
Lessons Learned From a Life in Psychological Science

Implications for Young Scientists

Frederick P. Morgeson
Martin E. P. Seligman
Robert J. Sternberg
Shelley E. Taylor
Christina M. Manning

Texas A&M University
University of Pennsylvania
Yale University
University of California, Los Angeles
University of Minnesota, Twin Cities Campus

Many research-focused graduate students are concerned about what seems to be a lack of opportunities in academia, as well as about how to actually begin and develop a career in psychological science. Recognizing this, the American Psychological Association (APA) Science Student Council organized a distinguished scientist discussion hour at APA's 105th Annual Convention in Chicago. Three distinguished scientists, Martin Seligman, Robert Sternberg, and Shelly Taylor, agreed to contribute as panelists. In a dialogue with the audience, they discussed a variety of career-related issues, ranging from how to pursue a career in psychological science to how the panelists' own careers had developed. This article summarizes this exchange, offering insight for all those embarking on a career in science.

Introduction: Listening to Graduate Students

As the 20th century draws to a close, the future of psychology would appear to be on solid ground: Psychology has an impressive foundation of research, a vibrant professional community, and a strong practitioner commitment to addressing seemingly intractable problems. Yet challenges remain, particularly with respect to the prospects for research-focused graduate students and their career opportunities inside and outside academia. Although these students represent the future of psychological science in the next century, their concerns are seldom voiced in the larger professional community. This is unfortunate, because their concerns have profound implications for progress in the discipline.

Recognizing this, the American Psychological Association (APA) Science Directorate formed the APA Science Student Council to serve as an advisory group to find more opportunities for APA to relate to research-focused graduate students and to encourage students to become involved in APA science activities. On the basis of discussions with these students, there appears to be great uncertainty about the prospects for a career in psychological

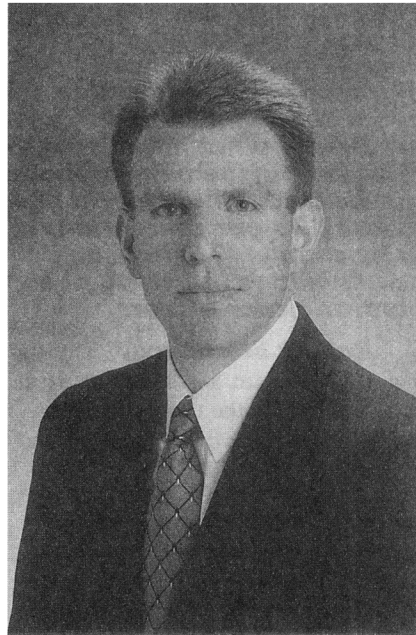
science. This includes an apparent lack of opportunities within academia, as well as more pragmatic concerns about how one actually pursues a career in science.

The Science Student Council has begun to address these issues, pursuing a number of initiatives designed to create a dialogue in the professional community. As one important step, we thought it might be useful to talk with scholars who have achieved high levels of success in the field. To reach the widest audience possible, we proposed a jointly sponsored (with the Science Directorate and the American Psychological Association of Graduate Students [APAGS]) discussion hour at APA's 105th Annual Convention in Chicago. It was our good fortune to have three distinguished scientists agree to contribute as panelists: Martin Seligman from the University of Pennsylvania, Robert Sternberg from Yale University, and Shelley Taylor from the University of California, Los Angeles.

As chair of the session, I solicited questions from research-focused graduate students, focusing on a variety of career-related issues, ranging from how to pursue a career in psychological science to how the panelists' own careers developed. In addition, audience members asked questions during the session. What resulted was an insightful exchange between the panelists and the audience that touched on numerous issues of interest to graduate students in general. This article is an edited version of the exchange. Christina Manning (University of Minnesota) then reflects

Frederick P. Morgeson, Department of Management, Lowry Mays College and Graduate School of Business, Texas A&M University; Martin E. P. Seligman, Department of Psychology, University of Pennsylvania; Robert J. Sternberg, Department of Psychology, Yale University; Shelley E. Taylor, Department of Psychology, University of California, Los Angeles; Christina M. Manning, Department of Psychology, University of Minnesota, Twin Cities Campus.

Correspondence concerning this article should be addressed to Frederick P. Morgeson, Department of Management, Lowry Mays College and Graduate School of Business, Texas A&M University, College Station, TX 77843-4221. Electronic mail may be sent to fmorgeson@cgsb.tamu.edu.



Frederick P. Morgeson

on the session from her perspective as a graduate student. Finally, a brief bibliography provides some resources for research-focused students and new psychologists that may help them plan their own careers. It is our hope that this article elicits further dialogue on these critical issues.

Frederick P. Morgeson
Chair, Science Student Council, 1996–1997

Discussion Session

What were some of your more significant failures, and how did you deal with them?

Shelley Taylor. You receive a huge amount of negative feedback over the course of a career in psychology. This does not ever end. You might think that things get more positive after a certain point, but in fact we live with disappointments at every career level. My biggest failure experience was not getting tenure. It is very hard when a university tells you, no, we do not want you. We are not going to keep you. It is very hard to believe in yourself enough to say, I think I am right, I think this is the career for me, I will find my home someplace else where I am valued, and to go on and to make contributions to a field. The criteria of being self-conscious about your career choice and passionate about what you do become terribly important because these are the only things that sustain you in the face of major negative feedback like not getting tenure.

