Preparing for a Rewarding Career
Applying the Science of Psychology

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The field of psychology is experiencing a quiet revolution. As shown in chapter 1, the number of PhDs granted annually has more than doubled and the number of Master's degrees has tripled since the 1970s. The growth in careers outside of academia and clinical/counseling has been especially striking, as graduates with training in the science of psychology have established their value in an ever-widening array of new settings.

In this chapter we hear applied psychologists provide their own perspectives on their training and career development. Drawing on these and other sources, we consider how graduate psychology programs can facilitate successful applied careers for current and future students, and we offer suggestions for students who wish to prepare for an applied career. An important lesson is that there is a wide variety of exciting new careers for which no discipline can prepare people better than psychology. Yet, we can be even more effective as a discipline if we learn from the experience of psychologists who have already established successful careers in applied areas.

EXAMPLES OF APPLIED CAREERS

How do students prepare for an applied career in psychology and how do they find jobs? For questions like this, it is best to go directly to people who have done it. I asked a variety of psychologists who are working in applied settings to tell me about their career paths. I asked what they thought they might do when they were students, what influenced their choices, how they found their first jobs, what they do in their current position, and what ad-
vice they have for students and for faculty. I received a flood of information describing a wide range of experiences. Common threads woven through these experiences allow us to draw general lessons, both for students who wish to enter applied careers and for faculty who wish to help their students with appropriate preparation for these careers. Following are excerpts from some of these accounts.

Katie Fallin, PhD
(Developmental Psychology)
Research Analyst, First 5 LA

First 5 LA is the Los Angeles County Proposition 10 commission. Proposition 10 established a tax of 50 cents-per-pack on tobacco products, which generates approximately $700 million a year to be invested in the healthy development of California’s children from prenatal to age 5. Most of the money is distributed to the counties on the basis of population, to be spent with local needs and priorities in mind. Thus, Los Angeles County receives about $200 million each year to allocate wisely in support of children.

Katie says, “In my position as a research analyst, I provide background research and data support to inform the planning and implementation of our funding initiatives; I design and manage contracts with independent research organizations who conduct large-scale, longitudinal evaluations of our funded initiatives; I work closely with outside partners on research projects funded by First 5 LA; and I work with organizations who have received our programmatic grants to assist them with their program evaluations.”

Katie goes on to say, “My career path has been one of opportunity and instinct rather than planning ahead. In college I had a vague notion that I wanted to do something having to do with improving the lives of young children but I didn’t know how I would accomplish that. I knew that an academic career was not for me because it felt too far removed from children’s lives—I think I felt a need to have a more direct impact. Clinical work, on the other hand, felt too ‘close’—I knew that I would have a difficult time working directly with children who had clinical issues. Applied psychology offered the right balance.”

“Throughout my graduate career I held a part-time research assistant position conducting lab-based research looking at preschoolers’ understanding of emotions and emotion regulation. Through this position I learned basic research methods; I presented at conferences, wrote and published articles.”

Earlier Katie worked as a nanny for 3 years, she worked in a child-care center as an undergraduate, and in graduate school she worked as a program coordinator for a summer jobs program for high potential, low opportunity teenagers. She goes on to say, “Despite my research and work experiences, I felt as though I didn’t have a full understanding of the relationship of research to public policy. In order to fill this gap in my training, I took a 3-month crash course in public policy at the federal level. Through this experience I became more interested in evaluation and intervention research on a large scale.”

Katie’s advice for current students who are thinking about an applied career is to gain breadth of knowledge and experiences. She says, “Both academic and applied career paths require a strong grounding in research principles, methods, statistics, and psychological science. However, an applied career can require greater breadth of knowledge and experience across a variety of topics and domains than an academic career. For example, in my current position I have worked on projects dealing with child abuse and neglect, early literacy, parent support and assistance, child health and nutrition, breastfeeding, health insurance, childcare quality, as well as program evaluation, nonprofit management, capacity building, and community strengthening.”

By following her interests and developing her skills as a scientifically trained developmental psychologist, Katie was well prepared for this position, even though it did not even exist while she was a student.

Douglas Kent, PhD
(Social Psychology)
National Planning and Accountability Leader, Planning and Accountability Unit, United States Department of Agriculture

This story began when, as a graduate student, Doug helped a friend with data analysis on a small project for the Westminster Police Department in Orange County, California. The department, facing a problem with new Vietnamese gangs, had initiated efforts to dismantle these gangs. Doug found
this fascinating, and took the opportunity to conduct a rigorous evaluation of this program as his required internship experience. The police found Doug’s report to be so useful that they asked him to evaluate their domestic violence program. He wrote successful grant proposals to support the creation of a new Office of Research and Planning, which he ran within the police department. With funding from the U.S. Justice Department and state sources, Doug employed four researchers and several interviewers to talk with gang members so he could design a program to debunk what members perceived as gang benefits.

His advice is to take the initiative and create job opportunities: “The best job opportunities are often those that one creates for oneself.” Doug has since moved on to his position in Washington, D.C., but the Office of Research and Planning continues to thrive in the Westminster Police Department, currently managed by another psychology graduate student, Julia Jim.

