



AMERICAN
PSYCHOLOGICAL
ASSOCIATION

FROM ACADEMIA TO INDUSTRY: PREPARING DOCTORAL STUDENTS FOR A WIDE RANGE OF CAREERS

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SESSION DESCRIPTION

Panelists will discuss the realities of the psychology Ph.D. job market. The important question is how to design graduate training for the full spectrum of positions our students take after graduation. One approach is to include as part of graduate curriculum, research and development opportunities that are outside of academia. The challenges associated with preparing students interested in exploring careers in industry, government, and the non-profit sector will be explored. *Any opinions, findings, and conclusions or recommendations expressed by the presenters in Essential Science Conversations do not necessarily reflect the views, policies or positions of the American Psychological Association.*

TRANSCRIPT

Shandol Hoover: Hello, everyone, and welcome. Thank you for joining us today. I am Shandol Hoover, Senior Director of APA Science Special Projects and Implementation. This program is part of an APA series called *Essential Science Conversations*, where panelists and audience members can engage in an open dialog about emerging topics in psychological science. Before we get started with today's session, I want to share a few quick announcements.

First, we hope you will visit apa.org/science to learn how APA is elevating psychological science, that you'll subscribe to *Science Spotlight*, a free newsletter delivered to your inbox every two weeks that has the latest news, funding opportunities, upcoming events, and more, and that you'll also subscribe to *Editors Choice*, a weekly newsletter that delivers articles right to your inbox for free. Second, thanks to those of you who submitted questions for today's program when you registered. You can ask a question as a program is taking place in real time. There is a Q&A feature on the dashboard. Please enter your questions there. We'll be monitoring the questions and Q&A throughout the program.

Finally, this program is being recorded, so once it ends, everyone who registered will receive an email with the link to the recording along with related resources and a transcript in about two to three weeks. I'll turn things over to Dr. Adrienne Stith, Head of APA Science.

Adrienne Stith, PhD: Good afternoon, everyone. Thank you so much, Shandol. Thank you, everyone, for joining us today. I'm so excited for this discussion about how graduate training might be designed for the full spectrum of positions that doctoral students in psychology take after graduation. Many students go on to pursue career paths in academia, many others have professional psychology careers in industry, government, and the nonprofit sector. Today's panelists are going to talk about possibilities for designing graduate training to support students for a range of professional careers.

I'm going to launch right into it. We have an hour, and I'm sure that we have more questions, so we have time. I am pleased to introduce Dr. Wendy Wood, who is the Provost Professor Emerita of Psychology and Business at the University of Southern California and the past President of the Association for Psychological Science. We also have Dr. Barbara Wanchisen, past Director of the

Board on Behavioral, Cognitive, and Sensory Sciences at the National Academies of Sciences, Engineering, and Medicine, and she is a former academic before her position at the National Academies.

We also have Dr. Ashley Ruba, who worked in academia and now owns her own business. She's the founder and CEO of After Academia. We have Dr. Antonia Morgan-Lopez, who is a Senior Fellow of Quantitative Psychology at RTI International. He's had an interesting path where he transitioned from RTI to academia, back to RTI. We have a wonderful panel. Thank you all so much. We will launch right into the questions. We had many, many pre-questions, so we'll start with those, and then we will start watching the chat. Wendy, I'm going to start with you. So many of our graduate training programs are designed for students who want to go into academia. How realistic is that? Really, what jobs do students actually take when they graduate?

Wendy Wood, PhD: Thank you for the question. I got interested in answering this question. When I attended a town hall about a decade ago, and a bunch of students were complaining that they were being trained for academic jobs but there weren't many. They felt like they had almost been deceived by their graduate program. It's a strong word, but they had almost been deceived by their graduate program because there weren't positions available that they thought would be there if they worked really hard. They came up with this solution. "We should just have fewer students in graduate programs."

I was appalled because, honestly, I don't want to live in a world with fewer trained scientific psychologists, with fewer scientists of any kind. Scientists contribute to the health of our economy, to our welfare and whether they're in Academia or in professional positions in other domains. I think these students were just not thinking through the implications of what they were talking about, but they were very correct in one thing, they were right in one thing, which is according to NSF data, the exit polls that NSF runs, when people graduate with a PhD, a little over 10% actually get an academic job. That hasn't changed a whole lot in the last 20 years.

