WHITMAN COLLEGE

Psychology Majors' Handbook

2024

Updated in August, 2024,
by the Psychology Department Faculty

Table of Contents

Introduction

Welcome to the Whitman College Psychology Department!

We hope that the information in this handbook will help you maximize your growth in our program. Here, you will find info about our curriculum, writing and grading, senior theses, finding careers, and applying to graduate schools[1]. We attempt to answer psychology students' most frequently asked questions about our major's requirements, goals, and procedures. We hope that you will find this info useful.

We periodically revise this handbook, taking into consideration the ideas, suggestions, and questions that arise from psychology majors. We welcome your feedback on this document. Just email any of us at any time, and we will take your comments into consideration in our next revision.

Current copies of the handbook appear on the college's website. Just search the internet for **"Whitman Psychology"** or visit **https://www.whitman.edu/academics/majors-and-programs/psychology**

[1] Graduate school are advanced programs of study people may pursue *after* earning a bachelor's degree. They include master's programs (to earn, for example, a master of arts, M.A., master of science, M.S., or master of social work, MSW, degree), doctoral programs (to earn a doctor of philosophy, Ph.D., degree), and professional training programs (to earn, for example, a doctor of psychology, Psy.D., master of business administration, MBA, doctor of jurisprudence, J.D., or doctor of medicine, M.D., degree).

Learning Goals
of the Psychology Major
("Research and Experimental Psychology")

Upon graduation, a student will demonstrate competence in the following areas:

1. ***Knowledge of psychology***
   Show familiarity with important psychological discoveries. Use psychological theories to explain or predict behavior and mental processes. Use scientific evidence to evaluate theoretical claims. Describe ways to apply psychological concepts to pressing social issues or in individual, relational, educational, occupational, or clinical contexts. Analyze complex, enduring, or controversial "big ideas" in psychology.

2. ***Scientific reasoning***
   Find, read, and understand credible sources of psychological scholarship. Use skeptical inquiry and creative thinking to critique psychological theories and research findings. Propose meaningful research questions. Use statistical and research design concepts to test hypotheses. Analyze and interpret psychological data. Use knowledge about the scientific method to evaluate the quality of research evidence. Evaluate how well research findings apply to the world at large.

3. ***Ethical and social responsibility in a diverse world***
   Apply the principles of research ethics, including in research with diverse or vulnerable persons or nonhuman animals. Discuss how societal or cultural developments may relate to the way psychologists theorize about behavior and mental processes. Recognize ways in which sociocultural, theoretical, or personal biases may influence the design and interpretation of research. Show sensitivity to issues of power, privilege, and discrimination, including when interacting with people of diverse abilities, backgrounds, and cultural perspectives. Recognize, understand, and respect the complexity of sociocultural, international, and other forms of human diversity.

4. ***Communication***
   Communicate effectively about psychological science in oral and written formats in ways that are consistent with established standards, including with the use of information technology as appropriate. Present clear and coherent arguments, including with the display of data.

5. ***Professional development***
   Seek and respond appropriately to feedback from educators, mentors, supervisors, or experts to improve performance. Collaborate on group projects productively. Describe how psychological science or scientific problem-solving may be helpful in the workplace. Propose self-management and self-improvement strategies based on psychological knowledge. Discuss the meaning of one's identity as a student of psychology in terms of the field's history and contemporary issues.

Requirements

of the Psychology Major

("Research and Experimental Psychology")

The major requirements facilitate a well-rounded psychology education, address our discipline's learning goals, and provide flexibility for you to tailor your plan to your specific interests.

- ❑ **Take 36 credits in psychology** that satisfy the requirements below. These credits cannot be taken P-D-F. That is, they must be taken for a regular grade, not for a "pass, D, or fail" grade. You may take additional psychology courses to explore our discipline in its breadth. Such additional courses can be taken P-D-F but cannot count toward the major.
- ❑ **Take 2 credits each in biology and philosophy** to explore some of the disciplines most closely related to ours, and to situate your psychology major within a richer intellectual context. (These credits cannot be taken P-D-F; see above.)
- ❑ **You must complete PSYC-210, 210L, and 220 by the end of your junior year.**
- ❑ Courses cannot be taken P-D-F for the major.
- ❑ **Take PSYC-110:** *Introduction to Psychology*
    - Did you, prior to Whitman, earn either a 4 or 5 on the **Advanced Placement (AP)** exam in psychology, or a 5 or higher on the **International Baccalaureate (IB)** exam in psychology, or earn transfer credit from a Camrbidge GCE exam? If so, you may elect not to take PSYC-110. Ensure that you have transferred your AP, or IB, or GCE credit through the Registrar's Office as course equivalency. This will allow you to register for 200-level courses in psychology.
    - Do you want to take PSYC-110 *despite that* you transferred over qualifying AP, AB, or GCE exam credit? In that case, obtain advisor and instructor approval. The grade you earn in PSYC-110 will be included in your college GPA calculation, but completing the course will not contribute additional credits toward graduation.
- ❑ **Take PSYC-210:** *Psychological Statistics*, **and PSYC-210L**: *Psych Stats Lab*. You must **finish both before the end of the first semester of your junior year,** because they are prerequisites for PSYC-220. **Planning to study abroad as a junior?** Then you **must** take PSYC-210 & 210L as a sophomore!
- ❑ **Take PSYC-220:** *Research Methods*. You must finish it **by the end of your junior year. Planning to study abroad?** Then you **must** take PSYC-210 and 210L as a sophomore (or earlier) and PSYC-220 as a junior (or earlier).
- ❑ **Take one course each from three of the four foundational areas:**
    - ❑ ***Clinical/Personality*** – PSYC-216, 260, or 270.
    - ❑ ***Cognitive/Learning/Physiological*** – PSYC-215, 217, 225, 229, or 290.
    - ❑ ***Developmental*** – PSYC-218, 219, or 240.
    - ❑ ***Social*** – PSYC-230, 231, or 239.

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- **"Special Topics"** – Sometimes we offer courses with the phrase "*Special Topics*" in their names. A special topics course ***may*** satisfy a foundational area requirement ***only if*** that has been specified in the special topics course's description.
- **Take one 300-level seminar numbered PSYC-300 through PSYC-349.**
    - These advanced courses emphasize interactive discussion of theory, research findings, and methodology. (Courses numbered PSYC-350 and higher do ***not*** satisfy the seminar requirement.)
- **Take the capstone seminar, PSYC-420:** *Contemporary and Historical Issues in Psychology*.
    - You will explore and write about the fundamental themes that unify the major and the discipline.
- **Throughout your senior year, take PSYC-495 & 496:** *Thesis*. It is (a) required both semesters, (b) open only to psychology majors, and (c) with space guaranteed for psychology major seniors.
    - PSYC-220 is the prerequisite, so **you must finish PSYC-220** as a ***junior*.**
    - Most theses are original empirical projects (a single research study that is often an experiment).
    - Most students work in 2-3-person research teams. Together, they design, propose, and conduct the research project, analyze the data, and produce a research manuscript in APA style.
    - Register for PSYC-495; after you finish 495, register for 496. **You cannot register yourself for PSYC-498:** Honors Thesis); the department will convert to PSYC-498 the registration of those students who meet the requirements for honors in the major.
- **PSYC-358:** *Research Experience* – an optional advanced course.
    - Are you volunteering as a research assistant in a psychology professor's laboratory? You may discuss with the professor whether you could receive credit for this optional course. It allows you to earn course credit when your volunteer work results in learning new theory, methods, and skills.
- **PSYC-407 & 408:** *Independent Study* – optional advanced courses.
    - These optional courses are for students who wish to study a specialized topic deeply. You will need a psychology professor to give you "instructor consent" to enroll in the course. Typically, the student and instructor agree on a set of learning goals and a selection of readings, and on a written product for the student to complete. They then meet regularly throughout the semester, and the professor provides supervision and advice.

Thesis

In keeping with our emphasis on the scientific approach to psychology[2], the Psychology Department has adopted three types of thesis that senior majors may write: empirical, theoretical, and qualitative.

> An **empirical thesis** can involve many different kinds of research design and statistical analyses, but central to this kind of thesis is testing a hypothesis derived from a theoretical or experimental source by observing and analyzing behavioral data using standard statistical techniques. An article published in, for example, the *Journal of Experimental Psychology* can serve as a model for an empirical thesis.
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> A **theoretical thesis** is also a possibility. A theoretical thesis states a hypothesis, problem, or position about a domain of psychology and attempts to resolve it or defend it based on some theory or body of research in psychology. However, it is not simply a review of the literature. Rather, it proposes a particular statement, arrived at by the student with the help of the thesis advisor, and then develops a defense of the statement based on theory or research. An article published in *American Psychologist* or *Psychological Bulletin* can be used as a model. See, e.g., Bem, D. J. (1995). Writing a review article for Psychological Bulletin. *Psychological Bulletin, 118,* 172-177.
>
> A **qualitative thesis** is a thesis that involves data collection but whose findings and conclusions are not derived from statistical or other quantitative analysis procedures. Such theses can involve descriptive analyses of verbal transcripts from interviews or other spoken or written sources; they can also involve participant observation, case studies of a unique individual, and/or descriptive analyses of small-N studies. Sometimes empirical theses are converted to qualitative theses in midstream due to the difficulty in gathering data from a sufficient number of participants. See, e.g., Camic, Rhodes, and Yardley's 2003 text *Qualitative Research in Psychology: Expanding Perspectives in Methodology and Design* (Washington, DC: American Psychological Association) for details on how to conduct qualitative research.

All theses must be written entirely in APA style[3] (the most recent edition). This refers not only to the way sources are credited, but also to the paper's elements, format, organization, writing style, grammar, bias-free language, mechanics, and tables and figures.

The Psychology Department keeps records of completed theses from previous years. Ask a faculty member if you're interested in seeing previous theses. Take a look at what other students have done and get an idea of the scope and detail expected, as well as methods which have been successful. In addition, Penrose Library houses all the honors theses that have been written by psychology majors. Recent ones are in electronic format, and older ones are on paper. The honors theses in the library are not the entirety of the theses, and sometimes theses that did not end up becoming honors theses do contain good examples of the kind of projects that are rigorous yet feasible.

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[2] Did you know that the formal name of our major is **Research and Experimental Psychology?**

[3] American Psychological Association. (2020). *Publication manual of the American Psychological Association 2020* (7th ed.) Author.

General Thesis Writing Guidelines

Your thesis must be in the most recent version of APA style in its entirety. This includes but is not limited to the citations and references. It also includes the manuscript's elements, format, organization, writing style, grammar, bias-free language, mechanics, and tables and figures.

In addition, the following suggestions may prove helpful. They address common skills students use when preparing their work. This is not an exhaustive list of guidelines. For more information, refer to your coursework (especially PSYC-220 and PSYC-420) and to the APA manual.

1. Construe the thesis logically. Show how your hypotheses follow from the literature review that informed them. Explain how the design and procedure follow logically from the hypotheses. Make it clear how the conclusions stem from the results.

   Early at the start of the first semester, you must spend considerable time searching the literature and deeply reading articles. **This is different** from a typical course. It is **necessary,** so that you can design and propose the project. Ensure you dedicate the necessary time **very early on.**

2. Devote space in the discussion section to plausible alternative explanations for the results that the original hypotheses might not have suggested. This form of critical thinking will improve your thesis, further your understanding of psychology, and serve you will in your life after college.

3. Attend to the organization of the manuscript's sections, the transitions between paragraphs, the structure of the paragraphs, the syntax, and every aspect of grammar. Attention to the mechanics of APA style, as the style manual has specific advice for every aspect of writing, for example, when to use spaces, when to italicize, when to insert or omit periods and commas, when to abbreviate (and how), and so forth.

4. Describe in the results section the data that appear in tables and figures. Tables and figures do not speak for themselves, and additional description may be necessary to convey their contents. Follow APA style guidelines for constructing tables and figures.

5. Outline the entire thesis in the abstract, including a statement of the problem, method, major findings, and conclusions. Ensure your advisor reviews it before the final draft.

6. Conduct pilot work if advisable and include or describe pilot data in the procedure or discussion section as appropriate.

7. Establish a timeline for writing, coordinate it with your advisor, and observe the deadlines you set. If you have difficulties with self-regulation regarding writing, ask your thesis advisor, academic advisor, or staff from the Academic Resources Center for advice. They can help, as virtually everyone has had some struggles with writing.

8. Present the complete thesis to the examining committee (ordinarily this includes your thesis advisor and the design consultant) well ahead of the scheduled oral examination.

9. The department arranges the date and time of the oral exam. Provide each member of the committee with a final copy of the thesis at least one week prior to the exam date.

Senior Assessment

Whitman College requires that “every candidate for a bachelor's degree must, in [the] senior year or subsequently, complete with a passing grade a senior assessment in the field of the major study.”[4] These exams may be entirely oral or part written and part oral. When passed, they are graded “did not pass,” "passed," or "passed with distinction."

> A student who does not pass the major exam the first time may take a second exam, “but not before two weeks after the first examination.” The delay provides time for the student to review core knowledge and skills in the discipline. A student who does not pass the exam on the second attempt may attempt again following a delay of no less than three months.

The Senior Assessment in Psychology has a written and an oral component.

