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ORIGINAL ARTICLE

A Challenging and Satisfying Career in Basic Science

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Dr. McSweeney is Regents Professor of Psychology and Vice Provost for Faculty Affairs at Washington State University (WSU). She received her B. A., Summa Cum Laude, from Smith College and her Masters and Ph.D. from Harvard University. She taught for one year at McMaster University before joining the faculty at WSU where she rose through the ranks to Regents Professor. Dr. McSweeney has served as Chair of the Department of Psychology, Chair of the Faculty Senate, and Vice Provost for Faculty Affairs at WSU. She also served as a member of the Executive Council, and as President of, the Association for Behavior Analysis International (ABAI). She has received awards from her university such as the 2002 Sahlin Faculty Excellence Award for Research, Scholarship and Arts and the 2004 Eminent Faculty Award, the university's highest honor. She also received the Med Associates Distinguished Contributions to Behavioral Research Award from Division 25 of the American Psychological Association.

Dr. McSweeney has been cited as a prolific author in behavior analysis (Shabani et al. 2004). She has studied the matching law, behavioral contrast, and the participation of women in psychology. Her current research examines systematic changes in the effectiveness of reinforcers with their repeated delivery. She believes that sensitization and habituation to the sensory properties of the reinforcer produce those changes in reinforcer effectiveness. Sensitization-habituation may eventually provide the key to understanding the termination of many behaviors that are currently attributed to

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different mechanisms (e.g., termination of feeding to satiation, of running to fatigue, of studying to boredom). Arguing that many behaviors stop partly because of habituation to the sensory properties of their reinforcers suggests a common theoretical explanation for diverse behaviors, as well as entirely new methods for controlling these behaviors in practice.

History and Background

Can you tell us a little about how you were introduced to behavior analysis and what motivated you at the time to pursue it as a career?

My college did not teach behavior analysis, but it did require Psychology majors to take four field exams at the end of their junior years. I chose an examination on motivation. I read Bob Bolles' book on the subject in preparation for the exam and was strongly influenced by it. Bob was not strictly a behavior analyst, but he was a hard-core experimental psychologist who worked with non-human animals and addressed the major questions in our field. So, Bob's book was a major influence. Second, I liked working with non-human animals and was particularly interested in studying basic principles of behavior that would apply to many species. Third, I liked math and wanted to study a subject that produced data that were orderly enough to permit mathematical analysis. I liked neuroscience but I couldn't imagine a life of cutting up animals. As a result, I migrated towards behavior analysis. It examined interesting questions and had the rigor of neuroscience without the blood.

You attended graduate school at Harvard University for your doctoral training, can you take a moment to describe the graduate program (e.g., department, number of students, dynamics, coursework, advisement, etc.)?

I'll go into a little detail because the Harvard program has been so influential in behavior analysis. When I entered the program at Harvard, there were two psychology departments. The Department of Social Relations contained the "softer", more humanistic, side of psychology, such as social and developmental. The Department of Experimental Psychology housed the "harder", more scientific, side of psychology. It had four major areas of emphasis at the time: learning and motivation (basically the Experimental Analysis of Behavior, EAB), cognitive, physiological (now neuroscience), and sensation and perception.

The main office of the Experimental Psychology Department was on the 6th floor of William James Hall. Each of the four areas of emphasis had laboratory space on a floor above the 6th floor. The operant lab was on the 7th floor. Students usually spent their first year with an office on the 6th floor and then moved to their laboratory floors for the rest of the program.

The faculty of the department was a "who's who" of psychology. Skinner, Herrnstein, and Baum taught EAB and Herb Terrace visited for a sabbatical year. Jerry Bruner, among others, taught cognitive. Charlie Gross and Dick Thompson (for approximately one year) taught neuroscience. S. S., aka "Smitty", Stevens was in charge of sensation and perception. The graduates of the program were also a who's who of American psychology. A list of the names of all of the past PhD recipients was located outside of the department library on the 6th floor. It served as an inspiration for current students.

