useful but is not essential.

**Description of Research:**

My research focuses on establishing how changes in both cognitive and auditory processing abilities contribute to speech perception difficulties in older adults and individuals with Alzheimer's disease (AD). The goal of the investigations is to determine the specific sensory and cognitive capacities that decline with age and AD and specify how such changes might affect speech perception. In addition to examining older listeners and patients with AD, the experiments also examine auditory and speech processing in cochlear implant patients. Current work in the lab is now exploring how and why speech perception improves when individuals can both see and hear a talker, compared with listening alone.

In addition to work on speech perception, I have also recently started investigating factors that can improve people's ability to learn vocabulary in a second language. This work is directed primarily at examining how acoustic variability (e.g., having words spoken by one talker versus many talkers) can promote second language vocabulary acquisition.

**Duties of Research Assistant:**

The duties of research assistants in my lab include scheduling and conducting experimental sessions with younger and older adults, scoring experimental results, and doing some data analysis.

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**General Area of Research:**

Social and personality psychology, with particular interest in the self, applied decision making, measurement, research design and statistics.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

High motivation, attention to detail, willingness to learn.

**Description of Research:**

My current research is focused on the implications of self-knowledge for self-esteem, particularly the flexible ways that people construct their identities to maintain positive views of themselves. I am also investigating the impact of recent performance changes on self-esteem, questionnaire response biases, value congruence and its impact on well-being.

**Duties of Research Assistant:**

Research assistants help with all phases of research including library work, development and testing of experimental material, conducting experimental sessions, data management, and report preparation.

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**General Area of Research:**

emotion; depression; anxiety; adults

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Research Assistants should be responsible, committed, and excited to learn more about emotions and psychopathology! We are seeking conscientious, mature, and friendly research assistants to work in the lab and with students and adults recruited from the community.

**Description of Research:**

Research in the lab centers on understanding the everyday emotional experience of adults, with a special focus on those who are depressed and/or anxious. Much of our research incorporates experience sampling—a method in which participants carry around a hand-held electronic device, such as an iPod Touch, and answer questions multiple times over a specified period of time. Collecting data using this method allows us to examine patterns in the experiences over time. We also assess participants' physiological and endocrine (e.g., cortisol) responses to laboratory tasks and measure their levels of low-grade inflammation (e.g., C-reactive protein). This multi-method approach helps us to paint a nuanced picture of the emotional experiences and functioning of those with depression and/or anxiety.

**Duties of Research Assistant:**

Research Assistants will perform a range of tasks:

- 1) Conduct literature searches
- 2) Read and discuss lab-relevant journal articles
- 3) Attend select lab meetings
- 4) Recruit and schedule participants for ongoing studies
- 5) Run study sessions, including those involving physiology equipment
- 6) Quantify qualitative participant data and/or evaluate findings from empirical papers

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**General Area of Research:**

Reading, spelling, and language skills in children and adults.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Reliability, attention to detail, ability to work well with children (for the studies with children). If you've taken a class in linguistics, that would be helpful for some of the studies.

**Description of Research:**

The research focuses on the cognitive and linguistic skills that are involved in reading and spelling. Participants in the studies range from 3 year olds to college students. Some of our ongoing studies look at young children's ideas about what reading is and how it works. Other experiments look at ask how children and adults spell novel words and the kinds of linguistic cues they use. In other work, we are analyzing data that have already been collected by colleagues at other universities. For example, we are examining spellings that were produced by US mono- and dizygotic twins who were followed from kindergarten through fourth grade and spellings produced by twins from Sweden.

**Duties of Research Assistant:**

The undergraduate RA will help in the testing of participants and/or in analyses of already collected data.

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**General Area of Research:**

Speech communication; speech perception, particularly in challenging conditions.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

- Reliable, attentive to detail, willing to learn
- Able to interact professionally with research participants
- Basic computing skills (e.g., Microsoft Word and Excel)

**Description of Research:**

Understanding spoken language requires listeners to map acoustic signals onto cognitive-linguistic representations. Those signals, however, are notoriously variable: the acoustics of individual phonemes, for example, vary substantially from speaker to speaker and across the phonetic contexts in which they are produced. While listeners are remarkably adept at handling this variation, the success and ease that typically characterize human speech communication can be modulated by aspects of talkers and listeners (e.g., whether they are native or non-native speakers; whether they have normal or impaired hearing) and the spaces in which they communicate (e.g., noisy vs. quiet, with or without visual information). These challenging intersections of perception and cognition form the locus of my research. Drawing on the tools and insights of linguistics, psychology, speech science, and cognitive neuroscience, my work investigates how acoustic-phonetic variability affects speech recognition and memory. I am guided by particular concerns for 1) how linguistic experience shapes speech perception and processing and 2) how signal-intrinsic (e.g., accent) and signal-extrinsic factors (e.g., noise) interact to modulate the success of communication.