This is not really a new phenomenon. People think it is, but it's not. 20 years ago, 14% were going straight into tenure-track academic jobs. In 2010, 14% went in. In 2020, 11% went in. We're seeing a slight decline, but it's not huge. This has been around a long time. It's not new. This is something that psychology programs have been dealing with for at least the past 25 years. It is the case that it takes maybe more publications, more credentials in a variety of areas in order to get that first academic job than has been true in the past. There's been pretty good research on that. You have to have a stronger CV to get an academic job now than you did 25 years ago.

The number of academic jobs out there hasn't changed that much, instead, now, the largest percentage of jobs that students take are postdocs. Postdocs are holding positions. A few of them go into academia. A lot then transition into industry, into journalism, into media, into government, used to be government positions. They took a broad variety of positions after a postdoc. I think postdocs are, for many students, just a transitory landing place until they actually find a career.

The challenge for our students is that our graduate programs are not training students for the diversity of positions that they are going to be faced with when they graduate. Think about it, 11% go directly into academic jobs. That's such a small proportion of all of the students that graduate, and yet, that's what we focus on in our graduate training.

Adrienne: I wonder if there are other thoughts about that. Barb.

Barb Wanchisen, PhD: I'm unmuted. There's a great *Nature* article from 2023, and it's called PhD training is no longer fit for purpose. They talk about how we still use the model from the 19th century. There was a mentor, mentee, one on one. Most dissertations, I'm shocked by this, apparently are still one author because you got to get your name out there. The problem, I think there, is that everyone is raised that way. When you're in academia, you're raised to believe that this is the special really old-fashioned way to learn and all that. By the way, Wendy and I have talked about this. We love the training. We love the science.

I was all over the rat lab and the pigeon lab. We love doing that. That's not a problem. The thing is not everybody wants to follow that road, or maybe you start out in graduate school, and you say, "I love all this stuff," and then you start to realize, "Maybe I don't want to do this." Then you're stuck. There are some models, there are some things being done, but I'm sorry to say that it's just not enough. That's my two cents. Wendy, do you want to respond to me?

Wendy: Yes. We select our students for intellectual skills and academic skills, but we don't select them for the wide variety of other attributes that make people happy in a job, that make you want to pursue a job in industry, or in the media, or in practice somehow, or consulting. Our students have a wide variety of interests. Like you, I loved academia and that was my career, but that's not everyone's career. Everyone who's smart doesn't go into academia. That's not the way graduate schools are structured. We have Antonio with a comment.

Adrienne: Yes, Antonio.

Antonio Morgan-Lopez, PhD: Oh, no. Continue with yours. I could follow in right behind you.

Adrienne: Go ahead.

Antonio: You raised several interesting points and important points. The first one that's salient is the model of one-on-one mentoring. I came out of a graduate program in Arizona State in the late '90s, early '00s, where it was the exact opposite mentoring model, at least in our clinical program and our quantitative program, which is, you certainly had a primary mentor. My area head jokingly would always say to me, "It's easier for me to figure out who you're not working with than who you are working with," because there was a spirit of shared mentoring and collaboration between students and multiple faculty, so you got exposed to a wider variety of areas, wider variety of interest.

That was rare at the time, but I feel like it stood me in good stead in terms of a wide variety of areas. Most of my stuff at that point was in substance use prevention, but I worked in other areas of behavioral health as well. Given my emphasis in quantitative methods, it gave me entree into a wide variety of in-house and external quantitative consulting as I was a graduate student. It's not far off from what I'm actually doing right now in terms of a balance between my own program of research and consulting with other folks across the spectrum of behavioral health.

One big piece to moving the needle on training would be to move away, not so much move away from, but at least give students the options of having multiple mentors and/or allow for multiple emphases to the extent that they're able to continue to fulfill their obligations to their primary advisor, of course, but to allow for that balance and exposure to multiple areas across multiple places.

Adrienne: Let me ask a question if I could from thinking about things from the student perspective. I'm wondering, maybe, Ashley, I'll ask you, are there misconceptions that psychology PhDs might have about professional psychology careers?

Ashley Ruba, PhD: The students themselves?

Adrienne: Yes.