Virtually every police department would benefit from an Office of Research and Planning, even if they do not realize it yet. A psychologist with appropriate scientific training can be the best person to direct this type of office.

Julia Jim, M.A.
(Social Psychology)
Director of Research and Planning,
Westminster Police Department

Julia says, “The department relies on my knowledge of survey research and other research methodology to collect much needed public opinion data and police performance data, and to help interpret these data. I am also responsible for evaluating a grant program on domestic violence. All findings and information are provided to police management and used to make informed decisions. It is rewarding to see my work have such a direct impact on practice so quickly.” Julia’s advice to students is “Trust your abilities and follow your passions.”

Julia is working on her dissertation, planning to use data on actual interactions of police with people arrested for traffic violations. These data will have greater validity than ratings from college sophomores on hypothetical scenarios. Basic research sometimes can best be conducted in applied settings.

Lisa conducts research on health provider attitudes and behaviors, mental health services, the doctor–patient relationship, and psychological factors in health and health behavior. She has also worked in many other areas including environmental risk perception, psychological consequences of terrorism, smoking cessation, racial/ethnic disparities in health care, and military quality of life. She says “One of the wonderful aspects about working in a nonprofit research organization like RAND is the opportunity to apply my skills as a human behavior expert across a number of different contexts, content areas, and to work with a diverse team of colleagues from both my own and other disciplinary backgrounds.”

Even as an undergraduate, Lisa knew that she wanted a career in psychology doing research applied to solving real-world problems of public policy. RAND was a perfect setting for her, and she began her career there as a Research Assistant after she earned her Masters in General Experimental Psychology. She continued to move up through the ranks at RAND as she worked on her PhD in Applied Social Psychology.

Lisa says, “The coursework that I found most useful for my career includes everything I learned about the scientific method, which I find is an advantage that other social scientists do not share with us. I also benefited from learning a variety of different analytic methods. The ability to combine a theoretically driven foundation to a practical problem is what I have found to be most valuable in my day-to-day life.”

Lisa condensed her advice to students into a single word: "perseverance." She says, "if you have a sense of what you want to do later in life, then it might take a while to get there and seem a bit challenging, but stick with it. In my experience, even when I deviated slightly from tradition, it always worked out smashingly when 'I did it my way.' Of course, that is not to say that teamwork is unimportant but I believe that everyone should follow his or her convictions."
Robert Lunn, PhD  
(Cognitive Psychology)  
Senior Researcher,  
Owner of his own research consulting firm

Bob entered graduate school with strong statistics, systems training, and computer programming skills, and he sought graduate training in cognitive psychology to enhance these skills. He says, “However, somewhere in my graduate program my focus changed from methodology to science. In practice, being a scientist means using an inherent curiosity, recognizing that something is not consistent with the current explanation, integrating available data with known scientific principles, asking appropriate questions, and converting findings into results that are easily understood.” Bob’s dissertation on text induced visual fatigue won the James McKeen Cattell award for the outstanding dissertation in psychology in the United States that year.

His first job after graduate school was senior statistician at the consulting firm of JD Power and Associates, where he was promoted to executive director of survey research operations, with responsibility for hundreds of employees. He recently left that position to run his own consulting business.

Bob indicated that all critical events in his career involved people who took time to work with him. He said that without that help and encouragement, he would probably still be a computer programmer. His key advice to students is “Find your mentors; don’t expect them to find you. You cannot overestimate the importance of this task. Along these lines, selecting a mentor is a two-way street. Just because you select someone, don’t expect them to reciprocate automatically. You grow into a mentoring relationship. It is up to you to earn their respect.”

Other advice is to build your skills, and be positioned to take advantage of opportunities. “The key is to be in the right place with the broadest set of job skills. When opportunity knocks, you have to be ready to answer the door.” Other advice from Bob is “Take a lot of methodology courses, and keep your notes. You never know when you will be using them again”

He observed “I think the distinction between ‘applied’ and ‘basic’ science is mostly irrelevant because the fundamental product of any scientific endeavor is enhanced understanding. Knowledge does not care about its pedigree.”

Patricia Winter, PhD  
(Social Psychology)  
Research Social Scientist, USDA Forest Service

Patricia’s research addresses recreation patterns in the public forests (especially those linked to ethnic and racial diversity); communication regarding natural resources; attitudes, values, behaviors and conflicts linked to natural resources; and the social and recreation-related aspects of fire management. Her official duties include all aspects of planning and conducting research, including face-to-face interviews, on-site observations, on-site surveys, archival analysis and synthesis, lab experiments, quasi-experiments in a field setting, mailed surveys, focus groups, and telephone interviews. For example, renovation of a picnic area was guided by her documentation of special needs and desires of different ethnic groups who used the area. Another study drew on persuasion research to guide experiments on the effectiveness of different wording on signs. On a broader scale, she led a socioeconomic assessment of 26 counties in California to provide the four southern California national forests with extensive demographic, historical, environmental, social, and projection information to be used for their forest plan revisions.