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Students were only admitted to the department for the PhD but could obtain a masters along the way. The first year of the program was devoted to course work. After that, students moved on to research. The first-year curriculum included a required proseminar that covered psychology as the department defined it. Someone from each of the four major areas taught a part of the course. The first day of the course, and our first day in graduate school, Herrnstein told us that the purpose of the course was: (1) to forge us into a unit through adversity, (2) to help them to evaluate us relative to each other, and least important, (3) to teach us some psychology. He indicated that the faculty didn't believe they were teaching us anything. Instead, they were just assessing how well we could overcome the hurdles that they placed in our way. The hurdles were very major indeed, large enough to weed out a lot of talented students.

To receive our PhDs, we were required to pass two exams in each of two foreign languages from among French, German and Russian. My languages were French and German. I had studied some French in high school and college, but I passed the German exams through flash cards and luck. The department did not offer a statistics course, but we had to pass a statistics exam. We also took prelims (preliminary examinations) as a group, the week after Labor Day at the end of our first year. We took one prelim per day over the course of four days. Each of us was required to take three exams from the four major research areas, but we could replace one of those areas with an alternative. I replaced sensation and perception with comparative psychology. No reading lists were provided. We just had to "know the field." Approximately half of the students failed prelims each year. They were allowed to take the exams again the next year, but few did. Most of them left the program.

JEAB (the *Journal of the Experimental Analysis of Behavior*) published a special issue about the Harvard EAB program. I have an article in that issue (McSweeney, 2002) if anyone is interested in more information.

At Harvard University, who was your major professor and how did this relationship influence you?

I think I was B. F. Skinner's last student before his formal retirement, although he had other students after he formally retired. I'm still known as a "Skinner student", 40 years later. He was an amazing advisor who emphasized writing. He taught me that people don't have any contact with your ideas except through your ability to communicate. Written communication usually reaches more people than oral communication, so you should write clearly. He recommended Rudolf Flesch's book, *The Art of Plain Talk*. I still do a final, "Flesch", revision of any paper that I write and I recommend the book to my own students. Skinner taught me about the importance of orderly data, the virtues of the single-subject design, and the advantages of the inductive, empirical, approach to research. I also learned how to be a better mentor from him. He was always available, set high standards, but was extremely kind.

Were there any other professors in graduate school that strongly influenced you?

Herrnstein and Baum because of their approach to, and influence on, behavior analysis. S.S. Stevens also contributed to my love of orderly data and he taught me the importance of brevity in speech. When he taught the pro-seminar, he required each student to present a 10-minute talk on a topic that he assigned. If the student had not finished his or her talk after 10 minutes, Stevens slammed a book on the table. I still try to be brief when I talk, to leave the audience wanting more, rather than less. I also learned a lot about teaching from Charlie Gross, a neuroscientist. I enjoyed his lectures because he was a showman. He was funny, moved around the room a lot, and occasionally wore a black cape with a red lining. I imitated him some in my own teaching, without the cape.

Early in your career, who were your primary role models in the field?

The Harvard group that preceded me, including Skinner, Herrnstein, Baum, Rachlin, Catania, Fantino, Neuringer, Hineline, Killeen, Williams. Allen Neuringer has been particularly supportive over the years. Herb Jenkins was one of my favorite researchers because his work always showed us that we didn't know anything about behavior. His findings on autoshaping, sign tracking and the feature positive effect were unexpected at the time. Howie Rachlin was another of my favorite researchers. I enjoyed the topics he chose and his insights into those topics. I didn't have much contact with Vic Laties, but he also had an impact. He was the editor of *JEAB* when I started publishing. I don't think there's a kinder person anywhere. He showed me how to evaluate manuscripts by asking whether they taught me anything.

Describe your first job in behavior analysis after graduate school.