Robert Sternberg. I think that one of my biggest failures was in advising a student early in my career who was really good. She got two job offers, and one job

offer was from a really high prestige place, one of the top departments in the country. And the other job offer was from a place that was fairly high in prestige, but it is not a department that has really set the world on fire. She asked me what job she should take, and being a relatively young, inexperienced, and foolish advisor, I said, well isn't it obvious? At the time it seemed obvious, but it was a little complicated because the kind of work she did was clearly the kind of work that the less prestigious place valued; it was a good fit to that department. The more prestigious place, even though they do great work, did not happen to do the kind of work she was doing. In fact, we were both kind of surprised that they offered her the job. So I said, we both know that the kind of work you do is more consistent with the middle-ground place, but if you do not take the job at the more prestigious place, you will always wonder whether you could have succeeded if you went there, and you will spend the rest of your life wondering about that, so you should take the more prestigious job.

The failure was that she followed my advice. She took the job at the more prestigious place and she did OK, but she never got to the point where she came up for tenure. She realized and they realized that it was not working out, and she went to another institution that emphasized teaching, which was a really good fit. What I realized is that a lot of students have the idea that what you want to go for is the prestige, the name recognition, but what is really important is to find a setting that is a good match to you. It is finding a place that values what you have to offer and you value what they have to offer to you, and the failure was to suggest that she should do anything else. I think the lesson was that when you go on the job market, I would worry much less about what anyone else might say. Indeed, you should ask if this is the place that is going to value you, that is going to allow you to grow, and will enable you to develop into the kind of person that you want to be, and at the same time valuing what they have to offer to you so that you can help them and they can help you.

Martin Seligman. I want to talk about the little failures then the big failures. With respect to the little failures, I think my batting average on journal acceptance and grant getting is well under 33%, but the important thing is that Shelley, Bob, and I try a lot. The number we turn in is large enough so we keep going. So you just have to be a resilient person to survive in science. But I want to talk about the big failures—I had not expected this question—so I was thinking about, what are some of the things I have been failing about since I was 21 and the things I am still failing about, and there are two of those.

The first I am going to call the analytic–synthetic failure, and the second has to do with mind–body issues. I think of the department I come from, the University of Pennsylvania, as one of the three or four scientifically traditional, rigorous—constipated—of any department I know. I have always been sort of the left wing of my department. I have been the person who believes that to do



Martin E. P. Seligman

good science, to do good analysis, was not enough. That is, to reduce things to what you thought their elements were and play with the elements was only half of good science, because there are a lot of ways of reducing things. So to find out if your explanadum was actually the way it was done, you needed to take those explanadum and concatenate them to see if you could reconstruct a real-world phenomenon. So you had to do good synthesis as part of science. Well, to this very day, I have been in one faculty battle after another trying to convince the bulk of my colleagues that synthesis is a worthwhile form of activity in science.

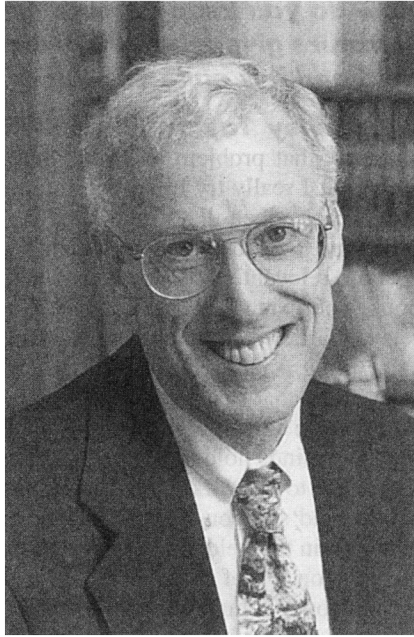
The second failure involves a whole set of mind-body issues. This is more a failure of what I believe is actually going on in the psychology of health and what the American public largely believes, what Congress largely believes, and what the *New England Journal [of Medicine]* largely believes. It has been clear to me for 20 years that there are simply major influences of mental states on physical health that are causal in nature. I have spent a fair amount of my time trying to quantify things like optimism, Type A, and so on, versus cholesterol, blood pressure, and the like on heart attack, and the psychological variables, when you play with the regression equation, are just much larger than the traditional variables. And so from a good science point of view, the data are convincing. And yet, we live in a society, we have a Congress, we have a reductionistic view of the world that pervades most of science that none of this data affects. And that has been the second most frustrating and failure-filled endeavor of my career.

It has recently been reported that one half of all psychologists who receive a research degree go on to nonacademic settings. Given that many still believe that success is defined by an academic appointment in a research university, what implications does the fact that half pursue nontraditional careers have for the traditional criteria of success or failure? Do our conceptions of success need to be changed? What can be done to acknowledge the value of such nontraditional careers?

Robert Sternberg. The only people who have that value system are those inside academia. As soon as you step outside the university, it reverses. In my case, my mother wanted me to be a lawyer, and when I wanted to go to graduate school, she looked at it as kind of a second-rate disaster. And I got a PhD, and she pointed out that the president of Rutgers had both a PhD in psychology and a law degree, and it was not too late to get that law degree. And then when I got tenure, she said now that you have shown what you want to do, you can get serious about what you want to do for your career. So one thing to remember is that once you step outside the ivory tower, the value system will change very quickly.

The second point I want to make is that students who I regard as successful are not necessarily the ones who find the most prestigious academic job. It is the ones who find the best fit to themselves, regardless of the job they take. What I care about is if there is a good fit. So if I think about just a few of the students I consider successful, some have gone into academia and have done stellar jobs, but one of my students became one of the top editors at Lawrence Erlbaum and Associates, a publisher, and she has done spectacularly well in the publishing business. And I look at her as one of my greatest successes. I still remember the day I said, I am not sure that academia is the right thing for you. She was absolutely crushed; it was like I told her she had termites or something, because there is so much of this value system that if you do not go into academia, you are considered a failure. But I think it has worked out really well. Another student has been very successful and went to work at National Opinion Research Center and is one of the top people there now, and he has continued to publish. Another recent one went to work for a market research firm and has been promoted three or four times in the two years she has been there. So the only point I want to make is that I am really happy if a student gets a top academic job—if that is what they want to do and if that is the right thing for them—and I am just as happy if they get some other kind of job if that is the right thing for them. There is not the right career path in the abstract, there is just right for you.