The Written Component

Your thesis manuscript will serve as the written component of the exam.

The Oral Exam

The oral exam consists of a 1-hour scholarly discussion and scientific defense of the thesis with the thesis advisor and design consultant that takes in the month of April. Each committee member should receive a final draft of your thesis at least a week before the exam. You will also provide the committee members with a list of the 200-level foundational area courses and the 300-level seminar(s) that you have taken in the major. This time and the list will give the committee members the opportunity to read your thesis carefully and prepare thoughtful questions aligned with your academic experience. The department will schedule your exam.

We use a discussion format for the oral exam, and the discussion will be audio recorded. The recording enables the committee members to decide whether they need to review the conversation or, very rarely, whether they wish to request that another faculty member review it to help them resolve any uncertainty or disagreement. The recordings are then destroyed.

Professors often start the exam by asking you how and why you got interested in your topic. From there they usually ask specific questions about your thesis. Be prepared to discuss how your research is rooted in your academic studies. Be prepared to explain and discuss how you made each methodological decision in designing the study as well as its ethical considerations. Also be prepared to explain why you chose each statistical test and and why you interpreted each results the way you did. Be comfortable and familiar with your data and be prepared to graph expected and actual results. Some students prepare posters for their orals, although this is not required. If you happen to have a lot of complicated results and believe that predesigned graphs, tables, and other materials supplementary to your thesis manuscript will help you communicate better, then feel free to prepare and bring them. (Such materials can also be part of the manuscript’s appendices.) Also be prepared to discuss the strengths as well as the limitations of your study, which you should have discussed in your thesis.

[4] See, e.g., the college’s 2024-2024 Catalog.

The committee members will assess your responses to their questions about your thesis. They will also assess how you reasoning about your thesis connects to concepts from your college coursework. They will also assess the degree to which you express yourself and problem-solve like a psychology major. The PSYC-496 syllabus usually provides useful details about the oral.

Bring a clean copy of your thesis to the oral examination. The copy should be free of notes, but it may contain underlining and highlighting. Additionally, the PSYC-496 syllabus may provide a list of the "bare minimum" concepts in statistics and research methods that every psychology major should be able to recognize, define, and discuss in relation to their thesis. Mastery of the "bare minimum" is necessary for passing the oral examination, but it does not guarantee passing, nor does it guarantee passing with distinction. As of 2024, you may bring the list of "bare minimum" concepts to your oral examination. Remember that they are but the minimum.

After your oral examination concludes, the committee members will ask you to leave the room for a few minutes while they discuss the outcome. The PSYC-496 syllabus may contain sample evaluation guidelines that the faculty will consult (see also below). The faculty will follow an identical or updated set of guidelines. The committee will decide whether this was a passing oral examination, and your advisor will receive suggestions for a tentative grade on the manuscript.

After the deliberation concludes, the committee members will invite you back into the room, and your advisor will convey to you the oral exam result and the preliminary thesis grade. Whether your exam passes with distinction will be determined and communicated to you at a later date, on the basis of the committee members' deliberation, the audio recording (if needed), and input by the rest of the department. Students pursuing honors in the major must pass the oral exam with distinction. Students who are not pursuing honors may still receive distinction on the oral.

More details on the structure of the oral examination and how to prepare for it are provided in PSYC-496. Below is a **sample set of guidelines** that orals committee members have used in recent years to systematize their thinking about students' handling of questions, ability to "think on their feet," go a step or two beyond the questions asked, and engage the committee members in a professional intellectual discussion.

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4 = Outstanding; Insightful; Very informative; Feedback results in even deeper discussion.
3 = Good; Sufficient; Informative; Feedback leads to self-correction or improvement.
2 = Adequate; Minimal errors; Some gaps; Self-corrects; Uses feedback effectively.
1 = Poor; Multiple errors; Major gaps; Does not use feedback effectively.

Scientific reasoning	4	3	2	1
Engages with theory	4	3	2	1
Engages with research findings	4	3	2	1
Discusses meaningful research question	4	3	2	1
Research Design, Methods, Statistics	4	3	2	1
Proposes appropriate design for the study	4	3	2	1
Articulates research methods and ethics	4	3	2	1
Articulates statistics	4	3	2	1
Connections and Applications	4	3	2	1
Makes links to other areas in psychology	4	3	2	1
Discusses implications for psychology	4	3	2	1
Discusses applications beyond psychology	4	3	2	1
Articulates awareness of core DEI issues	4	3	2	1

Honors in Major Study

Psychology majors do not apply for admission to candidacy for honors, and they do not enroll themselves in PSYC-498: Honors Thesis. Instead, the Psychology Department faculty, by consensus, and in consultation with the Registrar, decides which students have met all requirements for honors in the major. At the end of their final semester, these students' enrollment in PSYC-496: Thesis will be converted into PSYC-498: Honors Thesis retroactively.

If you think that you may be eligible for Honors in Major Study in Psychology, you should alert both your thesis advisor and your academic advisor early in the thesis project. We recommend that you do so as soon as you find out which thesis advisor the faculty has appointed to you. (If your thesis advisor is not also your academic advisor, they will not have access to your academic record, and they will not be able to evaluate your potential eligibility, so it would be helpful to let them know.)

Honors in Major Study is a form of recognition that Whitman bestows on students who demonstrate "unusual ability in their major fields." The psychology faculty awards students honors to students who:

- Graduate with a major GPA of at 3.500 or higher.
- Earn at least A- in PSYC-495 and PSYC-496/8.
- Earn at least A- on the thesis manuscript in PSYC-496 and PSYC-496/8.
- Pass the oral examination with distinction.
- Present the thesis research in a public forum outside of class.
    - This can be the Whitman Undergraduate Conference.
    - Some students present at the Western Psychological Association's convention.
- Provide a final thesis manuscript at the end of PSYC-496/8 that the Psychology Department faculty collectively agrees is outstanding.
- Satisfy any additional requirements for Honors in Major Study listed in the college catalog, for example:
    - "Students must submit a proposal for their thesis or project within the first six weeks of the two-semester period in which [they] are eligible." For psychology majors, this is typically the IRB proposal of their thesis project.
    - The student has "accumulated at least 87 credits."
    - The student has "completed two semesters of residency at Whitman."
    - The student has delivered "an acceptable digital copy of the honors thesis… to Penrose Library no later than Reading Day."

A Brief History of Psychology at Whitman

Courses in psychology were offered at Whitman College as far back as 1882, only three years after Wilhelm Wundt established the first psychological laboratory in Leipzig, Germany. Psychology courses were initially taught by the early presidents of the college (A. J. Anderson and later, Stephen Penrose), and were regular fare within the Philosophy Department until 1920. Until that time, no more than two courses in psychology were available. For instance, the 1894-1895 college catalog lists “Psychology” and “Physiological Psychology” as the complete set of psychology courses students could take.

Psychology merged with the Department of Education in the 1920-1921 academic year, and the 2-person Department of Education and Psychology (Profs. Keezel and Penrose) offered courses designed primarily to lead to teacher certification. Keezel, however, was the first to teach psychology as its own discipline rather than as part of the field of education. When Penrose discontinued his teaching activities, William Hunter joined the college toward the end of the Great Depression in 1939. In Hunter, Whitman College now had its first professor trained specifically in psychology, and thus “real psychology” (according to Chester Maxey, in an interview conducted in the late 1970s) began at Whitman. Eleven different courses soon became available to students, including General Psychology, Applied Psychology, Mental Hygiene and Personality, Industrial Psychology, and Genetic Psychology. Psychology continued to gain popularity with the addition of psychologist Max Bown.

The 1950s were associated with two major changes to the Department of Education and Psychology. First, in 1952, psychology and education split into separate departments. Second, the number of professors in psychology increased from one and a half (one full-time and one part-time) to two and a half. By the end of the 1950s, Professors Jerry Fogarty, Richard Suinn, and Merle Meyer were regularly teaching courses in social, abnormal, physiological, and child psychology, with statistics and experimental courses rounding out the course offerings.

During the 1960s, resignations and subsequent vacancies that were left unfilled did not encourage growth in the Psychology Department. Nevertheless, a young professor named Jay Eacker joined the staff in 1965, soon assumed a leading role within the department, and became instrumental in hiring several new colleagues. Jack Metzger was hired in 1969, and Stephen Rubin joined the College in 1971. With the addition of Deborah DuNann Winter in 1974, the four-person department enjoyed an incredible 25 years of stability. During that time, the department moved out of the old Billings Hall that it had called home for several decades, resided briefly in Reynolds Hall (now Olin), then moved to the third floor of the newly-built Maxey Hall in 1977.

The Psychology Department underwent rapid change as the “fabulous four” retired and a new generation of psychologists joined the permanent faculty. Matthew Prull, Walter Herbranson, and Melissa Clearfield joined us in 1999, 2000, and 2001. Deborah Wiese, Brooke Vick, and Chanel Meyers worked alongside us until they transitioned in their careers. Pavel Blagov and Erin Pahlke arrived in 2009 and 2012. Even with growth in the number of departmental faculty, the popularity of our courses often required that we hire visiting and adjunct professors. After we welcomed Tom Armstrong, Stephen Michael, Nancy Day, and Erika Langley in 2014, 2015, 2019, and 2024, we grew to nine permanent, full-time faculty members. A strong research orientation has emerged in the department with laboratories that focus on comparative, cognitive, affective, personality, social, developmental, and educational psychology and neuroscience.

Despite these changes, certain aspects of the major have remained consistent. Psychology continues to be taught from the same empirical perspective that early psychology faculty at Whitman adopted. The department also continues to require a senior thesis of its majors, a tradition that goes back for over 100 years. In the tradition of Physiological Psychology, first offered by Stephen Penrose in the late 1800s, students can now take courses in neuroscience. The Psychology faculty contributes to the curricula in Biology; Biology-Geology; Brain, Behavior, & Cognition; Environmental Studies; Gender Studies; Indigeneity, Race, & Ethnicity Studies, and Mathematics-Statistics. Students preparing for the health professions and education also typically take psychology courses. These are exciting times in the Psychology Department, and we invite you to participate in our “making of history” in psychology at Whitman!

Psychology Core Faculty

Thomas Armstrong, Associate Professor of Psychology

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I grew up in Southern Oregon and attended Lewis & Clark College, where I majored in psychology and studied emotion in the Behavioral, Health, and Social Psychology Laboratory. While at Lewis & Clark, I also completed advanced coursework in sociology and philosophy. In the spirit of liberal arts education, my senior project integrated philosophical and psychological perspectives on aesthetic pleasure, casting beauty as an emotion. Years later, this project led to my first publication, co-authored with my undergraduate advisor.

After college, I worked as a research coordinator at Cornell University and as a psychiatric rehabilitation counselor in Ithaca, New York. I knew I wanted to pursue a PhD in something, but I had a hard time deciding between the philosophy and sociology of science ("science studies"), experimental psychology, and clinical psychology. Ultimately, I decided that I liked *doing* science too much to pursue science studies, and I enjoyed clinical work too much to pursue experimental psychology. So I pursued a PhD in clinical psychology at Vanderbilt University, where I found a balance between doing science and treating mental illness.

However, part of me always longed for the interdisciplinary studies of my liberal arts education, and by the end of my PhD, I knew I wanted to return to my roots at a similar institution. I am thrilled to be a faculty member in Psychology at Whitman College, because I can finally "have it all." In the classroom, I can teach psychology from an interdisciplinary perspective; in my laboratory, I can conduct experimental psychopathology research; and in the Walla Walla community, I can practice psychotherapy.

At Whitman College, I teach courses on introductory psychology, emotion, abnormal psychology, clinical psychology, and interdisciplinary perspectives on mental illness. My research interests include the role of disgust in anxiety-related disorders and the effect of emotion on attention, which I study using eye tracking technology. When I'm off campus, I enjoy cooking, gardening, and bicycling around Walla Walla with my wife and daughter.

Pavel S. Blagov, Professor of Psychology

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After attending an American honors high school in Europe, my interests in biology and philosophy became a fascination with psychology, which took me to Connecticut College. There, I collaborated with my advisor on research linking personal memories to psychological adjustment. When I advise psychology majors, I often suggest that they take advantage of such faculty-student collaboration options here at Whitman. At Connecticut College, I embraced the values of liberal arts education and empirical science, majored in psychology and neuroscience/neurochemistry, and decided to become a clinical and personality psychologist. Additionally, I completed the college's program in community action and a career-skills training program that funded my summer internship. I often advise students to seek out Whitman's career-skills development resources.

My graduate school path in clinical psychology started at York University, where I worked on psychotherapy process research. My interests, however, took me to Emory University in Atlanta, where I studied emotion-driven reasoning and the classification of personality pathology (including mild personality dysfunction, borderline personality, and psychopathy). I also trained in pedagogy and psychological assessment and therapy, and I completed my predoctoral internship at Columbia University Medical Center in Manhattan. I came to Whitman because of its congenial atmosphere, balance between teaching and research, and tradition of student-faculty research. I like sharing advice about getting into grad school, making ends meet there, making the most out of it, and about career paths that do not involve grad school.