Patricia noted that she was not even aware of research opportunities with the Forest Service while she was a graduate student. However, she worked as a researcher in a rehabilitation hospital and taught environment-
tal and social psychology part-time, her special areas of interest. This combination of applied research experience and intimate knowledge of relevant content areas prepared her well for her current career.

Patricia cautioned that there is not just one path to an applied career. Rather, students should seek a wide range of experience in applied settings. She especially recommended developing writing skills, taking statistics and research methods courses, and gaining publication experience. Grant writing is likely to be a useful skill in most applied settings. Networking with faculty and fellow students is important; connections are likely to be useful in the future. However, students and faculty need to understand that an advanced degree is not enough; graduates still must prove their value by applying their knowledge and skills effectively. Work experience in applied settings helps students develop their understanding of how they can contribute most successfully.

Justin Menkes, PhD
(Organizational Psychology)
Organizational Consultant

Justin says: “I have a terrific job, and I’ve never been happier. I started a company with my former boss. We specialize in executive assessment and work with companies going through mergers and acquisitions, or doing succession planning—so far we’ve worked with DuPont, Hewlett Packard, and Interbrew. Every day I apply the skills I learned in graduate school—statistics, research skills, evaluation tools.”

“As an undergraduate, I had no single professional interest, so I tried everything (this is what I would recommend to others unsure of their path—try everything and talk to everyone. Find out what they are doing, why they do it, and see if you can relate to their choices). My undergraduate major was political science. I graduated and went to work for a congresswoman writing policy. I realized politics was not my future so I tried theater (acting and writing), and teaching. I finally took a counseling position and decided to get my masters in psychology. During my masters I took business courses and realized that psychology in business was an area of special interest to me. When I finished I found a job with a management consulting firm. After 6 months I knew I’d found an interesting niche, and left to get my doctorate. I worked professionally throughout my schooling—but not just for the obvious financial need. I found that the professional experiences profoundly enriched my education. My consulting work slowed my school progress, delaying my graduation by a year or two. But it was worth it. I graduated with an immediate ability to make a living doing what I love.”

“A strong foundation in psychology is essential. In graduate school, I constantly revisited the question: ‘How does this theory or topic help us be better practitioners confronting the problems of today’s business environment?’ He emphasizes, “Essential skills are writing, methodology, and critical thinking.”

“My undergraduate program taught me writing skills. My graduate statistics and methods courses gave me tools to build and analyze assessment methodologies. Evaluation courses taught me how to think critically. Organizational behavior courses gave me a broad knowledge of topics in the field, and lessons learned from past research. This is the stuff I use every day.”

Heather Brown, PhD
(Social Psychology)
Director of Institutional Research,
Cypress College, California

Heather is a social psychologist with strong interests in education. Among her responsibilities, she is asked to design and direct studies to measure institutional effectiveness, facilitate strategic planning, and respond to state and national organizations and agencies. Importantly, she is asked to anticipate the information, research, and evaluation needs of the college, and recommend research projects based on those needs.

She says, “General skills I use frequently include communicating research in written and oral form to technical and lay audiences, critical thinking skills and problem-solving skills, knowing how to take data at face value, how to examine data from multiple views until you have confidence in the interpretation; and sound research methods, especially in program evaluation and survey research.”

She also mentions, “Knowledge of database structures, relationships, and content are very helpful in discussions with IT programmers and frontline staff, who input the data.” Heather noted that her teaching experience is important, because it gives her greater credibility with faculty, and a better understanding of the context of her research.
Heather says that as an undergraduate and even as a graduate student, she did not have clear career plans. She assumed she would teach college. About half-way through her doctoral program, she took a part-time position as a Research Analyst in the Research and Planning Department of a local community college. She says, "In retrospect, what I thought then would probably be only a one-year detour turned out to be a key fork in the road for my career path. The IR field has regional, state, and national associations, publications, and resources, which are very helpful to people who are new to the field. Although I didn't know it when I started down the path, there are many career options available to people with IR skills and experience: Director, Dean, Vice President... even some college presidents began their career in IR. Others may step away from responsibilities on campus to take consulting roles, or to work at state, regional, or national levels in postsecondary education."

Sara Simon, PhD
(Cognitive Psychology)
Project Director,
Integrated Substance Abuse Programs, UCLA

Sara is a cognitive psychologist. She says, "I run clinical trials for testing medications, do training for people in the substance abuse field, and work on imaging studies and international projects with the World Health Organization and for the State Department. The clinical trials are primarily for testing drugs that are thought to affect cognition. My initial involvement always is developing outcome measures, but my major effort is making sure that data collection is done properly and is well-documented. The training and work on projects involves explaining to counselors, health-care workers, and clinicians what cognitive deficits are common with different substances of abuse, and what that means in the context of treatment."

"The skills that I use are mainly research skills. Any of the programs that I run or evaluate are based on asking the right question, collecting data that will answer it, careful documentation, and statistics. I also use my knowledge of cognition. Of particular value is the ability to create a test, particularly a cognitive test that will provide the data needed."

"As an undergraduate, or even a graduate student, I definitely did not expect to work in an applied setting. My heart was set on being an academic. However, after my post doc when I had a chance either to work in a small liberal arts college or work on a research project using brain imaging, I chose the research project. From there I followed one project and another until I found that I had more data on cognition in methamphetamine abusers than anyone else in the country. While this may no longer be the case, I have been able to use my knowledge to become part of a lot of very interesting projects."