Ashley: Yes, there are. I think that's largely due to the narrative that is-- I don't know if I want to say pushed by faculty advisors. This was my experience going through graduate school. It's the experience of a lot of people who I talked to where academic careers are held up as the only career option, the most moral career option, the superior career option, everything else is a failure. I went through graduate school, through my postdoc wanting to be a faculty member, because why would I want to sell out and sell my soul to industry just to make shareholders richer? That was the dominant narrative. My PhD is in developmental psychology.

When you're told this for the entire time that you're in training, why would you possibly leave? I ultimately left not because my CV wasn't good enough. I won the APA dissertation award in developmental psychology. I just didn't want to be in that environment anymore. I think that's something that doesn't get talked about nearly enough, is just the mental health toll, the toxicity, the constant pressure to work, how you're not really making that much money as a postdoc or a graduate student or even a faculty member. Those are the folks who I'm working with now.

I don't remember exactly the word you used, Wendy, but they do feel like they were lied to by everybody throughout the whole time that they were in academia and that if they could go back in time, they maybe wouldn't even gotten a PhD because it didn't prepare them at all for a career outside of academia. I think that's really sad. I agree with Wendy. I think that there is a way that we can structure PhD programs to where they are really valuable. Even if we zoom way out and think about what AI is going to do to knowledge work in 5 to 10 years, I do think that the skills that PhDs are learning, the critical thinking skills, the ability to learn problem-solving, those are the skills that AI is going to have a really hard time replicating, but we're just not even talking about that right now.

Wendy: Let me challenge you on one thing, Ashley, which is the idea that the skills you learn in graduate school aren't relevant for other careers. There's been some research on this, actually, looking at what students feel they learned in graduate school that they are able to apply if they're working as professional scientists. There's a lot of skills. There's a lot of overlap. I think students focus on the content area of their dissertation or their expertise and want that to apply.

If they think more broadly, as you said, about critical thinking, about being able to communicate science, about being able to write quantitative analysis is something that Antonio talked about, and that's always useful for any career, is the methodological and the quantitative training that graduate students get in almost all of our PhD programs. Our abilities are very broad. The skills that we gain during training, we have to think beyond our specific dissertation topic and start thinking about problem-solving because that's what we're good at. That's what industry media, the law, that's what they need us for, is they need us for those people-oriented problem-solving skills.

Adrienne: Barb.

Barb: I want to add that, actually, and I know we have a number of people here international, that in the UK, they have this thing called the Norwich Research Park that has professional internships.

It's part of the doctoral program. You have to go in a summer, and you go, and you're sent to some industry, and it has nothing to do with your PhD topic. This is very important. You go, and you get paid, and you see what it's like to be a professional scientist in some other area. I know this is done with clinical people, at least I think so. Obviously, we're not clinical. It's like here you get a chance to go and try that out.

If we could add something like that to the American doctoral program where it's legitimized to do something of that sort, some kind of thing where you get credit and get paid for it and experience it, this would be a success, I think.

Antonio: I think to your point, in terms of systematizing, I guess North America-wide, one of the things that has been, I think, in place for quite some time, at least the last 25 years, maybe even longer than that at UNC, was the idea of tying summer internships, certainly within the clinical and quant programs that I'm aware of, and maybe even this is true in developmental, where you get experiences that are not necessarily tied to your advisor. Most places you're on summer with your advisor continuing along with the work that you've been doing all along.

One of the things that they have that's unique is, I don't quite want to call them internship pipelines, but they have experiences and opportunities available within the research triangle more broadly where you can come to a place like an RTI or other places that are NGOs and the like, where you could get those sorts of practical experiences and hands-on taste of what it might be outside of academic settings. Those are paid and not necessarily tied to their RAs. They have a culture where students can find those on their own.

In fact, since I've been back at RTI, I've had two graduate students from Chapel Hill reach out to me for those opportunities. Those don't exist everywhere, and to Barb's point, if we systematize that, I think that will go a very long way in getting students exposure to other things you can do with your PhD other than hitting a tenure track.

Barb: Of course, the advisor could become very disappointed in you if you are going to pursue that. I always feel like I have to bring that up. Wendy and I have talked to a number of people about this. There's a disappointment, and maybe naturally the advisor says, "This advisee is branching in this stuff. I don't know. I don't understand that, they're rejecting me and my work because they're supposed to carry on my work," that's the whole thing. Then students are reticent to speak up about wanting a career. I just want to point that out. There are people who care about that and understand that, but it's a thing.