My research addresses individual differences in personal memories, the classification of personality disorders, and the ability of maladaptive personality to predict life outcomes. I am interested in working on research projects with students who are curious about personality, mental illness, psychological adjustment, relational functioning, the effects of emotions and motivation on decision making, and sexual orientation and gender. My teaching interests include personality, psychological disorders, and psychological assessment and intervention. I also teach research methods and the science of sexual orientation, and I have some knowledge of basic forensic psychology, neuroscience, and psychopharmacology.

Licensed to practice psychology in Washington, I have practiced psychological evaluation, assessment, and psychotherapy (not as part of my job at Whitman). My approach to assessment is neuropsychological, and my orientation as a therapist is primarily cognitive behavioral. In the past, I have even been able to take on practicum students from Whitman to shadow my clinical work.

Melissa Clearfield, Professor of Psychology and Laura and Carl Peterson Endowed Chair in the Social Sciences

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I was born and raised in New Jersey, and after high school, I escaped to Middlebury College in Vermont, where I learned that nature is more than just a tree in the middle of a parking lot. I also learned that psychology is cool, especially how babies learn about the world. After college, I started my journey west by going to graduate school at Indiana University in Bloomington. I earned my Ph.D. in developmental psychology (with minors in Behavioral Neuroscience and Kinesiology), and then came to Whitman in the summer of 2001.

My current research explores whether and how poverty impacts attention and cognition in very young infants. It is well known that school-aged children who grow up in poverty show deficits in executive function (EF), which is a combination of attention, cognitive flexibility and problem-solving. Research in my lab tracks infants across the first year of life to determine whether low SES infants show deficits in any of these areas. And my newest project is testing an intervention that I designed to boost attention and object exploration in infants from low-income homes.

I offer such courses as Developmental Psychology, Psychology of Poverty, Poverty and Child Development, The Development of Teen School Shooters, as well as the senior capstone course and a first year seminar on childhood.

Continued on the next page…

Nancy Day, Assistant Professor of Psychology

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I loved my high-school science courses and, upon entering college, I was certain I would major in biology (I did). What I didn't expect was that I would find psychology equally fascinating and want to major in it as well. After completing a double major at Whitman, my newfound interests in the brain, mind, and behavior led me to the University of Minnesota in Minneapolis, where I earned a Ph.D. in neuroscience.

As an undergraduate, I became intrigued by how effortlessly babies learn language. I'd also studied how early-life and ongoing experiences shape brain circuitry (in bees). To merge these lines of inquiry, I joined a lab in graduate school to study how brain circuitry changes over time in young male zebra finches as they learn to imitate an adult song. Although zebra finch songbirds don't learn language, their ability to learn song relies on several factors (e.g., critical periods, brain circuitry, social interactions, auditory feedback) that are also necessary for humans to learn speech and language. My dissertation was an investigation of how groups of neurons in a song-dedicated brain area change their firing patterns over the course of song learning.

Following graduate school, I studied the genetic influences on song learning as a postdoc at UCLA. There, I studied the bird version of FOXP2, the first gene definitively linked to human speech and language deficits in humans. I manipulated FoxP2 in the songbird brain to determine whether it affects ongoing song learning in adults as it does during song learning in juveniles. Using such behavioral training paradigms as negative reinforcement, I've found that proper FoxP2 function is critical throughout the lifespan of an animal to learn and maintain learned vocalizations.

My research has also taken me to the slopes of Andes Mountains in Ecuador, where I collaborate with other neuroscientists to study the plain-tailed wren. In these birds, both males and females rapidly alternate singing to produce a song that sounds as if only one bird is singing. We are interested in how the brain in each bird responds to cues produced by the other bird to understand how cooperative social behaviors are coordinated across individuals.

At Whitman, I am excited to continue investigating how experiences and biological factors interact to influence behavior, particularly speech and language, in both in my research lab and in my courses. In addition to teaching Introductory Psychology and Cells to Brain to Mind (Behavioral Neuroscience), I am excited to lead an upper-level seminar (Brain and Language) to tackle big questions about language -- a behavior that only humans possess -- from an interdisciplinary perspective.

Outside of the classroom, I enjoy returning to my childhood stomping grounds in Colorado, finding time for friends and family near and far, hopping on my bike for a ride around town, and engaging in extended conversations with my very “talkative” Siamese cats.

Continued on the next page…

Wally Herbranson, Professor of Psychology and Herbert and Pearl Ladley Endowed Chair of Cognitive Science

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Locations: Maxey 344 (office), Maxey 330 (lab)

Wally Herbranson grew up in the icy plains of the Northern Midwest. After earning a B.A. in Psychology and Cognitive Studies at Carleton College in Northfield, Minnesota, he immediately headed for the desert and earned master's and Ph.D. degrees from the University of Utah in Salt Lake City. Wally is a comparative psychologist, studying the behavior and cognitive abilities of animals in an evolutionary context. In addition to organizing a comparative cognition lab in Maxey Hall, Wally teaches several courses, including Psychology of Learning, Comparative and Evolutionary Psychology, and Psychological Statistics. Walla Walla and Whitman College have proven to be wonderful settings for his intellectual and recreational pursuits. Outside of the classroom, he enjoys sleeping, cooking, brewing beer, and watching baseball.

Erika Langley, Assistant Professor of Psychology

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Location: Maxey 346 (office)

I was born and raised in Southern California and attended U.C. Irvine, where I double majored in cognitive psychology and studio art. My honors thesis was a combination of both of my passions: an art exhibit titled "Prevarication" and a thesis paper exploring how personality and emotion can be expressed through portraiture. From early on, I was interested in exploring the more "positive" side of psychology. Two classes in particular stuck with me and later inspired my research pursuits, Psychology & Emotion (Thanks Susan!) and Positive Psychology (Thanks Ted!).

After graduating with my B.A., I stuck around U.C. Irvine to complete a post-baccalaureate in psychological science and volunteered in the Emotion and Healthy Aging Lab. These experiences led me to pursue my Ph.D. in Social Psychology at Arizona State University, where I received comprehensive training in social psychology and affective science. While I was dead set on pursuing a Ph.D. in cognitive or health psychology (and never living in Arizona), I ended up in a social psychology program (in Arizona); luckily, I was able to take an interdisciplinary approach in my research, strategically blending social psychology frameworks, cognitive methodologies, and theories of emotion. I also learned how to survive the 120°F summers and met and married my husband Matt during grad school, so I guess Arizona wasn't so bad.

I am dedicated to investigating the psychological basis and social consequences of humor. While much of my work prioritizes humor, my research more broadly seeks to identify the underlying mechanisms by which emotions influence individual well-being, close relationships, and intergroup dynamics. My work is currently focused on three key domains: how humor influences social relationships (romantic and platonic), exploring coping/emotion regulation through humor, and investigating how individuals form reactions to intergroup/stereotype humor. My goal is to oversee a lab that empowers undergraduates from diverse backgrounds to confidently engage with, conduct, and present research.

Teaching and mentorship are some of my favorite things, so working at Whitman College is my literal dream job! My goals around teaching and mentorship center on making sure students get the information (i.e., "short cuts" that I didn't get while going through school) they need to ensure they are set up for future success. My current courses include Intro Psych and Social Psychology, as well as thesis advising. I look forward to developing courses in Positive Psychology, Psychology of Humor, and Psychology of Emotion.

My husband and I are excited to start at Whitman College in the fall of 2024 and have quite the zoo coming with us to Walla Walla: Amelia (trans-pecos rat snake), Bernarnold “Beenard” (ball python), Charlie (leopard gecko), Darwin (reticulated python), Emerson (F1Bb labradoodle), and Fernando (F1Bb labradoodle & Emerson’s brother).

Stephen Michael, Senior Lecturer of Psychology

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Generally speaking, my research examines the role that social and cognitive processes play in issues within the legal system. I became fascinated with these applications of psychology through undergraduate research at Elon University (North Carolina). My interests and experiences there led me to the University of Texas at El Paso where I earned my Ph.D. in Psychology with a concentration in Legal Psychology, and ultimately back to work in a liberal arts environment. I spent two years at Mercer University before joining the psychology department at Whitman.

A majority of my research focuses on the psychological processes that influence deception detection and investigative interviewing techniques. Early on I examined how successful humans are at detecting deception (not very), and the degree to which performance can be improved through training. However, more recently I have focused more on the role of the liar in these interactions. For example, I am studying the roles that cognitive load and language proficiency of the speaker play in perceptions of the statement (i.e., accuracy and bias). Another direction that I am excited to explore further involves the strategic decisions liars make (e.g., sources of memory, impression management). I will be examining the interaction between those choices and processes related to deception (e.g., cognitive load, emotions), and their influence on the liars' behavior and perceptions of the statement. While my primary interests lie in deception, I also dabble in jury decision-making and eyewitness memory research. Ultimately, I hope that a better understanding of the psychology underlying these issues can help inform practice and outcomes in the legal system.

Erin Pahlke, Associate Professor of Psychology

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Locations: Maxey 345 (office), 346 (lab)

I became passionate about psychology while a student at Wellesley College, which is a small liberal arts college much like Whitman. I did not think I wanted to be a psychologist, though, and so I signed on with Teach for America after graduating. I taught for two years in the DC Public Schools, in a 4th grade classroom at Webb Elementary. That experience reignited my interest in research and the role of psychology in understanding children’s and adolescents’ development. So, I went off to Austin to study educational and developmental psychology at the University of Texas.

In my research, I'm interested in answering three broad questions: (1) How do children and adolescents form their views of race and gender?, (2) What are the consequences of children's and adolescents' views of race and gender?, and (3) What is the impact of experiences with racial and gender diversity of academic and socio-emotional outcomes? In my teaching, I'm interested in working with students to explore key concepts related to development, social environments, and research.

My husband, Derek, and I have two children, Evie and Calla, and a big crazy dog, Harvey. We love exploring new things together as a family, with a particular focus on new places and new foods.

Matthew W. Prull, Professor of Psychology

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Locations: Maxey 327 (office), Maxey 341, 343 (lab)

I grew up in San Jose, California, a sprawling world of computers, silicon, and entrepreneurship. I became fascinated with psychology from a course in high school and quickly decided that my career would involve psychology in some way. As an undergraduate at San Jose State University, I found the research side of psychology fascinating, particularly in the realm of cognitive psychology that involved clever experiments that revealed how memory, perception, and imagination worked. I earned my Ph.D. in cognitive psychology at Claremont Graduate University, then later specialized in cognitive neuroscience as a post-doctoral scholar at Stanford before arriving at Whitman in 1999.

My research interests focus on understanding adult age-related patterns of change and stability in mental abilities such as memory, language, and the use of general knowledge. Much of my research is guided by dual-process conceptualizations of memory that distinguish between automatic and consciously-controlled memory processes. In addition, I am interested in false memory phenomena and what they teach us about the workings of memory across adulthood. I teach courses in cognitive psychology, memory, and aging, as well as statistics, experimental psychology, and introductory psychology.

Department Policies

P-D-F Policy for Majors

Courses taken within the major cannot be PDFed. This policy includes all courses with a PSYC designation as well as the “external” required courses in biology and philosophy.

“Double-Dipping”

Students may use the same course to satisfy a psychology major requirement as well as a requirement for a minor in an area other than psychology. For example, the psychology faculty will not object should a student wish to use a biology course to count toward the psychology major and biology minor. The psychology faculty does not support most other forms of “double-dipping.” For example, the faculty does not generally support most other forms of “double-dipping.”

AP Credit in Statistics

AP credit in statistics does not satisfy the psychological statistics requirement for the psychology major.

General Recommendations from Whitman Psychology Majors

In revising this handbook, we asked psychology majors to give advice to new majors. Here is what they said:

- Browse the department's website.
- Get to know all professors in the department.
- When you declare, make a schedule of courses you would like to take each semester.
- Finish as many additional required courses before your senior year so you can focus on your thesis.
- Challenge yourself in new ways by taking courses whose topics seem unfamiliar and might require you to study more than usual. As stated by one senior psych major, "Branch out from the areas of psych that you think are easiest and challenge yourself some…"
- Take advantage of Independent Study: find an area that interests you and work out an arrangement with a professor for 1-3 credits.
- Talk with a professor about designing a research project, and then apply for a Perry or Abshire Grant. You can learn more about these grants by googling "faculty-student research, Whitman College."
- Do your reading *before* class, and you'll get 10 times more out of your education.
- Use your summers and breaks to gain additional experience and knowledge
    - Volunteer to assist a professor with their research during the semester or during the summer.
    - Get a student job or, if you are eligible for employment in the U.S., a regular job in the community, even if you do not need the money. You will learn useful skills for life after college.
    - Meet with your career coach from the Career and Community Engagement Center and talk to them about ways to make connections between your studies, extracurriculars, jobs, internships, and thesis.
    - Use the Career and Community Engagement Center to locate alumni in your field of interest, to polish your resume and cover letters, and to learn how to market yourself.
    - Use winter break to research organizations in which you are interested, so that you can then use the spring semester to apply for summer internships at these organizations.
    - Talk to your career coach how to become competitive for the Whitman Internship Grant and secure the grant to pay your living expenses during an unpaid summer internship.
    - Look for summer research opportunities at Whitman, but also at other colleges and universities, at nonprofit organizations that provide human services, or at government organizations like the Department of Social and Health Services.
    - Consider job shadowing.
- Go abroad! You'll get a break and get a new perspective.
- Present your thesis at conferences (Whitman pays for travel expenses) — graduate schools like this!
- Attend psychological conferences such as WPA (Western Psychological Association).
- Become a student affiliate of the APA (American Psychological Association) or APS (American Psychological Society) to help yourself stay current on issues in psychology. The membership dues are low for students—it's the best deal you'll ever see in professional dues.