"The upside of applied research is that you really make a difference. Working in clinics, even on cognitive projects, I talk to counselors about ways to mediate cognitive deficits and they immediately try them. I discuss ways to compensate for cognitive problems with substance abusers. The findings from my studies are being used by treatment providers all over the world because people I work with who do training have made it part of their courses."

"The downside is that I am always scrambling for money. The one skill that I didn't learn that would have been of value is grant writing. Almost all applied settings seem to get grant money of one sort or another and it would be a useful skill to emphasize."

Robert Huebner, PhD
(Social Psychology)
Deputy Director, Division of Treatment and Recovery Research at the National Institute on Alcohol Abuse and Alcoholism

Bob describes his job and career path as follows. "The FY 2004 budget for the Institute is about $450 million, of which about $112 million is devoted to behavioral research on treatment interventions. The focus of work in my division is treatment and services research. We work with researchers in the field to develop ideas for research studies, help them navigate the grant application process, and monitor grants after awards have been made. More importantly, we synthesize what is known in a particular area and provide guidance to the field on gaps in research knowledge and where we should be going. Our national perspective on what's happening in the field facilitates this endeavor."

"Before joining NIAAA, I was a social science analyst in the Program Evaluation and Methodology Division at the U.S. General Accounting Office (GAO). There I was the project manager on a study on homelessness in the
U.S. requested by the Senate Labor and Human Resources Committee. My training in applied social psychology prepared me well for the research world in Washington, D.C. Especially helpful were my courses in evaluation research, statistics, and survey research. My internship experience was instrumental in learning what can and cannot be done in terms of research in real-world practice settings. I think the biggest thing I took away from Claremont was the idea that you could create opportunities in human service settings. We basically did that at my internship site and I did that again when I moved to the NIAAA from the GAO. It was my suggestion to a project officer at NIAAA that an evaluation be done of a new national demonstration program for the homeless. This suggestion led to a job offer from NIAAA to do just that.

Mariam Manley, PhD
(Social Psychology)
President, PRES Associates (consultants)

Until recently, Mariam was Principal Evaluator for McREL (Mid-Continent Research for Education and Learning). She now has her own consulting organization for which a recent project involved evaluating all Title I and Vocational Programs for the State of Wyoming.

Mariam says, “I regularly conduct literature reviews to identify potential measures and methods for studies that I conduct. I regularly use logic modeling techniques, research design, survey design, do instrument development, and qualitative research methods such as focus groups, interviewing, site visits, and so forth. I’m constantly running univariate and multivariate statistical analyses. As the principal investigator on most of my studies, I am responsible for supervising project staff, research assistants and other less senior staff in data collection, project management, and so forth. Interpersonal skills are perhaps some of the most critical in my line of work, in knowing how to work with clients, how to communicate with them in a meaningful non-academic manner, and how to sometimes facilitate rather tricky political situations. I also regularly serve as a co-investigator with other researchers and so the ability to work jointly and collaboratively is essential.”

“Probably though, the most useful skills are my report writing and presentation skills. While I can easily find and hire people who can run high-level statistical analyses, people who can do high-level statistical analysis

AND present such results to laypeople are essential and very difficult to find. What really gets my interest is working in applied settings where I can directly see the relevance of my work. The work is never boring—there are always new projects, and I am always learning.”

Maura Harrington, MBA, PhD
(Organizational Psychology)
Director of Consulting Services
and Senior Researcher,
Lodestar Management/Research, Inc.

Maura is responsible for effective development and delivery of external consulting services in her organization, she is a project manager, and she serves as internal expert consultant for specialized tasks, such as client relations, management assistance, theoretical grounding, and data analysis. To broaden her knowledge base and increase her credentials in the business environment, Maura earned an MBA degree as she was working on her PhD program.

Skills that Maura identifies as especially important for her work are the design of research and evaluation, project management, and consulting and communication. Maura says, “What interested me about applied research, particularly in organizations, was the opportunity to use data to identify problems and create solutions that improve the functioning and effectiveness of organizations. I am almost zealously empowering organizations to make data-informed decisions, in turn, effect positive change for all stakeholders.”

Vivian Nagy, PhD
(Social Psychology)
Organizational Research Department,
Kaiser Permanente

After earning her PhD in Social Psychology, Vivian worked for the Veterans Administration doing basic health-care research. She found her Kaiser Permanente position through networking with friends as she was seeking a re-
search position in which she could see how the work she did makes a difference in people’s lives.

Vivian says, “My job entails collecting data to help managers make decisions or make improvements. Typical projects I work on are patient satisfaction surveys for hospitals and clinics, employee opinion surveys, program evaluation, and 360-degree feedback surveys for leadership development.”

“My graduate training did not prepare me completely for the applied work I do at Kaiser Permanente. From graduate school I learned the standard statistics, experimental designs, and how to write up research for publication. All of this background is important, and in my work it is assumed that I know how to do all of this.”