Antonio: It is a huge thing. I've faced that. I think all of us on the screen faced that, and there's some folks that are listening to us that may well be dealing with that as we speak. I had to get past that for me because when I was on market, I had a tenure track offer at Chapel Hill that I would eventually revisit six years later. I had an offer at Penn State. I had a postdoc offer at USF in Tampa. Everybody was bewildered when I took this position at RTI. One of the things that I remember telling my friends when I was on market was the idea-- My now ex-wife was pregnant with twins at the time when I was on market, too, who are now 21.

I used to have this mantra would say, "My kids can't eat prestige." That really spoke to the idea of I was making a conscious choice in terms of the things that I valued professionally and personally. For me, could still build a program of research at an NGO, but I also wanted to go somewhere where I could also do consulting, so second, third author pubs in addition to building my own stuff. I wanted to do it in a way where I got credit for it, where you wouldn't get credit for that in many quantitative psych jobs that are not housed in quantitative psych programs.

That could be a whole other webinar on its own for quant students. To me, it was a matter of I stuck to my guns in terms of what I valued personally and professionally. I'm not going to sit here and tell you that that's easy because that was a set of difficult conversations that my mentors and advisors had come around on over the years. That was not easy.

Adrienne: This is related to there are several questions about how to do that preparation, where to find those opportunities, how to explore those options. I'm wondering if I can throw that out to whoever might want to answer about how PhD students can find the time to explore just so we know what the possibilities are.

Ashley Ruba: I can jump in. I'll get on LinkedIn first. There's a lot of us on LinkedIn who are talking about these things. There's a lot of resources out there. I think you see so many questions in the chat because universities are not preparing their students in any way for these things, and that's why I've created my business. That's why so many of us ended up being outside of the university in this space, trying to help students and postdocs, and even faculty who want to leave academia. Definitely good on LinkedIn. There's also a lot of questions in the chat about like, "What can I do with my degree?"

This is going back to the point that Wendy was making is that you're not necessarily tied to what you've studied in academia. You can do whatever you want with your degree. I know people who are in the humanities who are software engineers now, they decided to go to a boot camp, and now they're coding. I would encourage people to take a broader look at your career and think more about what do you actually like doing. If you don't like coding or data analysis or research, you don't have to do that. You can focus on writing and science communication. All of the careers are available to you.

It's a really hard question to answer, but I think academia encourages us to be generalists and to be good at everything. Outside of academia and industry, it's very specialized. The same people who are writing are not-- I was working at a medical device company last year as a human factors engineer, and I worked with people who are technical writers, medical writers. I worked with people who are project management, and I worked with people who are in learning and development. Those are all very different careers with very different skills and very different priorities.

Just think more broadly about what's out there, and you can Google things, you can talk to people and see what sounds interesting to you, what careers are actually hiring right now. I think for a while there's a misconception that UX research was the only thing you could do if a psychology PhD, and it's not. Also, that career is very hard right now to break into. That's what I do right now. I don't know, Google things, I guess. It's really sad that I think we have so much of a research and entrepreneurial spirit in graduate school, and then somehow, we lose that ability, I don't know, to just go out and do the research and think about what we want out of life, because we've just been conditioned to think that we're only good for academia. I think that's really sad.

Adrienne: I see nodding. Wendy and Barbara.

Wendy Wood: There is a program that NIH put together for biomedical sciences, because apparently, biomedical sciences has this challenge as well. A lot of students think they're going into academia. There, actually, are a wide variety of jobs available to these students. They just don't know about it, and they're not being trained in a way that would let them understand what's available to them. This program, one of the really successful things that they did was they encouraged graduate programs to have students fill out an interest assessment.

They used the AAAS interest assessment, which I'm going to put in the chat, that allows students to figure out what do they really want to do. The idea with this is very early on, as a graduate student, your first year, you start filling this out and you fill it out every year, and you talk with your advisor about it. Now, this is hard for many students because of what we've been discussing. There's a stigma that many students feel, but this is your career. Antonio is right, that this is your career, and you're the one who's living it. You have to stand up for yourself, and if you don't want to go into academia, then understanding what are the options is really important early on.