I went to McMaster University in Ontario, Canada to teach behavior modification before finishing the requirements for my PhD. That job required me to learn about behavior modification, an entirely new field for me. I also quickly discovered how much I still had to learn about conditioning. Herb Jenkins, Shep Siegel and John Platt were at McMaster at the time. They taught me a lot, particularly about classical conditioning. It was an exciting time. Jenkins was working on sign tracking, Siegel was working on the compensatory response theory of the classically-conditioned response. The Rescorla-Wagner model of classical conditioning was new. My time at McMaster also taught me how demanding an academic position can be. There is so much work to do. The Harvard training of how to hurdle really came in handy.

What did you learn as a result of going on the job market for the first time after graduate school?

I entered graduate school, the same year that *Time Magazine* ran a cover story about how we were entering a dark ages for higher education. Then I received my PhD in 1974, which was one of the worst economic years since the Great Depression. It was not as bad as the recent recession, but pretty bad. I didn't apply for the behavior modification position at McMaster because I wanted to do fundamental research with non-human animals. The students ahead of me in the operant laboratory at Harvard did not set good examples for job hunting. As I recall, no one had sought, or received, an academic job since Ben Williams left approximately five years before. I was offered several postdoctoral positions and I interviewed for a couple of jobs that did not pan out. Nevertheless, I was fortunate because I got what I think was the only tenure-track position available in EAB when I took the position at WSU. The message for me was not to give up, no matter how dark the situation.

Advice and Guidance

Describe your primary approach to managing people (e.g., providing feedback, problem solving).

I do have a lot of "managerial" experience, but I like to think of it as working with people rather than managing them. When I can, I prefer to lead by example. However, when that is not possible, I prefer to be collaborative in my approach. Being a good leader involves remaining optimistic even when the "sky is falling". Good leaders should always ask: how we can move on from here, rather than who can we blame for the problem? I also think it's important to retain your sense of humor no matter how hard that may be.

What advice did your mentor give that still influences you today?

I talked about Skinner's advice that there isn't anything more important than clear writing. He also said, "When you run onto something interesting, drop everything else and study it." (Skinner, 1956, p. 223). That advice has guided my choice of research topics over the years. I'd also add something that S. S. Stevens said. He argued that experiments fail for one of two reasons: either you didn't vary the independent variable over a wide enough range or you chose a dependent variable that was insensitive to that independent variable. So when my experiments failed, I tried changing either the range of the independent variable or the nature of the dependent variable. That advice also worked well over the years.

Of all of the roles you have served in our field, what are some of the activities you have valued the most?

The role that I have probably enjoyed the most is working with graduate students. I would never have had the career I've had without the help of the talented, disciplined and hard-working students with whom I have worked. So thank you all very much.

It was a special honor to serve as the President of ABAI. There are some strong, capable, women involved with ABAI: Maria Malott, Sigrid Glenn, Carol Pilgrim, Linda Hayes, to name just a few. I also served with very capable men including Jack Marr, Mike Perone and Jay Moore. As a result of all of their efforts, ABAI is a very well-run organization. I learned a lot of specific lessons from these colleagues and I

learned the general lesson that working together is really critical. We're stronger as a group than we are as individuals. I also liked having the chance to influence our field and to represent the basic experimental side of the discipline.

I've enjoyed my editorial roles and my service on grant panels because I've learned a lot from the papers and grant proposals that I've reviewed. I learned that I needed to read a paper at least three times before I really understood it. Then, the critical questions to be answered in a review included: is this good science; did I learn something from the paper; and are there any suggestions that I can make about how to improve it? I also tried to be relatively nice in reviews so that the authors could "hear" the message and put it to use. Peer review doesn't have to be the brutal system that it can be at times.

What advice can you offer to people considering becoming a student in a behavior analysis program on choosing training programs and advisors?

Be really careful and do your homework before deciding on a program or advisor! Weigh your options carefully because the program you choose will fundamentally shape your entire career. It is critical to be interested in, and have a passion for, what you choose to do because, if you're lucky, you'll be doing it for a very long time. So find a program that will let you indulge your passion.

Is it important to have some experience with a same gender role model?