Guidelines for Writing

> Writing is easy; all you do is sit staring in front of your keyboard or a blank sheet of paper until little drops of blood form on your forehead.
>
> — attributed to both Gene Fowler and Red Smith

> It's easier if you believe in God, but not impossible if you don't. If you believe, then this God of yours might be capable of relieving you of some of [your] perfectionism. Still, one of the most annoying things about God is that he never just touches you with his magic wand, like Glinda the Good, and gives you what you want. Like it would be so much skin off his nose. But he might give you the courage or the stamina to write lots and lots of terrible first drafts, and then you'd learn that good second drafts can spring from these, and you'd see that big sloppy imperfect messes have value.
>
> — Anne Lamont, *Bird by Bird*

The Whitman College Psychology Department is committed to teaching and expecting good writing. Writing is often hard work, but it is also richly rewarding and greatly empowering. Below are the Department's guidelines for defining good writing. In addition, each faculty member has particular goals and strategies for specific papers and assignments. Our Department guidelines apply to all courses in psychology, but we designed them so that professors can supplement them for particular assignments.

General Principles

1. Unless otherwise notified, use APA format in accordance with the *Publication Manual of the American Psychological Association* (7th Edition, Washington DC: American Psychological Association, 2020). APA style is explicitly taught in Research Methods courses and 420, but is also expected in other courses, especially Thesis.

2. Good writing is continuous with good thinking. Ideas are inseparable from the language used to express them. It is simply not true that your ideas are clear if your writing is not. As your thinking gets clearer, so will your writing.

3. Good writing is actually good re-writing. As John Updike said, "Writing and rewriting are a constant search for what it is one is saying." Very few people can put out a good first draft. Most of us have to get our ideas down and then cut, paste, restructure, elaborate, drop, reorganize, and rewrite several times before a draft is really strong.

Common Errors to Avoid

1. Do not use gender-biased (and other forms of discriminatory) language. See pp. 70-77 in the APA manual. Use [sic] to indicate the problem when quoting, as in "Man [sic] and Nature". In general, avoid gender-biased referents by switching to plural forms. For example, "A scientist should be aware of their assumptions"; a more elegant phrasing is "Scientists should be aware of their assumptions."

2. Watch agreement problems. For example, "data" is the plural of "datum". To write "the data is normally distributed" is an agreement problem.

3. Get the distinction between *it's* (a contraction of it and is) vs. *its* (possessive) and don't use an apostrophe for the possessive.

4. Get the distinction between *affect* and *effect*. As nouns, affect is a feeling, effect is the result of a cause. As verbs, to affect is to partially influence and to effect is to achieve or accomplish (e.g., *Gandhi effected change*).

5. Avoid weak beginnings to sentences that often begin with the word “it.” Language such as “It is thought that. . .” (what’s “it”? You? Someone else?) can be improved upon. Often phrases such as “it is thought that,” “it is assumed,” etc. can simply be deleted.

6. Be careful about semi-colons vs. colons: use colons to introduce an oncoming phrase; semi-colons to separate two complete thoughts.

7. Avoid non sequiturs, which we will often denote with “NS”. A non sequitur occurs when a thought doesn’t follow logically from another. An example would be "*Because psychology is becoming more diversified, it has always embraced science*." The thought about science doesn’t follow logically from the thought about diversification.

8. Be careful about starting sentences with “This.” Always identify to what “this” refers by adding a noun clause such as “This quality,” or “This increasing trend” or “This new idea”. Add clarity to your prose by either avoiding “this” altogether, or immediately clarifying what “this” refers to by adding a noun immediately after the referent.

9. In general, avoid using second person pronoun as in “Psychology makes *you* aware of complicated environments”. Second person works well when giving instructions, as in this manual. If you want to make more general statements, a better construction is “Psychology makes one aware . . .” or “Psychology makes me aware . . .“

More Tips on Producing Lucid Prose

1. Use as few words as possible (as Mark Twain once said, “eschew surplusage”). Achieve lucidity by dropping unnecessary words from subsequent drafts.

2. Find transitional phrases and connecting thoughts between ideas. Your thinking ought to proceed logically from one idea to the next. Avoid lists. Avoid the phrases *another point*, and *also relevant* which make your thinking read like a grocery list, rather than a coherent discussion.

3. Avoid repeating words and phrases, especially in the same paragraph.

4. Don’t tell the reader what you are going to tell the reader. Just say it!

5. Don’t use the word *feel* when you mean *think*, *believe*, or *assume.* Incorrect use of the word *feel* is very common, and promotes confusion between thoughts and feelings.

6. In general, avoid paragraphs of less than two sentences and more than a page.

7. Proofread your paper several times before submitting it and always have someone else (preferably in the class) do so as well. Trading papers is a good way to improve your effectiveness as a writer because you get help on your paper, as well as become sensitized to the role of the reader.

Requests for Format

1. Discuss with your professor whether to turn in your work on paper, or in a specific file format, or on the cloud. Then stick to that arrangement.

2. Number the pages on the right end of the header. If presenting a printed copy, staple the pages.

3. Align text to the left, and do not justify it to both margins.

4. Always retain an electronic copy of whatever you turn in on paper.

Recommended Reading

Bem, D.M. (2003). Writing the empirical journal article. In J.M. Darley, M.P. Zanna, & H.L. Roediger III (Eds.), *The complete academic: A career guide* (2nd ed.). American Psychological Association.

Cronin, T.E. (1993). *The write stuff: Writing as a performing and political art* (2nd ed.). Prentice Hall.

Lamott, A. (1994). *Bird by bird: Some instruction on writing and life*. Bantam.

Parrott, L. (1999). *How to write psychology papers* (2nd ed.). Longman.

Schuzman, L.T. (2013). *Writing with style: APA style made easy* (6th ed.). Cengage.

Sternberg, R.J., & Sternberg, K. (2010). *The psychologist's companion: A guide to writing scientific papers for students and researchers* (5th ed.). Cambridge University.

Strunk, W., & White, E.B. (1979). *The elements of style.* Macmillan.

Appendix: Suggestions from Other Departments on Writing

Prewriting and Revision:
The following is a writing and revision checklist assembled from various sources. These are simply suggestions, of course. In the process of learning to write, you need to develop your own writing "voice" and style of working.

Prewriting:
Think. Talk about the subject. Begin to formulate your thesis. Jot down notes, a few sentences here and there. Make an outline.

First Step: Start writing.
Use any technique (free writing, rough notes). Get the ideas on paper regardless of form. This is the time to explore, experiment, test ideas. Mechanical considerations are not important at this stage.

Second Step: Organize.
Outline. Shape. Cut and paste and restructure the first draft ideas in an order that makes sense. Keep strong ideas and drop dead ends and false starts. Rewrite so that the best evidence supports your thesis.

Third Step: Write.
Write the introduction and conclusion, if appropriate. Make final judgments on paragraph order. Proofread and edit. Think about tone, language, fairness, counter-arguments, and point of view. Now, outline what you've written. Can you? If so, you are ready to let someone else read it.

Subsequent Drafts: Refine the thematic and mechanical elements of your paper. Address points made in critiques. Reorganize and restructure if necessary. Clarify ambiguous points and wording.

Grading Guidelines

Our aim is to give you feedback that enables you to become a stronger, more effective writer. We have high expectations, and we offer help and support as you learn to meet them. Although it should go without saying, we expect all your writing for classes to be your best quality. It is simply not acceptable to turn in sloppy prose, mechanical errors, poor organization of ideas, etc. unless your professor explicitly tells you not to worry about writing quality. As college students you are expected to be literate and serious about your work. Please don't embarrass yourself or insult us with anything less than your best.

Here are some *general* guidelines for grades:

A: Superior work in terms of both content and form
• Virtually no mechanical errors (spelling, typos, grammar, syntax)
• Ideas are clear and well organized
• Understanding of material is impressive
• Claims are backed up with references and quotations where appropriate
• Insightful and thoughtful; goes beyond the given assumptions
• Exceptional performance on all dimensions

B: Competent, acceptable work
• Weak on either form or content, or average on both
• Substantive, but not insightful
• Understanding of material is adequate
• Some, but not much thought beyond the given assumptions
• Some, but not much referencing of ideas

C: Weak, barely acceptable work
• Frequent mechanical problems
• Poorly written
• Ideas not clearly presented
• Understanding of material is minimal or inaccurate
• Sloppy organization

D: Poor, unacceptable work
• Poor writing, mechanics, or organization make ideas difficult to decipher
• Submitted work misses major expectations of assignment

F: Unacceptable work
• Submitted work does not reflect expectations of assignment, or no work submitted.

Just as we expect your best, as your professors we do our best to help you reach your potential. We will spend enormous energy and time reading and commenting on your papers, and we expect you to seriously consider and address our comments in your subsequent papers. Our goal is to give you feedback that will help you improve your writing. If you do not understand what we are telling you, or feel harshly or unfairly treated, please come in and talk with us.

Good writing is specific to a discourse community. Writing that works well in the humanities may be problematic in psychology. Learning to write well is like learning to speak a foreign language. Applying certain rules will help, but like language and culture, writing involves many tacit understandings and experience. Consequently, it is not possible to provide you with a template for a "perfect" paper, although often we can suggest how to remedy particular problems as you develop in your writing ability. Please do not feel insulted or disempowered by our suggestions. Because individual feedback is crucial for the learning process, we work hard at grading papers in order to assist your growth as a scholar. Learning to write well, and learning to teach others to write well, is a long-term process, which we look forward to sharing with you.

How to Find Tests

Definition
"Test" here refers to any survey, questionnaire, inventory, procedure, instrument, or battery of stimuli that psychologists or psychology students might use to measure, evaluate, or assess the behavior, learning, or mental processes of any human or nonhuman organisms or groups of organisms for the purposes of carrying out research in psychology or for the purposes of learning how to practice or practicing professional psychology (including program evaluation and consultation).

How not to mess up: **Ethical use of tests**
The use of many tests is governed by the principles of psychological ethics, copyright laws, and the laws that regulate research with human participants and the professional practice of psychology. Avoid breaching applicable ethics principles or federal or state laws.

- **Do not conduct research, copy tests, or administer tests without appropriate supervision.** In general, you will be doing these things only if you are conducting research for academic purposes or completing a psychology practicum for academic credit. This means that the professor overseeing your research or teaching the course will supervise your use of tests. Go to your professor and discuss your plans before you copy or use any tests for your research or coursework. Your professor will instruct you on what use of the tests is acceptable.

How to find tests
If you are wondering how to obtain specific tests, know that the process of locating tests involves time and detective work. Sometimes you will find exactly what you need right away. At other times, you will search through journals, handbooks, and computer databases to find what you need. Here is some advice on finding tests and measures:

- **Meet with the professor supervising your research project and ask for help.** The professor may give you advice on how to approach the search for an appropriate test, may be in the possession of such a test, or may know of someone in the department who might be able to advise you or let you borrow a test.
- **Meet with a librarian, especially the librarian serving as the liaison for the social sciences.** A librarian can guide you to online databases or printed directories of established psychological tests. The librarian can also show you how to use these resources efficiently. The following resources may be especially useful:
  - **Mental Measurements Yearbook;**
  - **Directory of Unpublished Mental Measures (DUEMM);**
  - **ETS Test Collection.**
- **Search the psychological literature for tests reproduced in peer-reviewed journals.** Many questionnaires, particularly ones developed for research purposes, can be found in the scientific research articles that first introduced them to the community of research psychologists. In many cases, these measures are in the public domain and are free for use by researchers; in other cases, they are proprietary and require purchase from the publisher and/or special authorization for their use. Consult with the faculty member supervising your research about the appropriateness of copying published measures.

Paying for tests
The research projects for most courses may not quite pass the bar for using departmental funds for purchasing proprietary and commercially available tests. When this is the case, then work with the professor supervising your research to design your study in a way that does not require you to spend any of your own money. On the other hand, the purchase of tests for some research projects may be justified, particularly when such projects are part of thesis coursework and/or intended to result in scholarly publication. Discuss your plans with the professor supervising your research activities. It may be possible to ask the Psychology Department faculty to approve the purchase of the test materials with departmental funds. (The department is more likely to approve such requests if the materials will not be used up and will remain in the department's stores for future use by students.)

Presenting at Conferences and Publishing Your Research

One of the best ways to distinguish yourself as an undergraduate is to present your research at a conference. Psychology majors hoping to earn honors are required to present their thesis work at a conference, and everyone writing a thesis is strongly encouraged to do so. This matters not only for the prestige of our institution but also because presenting your work helps you develop some of the kinds of skills that your potential future employers, graduate school advisors, or business associates will favor. Many psychology majors add their conference presentations to their resumes or CVs.