Shelley Taylor. I just want to underscore what Bob said. The important thing is that while you are in graduate school, it feels like academic values are *the* values, and those are the ones that you are being held up



Robert J. Sternberg

to, those are the ones to which you are supposed to aspire. It changes so fast, however, and you can find the rewards and the positive feedback in a nonacademic setting so quickly after you get out. So you need to keep that in mind as you are thinking about pursuing what may be thought of as a nontraditional and perhaps somewhat less valued path. It may be less valued according to those criteria, but those are not the criteria by which you will judge yourself or by which you will be judged, so forget about it.

Martin Seligman. I want to say two things about being an academic. First, I want to distinguish between a job, a career, and a calling. A job, as I see it, is something you do for the material ends, and when those material ends dry up, the job dries up. A career is work that you do that has a trajectory through development. In academia, and other fields as well, that trajectory gets disrupted for a lot of people. When the trajectory gets disrupted—when you do not get tenure, you do not get promoted to full professor—the work dries up. But it is the third thing that Bob, Shelley, and I have and I wish that most of you have, and that is a calling. We would be doing what we are doing regardless of its material benefits or regardless of whether or not the career trajectory worked. This is something we were created to do and will spend every day of our lives doing. Academia is filled with some who have jobs, some who have careers, and some who have callings.

The second thing I wanted to say is that I believe that in principle, academia is the best institution ever thought up by human beings, but in practice, it is a very far cry from that. In practice, it is not the place where most of the life of the mind is being led. I think a lot of this has to do with job,

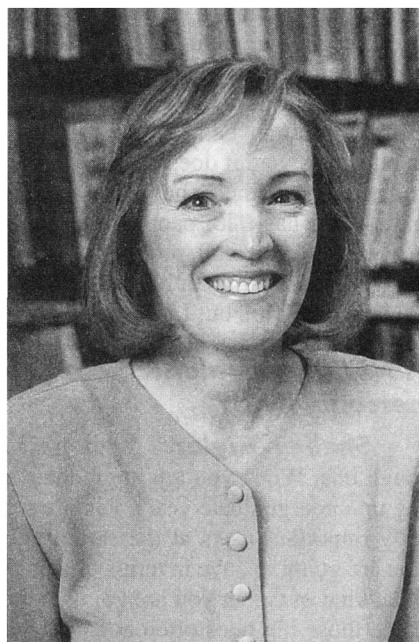
career, and calling. I hark back to the analytic–synthetic question as one example of ways in which the life of the mind need not be led in academia. I do not think academia has synthetic thinkers very often. If you are a synthetic thinker, you may be at a disadvantage. I do not think it has intellectuals, and it does not have broadly educated people. It has some of them, but more and more as it became an industry, it has a lot people who are technocrats who just analyze single small problems. So this very best of all institutions is our great hope. I think the process of science is literally sacred, but I think we have lost our way about it.

How do you balance your professional and personal lives?

Shelley Taylor. With great difficulty! This is a tough one. When you are in graduate school or just finishing up undergraduate years, you are setting two fundamentally important tasks at the same time. What kind of life you are going to have in terms of a partner and a family and what kind of career you are going to have. And you have to solve those big ones often at exactly the same time, and it is very tricky, very much an evolutionary process. In my case, I have been able to have two children and a husband of 28 years, and he has been committed to the both of us having careers from the outset, which has been my great fortune. I would wish that for you and urge you to make that a criterion in the decision you ultimately make. There are, however, sacrifices that have to be made along the way. You may end up where you do not want to be for a while, or you compromise on a setting because it will maximize both your outcomes. Ultimately, those are the hard choices you have to make.

I would urge you, however, to be creative in the solutions that you develop. Do not immediately assume that the job is an immovable force and that you have to wedge the rest of your life around it. Be creative in the solutions that you develop in your job. Solutions are developing nationally, as well as individually, so that people have more options. Push, try to find the openings that you need. When I found out that I was pregnant, it turned out that there were two other people in my department who were pregnant at the same time. So there were two women faculty members both about to give birth. The third person was the chairman's secretary. That turned out to be very important because the chairman did not want to lose his secretary. So he created a little day-care center in our department, and all three of the babies went into that day-care center. Now we were very fortunate in benefiting from that, but it is an example of the kind of situation that can evolve when the need is there. A lot of this is such that you pull it together, and you play each situation as it arises. I do not think there are any foolproof rules.

Martin Seligman. Well I am not a fount of wisdom about this, but there are two things I think about. First, one of Erik Erickson's many mistakes was to argue that in the sequence of development, love and family came



Shelley E. Taylor

before career and achievement. I think in our world for many people, career and achievement come before love and family. The path for me has been sequential for this.

There is indeed a threefold secret to success such that I think almost any of you 20 years from now could be up on this platform. I am only going to mention one of the three secrets now. That secret is, given sufficient intelligence in the broad sense, working 80 hours a week for 20 years is a formula for becoming world class at almost anything. That is kind of a dismal prospect but is indeed what I did—and my first marriage was a failure. After the sequence of the first 20 years of working for 80 hours a week, I think I was ready to be a father and a husband again. So for the last 10 years of my life, I have three more children and a different marriage. In fact, one of my wife's conditions for running for APA president (which involves a great deal of travel) was to buy one of those big GMC trucks, so everywhere we go the whole family goes and is part of it.

Robert Sternberg. Some years ago, I realized that it is really important to me to make an impact on the field, so that the kind of work I do after I pop off will continue to matter to the field. And then I looked around and said, how many dead psychologists are being cited today? I realized it is not that many. I mean, Clark Hull was a big shot at Yale, and now most people only know that he had something to do with mathematical learning theory, if that. I realized that the one thing that is sure is that I have kids, and they are going to have kids, and that is going to continue—the work probably will not. I think that speaks for itself.