“However, other functions that are just as important in my work are:

- to understand what information a manager needs and why;
- develop a research project that will not only meet those needs but can be easily understood and explained by people without a research background;
- deliver results to managers that clearly indicates next steps for them.

In addition to the fundamental research skills that are taught in graduate psychology, the skills I would emphasize for a position in applied psychology are organizational skills and consulting skills—listening, influence, negotiation, communication, strategic thinking, teamwork, change management, and leadership.”

Jeffrey Mercer, PhD
(Social Psychology)
Senior Research Manager,
Microsoft Corporation

Jeff entered graduate school with a strong interest in social responsibility and a deep distrust of established organizations, especially large corporations—he was, and is, something of a modern day Hippie. He was teaching part time when a colleague asked him for help on a consulting project with Toyota Motor Sales. One thing led to another, and Jeff soon was working full time in the strategic research and planning department at Toyota’s U.S. headquarters of automotive consumerism—identifying who wants what and why.

In describing his work with Toyota, Jeff says, “When conceptually framing a study, I rely heavily on my theoretical knowledge of social psychology—applying what I know about information processing, attitude formation and change, individual differences, etc. Having a breadth of knowledge and skills is really necessary to be effective in the applied setting. A large portion of my time is spent analyzing data and creating presentations of the findings (in PowerPoint) to management. I constantly work to communicate the results in a way that is meaningful and does not overwhelm or lose the audience—this is a very difficult task.”

“I enjoy the work I do far greater than I would have ever imagined. I have been able to create for myself a position that is intellectually stimulating, allows me great freedom, prestige and influence, and compensates me fairly well. My company also supports my development as a research psychologist—sending me to training courses and research conferences. But this was not my knowledge of Corporate America as a graduate student, and Corporate America was the last place I ever thought I would end up.”

Jeff collected data for his dissertation within a research project on corporate responsibility that he managed for Toyota. The project included a very large national survey and many focus groups from around the United States. His findings, which include data on the importance of environmental responsibility, were quickly used to guide corporate policy. Recently, Jeff has taken a new position as Senior Research Manager with Microsoft.

LESSONS LEARNED

Let us consider what we can learn from this wide range of experiences. First, we should note that there are thousands of scientifically trained psychologists working in nonacademic settings, and almost any science-based graduate psychology program can find comparable cases. For example, the series “Why study psychology?” in the American Psychological Society’s Observer features career path vignettes from a wide range of leading psychology researchers (e.g., APS, Why Study Psychology?, 2004). The American Psychological Association’s Science Directorate has published a series of columns on “Interesting Careers” in the monthly issue of Psychological Science Agenda, available online at http://www.apa.org/science/psa/scienceagenda.html. Compilations of stories from psychologists employed in many different settings can be found at http://www.apa.org/science/nonacad_careers.html and at http://www.apa.org/monitor/feb01/careerpath.html. Although each person’s experience is unique, there are common themes that can be found in these experiences.

Beginning with lessons for students, the strongest message is to follow your own personal passions. Several professionals noted that it really is
true that you can get people to pay you for doing things you want to do; some warned against staying in situations that are uncomfortable, and urged students to be willing to take chances to follow their interests.

It is critical to build skills to support your ability to contribute. You are creating a flexible tool kit, a jack knife that you will be able to use in unforeseen ways. Foremost among these skills is solid grounding in the scientific method and research skills. Core training in the scientific method is fundamental to success for many. Several professionals noted that their special contribution often was asking "How do you know?" or "Show me the data!" in combination with the ability to identify what needs to be learned, to provide the means to obtain relevant information, to analyze and interpret data, and explain findings to decision makers and other stakeholders. Applying the scientific method in field settings is not easy—this is 'hard' science in ways that physics and chemistry are not—but psychologists with appropriate scientific training are uniquely qualified to deal with messy situations. The ability to engage the question "How do you know?" can be critical to success.

Content knowledge includes knowledge of previous research, methodology, and theoretical frameworks in an area of expertise. In applied work it is often necessary to have content knowledge in more than one area. Breadth is critical, with the ability to develop depth quickly where it is needed. This may imply taking courses outside of psychology. Often creativity is little more than translating an idea from a different area into a new application. Students need to seek exposure to other fields and new ideas.

Communication skills are often a weak link, especially the ability to translate sophisticated statistical and theoretical findings into language that is useful to people who have not had scientific training. Presenting your work at professional conferences is good practice, but it is also good to practice presenting your work to nonacademic audiences. Can you explain your research to your Grandmother or your Aunt Amy?

Field experience is crucial for many reasons. It is important to establish real credibility in your field. If you will be working with teachers, then you should spend time in classrooms, take courses in education, and gain teaching experience. If you will be consulting in business, get some business experience, take courses in management, and participate in networking opportunities. Familiarity with the context and broader system is essential—what are the practical and political constraints, what are the special resources and opportunities? Outsiders are often viewed with skepticism, and it is necessary to demonstrate your value and establish credibility. Conducting research on an applied topic is much easier if you are working from the inside.