I think it is important to have good role models and mentors throughout your career. You can learn what not to do, as well as what to do, from them. I certainly benefited from strong female role models as an undergraduate at Smith College where I had plenty to choose from. In contrast, there were not many women at Harvard and I missed having them available.

I also think that it's important to have strong, male role models. In my opinion, the support of sympathetic males is critical to making progress for women. I could not have succeeded at WSU if I hadn't had the support of men such as Tom Brigham, Jay Wright and Ron Hopkins.

What are some leadership characteristics that have been most valuable to you?

I think that building trust is very important. You can do that by being straightforward and never violating the trust that you've already built. It helps to be pretty placid emotionally. If you don't change dramatically from day to day, people will always know what they will face when they come to talk to you. It helps to be energetic, so things get done. A sense of humor is critical, especially laughing at yourself. I also try to use the Golden Rule when making decisions. Doing unto others as I would have them do unto me has served me well over the years.

Women in behavior analysis face challenges in some settings due to socially constructed values (i.e., teaching evaluations). Can you speak to any barriers that you faced and how you dealt with them?

Yes, I think that I've faced some barriers, but things are improving. I've had it much easier than those who came before me and I hope that my generation will pass on an even better situation to those that follow.

The women that preceded me often dealt with flat-out rejection and denial of their abilities. I think that most of that overt discrimination was becoming covert by my time. Women in my cohort were more likely to die a death of a thousand small, subtle, cuts than to be dealt the single, knockout, blow that earlier women faced. There were many more men than women in EAB when I joined the field. As a result, it was socially acceptable to treat women badly, as servants rather than equals. It was also common for

women to be "stepped on". I was giving a talk at the Society for the Quantitative Analysis of Behavior and a prominent behavior analyst came up and took over the podium during my presentation. He wasn't being unfriendly, but he was using my time to promote his work. I don't think he would have done that to a man. I tried to be polite, roll with the punches, and maintain my sense of humor, but the point is that a man probably wouldn't have had to expend that energy. It's a small thing, but those "cuts" accumulate.

Today, I think that covert discrimination remains strong but has moved to higher levels. Take a look at the list of invited speakers at the ABAI convention over the last few years. The last time I looked, most of the invited speakers were men, even though women outnumber men in our field. That is, women can enter the field, but it's hard for us to lead. That's a reflection of our culture, it's not anyone's fault and we can hope that that will change soon.

In this time of growth in behavior analysis, what advice do you give to behavior analysts of the future?

I think that we have to pay attention to the perception of behavior analysis. We are often viewed as heartless, inhumane, monsters. In my opinion, it behooves us to work on correcting this misconception even at the cost of temporarily discarding some of the purity in our language. As any scientific discipline, we have a unique technical language that can be isolating. I think we have a lot of explaining to do to other psychologists and to the public.

Do you have any specific advice that you would provide to women in behavior analysis?

We have gained a lot over the years, but I think that there is room for more progress, particularly at the highest levels. We need to band together and organize to make progress. At WSU, we have an organization called the Association for Faculty Women. It holds monthly meetings for networking, support and advocacy for women. The members have been an important source of support and guidance for me over my career. If you don't have such an organization where you work, build one.

What advice do you have for female students or young professionals who are planning to have children? Is this advice different when given to men? Please share your experience or thoughts on this topic.

Women need to take the questions of whether and when to have children more seriously than men do. With only a few exceptions, women will be doing most of the work of child-raising, no matter how helpful their husbands are. I don't think there is a cookie-cutter answer to the questions of whether or when to have children, or about any other life choice. But I would say that you need to pay attention to those decisions. Don't just make them by default. In my opinion, it isn't possible to be productive in your career unless your personal needs are reasonably satisfied. Everyone needs to have a life, not just a profession. That's true regardless of whether the choice is about having children or about whether you can spare the time to exercise or get together with friends. Be sure to take care of your personal needs so that you can get through the marathon, not the sprint, of your career.

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Compliance with Ethical Standards In addition, human or animal participants were not employed for this manuscript, so informed consent was not necessary.

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