**Duties of Research Assistant:**

- Experiment preparation (e.g., literature searches, development of stimuli)
- Data collection (scheduling and testing participants)
- Data management (entry, statistical analysis, reporting)
- Lab meeting attendance

**Name:** Desiree A. White, Ph.D.  
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**General Area of Research:**

We explore cognitive and behavioral issues within the context of neuroimaging findings in children with disorders affecting the brain. Most specifically, the focus of our research is the development of executive abilities (e.g., working memory, inhibitory control, strategic processing) in children with frontal brain dysfunction. The utility of various treatments is also examined, such as blood transfusion and hydroxyurea in children with sickle cell disease and sapropterin dihydrochloride in children with phenylketonuria. In addition, Dr. White is Director of the Developmental & Behavioral Assessment Unit of the Washington University Intellectual & Developmental Disabilities Research Center, which provides assessment services to investigators studying children with a range of developmental disorders (e.g., autism, premature birth, traumatic brain injury).

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Prerequisites include successful completion of Statistics and Experimental Psychology courses. Research assistants should have an interest in the neuropsychology and the relationship between brain function and cognition. A willingness to work with children across a broad age range and with a variety of disorders and disabilities is required. Special skills include familiarity with basic computer operating systems and programs.

**Description of Research:**

Most of our research is conducted with medical patients recruited through the Washington University School of Medicine. Collaborations with programs in Pediatrics, Psychiatry, Neurology, Medical Genetics, Hematology/Oncology, and Radiology are ongoing. A primary goal of our research is to elucidate the neural mechanisms underlying the development of executive abilities, with a focus on the frontal lobes and the related white matter that interconnects brain regions. Standard neuropsychological measures are used to estimate levels of general cognitive and executive ability, whereas experimentally designed measures are used to provide a finer level of detail as to the cognitive processes contributing to the development of executive abilities. Magnetic resonance imaging (MRI) and diffusion tensor imaging (DTI) are used to examine relationships between brain integrity/function and executive abilities.

**Duties of Research Assistant:**

Research responsibilities include participation in the following activities: Experimental task development, administration and scoring of standard and experimental tasks to research participants, participant scheduling, data entry and analysis, literature search and review.

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### **General Area of Research:**

Dr. Wilfley's research program at Washington University focuses on the causes, prevention, and treatment of eating disorders and obesity, as well as the interface of the eating disorders and obesity fields. Both eating disorders and obesity are significant and cause marked functional impairment and reduced quality of life. Eating disorders are associated with considerable impairment in health and social adjustment. Obesity, which is increasing at alarming rates worldwide, carries major health consequences such as diabetes, heart disease, hypertension, gallbladder disease, psychosocial problems, and certain cancers. Dr. Wilfley's laboratory integrates clinical and research components, and offers students a unique opportunity to contribute to an exciting and innovative line of research.

### **Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Students must be responsible, mature, willing, and motivated to assist on a variety of projects and tasks. A professional demeanor and interpersonal skills are essential, as students will be working in a clinical environment and as a member of Dr. Wilfley's research team. Organizational skills and computer literacy are also helpful. A psychology major or minor is preferred but not required. Students interested in completing an honors thesis are encouraged to apply.

### **Description of Research:**

Dr. Wilfley's research team is involved in a wide range of studies within the fields of eating disorders and obesity. The following research projects are currently underway. For more information, **please see Dr. Wilfley's lab website:** <https://healthyweightandwellness.wustl.edu>

- The NHBLI-funded grant titled The Effectiveness of Family-based Weight Loss Treatment Implemented in Primary Care aims to translate an evidence-based family-based weight loss treatment for childhood obesity (FBT) into primary care settings using co-located interventionists to serve as a model for care delivered within a patient-centered medical home. The results of this study will inform future dissemination and implementation of FBT into primary care settings.
- The NIMH-funded grant Using Technology to Improve Eating Disorders Treatment will deploy the Healthy Body Image Program and examine the efficacy of a technologically-enhanced, guided self-help program for students with eating disorders on college campuses in comparison to usual care. Thirty colleges from around the U.S. will participate in this study. Students who screen positive for an eating disorder will be recruited. Results from this study will help to determine whether this program produces

measurable and significant improvements in access, costs, and outcomes for eating disorder treatment over usual care. In addition, another recently-funded project will expand the use of this technology to treat not only eating disorders, but also depression and anxiety.