Finally, be flexible. Virtually every career history has key turning points where opportunities appeared and career paths changed. Many expressed some surprise along with delight at their good fortune. Of course, good fortune is more likely to come to someone who prepares for it and is proactive. New positions can be developed in many organizations that don't yet know that they need a research psychologist. Do your homework, and be ready with solutions for other people's problems.

Faculty and administrators of psychology programs can also learn important lessons from the experiences of psychology alumni in applied careers. First, consider what we generally do well. Most importantly, we do provide solid grounding in the scientific method. This is fundamental to the success of many of our graduates. The scientific method provides a means to address the question "How do you know?" in messy situations. I believe this is a key advantage we have over our sister disciplines.

Working within the scientific method develops critical thinking skills. An ability to work with logic, formal methods, and theoretical frameworks gives psychologists another special advantage.

Training in design and analysis provides the formal tools necessary to implement the scientific method and support critical thinking. Our courses in research design and statistics are often supplemented with advanced quantitative and qualitative methodology courses, giving psychology students an opportunity to assemble a rich methodological toolkit.

Graduate programs generally do a good job teaching scientific writing. Most graduate students have a well-worn APA Publication Manual, with writing skills honed in papers, theses, dissertations, and other research projects.

Yet, there are things that graduate psychology programs can do better to prepare our graduates for applied careers. First, it is useful for students to be exposed to disciplines other than psychology. We don't have all of the answers. Other disciplines such as education, management, economics, sociology, and political science are concerned with many of the same issues that concern us. Our graduates will be working with people from these disciplines, and it is important to have an understanding of their knowledge, theories, methodology, and vocabulary. Applied problems are often best approached from several directions at once, using transdisciplinary thinking. Psychology has no monopoly on productive approaches.

The applied world often is more complex than the world of the laboratory. Interactions are rampant; there are feedback loops, political constraints, resource limitations, time imperatives, personnel issues, complex histories, discontinuities, and crises. We generally don't do a good job of preparing graduates for nonlinear systems.

We cannot prepare all graduates to be clones of ourselves. We should do a better job facilitating connections with mentors and experience in applied settings. It is important to note that many applied jobs require experience, information, and skills that faculty may not have. Ways need to be found for students to gain relevant supervised experience from qualified profession-
als in applied settings. Many well-placed experienced people are willing and even eager mentors for our students, and we need to support those relationships.

We do not always do a good job preparing graduates to communicate complex findings in lay terms, either written or oral. Many professionals indicated that practical communication is a key skill that they developed outside of academia, and that it is a weakness they see in new graduates.

Both students and faculty need a tolerance for ambiguity. It is often the case that no one knows exactly what sort of career a student will develop. A job may not even exist while the student is preparing for it. As we have seen, there are many rewarding career paths in diverse settings for applied psychologists. However, positions for applied psychologists generally are not advertised as such. Organizations often fail to recognize that an applied psychologist is the best person to fulfill a need. Careful career planning and preparation is necessary to assure that psychologists are competitive for their target positions.

ONE APPROACH TO PREPARING STUDENTS TO APPLY THE SCIENCE OF PSYCHOLOGY

How can we provide better preparation for psychology graduates to enter applied fields? I'd like to tell you about one approach. This began in the late 1960s when the Executive Officer for APA, Arthur Brayfield, developed a vision of applying the science of psychology to the public interest. The goal was to improve social conditions through increasing our knowledge of how things really work and disseminating that knowledge to people who can use it to influence policy. With this premise, he established a graduate program in “Public Affairs” Psychology at Claremont Graduate University in Southern California (Brayfield, 1976).

I draw on the Claremont experience because I know it well. I came to Claremont in 1970, and I had the opportunity to chair the graduate psychology program for more than 12 years. My colleagues and I have learned a lot about preparing psychologists for careers in applied settings, and I would like to share some of our experience with you.

Portfolio System. A key feature of our PhD program is a portfolio system for building and documenting appropriate skills and experiences. Preparation of a portfolio can be viewed as planned resume-building. Prior to taking oral exams and beginning a dissertation, each student is required to complete an individualized portfolio of products that focus on career building. Depending on the interests and goals of the student, the portfolio may include items such as publishable research, technical reports, grant proposals, or courses in other disciplines. Every portfolio includes mentored work experience, either working in an applied setting or teaching. Every portfolio also includes a literature review that synthesizes knowledge around a selected issue, which ordinarily will be the basis for a dissertation. Finally, every portfolio includes at least two research tools, such as survey methods, qualitative methods, special computer applications, applied data analysis, or evaluation. Upon completion of the graduate program, the student will have the knowledge, skills, and experience that are needed to compete successfully for desirable employment opportunities. The portfolio process assures that students take a proactive role in preparing themselves for their target career.

Methodology. When we ask our alumni what aspect of their graduate work at Claremont they have found to be most useful on the job, many say that methodological training served them especially well. We offer a wide range of methodology courses beyond the required sequence of statistics and research methods courses. Most students take additional methodology such as program evaluation, qualitative research methods, meta analysis, survey methods, factor analysis, structural equations modeling, multilevel modeling, or multivariate topics. We expect the hallmark of our alumni to be a thorough grounding in methods of inquiry—question framing, research methods, analysis, and presentation.