It's really important to understand this early on. Because estimates are that over 80% of science PhDs end up staying in the career that they started with their first job.

That's not saying they stay in the job that they started, but they stay in the general career that they started with their first job. Ashley is obviously an exception to some of this, but many students do, whether it's 80% or whatever. Many students stay in that track that they start out with. Understanding what your interests and skills and talents are early on is really important to making sure that you're going to be happy later on in life.

Barb: Also, I'd like to jump in to say there is an organization called The Versatile PhD, and a pretty large number of universities actually belong to this. Maybe your university belongs. This company helps you, in the same way, like you're saying, like, "What are the skills you have that are good, and how can we help you?" Now, if you go on Versatile PhD website, they list the universities. The founding universities are Harvard and Yale. You wouldn't think the Ivy Leagues would be at all interested in this guy. That was a little joke.

Nonetheless, there are a lot of universities that do belong. Maybe it's as simple as that. Just go look and see what resources are there. Your advisor may not know that the university belongs is my point. Just a thought. It's not every university.

Antonio: In an old school way that I became aware of job positions in industry, and I would think this would still hold true would be their presence at professional society. Conferences that you're already going to. Many of these places may already have presences there either in terms of folks from there having talks and symposia on up through the presences at tables and set ups that way. The societies that I was a part of and as I was a graduate student definitely had that presence at those meetings and at those conferences.

In fact, I give the story of my first ever talk as a second-year graduate student where there were just about as many people on the panel as there were in the audience, but three of those people were from RTI. In many ways, I always give that as it's not always how many but who shows up to your talks. That's another issue. It really speaks to the idea that many of these places have a presence in a lot of the professional societies that you may already be a part of.

Adrienne: Related to that actually, there's also a question about how graduate students can tailor their research efforts to better build skills that might be relevant to various professional options. Anyone have a thought about that?

Ashley: Yes, again. It depends what you're interested in. The skills that you would need to be cultivating in order to move into a science-writing position are going to be extremely different than if you're wanting to move into a position at RTI, for instance, doing anything quant research related. The deliverables and outputs that you would be doing in your role are just going to be different from career to career. The best way to actually know what is expected of you is to talk to someone who is currently working in that field, and they would be able to guide you.

I think, unfortunately, a few of us have mentioned this, faculty in academia just don't-- unless you are deeply connected with people in industry which most people are not, I find that there's an enormous disconnect in between even just career services and academia and what is actually expected from you in industry. It's just not the same at all. You need to be on LinkedIn and talking to people in your field, your future field.

It's a very similar process to how you even went about applying to a PhD program in the first place, so thinking about what places, what universities you wanted to work at, what companies are really interesting to you. What are they doing there? Who's working there? What is required in order to get to where you want to be at the end? Then work backwards from there. It's hard. It's because I get these questions a lot, and it's extremely dependent on what career you want. Industry is not a monolith at all.

Barb: I don't think you have to know everything. I guess I'm going hold a flag here that I really appreciated the education I got, and I think lot of people do. Never in my whole life did I ever think I was going to go into what I went into. I think you have to pat yourselves on the back. You got into a doctoral program, people are teaching you from their hearts and souls. You're doing all this stuff. I'm telling you, you're going to have analytic skills, and you're going to know how to write.

By the way, you got to learn how to teach, and you got to learn how to talk at conferences. There's a lot you have no matter the actual subject matter. I don't know. Am I being a little too whatever? Wendy, I'm going to ask you if I'm being a little too whatever.

Wendy: I think Antonio's the one to ask.

Barb: Antonio, am I being a little too whatever? [laughs]

Wendy: I don't think you're being too [crosstalk].

Antonio: No. I think the thing is if you know ahead of time that's where you want to head, there's some things that I think you can tailor to the extent that you have that flexibility with your advisor to be able to get as wide a variety of research experiences as you can. If you don't know that, I think Barb's point is still very valid. I happened to be one of those folks that knew I was moving away from academic settings when I got into the middle of my graduate training, but not everybody knows that.

To the extent that you have a skillset, and Barb listed many of the things that are part of that skillset, if you think you're thinking tenure track throughout your graduate training, and then you get to the end of it, and you're having to decide to pivot, you have the skillset to pivot in many instances, irrespective of whether or not you tailored it that way. I think that if you know ahead of time there's some things that you can do, again, to the extent that you can work those things out with your advisor and your chair, but if you find that you get to the end of your graduate training, you do have a skillset in which you can do that, many of us are examples of that.