- Body U is an initiative funded by the Missouri Eating Disorders Council and coordinated out of the Center for Healthy Weight and Wellness. Body U is currently implemented in eleven public universities across Missouri and gives students an evidence-based program, based on 25+ years of research conducted at Stanford University and Washington University in St. Louis. The program offers students eating disorders, depression, and anxiety screening and then directs them to tailored online interventions aimed at promoting healthy behaviors and addressing these issues.
- A project titled Harnessing Technology for Training Therapists to Deliver Interpersonal Psychotherapy (IPT), funded by the National Eating Disorders Association, involves developing an online training platform for IPT. We are conducting a pilot study to evaluate the feasibility and accessibility of this approach, and will examine whether the power of the internet can be utilized to train therapists to deliver a proven interpersonal psychotherapy for Bulimia Nervosa and Binge Eating Disorder.
- The lab's Implementation of Evidence-Based Treatments for On-Campus Eating Disorders study focuses on how best to train therapists in the use of new treatments, specifically interpersonal psychotherapy (IPT). This psychotherapy has been shown to be effective for the treatment of eating disorders and depression, two common problems on college campuses. We are interested in comparing two different methods of training therapists in a new treatment and evaluating patients' improvement over time and how well the therapist's new skills are maintained over time. The costs of implementing the two training programs will also be compared. This research will be vital in determining how best to put new, evidence-based treatments into practice so that patients can receive the most appropriate, up-to-date care from their therapists.
- The PCORI-funded project A Pragmatic Family-Centered Approach to Childhood Obesity Treatment will compare two guideline-based approaches to obesity treatment for children in their pediatrician's office. The project will evaluate which is more effective: counseling by a primary care provider focusing on healthy eating and activity habits, or a combination of provider counseling and family-based treatment that targets both children and parents. This project is groundbreaking in that it paves the way for increasing access to care for childhood obesity and can be used to inform healthcare policy.
- The Episodic Future Thinking (EFT) project involves self-projection to pre-experience future events which has been shown to reduce bias towards immediate gratification, improve decision making, and help with weight-loss. The current study being conducted in Dr. Wilfley's lab aims to determine the effects of EFT on weight-loss maintenance in parent/child dyads after other weight-loss program strategies have ceased in order to help families succeed with healthy living long-term.
- Additionally, there is great public need for increased access to evidence-based pediatric obesity treatment. However, despite national recommendations and strong evidence, most children who need care do not receive it. Reimbursement for obesity services is currently inadequate, representing a major barrier to care. Our team is working to

advocate for improved access to high-quality evidence-based pediatric obesity treatment at the state and federal level.

**Duties of Research Assistants:**

Student research assistants have always been an integral part of Dr. Wilfley's lab, fulfilling a range of responsibilities including assisting with participant recruitment, participant screening, organization of study materials, participant monitoring, data collection and management, literature searches, and clerical or administrative tasks. Given that the lab's research projects are in different stages of development, some projects may be unavailable at the time of inquiry. We appreciate your flexibility in this matter.

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**General Area of Research:**

The social psychological study of prejudice, stereotyping and discrimination.

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Preference will be given to individuals who have taken Introduction to Social Psychology (Psych 315) and/or a methods course.

**Description of Research:**

We utilize experimental methods to answer a variety of questions that roughly fall into two categories:

1. Bias against high-status groups

What causes individuals who have traditionally been seen as perpetrators of bias (e.g. whites, men) to perceive themselves as victims of discrimination? What are the consequences of perceiving bias? How do people react when individuals claim to be victims of bias?

2. Blurred social categories

How does variation within groups (e.g. variation in racial minorities' physical appearance) affect stereotyping and identification? How do stereotypes and perceived intergroup competition shape attitudes toward interracial couples?

**Duties of Research Assistant:**

Research assistants will be involved in all aspects of the research process: they will help develop methods, collect data in and outside of lab, assist with data analyses and interpretation.

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**General Area of Research:**

Cognitive psychology, cognitive aging, understanding video, mental spatial transformations, fMRI

**Prerequisites/Special Skills Required of Undergraduate Research Assistants:**

Experience with computers, Psychology 301, Psychology 360 are all helpful but not necessary.

**Description of Research:**

Our research focuses on two topics in human cognition: *event understanding* and *spatial cognition* using behavioral and neuroscience methods.

In many experiments we ask people to watch computer-driven video or listen to stories and respond to these stimuli (by pressing keys, by talking, by stopping and starting). We also ask people to learn how to perform new tasks based on the video. We also use eyetracking and functional MRI to investigate these behaviors. Recently, we have started using transcranial direct current stimulation, a brain stimulation technique.

Current foci of interest include: aging and Alzheimer disease, spatial navigation, post-traumatic stress disorder, the perception and memory of movies, and story comprehension.

**Duties of Research Assistant:**

Students will be involved in all aspects of the research: literature review, data collection, data analysis and interpretation. Students who are involved with the lab for more than a semester will have the opportunity to develop projects of increasing independence.