Research Experience. We aim to have doctoral students involved in research throughout their graduate career. During the first year in the program each student participates in directed research with a faculty member. This often involves working with faculty and a group of students on a project initiated by the faculty. Each student is required to complete an empirical master's thesis, and most complete several additional research projects prior to beginning work on the dissertation. Our students have an average of two conference papers and one professional publication on their resume when they complete the PhD program. This experience pays off when students enter the job market. The great majority of our alumni are in positions where they conduct research themselves or supervise research efforts of others.

Much of the research conducted by students and faculty in our program addresses applied topics or issues motivated by applied questions. This does not mean that the work is atheoretical or limited to a specific problem in a specific setting. Quite to the contrary, applied work is usually driven by a need for a better understanding of the underlying mechanisms that are involved in a problem, and applied research contributes importantly to theory development.
Field Experience. All students are required to complete at least one semester of supervised field work in a setting similar to where they would like to work when they complete the program. They also participate in a seminar where students share experiences, thereby broadening and generalizing their practical experience base. Students who intend to teach are required to gain teaching experience and participate in a graduate seminar on teaching.

Organizations are often willing to pay a student or a small group of students for a specific project. It is not unusual for an internship placement to turn into a permanent job, sometimes a position that the organization didn’t realize they needed until they saw what the intern could do for them. We require that a qualified person in the workplace serve as a supervisor/mentor for each student intern to assure that the student gains appropriate experience. The faculty member responsible for the field placement seminar keeps in contact with the field supervisor to monitor the placement.

The list of the benefits of work experience is long, for the students and for the program. Students gain a wealth of informal knowledge about how the work actually gets done. From organizational policies and procedures to office politics, there is practical knowledge that cannot be gained in the classroom. The financial benefits of paid fieldwork can be critically important; many students need to support themselves and perhaps a family. Professional contacts with people and organizations can pay off with employment opportunities. Students with contacts in the field are much more effective at finding and securing rewarding jobs on their own initiative. Students often draw on resources of their workplace to further their own research agenda. With planning and luck, a student may find an issue of interest to the organization that also is suitable for dissertation research or for a portfolio item.

Fieldwork can provide a reality check. Students sometimes discover that a target career is not as attractive as it appeared from the outside. The fieldwork experience allows students to discover a poor fit early enough to be able to make adjustments in their graduate curriculum. Field experience affords students a new, more mature perspective on their graduate studies. Reflection on applied issues can provide ideas for research, and motivation for completing the graduate program. On the other hand, some students discover that they do not need to complete a PhD to attain their personal goals.

The experience that students accumulate in field placements benefits the faculty and other students in the program as well. Discussions in graduate seminars are enriched, and experienced students become informational resources for other students. Our network of working students and alumni particularly benefits students seeking internships and employment.

Students. Most students attracted to a graduate program in applied psychology are likely to have a background in psychology, but some will come from fields such as sociology, nursing, education, management, and information science. About half of the students in our program have been out of school for several years, raising a family or working outside the home. Many sought an applied psychology program because they want to make a contribution to society.

Faculty. In an applied psychology program faculty need to strike a balance between what it takes to advance in their own academic careers and what it takes to help students develop nonacademic careers. Faculty must be involved with students in research and other activities that are unlikely to make important additions to the faculty member’s vitae, and at the same time conduct and publish research needed to be tenured and promoted in their college or university.

It is often the case that faculty are more interested in theoretical and conceptual aspects of a problem, while students are more interested in applied aspects. This difference in orientation can sometimes be frustrating for both faculty and students. It helps if faculty recognize that they are not necessarily training their students to be like themselves, but rather they are training students to be effective in the applied workplace. On the other side, it helps if students appreciate the importance of seeking a conceptual understanding that transcends the specifics of even messy situations. The person who knows “how” may always have a job, but the person who knows “why” will be their boss.

Finally, we have learned that applied psychology is intrinsically rewarding for both students and faculty who wish to have a positive impact on society. Most of the problems we face are problems of behavior—how we behave toward each other, our environment, and ourselves. It is gratifying to be able to use special knowledge and skills to engage these problems productively.

CONCLUSION

Psychologists bring special abilities to applied settings, often based on training in the scientific method and the natural connections of psychology to many applied issues. Psychologists are able to use principled methods to separate science from pseudoscience, knowledge from opinion. Over the past generation, psychologists have become remarkably successful at securing a wide range of influential positions where they are able to contribute productively to improving the human condition. Yet, as a discipline we
have not always embraced the applied side of psychology. We can do better. With more flexibility and planning, we can be more effective with training and placement. We have a large number of students eager to enter the field, and many more new opportunities can be created if we are proactive. As the world continues to change around us, the success of psychology depends on adapting to this change and capitalizing on opportunities. The opportunities for psychology have never been better; indeed the need has never been greater for scientifically trained psychologists to apply those skills in socially constructive ways.