Wendy: Yes. I do think you learn how much you have to offer by going on internships if you can during your graduate career. You get a sense of what your skillset is when you get out in an another job in industry, in media, whatever it is, legal consulting. That said, I think Ashley is right that LinkedIn and seeing the broad variety of skills that students like you seem to have the skillsets and the jobs that they take is very helpful. Career panels, go to career panels and as much as you can, almost every conference has them. They're easy to put together. Discount is not that relevant. There's only a couple people's views.

They are, in general, informative because these are people like you who are looking for positions that aren't what every graduate program is training you to do. Internships, career panels and spending time on LinkedIn, the one social media site that we don't highlight in academia we should be because it's really a source of a lot of useful information. I think those are ways to start thinking a little differently about what you're doing.

Wendy: Also- [crosstalk]

Adrienne: Oh, go ahead. Go ahead, Barb.

Wendy: I think also, look at the talking heads on this event today. You can find all of us. You can find us on LinkedIn. I have a website, I'm sure others do. I'm going to say consider yourselves my friends now. APA wants to help you, Adrienne, all of us. You look for contacts, and we are in that group now.

Wendy: Yes, definitely.

Adrienne: Thank you. Go ahead, Wendy.

Wendy: Let me bring up another issue that Barb and I actually have spoken to COGDOP, which is the council for the chairs in psychology programs. We've spoken to them about this issue, because we are so concerned about the training model and how to get it to shift. We ran into a challenge that I think it's related to this stigma idea, it's the biggest force that keeps programs just training students for academic jobs. That is advisors are incentivized to have students who replicate their research interests and who can take their research into the future. That's the incentive for graduate advisors.

I don't mean to make that sound selfish, it's not. It's part of the training model we're dealing with and part of how faculty are evaluated. We all want to train excellent scientists, but we have a commitment to our specific research area, and we get judged on how well we produce students who have similar interests. What faculty forget though, that I have found, this is one of the things that first started me thinking about this whole issue, what faculty forget is that the students you have who go into professional positions, they are broadening your own research, your own understanding of your own research.

I have ended up working with the CDC, with the World Bank, with organizations that have hired my former students, and then they come back to me and they talk to me about what they're doing. I get a different perspective, a new perspective, one that opens up all kinds of new questions and interesting avenues for research that I wouldn't have thought of without these students exploring other areas.

There is a benefit to faculty, to keeping in touch with students who go into professional roles, and to respecting and rewarding them because that is another way in which your own research programs carry on. It's a little different than the way most faculty think about it, but it's been very rewarding for me. I found it really fun. Antonio.

Antonio: I was not sure how this topic was going to come up, but I had hoped that this issue had come up in terms of the incentive structure. In large part, I feel like it's the number one reason, and more so the incentive structure in terms of departmental and program rankings, and all of these sorts of things. I remember being a part of two different Centennial Reviews. One was for our clinical program before I'd switched to quant, and the other one was the larger departmental review.

Maybe several years afterwards-- I used to joke with my former director of clinical training, and at the time I had multiple NIH grants, RO1s and such, and had a program of research that it was competitive enough for me to be recruited back into academia. Yet, he and I would laugh because at Centennial Review, I was considered a failure because I didn't stay in or start off in an academic position on the tenure track.

Wendy, you talked about the internal incentive structure. The external incentive structure is just as problematic and maybe even more so. To the extent that we reimagine what success would look like for individual students, what success would look like in terms of where the students of respective faculty end up, where they end up in relation to the progress and contributions of former students of the department, that has to be--

I was wondering. The reason why I didn't bring it up is because, well, okay, this was the structure in the mid aughts. Is it still the same today? It sounds like it is. That needs to be rethought. If the incentives internal to the department and external to the department even with APA itself, if those were rethought, maybe that's the place for us to start thinking about what this could look like.

Ashley: I have something to add, and it's, I guess, a more pessimistic view on this whole situation as we've seen with NIH, the indirects getting cut. Universities are either freezing hires, I've seen some that are rescinding offers for PhD programs, cohorts are getting smaller, so are the PhD students who are going into these programs, now that faculty have fewer PhD students with whom to work, those students I imagine would even be more pressed into academia because there are so much fewer spots available.