How do you keep up with the volume of literature given that we are an expanding field and it is quite difficult to stay current?

Shelley Taylor. I actually have a formula for precisely that problem. I am not sure it works for everybody, but I really try to do two things. First, I do not read the journals when they come in, cover to cover. I skim the titles and the abstracts, and then I read things as they become relevant to projects. So when I am working on a book, for example, I will ransack my journals for the relevant articles, or when I am working on a paper, I do the same thing. I only read literature when it is useful to me, and I think that saves a lot of wasted effort because if you do not have something to hang it on, it goes. Maybe other people's minds hold more than mine does, but I really find that it has to be working for me in order for me to hold it. So I would say you need to have a rough idea of what is going on in the field, but it is unrealistic to believe that you can stay on top of everything.

Second, I find reading two daily newspapers to be enormously helpful for just staying on top of what is really important in the world. I read the *New York Times* and skim the *Los Angeles Times* every day. I think that is a very valuable and necessary source of input for the purpose of shaping the problems that you ultimately decide to work on. So it is reading broad and then focusing in a utilitarian way on a more narrow literature. Other people may have different formulas, but that has worked for me.

Robert Sternberg. Well, I write textbooks, which forces me to keep up with the field. I edited *Psychological Bulletin*, which forced me to keep up with the field. Now I am going to edit *Contemporary Psychology*, which will force me to keep up with the field. So I try to take something that would normally be receptive, just reading about the field, and turn it into something productive. I also edit a lot of books, so I get people to send me chapters about what they are doing, and I read about their current work.

There is one additional thing to keep in mind. Some years ago, I was visiting a foreign country, and there was a famous psychologist who wanted to show me the zoo in his town. So we went to the zoo. When we got to the zoo, we passed the cages of the primates, and they were engaging in strange and unnatural sex. Being from New Jersey, I averted my eyes. This guy, however, started staring at them, and within about 30 seconds he started to analyze their behavior in terms of his theory of intelligence. I thought this was kind of bizarre because, whatever it is that motivates the sexual behavior of primates, it probably has nothing to do with his theory of intelligence.

So the other side of it is that it is important to keep up, but people can get so obsessed with knowledge and with knowing a lot that they actually get locked in. Whatever their paradigm is, they start to see everything within the knowledge of that paradigm. So I think it is important to know a lot, but it is also important to let go of that

sometimes and get out of the boxes very tightly organized knowledge can create.

Martin Seligman. Two things to say about that. The first is shortcuts, which is something like Shelley said. So I do roughly what Shelley does. In our decision to invest a great deal in digitizing the journals for you, we are also trying to create powerful search engines as well. So I think that this will help extrude some of the shortcuts people like Bob, Shelley, and I use to get through this literature. But there is a real problem with this suggestion, and that is, so much of what is important to learn about is learned through serendipity and elsewhere. So if you are following a search engine you have some trouble with this. So we are actually thinking about randomly injecting in the search engine other things—like walking along the shelves of a library.

The second thing—and I will to apologize to both Bob and Shelley here, for what I have to say is both profane and heretical. It is something Al Bandura once said to me, which I am reluctant to repeat to someone who edits the *Psychological Bulletin*, is that there are two kinds of psychologists: those who read and those who write. Do not believe that. I think you want to read a few things and own them. As opposed to read everything and sort of know what is there. I think creativity is more likely to emerge from intellectual ownership than it is from broad coverage.

Problems seem to expand as we delve further into them. Given this, at what point do you know that you have enough to publish or at least submit for publication?

Shelley Taylor. I never know. Reviewers tell me if I have enough or not, and then I find out very quickly whether I need to do more. Speaking more personally, I have a kind of soft, cognitive and affective criterion or set of criteria. The cognitive criterion is, do I understand this to my satisfaction? If I do, then I may not want to or need to nail down the details. The affective criterion is, is this problem still exciting? If the problem is no longer exciting, I am done. Maybe other people would like to chase other aspects of it, but I am out of there. I want to go on to something that is lighting me up. So it is a combination really of affective and cognitive and the direct feedback of the journals.

Robert Sternberg. For me, I feel like I am ready to submit something when I have a story to tell, and I think it is a good story someone will be interested in. It is not the whole story, because you almost never get the whole story, but it is like a chapter. It is enough that it will be interesting. It is not so much that it will overwhelm them, and it is not so little that they will feel it is fragmentary. And as Shelley said, then the reviewers will tell their opinion. It does not mean they are right, it means that it is their opinion, but that is part of the game.

Martin Seligman. I want to agree with Bob and just amplify it a bit. Take something much longer than research, like writing a novel, for example. Life does not

really have a beginning, a middle, and an end. What a good novelist does is take a piece of that which makes a good story, and I think searching for knowledge is like that as well. You get this much larger mass of data, and your job is to find out what small piece of that tells a good story.

If you could change anything in the field of psychology, what would it be and why?

Martin Seligman. As president-elect of APA, I have four broad initiatives, and they represent what I would like to change in the field of psychology. They are (1) ethnopolitical warfare, (2) prevention, (3) effectiveness of therapy, and (4) wiring the association. I will briefly discuss each in turn. With the death of communism, I believe that the kind of warfare that you will be most concerned about in the 21st century will be warfare of the sort we have seen in Bosnia and Rwanda, ethnic slaughter. I am a reader of this literature, and I have found out that psychology has made very little contribution to thinking about it. Sociology, political science have made decent contributions. Questions of predicting why, what is going on psychologically before, during, and after, posttraumatic stress, preventing, picking up the pieces are all parts of this.