The Western Psychological Association meets in April or early May with a proposal deadline in mid-November. The timing of this conference is especially well suited for seniors because by March you should have your data and be able to write a reasonable abstract. Ask your advisor to help you, and visit the WPA on the Internet at **www.westernpsych.org** for application forms and deadlines. Whitman students have had a very high success rate for getting papers accepted, and the Provost and Dean of Faculty's office will fund travel costs.

Our own **Whitman Undergraduate Conference** is yet another opportunity for you to present your research. It is conveniently located and allows you to share your research with your peers outside of psychology. This conference takes place in April. Students who are preparing to present at WPA might consider "practicing" their communication skills by first presenting their thesis at the Undergraduate Conference.

It is also possible to publish your work in a professional journal. Some journals specialize in undergraduate research (e.g., ***Psi Chi: Journal of Undergraduate Research***), but you need not limit yourself to such journals. Some of our psych majors have been first authors on papers that have been published in non-undergraduate, peer-reviewed scientific journals. You can do it too, although you will need to work closely with your advisor in this process.

Hints for a Successful Conference Experience

(modified from an APS paper; http://www.apa.org/science/about/psa/2013/01/conferences.aspx):

Present
You're all going to do this. But, think about how you're going to approach presenting. The stakes are relatively low at a poster session; in fact, you'll see some people who don't really stand by their poster, or who spend some of their presenting time talking to friends about their evening plans. Instead, focus on using that presenting time thoughtfully. Practice your skills of approaching someone who is looking at your poster and saying, "Can I walk you through the study?" Take every question as a chance to reflect on the study and your process. What could you have done differently? How could you add nuance to the discussion section? How could you clarify the results section? You may meet someone at your poster session who you end up collaborating with on another project. Take full advantage of the opportunity to grow as a scholar.

Go to talks and poster sessions
Listening to talks - and talking to folks about their posters - gives you a sense of the current state of the field in a way that no journal can. A project you hear about may be years away from publication, yet it may have implications for your own research. Learning of research while it is still being conducted gives you the opportunity to think about your own work and interests from different perspectives.

Conferences are also a great place to get exposure to material that is less accessible at Whitman. For instance, there's a session at WPA about power analyses with regressions. Attending that session will broaden your skill set. There are lots of other sessions - some focused on stats and some not - that will similarly expand your horizons. Go.

Some sessions will impress you. Others will strike you as not terribly strong. They're all helpful. No matter the content of the talk or workshop, conference sessions give you the chance to hone your scientific thinking. Take notes, ask questions, and get excited about the current research -- and/or where you think research should go next.

Act in social ways
Conferences are a time to celebrate the hard work that you have done and to congratulate others on their achievements. They are also a time to reinvigorate yourself with exciting and new research ideas. So, find conference buddies both in and outside of Whitman. When I talk to you on Sunday, I hope you'll tell me that you deepened your friendship with a fellow Whitman student. But, I also hope you'll tell me that you got to know someone from another institution. Introduce yourself to people. Ask questions. Put yourself out there.

Employment, Careers, and Graduate School Resources

Take the initiative! Your ***career coach*** from **the Community and Career Engagement Center (CCEC)** is a career advising expert, who will be glad to help you clarify your interests, develop your qualifications, and communicate them to potential internship directors, employers, graduate school admission committees, and granting agencies. Visit the CCEC's website, create a **Handshake** account, and use Handshake to **schedule an appointment with your *career coach* sooner rather than later.** https://www.whitman.edu/career-prep/career-and-community-engagement-center

Take the initiative! Ask your ***academic advisor*** to help you draw connections between your academic work (in the major as well as in the liberal arts more generally) and your career interests. Your academic advisor can offer tips about continuing education beyond the bachelor's degree.

The Psychology Department's **PSYC-000 reserve in Penrose Library** contains two kinds of resources.

1. Books that catalog U.S. and Canadian graduate programs in psychology.

- *Graduate Study in Psychology* by the American Psychological Association
  - Now available as an online subscription at https://gradstudy.apa.org/
  - As of 2024, the cheapest 3-month subscription may suffice
  - For general info, an older paper edition appears in PSYC-000, but you should not rely on it for selecting specific programs (details change)
- Guilford's *The Insider's Guide to Graduate Programs in Clinical and Counseling Psych*
  - Find the 2024-2025 edition in the PSYC-000 reserve

2. Books about preparing for the GRE and the GRE Psychology subject tests. The GRE and GRE Psychology are standardized tests often taken by students applying to master's and doctoral programs.

- Introductory psychology textbooks (useful to prepare for the GRE subject test);
- Kaplan's *GRE Graduate Record Examination Premier* (2024-2024 ed.);
- *Barron's GRE Psychology* (2016 ed.; see below for the 2020 edition);
- Princeton Review's *Cracking the GRE Psychology Subject Test* (2020 ed.);
- Kaplan's *GRE Subject Test: Psychology* from 2016 (as of 2024, the latest version);
- **Now available only in e-format for purchase (we could place them on reserve):**
  - *Barron's GRE Psychology* from 2020 (PSYC-000 has the 2016 version).

Through the library, you may obtain books with advice for majors and with careers ideas, for example:

- *Career Paths in Psychology: Where Your Degree Can Take You* (APA);
- *The Psychology Major: Career Options and Strategies for Success* (Pearson);
- *Careers in Psychology: Opportunities in a Changing World* (Wadsworth);
- *Majoring in Psychology: Achieving Your Educational and Career Goals* (Wiley);
- *Great Jobs for Psychology Majors* (McGraw-Hill);
- *Careers in Mental Health: Opportunities in Psychology, Counseling, and Social Work* (Wiley);
- *Opportunities in Psychology Careers* (McGraw-Hill).

Also check out the following resources:

- Ask your career coach how Whitman's **alumni network** on **LinkedIn** can help your career.
- **www.psychresearchlist.com** – as of 2021, internship listings, grad school advice, misc. resources.
- **psychjobsearch.wikidot.com –** a "predoctoral" job postings section, e.g., lab manager jobs
- **Careers in Psychology** by the APA: **http://www.apa.org/careers/resources/guides/careers.aspx**
- **Occupational Outlook Handbook** by the U.S. Bureau of Labor Statistics (search for "psychology")
- **Graduate Study in Psychology: Find Your Graduate Program: https://gradstudy.apa.org**
- **psychgradsearch.wikidot.com/** - Wiki for prospective graduate school applicants/students
- Other online sources: psychology.org, spsp.org, psychologytoday.com, indeed.com, simplyhired.com

Getting into Graduate School: Preparation and Time Use

If you're thinking about graduate school in psychology, that means that you are serious about your studies and have begun to give serious thought to your future in psychology. That's great! However, you should know that admission to psychology graduate schools can be very competitive. Admission to these programs can be so competitive that, for example, whereas (at the time this is being written) University of Chicago accepts about 1 out of every 5 applicants for its excellent MBA program, and whereas Stanford accepts about 1 out of 10 applicants for its prestigious law school, top-ranked University of Oregon accepts less than 1 out of 35+ applicants for its Ph.D. program in clinical psychology (a 3% admittance rate). This is not an exception but rather the rule for many clinical psychology Ph.D. programs. Other areas of psychology (such as developmental or cognitive), and other degree programs (e.g., master's degrees and PsyDs) are less competitive, but still, the odds can be very stiff. These statistics are not meant to discourage you but rather to give you a very real understanding that you will have to work aggressively to gain admission to graduate school, especially at the Ph.D. level. At a minimum, getting into the program you want will require a lot of effort and determination. To be fair, most students apply to several (and as many as 12-15) programs at once, which inflates the numbers of applicants. Because of this inflation, the numbers are not quite as much against you as a first glance might suggest.

The site **http://clinicalpsychgradschool.org/** includes resources from clinical psychology graduate program directors about applying to Ph.D. programs in clinical psychology. It also includes info about non-Ph.D. career paths related to clinical psychology (e.g., master's-level programs). At the time this document is being written, the site contains info about finding research opportunities, which are much needed for students interested in applying to clinical psychology programs. Also check out **https://www.psychresearchlist.com/.**

The first step in the grad-school preparation process should be to decide realistically what kind of career in psychology you would like to have. This is crucial! Lacking a career goal is like driving from Walla Walla to New York without a road map — if you get there, it would only be by sheer luck. It is much better to control where you are going than trust your future to capricious fate, so right now, start to decide what psychological work you would like to be doing. Consider your likes and dislikes, and your own personal strengths and weaknesses. Taken together, these produce the beginnings of your "road map" pointing toward a general long-term goal. For example, if you don't like the sight of blood and are not willing to get accustomed to it, then it wouldn't make sense to pursue a career as an emergency room physician. Each career area in psychology requires unique qualifications and aptitudes. As an example, if you aspire to do clinical and counseling work, you must have the patience (no pun intended) and stamina to deal with the difficulties your future clients will present, which may include, among other things, much suffering. We have all had colleagues in graduate school who went through the grueling admission process and took out student loans only to discover that they are too emotionally vulnerable, or too behaviorally rigid, or in other way not a good match for clinical work. Your ***career coach*** from the CCEC and your ***academic advisor*** can help you clarify your strengths and limitations and potential career paths.

Clarify your ***general career goals*** as early as possible and then ***test out*** how well these goals suit you. Test out your goals through ***actual experience*** in the type of work that you think may be your career; for example, **volunteer or get a part-time job!** If you're considering delivering psychological services to geriatric or gerontological populations (a growing demographic segment), speak with your ***CCEC career coach*** how to volunteer with the college's Adopt-a-Grandparent Program or with the local hospice. If counseling youth is your aim, work with your ***CCEC career coach*** to get a relevant internship, for example, with the local Juvenile Justice Center. Or seek training from a crisis hotline to become a phone suicide prevention counselor. Explore the volunteer and employment opportunities in your hometown during the summer. If you enjoy and adapt well to the work, then you have confirmed how realistic your career plans are, and you have strengthened your portfolio for a future job search or for grad school.

Hopefully, as you have finished reading the above, you have begun to sketch out, at least generally, the kind of career path you would like to follow. Hopefully you will gain some experience in your selected path and will research what it takes to reach that career goal. Figure out what credentials are needed to do the work you have chosen. If you have decided to enter private or public clinical practice, you should be

aware that it is not mandatory to have a Ph.D. in clinical psychology to be a licensed mental-health services provider most U.S. states. For instance, ***a master's degree*** can enable you to become a mental-health counselor, clinical social worker, or marriage and family therapist. States differ in their requirements to become a ***licensed psychologist*** in their jurisdiction. For example, to become a licensed psychologist in Washington State, you need a doctoral degree (Ph.D. or Psy.D.) from an accredited institution, two years of supervised clinical experience (one of which must be postdoctoral), and to pass with high scores two standardized knowledge tests (one on psychology, and one on the state law that governs its practice); for details, see the website of Examining Board of Psychology in WA.

The Psychology Department maintains the ***PSYC-000 course reserve*** in Penrose Library. The reserve contains resources for (a) learning about careers in psychology; (b) finding graduate programs in psychology; and (c) preparing for standardized tests for graduate school. These resources are not exhaustive, in part because of resources are available through individual online subscription only (meaning that library cannot obtain them for you). One such resource is the American Psychological Association's (APA's) database of APA-accredited programs in psychology, which you can find on the APA's website (www.apa.org). Studying ahead of time the application requirements and the published academic characteristics of admitted applicants to different graduate programs can be informative. In this way, you may get a sense, for example, of what type of doctoral program may interest you.

For students who hope to earn a doctorate, an important decision is whether to apply to Ph.D. programs (typically at a non-for-profit research university) or to Psy.D. programs (which are at a mix of for-profit and non-for-profit professional schools). While university Ph.D. programs are very competitive and are typically research-focused, they will often provide financial support for your graduate years, and a Ph.D. can open the door to an academic career. Professional schools serve primarily those interested in clinical practice rather than research, and they typically award the Psy.D. rather than the Ph.D. (An example of a professional school is the California School of Professional Psychology, which has a number of locations.) Financial aid at professional schools is often limited, and admission is generally less competitive. If you are researching professional schools, it is important that you focus on the ones that (a) are fully accredited by the APA and (b) have no track record of instability in their accreditation status. (Difficulty meeting the bar of accreditation in a sustained manner is not a good sign, and graduating from an unaccredited program is a significant and sometimes unsurmountable barrier to becoming licensed.)

The rest of this section is concerned primarily with university Ph.D. programs, although most of the points also pertain to the professional schools and master's programs.

As noted earlier, a master's program can lead to licensure as a counselor or therapist and can lead to other career directions, including a teaching career at a community colleges. Most Ph.D. programs will accept those with master's degrees, although the M.A. or M.S. degree in of itself does not give any advantage in admission to the applicant. A master's program will allow you to sharpen your career goals, obtain more research experience (which helps a Ph.D. program application immensely), and prepare you more fully for the rigors of a Ph.D. program. One drawback, however, is that master's programs usually do not provide financial aid. A general rule of thumb is that, if you are quite sure about your career direction, if your grades (and GRE scores) are strong, and if your personal and emotional life is stable, then apply directly to Ph.D. programs. Many Ph.D. programs grant a master's degrees on the way toward the Ph.D. (typically upon the completion of two years and the successful defense of a master's thesis).