REFERENCES


About the Contributors

Albert Bandura is David Starr Jordan Professor of Social Sciences in Psychology at Stanford University. He is a proponent of social cognitive theory. In this theory, self-development, adaptation, and change are the products of a reciprocal interplay between personal, behavioral, and environmental influences. His book, Social Foundations of Thought and Action: A Social Cognitive Theory, provides the conceptual framework and analyzes the large body of knowledge bearing on this theory. His most recent book, Self-Efficacy: The Exercise of Control, assigns a central role to people's beliefs in their efficacy in regulating their styles of thinking, motivation, emotional well-being, and accomplishments. He was elected to the presidency of the American Psychological Association, Western Psychological Association, honorary presidency of the Canadian Psychological Association, and to the American Academy of Arts and Sciences and to the Institute of Medicine of the National Academy of Sciences.

Dale E. Berger is Professor of Psychology at Claremont Graduate University. He teaches required statistics courses for psychology graduate students, advanced courses in statistics and data analysis, and the psychology of thinking. His research interests include drinking and driving, and he consults on applied research methods and data analysis. He and his students have developed an Internet site in support of teaching statistics (http://wise.claremont.edu), featuring tutorials with interactive statistics applets. Throughout his career at Claremont, including twelve years as department chair
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Michelle C. Bligh is an assistant professor in the School of Behavioral and Organizational Sciences at Claremont Graduate University. Her research interests include charismatic leadership, organizational culture, interpersonal trust, and political and executive leadership. Her recent work has appeared in *The Leadership Quarterly, Journal of Applied Psychology, Leadership, Employee Relations, and The Psychology of Leadership: New Perspectives and Research*. Through her work at the Kravis Leadership Institute and the Center for International Leadership, she has helped local and state law enforcement, consulting firms, healthcare organizations, and real estate firms to assess and improve organizational culture, change management, and leadership development.

Christina A. Christie is an assistant professor, Director of the Master’s of Arts Program in Applied Psychology and Evaluation, and Associate Director of the Institute of Organizational and Program Evaluation Research in the School of Behavioral and Organizational Sciences at Claremont Graduate University. Her research interests focus on investigating the relationship between evaluation theory and practice and issues related to the development of descriptive theories of evaluation. She has received funding from a variety of sources to evaluate social programs targeting high-risk and underrepresented populations. Dr. Christie co-founded the Southern California Evaluation Association, a local affiliate of the American Evaluation Association and is the former Chair of the Theories of Evaluation Division of the American Evaluation Association. In 2004, Dr. Christie received the American Evaluation Association’s Marcia Guttentag Early Career Achievement Award.

William D. Crano is Professor of Psychology at Claremont Graduate University. He received his A.B. from Princeton, and his M.S. and PhD from Northwestern. He has served on the faculties of Michigan State, Texas A&M, and the University of Arizona. He was Program Director in Social Psychology for the National Science Foundation, and served as Liaison Scientist for the Office of Naval Research, London, as a NATO Senior Scientist, and was a Fulbright Senior Research Fellow. He founded the Center for Evaluation and Assessment at Michigan State, and directed the Public Policy Resources Laboratory of Texas A&M. Crano’s research is currently funded by the National Institute on Drug Abuse. Crano has written 10 books, which have been translated into three languages, more than 30 book chapters, and more than 200 scholarly articles and scientific presentations. He is the past president of the Society for Experimental Social Psychology, and is a Fellow of the American Psychological Association, the American Psychological Society, and the Society for Personality and Social Psychology. He serves on the Community Influences on Health Behavior review panel for the National Institutes of Health, and has served on the editorial boards of three journals in social psychology and communication.

Deborah Davis received her PhD in social psychology from Ohio State University. She has since taught at Southern Illinois University, Georgia State University, and the University of Nevada, where she has been since 1978. Dr. Davis is also President of Sierra Trial and Opinion Consultants, a firm that specializes in trial consulting services such as jury selection, mock juries, witness preparation and others. Dr. Davis has also published on several topics in psychology and law, including witness memory, coerced confessions, issues of sexual consent, and empirical approaches to evidentiary ruling; topics on which she has served as an expert witness in both criminal and civil trials.

Kenneth A. Defenbacher is currently Regents’ Professor and Chair of the Department of Psychology at the University of Nebraska at Omaha. For the past 30 years, his research interests have centered on two related topics, basic research concerning perception and memory for the human face and an area of applied cognitive psychology, where he has been concerned with variables affecting eyewitness perception and memory, particularly the effects of heightened stress, exposure to mugshots, and the relation of expressed confidence of eyewitnesses to their identification accuracy.

Stewart I. Donaldson is Professor and Chair of Psychology, Director of the Institute of Organizational and Program Evaluation Research, and Dean of the School of Behavioral and Organizational Sciences, Claremont Graduate University. Dean Donaldson continues to develop and lead one of the most extensive and rigorous graduate programs in applied psychology. He has taught numerous university courses, professional development workshops, and has mentored and coached more than 100 applied psychology graduate students and working professionals during the past decade. Dean Donaldson has also provided organizational consulting, applied research, or program evaluation services to more than 100 different organizations. He has been Principal Investigator on more than 20 extramural grants/contracts to support applied psychology research and scholarship. This represents more than $3,500,000 of extramural funding that he has secured to support applied psychology graduate students, colleagues, and research programs. Dr. Donaldson has published a wide range of peer-reviewed articles and