There is plenty of work in this, and we believe that if we do good work in this area, the jobs will follow. To get this started, we are going to set up an institute at the postdoctoral level. The hope is that it will become a widespread predoctoral program in which at the postdoctoral level you get one year of scholarship with scholars from all around the world. There would be a North American site, a site in Capetown, and a site in Northern Ireland. Then you spend one year in the field, not doing war tourism but actually being in Rwanda or Bosnia or Cambodia for a year. We believe we have the funding for this. This is going to be a reality.

In terms of prevention, before WWII [World War II] the mission for psychologists who were scientists that also wanted to change the world, like many of you, was threefold. One was to cure mental illness, the second was to make the lives of normal people more productive and fulfilling, and the third was the nurturing of genius, the nurturing of high talent. In 1946, the VA [Veterans Administration] system got set up, and suddenly the bulk of psychologists found out, hey, I can make a living treating neurotics in Omaha. Then the National Institute of Mental Health [NIMH] got set up, and we found out, hey, we can get research grants if they were relevant to curing mental illness. But I believe the other two missions have been more or less forgotten, making normal people's lives better and nurturing genius.

What brings me to this is having thought seriously about prevention for the last decade or so. The funders, the NIMH and Congress, are now thinking more seriously and with more dollars about prevention, but as they think about this, they suddenly discover that it looks like the great preventative things for mental illness are the virtues: honesty, work ethic, persistence, courage, interpersonal skills. In this rush to cure mental illness, we forgot to learn about

the virtues. I believe that the threefold mission of psychology needs reviving. So the second thing I want to do is remind us that our mission is not only victimology, not only to work on the cure of mental illness, but to think seriously in our research and our practice and in clinical science about the virtues. The theme for my presidency next year will be Prevention: Building Strength, Health, and Resilience in Young People.

The third thing that is coming down the pike concerns the effectiveness of therapy and has perhaps the largest effect on your career. Something earthshaking is about to happen to the funding of research in clinical science. It looks to me that the NIMH and the Substance in Mental Health services group, which basically control the research budgets for psychologists, are going to do something about effectiveness of psychotherapy, I should say as opposed to efficacy. That is, those of you who have followed the disputes that rose out of the *Consumer Reports* study that I was part of know the effectiveness–efficacy distinction. Efficacy studies are laboratory studies of short-term treatments for various well-defined disorders. Effectiveness studies are real-world studies of how they are actually delivered and what the outcomes are like. Now the government has decided to fund effectiveness studies. Their motivation for doing this is very interesting, and it is something that will bring science and practice together. Their motivation is managed care. They think that in a profit-driven health delivery system, there is at present nothing to bridle the ratcheting down of quality of services. What is needed is a substantive, massive body of effectiveness data on what works. This data will arise over the next 5 to 10 years, and then the aim is to get the mental health associations of America, not as separate guilds, but with one voice, to agree that looking at empirical data is the best way to form practice guidelines. This will enable us to sit down with the managed care industry and the accrediting bodies and create empirically driven practice guidelines. This is coming; you should get ready to meet it.

The final initiative involves wiring the association. Due to the foresight of the Board of Directors, starting about five years ago we began to massively set up a central computer system at APA. By my lights, we are now the leading scientific organization in America as far as electronic communications go. I want to mention two things, both of which are relevant to you. When I became president-elect of APA, people asked me, particularly my science colleagues, whether I was going to conduct a membership campaign, bang my shoe on the table and get scientists to join APA? I said absolutely not; not only was that not my style, but that was backwards. Instead, what I wanted to see happen was to have APA do the things that were so important to science that young scientists would say, gee, to do good science, I have to be a member. We would thus deserve their membership.

Toward these ends, we are in the process of setting up a series of nets, so that if you are in perception or cognition, a leading researcher will run the network and act as your mentor. You will be able to, though your APAGS mem-

bership, join an electronic net that the researcher will moderate, enabling you to talk with him or her and your fellow graduate students about the issues that confront the field. We are going to try and do this for every area in scientific psychology. In addition, we have already allocated a million dollars, and we will probably be doubling this, to digitize the journals. Now what that means to you is you do not have to go to the library anymore. You will have on your PC, as part of your APAGS membership, as part of being a member of APA, the entire literature indexed, searchable. You will get the first three or four years of this back to '93, '94 within about six months. You will get the whole literature back to 1894 within between one and two years. We are also trying to buy up the digital rights to the penumbra that is neuroscience, cognitive science, and the like, so that you will be able to get the allied literature as well. It is my hope that with APA doing these kinds of things, it will deserve the loyalty and membership of young scientists in America.

Shelley Taylor. I think one of the things that has been personally and professionally frustrating to me has been what I perceive to be the apparent decline in the centrality of psychology to intellectual life. During the 1950s and early 60s, psychoanalysis lit up people in ways that psychology had not previously done and, in certain respects, has not done since. Although during the 60s the social sciences were very much heralded, since that time I have seen us fall away from the mainstream of American intellectual life, as well as international intellectual life. We are often relegated to input from a self-help vantage point: quick cures, quick bits of wisdom. If there was something I would like to see restored and that I would personally want to work toward, it would be putting psychology back into the mainstream of intellectual life.

Robert Sternberg. The main thing I would like to see changed is that I feel psychology has reached the point where it is like an image of multiple competing teams. Each team wants to win more of a share of the resources, and more respect, and more prestige, and so on. It could be in terms of organizations, with APA and APS [American Psychological Society] and neuroscientists. It can be with respect to specialties. The thing I would most like to see changed is that instead of viewing ourselves as multiple competing teams, we view ourselves as being on the same team and to try to have teamwork within the whole field rather than within segments of the field that then compete with other teams.

How have your research interests changed since you were in graduate school?