If your college GPA, transcript, or GRE scores create uncertainty, or if you are unsure about your career plans, then a master's program may be a better match than a doctoral one. It will give you the time to strengthen your record and experience to clarify your plans. A terminal master's degree (one that is from a standalone program and not part of a doctoral program) does *not* close the door to doctoral studies.

As you analyze information about various graduate programs, weed out programs that seem incompatible with you or your goals. Attend carefully at the faculty's research interests (more on this later). Note that some schools lack specific programs but have specific tracks within the programs. (For example, the university may award a "Ph.D. in psychology," not a "Ph.D. in clinical science," but its Ph.D. program may have a "concentration in clinical psychology"; this is functionally equivalent to a Ph.D. in clinical

psychology.) Some universities house a Ph.D. program in clinical psychology in their psychology department and a Ph.D. program in counseling in their department of education, and so forth.

Besides the APA guide, another valuable source of info, particularly for those considering an academic career, is the National Research Council rankings for Ph.D. graduate programs (online at www.socialpsychology.org/ranking.htm). This is important because your goal should be to get into the best program that you think you can handle. Of course, a Ph.D. from a top 20 school does not *guarantee* a good career, but it will allow you more flexibility and choice than what you would gain from a lower-ranked program. Exercise caution when using rankings, in part because they may not be updated regularly by legitimate organizations like the NRC, and in part because not all online sources are reliable.

It important that you understand how schools go about selecting their future graduate students so that you can see how all of the parts of your application go together.

The Selection Process

This part of the process can feel confusing and difficult, and many of us in the Psychology Department can relate our experiences of going through an application process that entailed many unfamiliar aspects and unpredictable outcomes. The process is also difficult for the admissions committees, who have to make high-stakes choices among many excellent applications. Although there is no guarantee that any given program's application process conforms to the features described below, many do, and we hope that this information will help demystify the process a bit for you and help you put your best food forward.

The number of available slots in a particular program is often dependent on how much financial support, physical space, and faculty time is available. Applications are usually received and reviewed by one or two people (often administrative assistants) who screen out applications that do not meet certain bare minimum objective criteria. Such bare minimum criteria may include college GPA and GRE scores (and English test scores for international applicants), although many programs have made GRE scores optional in recent years (more on the GRE later). This screening process is likely to be generous to applicants, to ensure that applicants with less-than-excellent GPAs and GRE scores are not excluded unfairly. (The psychology faculty at the university is trained in psychometrics and understands not only that GPAs and GRE scores are imperfect predictors of academic potential but also that they have some degree of imprecision built into them.) It is quite likely that the university's diversity officers are supervising the screening process to ensure that it does not unfairly disadvantage historically marginalized and underrepresented groups.

The remaining applications are then reviewed by a faculty committee (which may include some graduate students) or by individual faculty with research interests that match the interests expressed by the applicants. This means that your application initially may be screened carefully only by the faculty member whose name you emphasized in your personal statement as an excellent research match. At some programs, several raters use a rubric to rate each application holistically. At other programs, each element of the application — from your college GPA to the letters of recommendation — receives a numerical score. Elements like your college GPA and GRE scores are typically "qualifiers," and if they exceed some predetermined cutoff (for example, a college GPA of 3.50), then they stop to make a difference. (In other words, a GPA of 3.65 vs. 3.70 is unlikely to be decisive.) However, if your scores on these criteria are much lower than the average for the candidates the program accepts, then those aspects of your application that make you a special and interesting candidate (such as your personal statement) may never be reviewed. (In other words, a college GPA of 2.20 might mean that the rest of your application to a Ph.D. program is not examined further.) This is a harsh reality, but when programs receive hundreds of applications per year for a handful of spots, these selection procedures become necessary and defensible. Whitman students have been admitted into some of the world's finest psychology graduate programs, and there is a good chance that you can do this! But be realistic about where you apply, if for no other reason than to those $60-100 per application. By the way, many schools will waive application fees if you can demonstrate financial need.

Keep in mind that it is often the individual faculty member who determines which applicants are offered interviews and/or admission. For each admissions cycle, programs will list the permanent faculty "taking graduate students." Any given year, it may not be helpful to apply to a program if you cannot point out a professor who is "taking a student" that year, and who will be a good match for you to work with (based on research interests). Rarely, programs state that applicants are not matched to potential mentors; even so, a potential research match with a specific professor remains important – grad students require master's thesis and dissertation advisors, and students building scientific careers require additional research mentoring. As regards a typical Ph.D. program, it may be helpful to think about applying to it like applying to become part of a specified professor's laboratory or research group (even though you are applying to an academic program). Other faculty on the admissions committee will probably read your application, but they may be reluctant to veto a request by the potential future research mentor to give you an interview.

Below, we will consider in some detail the selection factors involved:

- courses, grades, and college GPA (emphasis on *courses* and *grades*, not majors and minors);
- standardized test scores (may be optional);
- research experience;
- for clinical and counseling programs, service experience;
- personal statements;
- increasingly, diversity statements (esp. for clinical and counseling psychology);
- letters of recommendation;
- interviews (programs in clinical, clinical science, and counseling psychology typically require pre-admission interviews, whereas other programs may offer interviews to admitted applicants).

Grades and Courses

Of course, you know that grades are very important, but what about the courses themselves? Each graduate program has its own distinctive flavor and its course requirements follow that inclination. For example, UCLA likes students with a strong background in physical science, Oregon prefers a strong background in math as well as science, while UC Berkeley prefers a more rounded program. Almost universally, the schools like to see coursework in statistics (and it is a good idea to get all the statistics you can — once you're in, you will need that experience!), research methods, abnormal and physiological psychology (although again, not having taken one of the latter two courses will probably not break an application). Statistics and research methods are highly important *even for clinical and counseling programs*, so it is important to do well in these courses no matter what career direction you're considering. Both the APA guide and material from the schools themselves will outline each program's specific requirements. Those courses that are specifically required should at least be in progress, if not completed, by the time you submit your application.

If one of your liabilities is a lower GPA in your early years of college, this may not be a huge problem. Different programs consider different aspects of GPA. Some programs use only the last two years of undergraduate studies while others consider only the psychology GPA. University professors understand that some students have a rough first year in college until they adjust to the new expectations, and some of these professors may have had an experience like that themselves. Again, check the APA guide and the program materials for specific policies. Many programs do consider grades *the* key indicator. This is presumably because GPA is a composite or aggregate score that captures your academic performance across time and across academic contexts and, therefore, is likely to say something about how well you will perform academically as a graduate student. If GPA seems to be a liability, then this may be a good argument for considering master's programs. We suspect that a lackluster GPA can be offset by high GRE scores and plentiful research experience. Historically, a 3.40 was generally considered a minimum GPA for university Ph.D. programs, and GPAs higher than this are preferred. However, as college GPAs across the nation continue to rise (Carter & Lara, 2016; Denning et al., 2022), low GPAs will likely become more hampering, and high GPAs – less enabling, as regards Ph.D. program admissions.

The Graduate Record Exam (GRE)

The GRE general test is either optional or required by various doctorate-level graduate psychology programs, with the professional schools being a major exception. The general test includes verbal, quantitative, and analytical subsections. Some programs also list as optional or require the GRE subject test in psychology, although the number of these programs seems to have diminished over the years.

Should you take the GRE and/or GRE Psychology, and should you submit your scores to all programs? It is hard to answer this question at present and out of context. Here are some considerations: Many psychologists, especially clinical and counseling psychologists and clinical scientists, have studied at least some psychometrics. Having administered, scored, and interpreted standardized test scores as part of their clinical training, they (should) understand the strengths and limitations of these test scores, and they know that it would be inappropriate to make high-stakes decisions about a person based on a single piece of information (according to psychologists' ethics code and every course on assessment). Therefore, the admissions committee will be looking at the entirety of your application and interpreting standardized test scores in context. The other components of your application (transcripts, personal statement, curriculum vitae, letters of recommendation, writing samples) will provide such context. Additional context includes the graduate programs' types, selectivity, scientific rigor, and track record in terms of average test scores of admitted applicants. If you provide GRE scores, use your personal statement in context, and provide your letter writers with that context, so that the admissions committee receives the whole picture. It may or it may not be to your advantage to report the scores, and the same scores can convey different meaning depending on differences in personal and institutional context.

To interpret the average standardized test scores on the general GRE and/or the GRE subject test listed by some graduate programs on their websites, you will need to understand how GRE test scores are standardized. Find current information about this at **www.ets.org.** Typically, to interpret a standard score, you need to understand its normative mean and standard deviation. In addition, percentile rank scores are sometimes reported, so you may want to brush up on the definition of a percentile rank score. The lore is that highly competitive graduate programs (e.g., in clinical psychology and clinical science) weight the quantitative and analytical scores more heavily than the verbal scores, and that they weigh the general GRE more heavily than the subject test. However, as noted earlier, many programs have stopped requiring standardized test scores altogether, and they certainly look at the entirety of an application.

At the time of this handbook's revision, the GRE is not administered at Whitman. If taking the exam, you would probably travel to another city. Check out the GRE website (www.gre.org) to get more info about how and where to take the test. Think about where you will be around the time you need to take the test; for example, if you are on campus, then you may need to travel to another city in Washington or Oregon. But if you are thinking about taking the test during the summer – which is recommended – then you may look for a testing center near your summer location. The GRE website will explain the test's format. Taking the standardized test(s) in the summer after your junior year is recommended because it may give you time to retake the test(s) in the fall semester of your senior year, prior to the application deadlines, if needed. Furthermore, during the summer you are less likely to have competing academic pressures. If you are going to take the test(s), then do prepare for them! Preparation can raise your score considerably, so give yourself ample time to do it right. Break your preparation time into little daily segments (i.e., 15 min per day on word roots, etc.) and plan to take the general test as far from the date you take the subject test as you can. Don't take the general and subject tests on the same day! (If you take a test and feel that you really messed it up, then you will probably have the option to cancel the scores.)

On the GRE website (**www.ets.org**), ETS provides helpful information about the nature of the GRE, including sample questions. Assuming that an entire sample test is provided, then you can start by taking the sample test in one sitting. The results from the sample test can help guide you *vis-à-vis* areas where you are already sufficiently competent and areas where you need to prepare.

Commercial entities offer courses to help you prepare for the GRE, and they are expensive. Instead, many students download freely available sample tests from ETS, and they purchase books and ebooks with sample tests and test preparation tips. As noted elsewhere in this handbook, we make available such

resources through the PSYC-000 reserve in Penrose Library. We cannot make all the resource available to you, unfortunately, because some of them are in electronic format only and for purchase only (meaning that the library cannot subscribe to them, as much as we would like to). Similar considerations apply to the GRE subject test in psychology. One thing to keep in mind regarding the subject test is that no test-taker has studied every possible subfield of psychology, and every test-taker is likely to have areas of strength and areas of weakness based on the psychology coursework they have taken. Therefore, do not despair if you have not taken, say, developmental psychology, but do study in detail the developmental psychology chapter in your intro textbook. (Some intro textbooks appear in the PSYC-000 reserve.) Key subject test areas include the *experimental/natural science* area (learning, cognition, sensation, perception, comparative, and physiological, and the *social science* area (clinical, abnormal, personality, social, and developmental). Past experience suggest that about 80% of questions come from these domains (equally divided between the experimental and social science areas). The remainder focus on the *general psychology* area (history, applied psychology, measurement, research design, and statistics).

For many reasons, there is no point in trying to plan your major curriculum around the GRE subject test. A great way to prepare is by carefully reviewing a good introductory psychology book prior to taking the GRE subject test (one that is used at Whitman, or one from the PSYC-000 reserve will work). Start the review at the end of your junior year and prioritize it during the summer.

International students may be required to take a standardized langue test, such as the TOEFL. Sometimes programs require general aptitude tests other than the GRE, although this is rare. Check the APA's database each program's requirements, and also check the programs' websites for recent info.

Letters of Recommendation

Admissions committees use letters of recommendation to learn about all the qualities that would make you an outstanding graduate student that are not revealed by quantitative data like your GPA or standardized test scores. Letters of recommendation may touch on the following qualitative aspects of potential interest to graduate admissions committees:

- How well have you developed your research skills?
- How thoughtful have your contributions been to classroom discussions?
- How effectively have you used interpersonal skills to get along with peers and faculty?
- What leadership skills have you made an effort to develop and show?
- To what relevant extracurriculars have you contributes? For example, have you volunteered in a lab, tutored junior students, volunteered in the community, or helping with departmental events?

Letters of recommendation can provide the "big picture" of your overall promise and potential, something not necessarily revealed by test scores. Thus, admissions committee members read letters carefully. A substantive and detailed letter from an informed letter-writer can be very persuasive.

