Neuropsychology Research Program

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Research Opportunities: This hand out provides a description of some research opportunities within the neuropsychology research program developed and supervised by Dr. Thomas Ross. If you would like to learn more about these research opportunities please call the number above. Below are the answers to some commonly asked questions, as well as a description of my current research interests.

Who is Dr. Ross?

Please allow me to introduce myself. My name is Thomas Ross. I have been a member of the Psychology Department faculty at the College of Charleston since 1997. I am a clinical psychologist and my area of specialization is adult clinical neuropsychology. I teach Abnormal Psychology (PSYC 307), Scientific Foundations of Clinical Psychology (PSYC 392) and Clinical Neuropsychology (PSYC 387). I also offer a course called “Theories of Psychotherapy and Counseling” that is usually taught as a "special topics" course (PSYC 410).

What is Neuropsychology?

Neuropsychology is an area of specialization within the field of clinical psychology. Generally, the field is concerned with the understanding of brain-behavior relationships (e.g., what memory functions do the frontal lobes mediate and how is the role of the frontal lobes different from that of the temporal lobes?). The clinical work of neuropsychologists is very diverse. In the broadest sense, clinical neuropsychologists assess and treat persons with psychological, neurological and other medical diseases that affect the brain and therefore alter peoples’ thinking, mood and behavior. For example, a neuropsychologist may assist physicians in determining the presence of brain damage in persons who have sustained head trauma. Through extensive assessment (testing) of a patient’s cognitive and emotional strengths and weaknesses, a neuropsychologist will then recommend a course of rehabilitation. Neuropsychologists also provide therapy services to their patients, as well as advise and consult other health care providers and family members on how to interact with persons who have cognitive disabilities.

What kind of research does Dr. Ross conduct? (What is the Neuropsychology Research Program?)

Generally, the program reflects my interests and expertise in clinical assessment procedures used in neuropsychology. A recurrent theme throughout my research activity is a concern with the psychometric properties (i.e., the reliability and validity) of
I am especially interested in the *construct validity* (i.e., what does the test really measure) of neuropsychological instruments designed to assess problem-solving abilities. For example, one line of my research examines the extent to which models of animal frontal lobe functions can be used to conceptualize the measurement of frontal lobe functioning in humans. I am also interested in how well neuropsychological tests measure proposed models of attention, memory, and intelligence. As mentioned earlier, I am also interested in working with students who wish to develop their own projects related to neuropsychological research.

**Who is eligible to become involved in this research?**

Everyone that is interested and willing to commit themselves to a few hours of their time, or more if they so choose.

**I am interested in getting involved, but I am not sure about how much time I want to commit to research. Are there different ways I can participate and still learn about neuropsychology research?**

Yes! Some people’s involvement may include volunteering to be a "participant" (i.e., human subject) in one or more neuropsychology studies. This typically takes one or two hours of time and in some cases can satisfy requirements or extra-credit opportunities in psychology courses you now may be taking.

Others may wish to involve themselves more intensively in the research process by assisting Dr. Ross in conducting the research. This too can happen at many different levels. Some may wish to assist in data collection and management only. These are valuable skills for graduate school as well as in many business/professional settings. Some may wish to involve themselves in the analysis, interpretation and reporting of study results. This level of participation provides the opportunity to present research at conferences and obtain authorship/publication experience.

Some students may wish to develop their own projects within the neuropsychology research program and complete them towards an independent study requirement. This level of involvement, though more time intensive, provides experiences and skills that are invaluable to graduate school entry and success. The neuropsychology research program welcomes participation at all levels and your level of involvement should reflect your personal goals and interests.

**Why should I be interested in obtaining research experience?**

First and foremost research experience is a "hands on" method of increasing your knowledge and skills related to the scientific enterprise. It provides a way to integrate the abstract concepts learned in the classroom with their practical application. For those of you interested in graduate school in psychology, a related mental health field, or more generally science programs, research experience can strengthen your admission...
candidacy. This is particularly true for doctoral (Ph.D.) programs in clinical psychology as well as other programs that are extremely competitive.

**What are some specific advantages of volunteering to work in the neuropsychology laboratory?**

Because of the content of the research program, you will of course learn more about neuropsychology and related concepts. Because of the focus on neuropsychological and psychological assessment, you will have the opportunity to acquire some important social and technical skills that serve as the cornerstone to clinical psychology. Namely, those interested will have the opportunity to interview and administer psychological tests to participants (i.e., human subjects). These skills may be of special interest to students considering graduate school in clinical, counseling, or school psychology. Please know that you do not have to choose between working with me or with other faculty. I strongly encourage students to have contact and gain experience with other faculty in the psychology department and throughout the college.

**What is it like to work with Dr. Ross (me) and what can I expect to get out of it?**

**What is it like to work with me?** I favor an open style of communication that emphasizes clear messages and expectations. I am very concerned with how your experience is going, how it may or may not differ from your expectations, and how we can optimize your experience. I tend to favor a prospective approach to problem solving, so I like to talk about what problems can arise with research ahead of time, and how we might deal with them.

My supervision style is likely to be very directive early on, in order to orient you to the workings of my laboratory. During this time, our interactions and working relationship may feel like a student-teacher relationship. My goal, however, is to help foster skills and abilities that allow people to be more independent; so later on I hope that our interactions and working relationship feel much more collegial. I also believe that research can be fun, and I plan to make time for laboratory group picnics and impromptu pizza parties.

**What can I expect to get out of it?** In addition to the fun and invaluable skills that I have already mentioned, there are other potential benefits. Unfortunately, none of them include, health insurance, a retirement plan, or even pay for that matter. However, they may still be of interest to you. In general, the more effort you put into the laboratory, the more you are likely to get out of it. For example, one potential benefit of working with me is a strong letter of recommendation. In any such letter, I will speak to the nature of our research involvement and your specific role in the laboratory. The more you are involved, the more I can speak to your academic growth and skill acquisition pertaining to scientific research. There are also likely to be benefits that we cannot yet foresee, such as those associated with advancing science and the subsequent benefits to the human condition.
What can I expect if I volunteer to be a "participant" (i.e., Human Subject) in a neuropsychology study/experiment?

You can expect to be treated with respect and our laboratory’s strict adherence to the ethical principles/guidelines of the American Psychological Association for conducting scientific research. These include but are not limited to: (1) informed consent (i.e., being told the benefits and risks prior to your participation in the study); (2) unconditional withdrawal (i.e., the right to refuse to participate and withdraw from the study at anytime without penalty); and (3) proper debriefing procedures (being properly informed of any deception that was necessary and why, being informed of the results, etc.). In general, the risks posed by my research are considered minimal. Because the projects typically require the administration of "paper and pencil type" tests, participants may experience mental fatigue or even boredom (hopefully not to much) common to similar forms mental activity such as doing an assignment in class.

Thank you for your interest. Whether you decide to become involved in the laboratory or not, best wishes in all you do!

Sincerely,

Thomas P. Ross, Ph.D.