Robert Sternberg. When I was in graduate school, I was interested in intelligence, and I still am. But I began to realize that my picture of intelligence in graduate school was too narrow, so then I came up with a broader theory of intelligence, and that was followed by a broader interest. I have never actually lost an interest, but what has usually happened is the way I have perceived a phenomenon at a given time turned out to be a special case of the

way I conceived it later. So one thing that has changed is that I have realized that what seemed to be broad conceptions of phenomenon, I now look at as kind of narrow.

The other thing that is great about psychology is that you can do anything, or almost anything, or maybe anything. At one point in my life, I started getting curious about love because my love life was not going so great, and I started studying love. At another point, I was not getting along with anybody (because other people are so difficult), and I started studying conflict resolution. I began to notice that some of the students I was teaching seemed to be very high in intelligence, but they never seemed to come up with any ideas, so I started studying creativity. Or I noticed that what seemed to be problematic with students was that their style of learning did not fit the teacher. One year my kid's teacher said, "Wow, your kid's really smart," and the next year my kid would be a dummy. Of course the kid did not lose 50 points of IQ over the summer or have brain damage, but rather, there seemed to be a mismatch between the way my kid thought and the teacher thought, so I started to study thinking and learning styles.

The great thing about psychology is that just out of your life you can see things that are going on, and those can become the things you study. The very things that are problematic for you and others in your life or their life can be the next thing that becomes part of your research. So it is always expanding.

Shelley Taylor. When I was in graduate school, I was especially intrigued by social cognition research, which I still think of as a Chinese puzzle kind of intellectual fascination. It is a lot of fun to be able to unpack and put back together these very tight intellectual puzzles, but the way in which my work changed the most was in seeing that that kind of intellectual satisfaction was not going to lead to the kinds of contributions I wanted to make, and that I was going to need a different kind of methodology to combine with the laboratory methods that I was using. When I was in graduate school, I had some training in interview methodology. I found this training to be invaluable and began working in health psychology in the late 70s, and then found, almost miraculously, that the back and forth, with moving from the tight laboratory investigations to the field, collecting interview data, and listening to people talk about their lives led to a better scientific contribution for me. So I would say that my evolution as a scientist has been as much methodological and learning to use a combination of methods that yield different kinds of insights and different degrees of rigor, as much as a change in the kinds or nature of the problems that I have studied.

Martin Seligman. Substantively, I think I have worked on very different things in my evolution from graduate school to now, but formally, I have done the same thing over and over and over again. I see what we do in science as having a location in lit space, so that there are things that are in the darkness, there are things that are in the penumbra, and there are things that are in the light. I have always worked right at the border of the light and the

penumbra. When I first started to work on helplessness, the notion that an animal could be helpless, could learn that thing as opposed to learn a response, was what was at the edge of the penumbra. So I brought what I knew about the light to bear on that problem, and I felt that after a while, the problem of helplessness had come into the light. So there was now more in the light. Then I looked out at the penumbra, and out on the penumbra was the question, well, could human beings be helpless and was this like depression? So I did the same thing again. I took what was in the light, brought it to bear on what was at the edge of the penumbra, and to my satisfaction, more of that entered the light. Then I said, well, what makes some human beings more susceptible to depression than others? We thought about optimism and pessimism, which was then the province of preachers and politicians and the like, in the penumbra and brought the same what was in the light from science to bear on that. Now as APA president, I think there is a set of problems in the penumbra that we now have enough in the light to be able to drag them into the light.

Robert Sternberg. There is one other thing that changed for me, but it is not a substantive thing, it is more a style thing. When I started, I spent a lot of time thinking about how to answer a question, and what would be a clever experiment I could design to answer this question, and what does the answer mean, and so on. As I have gotten older, I have spent successively more time thinking about the question and less about the answer. Namely, is this a good question to ask in the first place? Why should I or anyone else care what the answer is? What is the best possible outcome if I even studied it? Would I find anything anyone (including myself) would care about? I think, in general, the developmental trend is to worry more about whether the question you are asking is one worth asking and perhaps less about whether the particular method you use is such a great method, because if you go to conventions like this, you find so often the answers are good, but the questions were not worth asking in the first place.

Who was your mentor, how do you pursue your own mentoring role, and what are some of the issues that arise in pursuing that role?

Robert Sternberg. My mentor was Gordon Bower at Stanford, who is a very successful psychologist. Any time I compare myself to him, I feel like a failure. I look at what he did at a given age, and I say, well, I have not done anything like that. So I do not think that is a particularly good way to go. What I have come to realize is that that is a maladaptive tendency on my part. What was great about him as a mentor is he showed what you can do being him. The lesson is not to be him, it is to find as much myself and to become as much who I am as he found himself and became who he is.

So what I try to do for my own students is not to turn them into junior Sternbergs—I would look at that as a flaw—but rather to help them find who they are—what is their niche? What kinds of issues excite them? What kinds

of methods work for them? What kinds of problems are interesting to them?—and to help them find their niche, whether it is academic or nonacademic, or methodology, or whatever. The important thing for an advisor is to let go of turning your students into junior versions of you, and the important thing for a student to let go of is trying to be a junior version of your advisor. Instead, what you should do is get the best you can from your advisor and other people on the faculty, stir it all in the pot, add your own thing, and then figure out uniquely who you are, what your strengths are, and how to make the most of that. I think that you will find that the psychologists who are really successful in any sense, including by their own standards, are not the ones who follow any one formula. They are the people who figured out who they are and how to make the most of that. My undergraduate mentor, Endel Tulving, was also wonderful. He taught me that when almost everyone assumes something is true or right, it very likely isn't.