As always, preparation is important. The professors whom you ask to provide letters should, at the very least, have had you in one of their courses. The single most important element in a letter of recommendation is the depth of knowledge of you that it demonstrates. A glowing letter by a letter writer who does not know you well will not be particularly persuasive to the admission committee. You can help your recommenders by providing them with the items listed below. Your neatness and organization in doing so are obviously very important (imagine what your letter writer will think of your put the materials together sloppily). You can also help yourself by taking the time to let your professors get to know you. Here is the info your letter writers will need:

- A clear list of letter destinations and a deadline for each letter requested
- A description of your professional goals
- Unofficial college transcripts
- A list of the courses you took from that professor, including any skills, talents, accomplishments, etc., you demonstrated to them that you deem relevant

- *Details* about your senior thesis
- Your minor, if you have one
- The titles and abstracts of any conference presentations which you have authored or research manuscripts to which you have contributed
- Awards that you have won; honor societies to which you belong
- Extracurricular activities in which you have participated (and any offices held)
- Work experience
- Service activities such as volunteer work
- A statement of why you believe *each* particular program will be a good match for your skills, interests, and experiences (this is not the same thing as why you want to go there)
- Any other relevant info that will strengthen your case

Virtually every applicant has good letters, so the real difference is in the depth. The deeper the knowledge of the applicant that the letter portrays, the more credible the letter. Give your selected professors plenty of notice (two weeks minimum, but time is better – a month is recommended). Under almost every circumstance, you should waive your right to read these letters. If you do not do so, their credibility declines a great deal from the perspective of an admissions committee. Most schools will ask for three letters, but it is not a bad idea to send four! Again, the real key is to help your recommenders know you well. A good way of accomplishing that is to assist them in their research or with other projects, so that you have worked for or alongside them. The letters are really very important, so be sure they're good, and ask each potential letter writer whether they are comfortable giving you a "strong" letter.

Research Experience

This is a very crucial area. The more research experience you have, the better. There is simply no such thing as too much research. At a minimum, you should try to assist a professor on a research project. Not only will this training be of great help when you're in graduate school, but it will really help you get there. Plan on adding a sheet of paper to your application that details your research experience. This can include experiments that you have done in the required classes (such as Research Methods), in independent study projects, or in Research Experience (PSYC 358). You should also consider adding details about your thesis project, even if it's still in progress. Virtually all graduate programs — even the counseling ones — like to see how you've engaged in research.

Another strategy tip, if you have selected one program that especially interests you, would be to carefully read their faculty's research interests. Look up each faculty member's website, if they have one, and look up their publications on PsycINFO (search by author rather than by key word). Read some of their publications and write or email them with questions or with a request for any in-press articles they may have. Don't be shy — faculty members are often quite happy to receive such inquiries (even flattered!) and are more than willing to answer questions. This not only makes you a known quantity but can also help a great deal in gaining admission to their program (remember, individual faculty members often determine who gets admitted). Thus, if the faculty member has an opening and he or she sees your application (and recognizes it as someone already interested and involved in his or her area of research), what would be more natural than for the faculty member to select you?

In addition to research, you can show a high level of interest in psychology by becoming a student affiliate of various regional and national professional organizations. These include Western Psychological Association (WPA), American Psychological Association (APA) and American Psychological Society (APS). The yearly fees to be a student affiliate with any of these organizations are often ridiculously low, and you get discounts on various publications and products. You can also present research at WPA's annual meeting and at our own Whitman Undergraduate Conference. Graduate programs look very favorably on such involvement.

Applications and Personal Statement

The applications are generally quite straightforward. Be sure to type and proofread your applications carefully. Plan to add an outline of your research (if it is substantial) and, if available, a sample of your writing such as a paper or, even better, a completed experimental report.

Your personal statement should be brief rather than long (remember that *many* statements are being read; 2-3 pages is sufficient), simple and direct rather than elaborate. Avoid platitudinous statements like "I'm really interested in psychology" or "I want to work with people" (would you be applying for graduate school if you didn't feel that way?). Your statement should also reflect the flavor of the program to which you are applying. If you are applying to Claremont, for example, you should indicate an interest in applied aspects of psychology to reflect that program's orientation. State your research interests clearly (and make sure that they coincide with at least two professors on the current faculty — mention these faculty members by name). Mention your senior thesis, if you have completed one — most undergraduates do not require a senior thesis so describing this aspect of your psychology experience at Whitman will help you stand out. If you're applying to clinical or counseling programs, describe your volunteer experiences as well as the work you did in Applied Psychology, if you have taken that class.[5]

Have several people proofread your statement (an English professor would be great). Do not take chances. Be neutral rather than wild and elaborate. Allude to your research experience and state your career goals explicitly and unequivocally. These programs are looking for people who know what they want to do, who see graduate school as a means to an end rather than as an end in itself. Keep in mind that most universities *do not* want to train practicing clinicians and that they consider an expressed desire to practice a negative. They are generally looking for future researchers and teachers. Use a clean font, and don't make the font size too small (10 point minimum).

It is helpful to gather all of the items that comprise the total application and send them together in one package. These include transcripts (unless the school wants them sent independently — many do not) which the Registrar's office will furnish to you in about two weeks in sealed envelopes so that they are official, letters of recommendation, photocopies of your GRE scores (as well as having ETS send official reports because the copies will help your file be considered more quickly as well as guard against any errors committed by ETS in getting the official reports out), writing samples, and your personal statement. Again, this gives you much more control than having to depend on three or four professors, ETS, and the Registrar's office to submit everything in a timely fashion. By following this approach, you can be sure that it is done right and completed in time.

You should apply to a range of schools. If you meet, exceed, or are within a reasonable range of the objective criteria for the program in which you are most interested, then apply but don't stop there! You need at least one fallback program. This is a program that you believe will most certainly accept you. For example, if you are interested in clinical programs, apply to personality and social programs as well as other clinical programs as backups. Apply to a range of programs in between your top choice and your fallback. If getting into a university program is important to you, apply to many programs (less with the professional schools since they are less competitive). Applying to five should be a minimum and don't ever think that you have anything locked up until the school has made a formal offer to you. Some years the quality of the applicant pool is better than others, making the situation more or less competitive. Surprises, both good and bad, happen all too often.

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[5] For a more extensive discussion of ways to write a compelling personal statement, see http://www.kon.org/bottoms_nysse.html

Diversity Statements[6]

Many Ph.D. programs, not unlike various professional training programs in areas ranging from the physical to the health science, require some form of diversity statement. Respectively, various online sources provide information on how to craft a diversity statement for graduate or professional school admission. These online sources include certain university career centers and writing centers. Here are some general points to consider.

- Consider reading the ***mission statement*** of the university, the graduate school, or the program (if available). That mission statement may include such values as diversity, equity, and inclusion. If so, then you may choose to ***explicitly*** discuss the overlap with your own values. If you discuss this overlap, consider referencing the mission statement and briefly quoting from it. This will show your interest in the program, and it will show your willingness to learn about its specifics.
- The American Psychological Association's Ethical Principles of Psychologists and Code of Conduct (whose most recent version appears on the APA's website) speaks about psychologists' aspirational and legal responsibilities regarding diversity, especially in its sections on general principles, competence, assessment, and therapy. Professors in clinical and counseling psychology are familiar with ***this ethics code*** and consider it important. Look for the overlap between your values and the code. You may choose to write ***explicitly*** about that overlap. If you do so, then consider referencing the code and, perhaps, quoting briefly from it.
- ***Importantly, you should carefully peruse*** the prompt that each graduate program provided for the diversity statement. What specifically did they ask? Make sure that you address their exact questions!
    - Typically, the program is not looking for a simple *assertion* of certain values, but they are looking for ***evidence*** and ***demonstration.*** Refer to other parts of your application and/or to your lived experience to back up any general statements you make about values.
    - How do your coursework, research, service, work, and lived experience demonstrate:
        - (a) ***ongoing commitment*** to these values; and
        - (b) ***promise to foster*** these values:
            - ***within the grad program*** (during your graduate studies);
            - ***within the university and the broader community***; and
            - ***in your professional life*** (after finishing the graduate program)?
- ***Remember the audience*** – the audience are psychology professors (and maybe some graduate students) who do not know you, and who would like to understand how your experience has shaped your understanding and commitment to such values as diversity. This audience may be quite diverse, and this audience likely values diversity; in clinical and counseling psychology, this audience likely has provided or does provide professional services to diverse clients.
- ***Write a well-structured essay*** within the requested word limits. Consider including such elements as:
    - An ***introductory statement*** that orients the reader to the values you assert and how they overlap with the university, grad school, or program's mission, or with psychologists' ethics code, or with some other set of guiding principles. (If you are confident about your essay composition skills, you may start in a non-standard way.)

[6] **Sources:** UPenn Career Services; Univ. of Chicago Grad. Admission; Vanderbilt University Teaching Center; Univ. of Rochester Career Center; Univ. of Minnesota Career Center.

- If appropriate, a ***personal narrative*** that conveys your unique lived experience regarding family background, cultural experience, socioeconomic status, and any challenges and barriers you have faced or overcome.
    - Consider whether you wish to share and discuss aspects of your identity that the university may be legally prohibited from asking about. For example, the university may not be permitted to ask about your race, gender identity, sexual orientation, disability status, veteran status, and so forth. This may be an opportunity for you to discuss how such aspects of your identity have influenced your motivation to excel in graduate school and in that specific program. You do not have to disclose identities or experiences you prefer to keep to yourself!
- Considering that you most likely do not have much formal training research, assessment, diagnosis, and treatment, ***try not to confuse lived experience with formal training or competence*** in researching or working clinically with particular populations.
- Provide ***specific examples*** of how you have contributed to the promulgation of the values from the introductory statement. Refer to academic projects, volunteer and paid work, internships, leadership roles, mentoring, preprofessional service experience, and so forth. Consider discussing at least 2-3 specific such experiences.
- Make ***specific connections*** to anything about the program and the professor's laboratory where you are applying that will suggest a good match in values and interests.
    - For example, does the professor, who you are hoping will become your research mentor, study particular diverse populations or recruit participants from a catchment area with specific sociodemographic characteristics? Is there an overlap between your interests in promoting diversity and the needs and characteristics of that population? Or is there an overlap between your values and contributions to diversity and the professor's recent research questions?
    - For example, does a clinical or counseling psychology program describe (on its website or in the graduate student manual) the kinds of populations that students typically work with during their training. Is there a training clinic? Does it serve certain diverse populations? Or is there a list of practicum sites that take on students from the program? What populations do these practicum sites serve?
- Address your ***future goals*** within the program and in your professional career after you graduate. As regards the program, are there particular initiatives that you would like to be part of? The university's website may list ongoing diversity initiatives.

- **The following are important:**
    - **Authenticity.** In today's world, an A.I. tool can generate a decent diversity statement. Therefore, it may be important to do ***better*** than A.I. Reflect, be honest, and seek help with your writing, so that issues with written expression do not undermine your voice.
    - **Specificity.** Assertions of values have no credibility without specific evidence.
    - **Positive impact.** How has your experience prepared you to make a positive impact?
    - **Conciseness.** Stick to the word limits, and ensure your writing is lucid and to-the-point.
    - **Review and revise.** Seek feedback from your CCEC career coach, the writing center, your professors, your peers, knowledgeable family members, and even A.I.

Interviews

Interviews are usually not required and those programs that do invite you out for an interview will usually provide an alternative, such as a telephone interview. In all cases, when you are interested in a program and they request that you come for an interview, go. It can be expensive (the school will often help you find a place to stay, most often with a graduate student, but that's usually it — you pay the rest), but it

allows you to get to know the people, the program, and the surroundings. After all, you may be spending 4-6 years of your life at this place so it's a good investment in an informed decision. Many programs say it does not hurt your application if you can't interview, but the old cliché "out of sight, out of mind" really applies here. So GO, if you can![7]

Preparing for your interview or visit is important. Here are a few tips to help you get ready.

- Ask for the names of current graduate students and call them. Ask them to "level" with you about specific programs, courses, and professors. Graduate students are a great source of advice because they've been in your shoes before and know how it feels.

- Research the program thoroughly by studying their printed and online materials. Talk with faculty members who studied at that program (or contact faculty members at Walla Walla University, WSU, University of Washington, etc. who may have studied there). Do read at least one publication authored by key professors with whom you want to work. Do look up each professor's website or his or her entry in the *Directory of the American Psychological Association*. This will tell you which schools they attended, their special interests, etc.

- Get to the location a day early, if you can. Walk around the campus and absorb the flavor of the program and university (probably best to do so incognito). This will also help in overcoming jet lag if the program is far away.

- Do prepare some intelligent and informed questions about the program and the interests of each faculty member you'll meet. This shows interest and effort. Then, enjoy the interviews — remember, you're evaluating them as well.

A final caution. When you talk with graduate students, you may find some of them tired and discouraged. Remember, you may be speaking with students in the middle of their first year, a difficult and grueling time! Or you may be speaking with fifth-year students in clinical or counseling psychology, who are managing a clinical case load while writing their dissertation and applying to pre-doctoral internships around the country. Do not be discouraged! When you talk with second-, third-, and fourth-year students, you may find them much more grounded and relaxed.

A Note on Artificial Intelligence (A.I.)

The availability and use of A.I. tools is increasing rapidly in a variety of contexts. As of 2024, we abstain from providing advice on what role, if any, A.I. may play in (a) the preparation of your application, (b) the preparation of letters of recommendation, or (c) the review of your applications by admissions committees. Many of us believe that the nature and the extent of A.I. utilization in any of these contexts should ethically be disclosed to the relevant parties.

Summing Up

That pretty much covers the application process and, by now, you probably know that most programs have deadlines in January and begin the weeding process in early February. It is not uncommon to hear from schools in early March. If you have not heard from a program by March 15th or are really nervous about your status, call the department administrative assistants and inquire about your application status. It can't hurt and they may be able to offer you substantive info.