Shelley Taylor. I did not have a mentor. I worked with several people in graduate school. The person who was the obvious choice for me to be a mentor moved to Michigan when I was in my second year of graduate school. When it came time to pick a dissertation topic, I knew what I wanted to do. So instead of going into one of the areas that remained, I picked somebody who was really smart and who I knew would leave me alone—*completely*. So mentoring was not something I had a very good model for when I started doing it.

I think that over the years I have learned how to be a good mentor and that a lot of that is letting people find their own way but giving them a good shove from time to time. I try to be really direct in the feedback I give. A lot of times people soften and blunt their feedback in a way that will make it acceptable, and I do not think that is very useful. I try to be really direct in what I think but not move anybody away from the path they want to pursue.

Another good thing a mentor can do is try to figure out the particular strengths that graduate students have. One of the very interesting things, as you all know, is that by the time you get to graduate school, everybody is smart, and you can spend a lot of time trying to figure out who is the smartest, but it is really stupid to do that. Instead, if people derail, it is usually because they have some kind of flaw, like they are procrastinators or they cannot sit down and write. What a good mentor does is to try and identify what that potential flaw or problem is likely to be and then work with that particular student on that particular problem, but otherwise just to nudge them along the road they would choose on their own.

Martin Seligman. I know that this is the first time all three of us are going to say the same thing; therefore, I believe what we are saying has a lot of truth in it. It is that mentorship is not what it is cracked up to be; a good mentor basically leaves you alone. My advisor in graduate school was Dick Solomon, and Dick probably has the track record of turning out more creative and important psychologists than anyone else of his generation. Dick did

what Bob and Shelley both said you should do, to explicitly be a cheerleader for you, to get grant funds for you, and then to leave you alone. I think the reason for this, and why Bob and Shelley are right about mentorship and the importance of its absence, is contempt, contempt for the past. Good science is, by and large, courageous science. It is unpopular science. It is science that no one did before and thought should not be done. In fact, one of the things that I was thinking about when Fred asked about how APA should be changed and the future of psychology was that we need mechanisms to nurture unpopular science and to teach people that courage is part and parcel of good science. The second ingredient for success as a psychologist, contempt, is wrapped up with the absence of serious mentorship.

What kinds of problems did you have while a graduate student, and how were you able to overcome them?

Shelley Taylor. The problems that I think I had in graduate school are not the ones I most commonly see. The ones I most commonly see are people have difficulty putting pen to paper; they spin a lot. I never have trouble putting pen to paper, but that is one that I see a lot of, procrastination being somewhat related to it. The problem I think that I had and I probably still have is collaboration in the sense that I always know what I want to do. I am a better leader than I am a collaborator/follower/participant in projects, so I am actually pretty bad at big collaborative projects with other senior investigators. I am much better when I am doing my own stuff. I think it was true in graduate school, and it is still true.

Robert Sternberg. I think the biggest problem I had then and still have is that I always felt like an outcast. I was sort of doing what I wanted to do, and other people always seemed to be doing something different and not really valuing what I was doing. Given that I always felt out of it, what I have tried to do is turn that to a positive thing and take the position, well, I am going to do what I think is valuable and if people like it, I hope they do, and if they do not, it is tough cookies. This ties in with what Marty was just talking about, but I think my view is, for the first time, a little different from his. It is not that I have contempt for what other people have done; it is that I think they wear glasses that have the wrong coloring on them. Their lenses are distorted, or they are not quite seeing the problem right. I appreciate and value what they are doing; I just think they are wearing the wrong glasses. What I try to do is say, well, you can see it that way, but here is a way that might be worth looking at. Maybe I can even try to convince you that this way is something that you might want to adopt too. I realize that when I do that, some of them I will convince, and most I will not, and that is OK, because you will never be liked by everybody. Realizing that I am always going to feel somewhat like an outcast, I am never going to win a popularity contest, that is sort of something I have had to deal with and I still do.

Martin Seligman. The biggest problems for me turned out to be the greatest strengths. It had to do with unpopularity and that people thought what I was doing did not make sense and was wrong. And people I viewed as very bright and very knowledgeable thought it was ridiculous that I could think that animals were cognitive on the one hand, or that I could think that learning was prepared and had genetic predispositions on the other. It was the unpopularity of what I was thinking that bothered me most. But, in retrospect, it also told me that what I was doing might well be wrong, but it had a better chance of making a difference. Now one of the problems I have has to do with the fact that the older you get and the more power you accumulate, the less readily people tell you you are full of it. Remaining unpopular hurts, but it is something you have to seek.

The View From Graduate School

As a graduate student nearing the final stages of my degree, I am always on the lookout for helpful information and encouragement about the academic job market. The exchange among Taylor, Seligman, Sternberg, and students offers a bit of both, as well as a realistic view of what some of the more important personal challenges are in pursuing a career in academia.

Many research-focused graduate students idealize the academic career and aspire to have one. However, the jobs are few, and the competition fierce. As Taylor points out, once you get to graduate school, everyone is smart. Of course, even in this group there are those who clearly rise to the top. They are the ones who will get 12 interviews followed by 12 job offers the first year that they are on the market. Then there are the other 90% of us, teetering on the edge of marketability. Those of us in this group are well aware that to procure and then keep that coveted academic position, it will probably be necessary to maintain or possibly increase an already heavy workload, cut corners in personal and social lives, and endure a great deal of rejection and negative feedback. Still the hope of an academic career keeps us going. Most of us have a great deal to offer academia: We are good researchers and good teachers; we have invested a lot into our training, and our universities and professors have invested a lot in each of us in return. Unfortunately, the fact remains that there are simply not enough academic positions for everyone who wants one and is qualified for one.

From this perspective, it is encouraging to hear the advice and insight of people who have made it in academia. Hearing about their various experiences reduces the gulf between a doubtful-yet-aspiring academic like myself and these successful scientists. Their words convey the sense that they are a lot more like me and my fellow graduate students than we realize. They emphasize the same concerns and priorities that graduate students about to enter the job market are thinking hardest about. All three of the panelists have first-hand experience with the foremost worries of graduate students. They all admit that the academic workload is enough to require some shortcuts and compro-

mises, they have each struggled with diverse issues and choices in balancing their personal and professional lives, and they have also each experienced varying types and degrees of rejection. Their stories of their failures and rejections are, for me, the most thought provoking and surprising of all the experiences they describe. These range from such things as feeling like an outsider, to getting articles or grants rejected, to the most profound of all: being denied tenure. Through all of these experiences, they survived and in the end even flourished. I cannot help but be inspired and hopeful after hearing about some of the adversity that these ultimately successful people have withstood.

Also encouraging is the concern that the panel repeatedly expressed that graduate students should concentrate on what is personally relevant, both in terms of research interests and career possibilities. Each of them speaks of how crucial the events in their personal lives have been in shaping their research. They also talk about how important it has been to hold true to their own opinions, even when very unpopular. The panel is adamant that every graduate student should develop his or her own personal definition of success, rather than accepting without question the pervasive academic value system. It is nice to hear this message repeated, because although I am aware of its truth, it is easy to forget during my day-to-day life as a graduate student. It is not that graduate students are actively discouraged from thinking about careers other than prestigious, research-oriented academic positions; it is just that there is less information available within academia about other options. There are also relatively few accessible nonacademic role models. This situation seems to be slowly changing. It definitely helps to hear well-known academics speaking with pride of their successful students who have pursued nonacademic careers. This not only changes peoples' attitudes, it also gives graduate students some idea of how diverse the possibilities are for careers outside of academia.

The panel also advises graduate students to make sure that they keep in touch with what is going on in the world around them and not to lose sight of the broader context in which they are conducting their research. The reason for this is both to increase the relevance of the entire field of psychology to world events and world concerns and to enrich an individual research program. Another benefit of broader awareness is that it prevents researchers from becoming too focused on their own paradigm and unable to see anything outside of it.

One very interesting piece of advice that emerges from the panel discussion is the importance of being creative in solving the problems one encounters in an academic career. For instance, to keep up to date with psychological literature, each panelist has developed a unique and deliberate method. The panelists also mention some of the very creative strategies that they have used to help them balance their personal and professional lives.

Encouragement and helpful advice are two elements in the panelists' comments, but there is also a pretty good



Christina M. Manning

dose of reality. There are quite a few things that the panelists would like to see changed in academia and in the field of psychology. They acknowledge that their careers have not always been easy. They have dealt with negative feedback and failure, tough personal choices, and phases of unpopularity. Though they have led very different lives, and they have had completely different careers, they all seem to agree that it has taken a great deal of determination, or perhaps passion, to succeed in academia. Despite the encouragement their remarks provide, it cannot be denied that the worries expressed by graduate students have a strong basis in reality. The experiences described by the panelists underscore the truth of these worries rather than alleviate them. In fact, many students are of the opinion that the situation is getting even more difficult, with fewer and fewer jobs, greater competition, shrinking funding sources, and an uncertain future for the tenure system. If this is the case, then the challenges we will have to face as

we work our way forward in academia could be even greater.

Christina M. Manning
University of Minnesota, Twin Cities Campus

SELECTED BIBLIOGRAPHY

- Altman, I. (1996). Higher education and psychology in the millennium. *American Psychologist, 51*, 371-378.
- Bevan, W., & Kessel, F. (1994). Plain truths and home cooking. *American Psychologist, 49*, 505-509.
- Bower, G. H. (1993). The fragmentation of psychology? *American Psychologist, 48*, 905-907.
- Brown, L. S. (1997). The private practice of subversion: Psychology as Tikkun Olam. *American Psychologist, 52*, 449-462.
- Cohen, A. G., & Gutek, B. A. (1991). Sex differences in the career experiences of members of two APA divisions. *American Psychologist, 46*, 1292-1298.
- Commission on Professionals in Science and Technology. (1997). *Post-docs and career prospects: A status report*. Washington, DC: Author.
- Education Directorate. (1995). *Education and training beyond the doctoral degree*. Washington, DC: American Psychological Association.
- Fernald, P. S. (1995). Preparing psychology graduate students for the professoriate. *American Psychologist, 50*, 421-427.
- Hoshmand, L. T., & Polkinghorne, D. E. (1992). Redefining the science-practice relationship and professional training. *American Psychologist, 47*, 55-66.
- Kagan, J. (1996). Three pleasing ideas. *American Psychologist, 51*, 901-908.
- Kilburg, R. R. (1991). *How to manage your career in psychology*. Washington, DC: American Psychological Association.
- Leibowitz, H. W. (1996). The symbiosis between basic and applied research. *American Psychologist, 51*, 366-370.
- Olson, S. K., Downing, N. E., Heppner, P. P., & Pinkney, J. (1986). Is there life after graduate school? Coping with the transition to postdoctoral employment. *Professional Psychology: Research and Practice, 17*, 415-419.
- Prilleltensky, I. (1997). Values, assumptions, and practices: Assessing the moral implications of psychological discourse and action. *American Psychologist, 52*, 517-535.
- Rheingold, H. L. (1994). *The psychologist's guide to an academic career*. Washington, DC: American Psychological Association.
- Rugg, D. L., Levinson, R., DiClemente, R., & Fishbein, M. (1997). Centers for Disease Control and Prevention partnerships with external behavioral and social scientists: Roles, extramural funding, and employment. *American Psychologist, 52*, 147-153.
- Sternberg, R. J. (1997). *Career paths in psychology: Where your degree can take you*. Washington, DC: American Psychological Association.
- Sternberg, R. J. (1997). *Teaching introductory psychology*. Washington, DC: American Psychological Association.