[7] You may want to take the time to look up the article "Applying to Graduate School: The Interview Process" by Barbara A. Oudekerk and Bette L. Bottoms, published in the *APS Observer* in 2007. It is available online: http://www.psychologicalscience.org/index.php/publications/observer/2007/june-july-07/applying-to-graduate-school-the-interview-process.html

If you have applied to several schools and have received an offer, you have until April 15th to formally accept it. If you accept an offer over the phone, follow up with a written note. You can rescind an acceptance if you do so before April 15th but again, be sure to do so in writing. After that date, it becomes much more difficult to rescind (check the APA Guide on this matter). Most programs will make their offers over the phone and then will establish a list of alternates. If any student turns down an initial offer, the opening will then be offered to an alternate. This actually happens quite frequently so if you are an alternate, there is still a chance that you will receive an offer. This is the primary reason why you should turn down a less attractive offer quickly, if you receive more than one. Your thoughtfulness will benefit both the programs in their selection process and the alternates who may be holding their breath.

One final but important suggestion would be to approach this process with as much organization as possible. Make a chart of each program showing all the categories of "to do" items and dates by which those items need to be accomplished. Place the info about each program and copies of your application materials in a folder and keep all your materials in one place. Doing so will really help you manage the entire process.

Lastly, let us review the steps in the process and their sequence:

1) Determine a general career direction
2) Research and identify the types of programs that will get you there
3) Look up all programs that look interesting and dig into their info and materials
4) Review the program info and research programs of interest extensively
5) Study for and take the GRE in the summer b/n junior and senior year (if applicable)
6) Contact professors for letters (September-October)
7) Request transcripts and order GRE reports to be sent to the programs (October-November)
8) Personal and diversity statements completed, reviewed
9) Final selection of programs
10) Applications completed and sent (November-December)
11) Visits, interviews, and waiting (January-March)

That's it — the whole, frustrating, exhausting ordeal. If you've gained admission to a program, CONGRATULATIONS. You have qualified for 4-6 years of hard work! Here again, a little planning can help smooth out any bumps that you might experience during the adjustment.

Preparation for Graduate School

International students will most likely need to apply for a new student visa – make sure that you communicate early and thoroughly with the international student advisor at Whitman and, importantly, at your new university. During the summer before starting graduate school, consider giving yourself some vacation – you have deserved it! Then begin to get ready for your graduate program.

In most university programs the first year consists of an intense statistics and research methods sequence. Clinical and counseling psychology students will have extra coursework that also includes, for example, psychopathology, assessment, and intervention. To offset the future struggle somewhat, review these areas if you feel relatively weak in them. Some of you have found that studying a Psychological Statistics textbook during the summer before starting graduate school positions them well to impress their future graduate school professors! Keep reading articles written by your future faculty, especially your future research mentor (at this level most professors teach their own specialized research areas, not just general courses). You may even be able to contact your new professors and get first year syllabi early. Clinical and counseling psychology students may find it helpful to read a book on clinical interviewing or a

book on psychopathology. Try to get a couple of weeks ahead of the program and you will sail through. It also helps to get to your new location early so you can move into your new residence, get your car registered (if you have one), figure out where to get groceries, and so forth. Your first few weeks at the program will be packed with new information, and you will be trying to make some new friends and new connections. Therefore, take care of the basics of living before the academic year begins.

Finally, just before courses start, try to give yourself 1-2 weeks to relax. If you are in a new location, get to know it and enjoy it while the weather is still warm. This short vacation will also pay dividends.

Applying Now or Applying Later

Many students think that they should apply to graduate school immediately after they finish their undergraduate work. If you think you will lose steam after taking a year or two off, then consider applying now. However, from the admissions point of view, it's not crucial that you apply immediately. If you take a year or two off to work, to get some experience in psychology to build funds for graduate school, that could look good in the eyes of the graduate program. They like motivated, determined people, and if you have been involved in psychology in your work experience, that could help your application. But if you amble about with no rhyme or reason, or don't work at all, that might convey to a graduate admissions committee that you're unmotivated and lack self-direction. The bottom line is that if you do choose to take "time off" from academics and work for a while, go for it, but try as much as possible to get work or volunteer experience that relates to psychology in some way.

Applicants who have been working for years or have been raising a family may think they are in a disadvantaged position. Again, this is not necessarily true. If you are a conscientious and motivated person, then that works to your advantage. In fact, counseling and clinical psychology programs in particular may look favorably on applicants who present as psychologically mature, dependable, compassionate, and knowledgeable about life's challenges. Some counseling psychology programs (especially master's programs) are specifically designed to serve the needs of graduate students who are working full time and/or have families.

Final Words

You have a great resource in the Whitman psychology faculty. Use us to help you clarify your goals and your process of attaining those goals. If you're a junior or a sophomore, start working on this now. If you're a senior, start working yesterday. You can accomplish what you wish, but only if you're willing to do the work. Only you can make it happen.

One more thing. For all of us in the psychology department, graduate school represented a period of great excitement, personal growth, challenge, and accomplishment. We'd do it all again if given the chance. Graduate school was worth all the work and frustration because the rewards were to be immersed in a subject of great interest, to have an opportunity to contribute to a vibrant, exciting field, and to learn and grow in good company. There is really no pleasure in life quite like that.

GOOD LUCK!

P.S. See, elsewhere in this handbook, a list of resources (books, websites, a reserve in the library) pertaining to the graduate school application process, to GRE preparation, and, more broadly, to careers in psychology.

Specialties in Psychology

The psychology major provides its students with both a liberal arts education and the opportunity to explore specific areas of psychology. Graduate education is a process of further refinement during which students become increasingly more proficient and knowledgeable in an area of psychological specialization. Following are descriptions of 11 specialty areas in psychology that require graduate education. (See also APA's Careers in Psychology.) Remember that there are now 53 divisions of the APA, so this is a small sampling of a sprawling and multifaceted field.

Unless otherwise noted, training for these specialty areas is generally obtained in Psychology Departments in Schools of Arts and Sciences.

Biopsychology/Behavioral Neuroscience: For the student more interested in biological research, investigating the workings of the brain and hormonal systems, and the influence of the brain on behavior, programs in biopsychology and neuroscience may be appropriate. Research areas include learning, psychopharmacology, memory, emotion, and motivation.

Clinical Psychology: Clinical psychologists assess and treat people with psychological problems. They may act as therapists for people experiencing normal psychological crises (e.g., grief) or for individuals suffering from chronic psychiatric disorders. Some clinical psychologists are generalists who work with a wide variety of populations, while others work with specific groups like children, the elderly, or those with specific disorders (e.g., schizophrenia). They are trained in universities or professional schools of psychology (free-standing clinical training units, independent of university departments of psychology that may award the Ph.D. or Psy.D.). In a Psy.D. (Doctor of Psychology) Program, emphasis is placed on the skills necessary for the delivery of psychological services. A master's thesis is not required, nor is a research oriented dissertation, although a written, doctoral-level report of professional quality is usually required for the Psy.D. Clinical psychologists may be found working in academic settings, hospitals, community health centers, or private practice. (See also Counseling Psychology and Clinical Science in Psychology.)

Clinical Psychological Science: Clinical scientists specialize in basic, applied, and translational research on mental illness, its empirically supported prevention and treatments, and the dissemination of empirically supported treatments into the community. Clinical science programs resemble clinical psychology programs in many ways, but they emphasize training in research design and advanced statistical reasoning, with less emphasis on preparation for applied careers in psychology. Like clinical psychology programs, clinical science programs teach skills in assessment, diagnosis, and treatment, but with an eye toward the use of these skills in the furthering of the scientific study of psychology. Students in these programs often work alongside medical researchers, neuroscientists, cognitive and physiological psychologists, developmental psychologists, geneticists, and statisticians to incorporate a broad range of scientific disciplines in the scientific approach to psychological health and its disorders. The website of the Academic of Psychological Clinical Science provides additional information.

Clinical Social Work: A Masters degree in social work (M.S.W.) is a popular clinical alternative. Several advantages of this option are a higher rate of admission to M.S.W. programs, lack of GREs as a requirement for admission, fewer research requirements, an emphasis on professional training, and completion of degree in less than half the time necessary to obtain a psychology Ph.D. With legal regulation in all 50 states and third-party vendor status (insurance reimbursement) in 35 states, social workers are increasingly achieving autonomy and respect, including increased opportunities for independent practice. The major disadvantages lie in the less comprehensive nature of the training, which is reflected in a lower pay scale as compared to clinical psychologists. Not becoming a "doctor" and not being able to conduct psychological testing also prove troublesome for some.

Cognitive Psychology: Cognitive psychology concentrates on the identification and characterization of human thought processes. Major areas include language, memory, perception, attention, problem solving, and judgment/decision-making. Most cognitive psychologists are employed in academic settings,

although people with a more applied perspective can acquire interesting and productive careers in industry (tech companies such as Microsoft, Google, consulting firms, and aerospace companies such as NASA all employ cognitive psychologists). Recent trends in cognitive psychology include computational modeling of thought processes and identifying biological correlates of cognition.

Community Psychology: Community Psychology applies psychological principles to the understanding of individual and social problems, the prevention of behavioral dysfunction, and the creation of lasting social change. Community Psychologists believe that human behavior develops out of interactions between people and all aspects of their environment--physical, social, political, and economic. This idea requires that efforts to alleviate individual and social problems must entail changes in both the environmental settings and individual competencies.

Counseling Psychology: Counseling psychologists do many of the same things that clinical psychologists do. However, counseling psychologists tend to focus more on persons with adjustment problems rather than on persons suffering from severe psychological disorders. They may be trained in Psychology Departments or in Schools of Education. Counseling psychologists are employed in academic settings, community mental health centers, and private practice. (See also Clinical Psychology).

Developmental Psychology: Developmental psychologists study how we develop intellectually, behaviorally, and emotionally over the lifespan. Some focus on just one period of life (e.g., childhood or adolescence). Developmental psychologists usually do research and teach in academic settings, but many act as consultants to daycare centers, schools, or social service agencies. Research on aging, identity, and problem-solving abilities are popular areas within developmental psychology. Geropsychology, or the psychology of aging, has become a popular specialty in this area, as the increasing elderly population in this country presents special needs that currently are insufficiently addressed.

Educational Psychology: Educational psychologists are concerned with the study of human learning. They attempt to understand the basic aspects of learning and then develop materials and strategies for enhancing the learning process. For example, an educational psychologist might study reading and then develop a new technique to teach reading. They are typically trained in Schools of Education and employed in academic settings. (See also School Psychology.)

Experimental Psychology: This area includes a diverse group of psychologists who do research in the most basic areas of psychology (e.g., learning, memory, cognition, perception, motivation, and language). Their research may be conducted with animals instead of humans. Most of these psychologists work in academic settings.

Health Psychology: Health psychologists are concerned with psychology's contributions to the promotion and maintenance of good health and the prevention and treatment of illness. They may design and conduct programs to help individuals stop smoking, lose weight, manage stress, and stay physically fit. They are employed in hospitals, medical schools, rehabilitation centers, public health agencies, academic settings, and private practice.

Industrial/Organizational Psychology: Industrial/organizational ("I/O") psychologists are primarily concerned with the relationships between people and their work environments. They may develop new ways to increase productivity or be involved in personnel selection. They are employed in business, government agencies, and academic settings. A Ph.D. in this area often leads to a job in industry or self-employment as a consultant. Industrial/organizational psychologists earn among the highest median salaries compared to other areas of psychology. The Society for Industrial and Organizational Psychology produces a useful book entitled *Graduate Training Programs in Industrial/Organizational Psychology and Related Fields*, which describes most of the "I/O" programs in the United States.

Marriage And Family Therapy: Marriage and family therapists work with individuals and couples, as well as children and families. The specialty of marriage and family therapy then, is less about whether we treat individuals, or families and groups than it is about a way of thinking about treatment and treatment

styles. The field of family therapy itself is comprised of many different theoretical perspectives. The different perspectives within the field of family therapy have in common, however, a way of thinking about the individual interacting in a dynamic system. Thus, marriage and family therapy is described as a "systemic" approach to therapy.

Physiological Psychology: Physiological psychologists study the physiological correlates of behavior. They study both very basic processes (e.g., how brain cells function) and more readily observable phenomena (e.g., behavioral changes as a function of drug use or the biological/genetic roots of psychiatric disorders). Most are employed in academic settings.

School Psychology: School psychologists are involved in enhancing the development of children in educational settings. They assess children's psychoeducational abilities and recommend actions to facilitate student learning. They are typically trained in Schools of Education and work in public school systems, acting as consultants to parents, teachers, and administrators to optimize the learning environments of specific students. (See also Educational Psychology). Admission into the few Boulder model programs with a child clinical specialty is particularly competitive. A doctorate in school psychology is much more accessible, with two or three times the acceptance rate of clinical psychology programs. The APA (1994) has accredited 43 of these programs, which provide doctoral-level training in clinical work with children in school settings.

Social Psychology: Social psychologists study how other persons affect our beliefs, feelings, and behaviors. Some topics of interest are attitude formation and change, aggression, prejudice, and interpersonal attraction. Most social psychologists work in academic settings, but some work in federal agencies and businesses doing applied research.