All of these issues are so systemic and they're so long standing. I don't know what is going to be required to change. I don't know what a mass funding cut to universities is going to do to the structure of universities. I don't know what AI is going to do to universities. Lots of people have been questioning the value of a college education for a really long time. We've hit an enrollment cliff demographically in the United States. Enrollments are going to drop, universities are going to continue to lose money, they're going to continue to lay people off and not hire.

What does that even do to graduate education in the future? Ultimately, any of these initiatives that we're asking departments to implement are going to cost money. Are they really going to do that when they're trying to save money as much as possible?

Adrienne: Thoughts.

Wendy: Well, you brought some current reality, into this, Ashley, which I don't think any of us know how this is going to turn out. We're in a state of flux right now. It's not a good one for science, any science right now, or for university education in general. That's the reality. Hard to know whether any changes that are made will stick in the long run, is all I can say to that.

Adrienne: Also, I would imagine the implications for other sectors that may be looking for psychology graduates. It's possible to say there's just so much that's unprecedented happening. There was a question, that maybe is answerable, about data and where people can find out information about what maybe sectors PhD psychology students are going into, where can folks go to, to look for information about where the folks are going and maybe what areas may be looking for psychology PhDs?

Ashley: Very few jobs actually require psychology PhD, so that's a hard one to answer. If you're looking for careers that do require psychology PhD, there's some research scientist positions,

behavioral scientist positions, usually something more on the research side of things. Again, there's plenty of people of aggregated career guides on LinkedIn. I have some as well, if you want to look through job titles.

I think it's better to think about where you want to live first. Think about where you want to live, think about what industries are in the place that you want to live, and then target those because that's going to make you happier in the long run than just moving somewhere where you don't know anyone, in my experience at least, and the experience of other people who I've talked to. Remote work is extremely competitive right now. If you are changing industries, which you are, it's going to be easier to find something that's in-person or hybrid. Work a little bit backwards and think about where you want to live first and then what might be in that area.

Adrienne: Thank you. There's also in the chat a link to the APA workforce, the Center for Workforce data.

Wendy: APS has a similar part of their website identifying positions that are for professional scientists of different kinds. APA and APS are also very good resources, along with LinkedIn in general. Keep going to conferences and attending those career panels and look for recruiters, because that's where you're going to learn a lot of information as well.

Adrienne: There's a question about careers being welcoming and open to students who are from underrepresented groups or identities. Anyone have any thoughts about that?

Antonio: I missed the first part of that, Adrienne.

Adrienne: About different sectors being welcome and open to students from underrepresented groups or identities.

Antonio: I've found that particularly at RTI, and I feel like this is true, at least with some of our competitors, that it's less about welcoming and more about do you have the skill set that would help us survive as an NGO? The spirit of collaboration. I thought I understood what collaboration was when I was in an academic setting. I think there's lowercase c collaboration within academic settings and uppercase c collaboration in places like RTI. I think that ends up being reflected in how are the diversity of RTI's leadership more generally on the business side as well as on the scientific side.

There's not a lot of time and place for siloing and institutional concerns about diversity, equity, and inclusion. I sit here and can say that it's part of the fabric of this organization because it has to be. Are there certain smaller things that come up? Sure, but at an institutional level, I think many places, and that should be one of the things that you look in and ask about as you're looking at physicians in places and industry, is those are valid questions. Juxtapose the answers that you get against what you're able to see objectively from the outside looking in.

Make sure that those values that folks tell you in those particular organizations actually do reflect what the reality is on the ground. I could say with pretty good certainty, for the most part RTI is one of those. Wins a lot of industry awards nationally and inside the triangle to those effects.

Adrienne: Thank you. Believe it or not, we have six minutes left. To end things, I'll maybe ask each of you if there's something that you want to leave with the audience, but right before I do that, there were also a couple questions about mid-career changes from academia. Anyone want to comment on that?

Wendy: I certainly did that. It can be a difficult thing to do. You're in academia, you're going full guns, whatever, and then you make a decision to do something else. I really want to say that if you have a passion and you find something of interest, an area, a nonprofit, which is where I wound up, of course, if you find something like that, there is a community out there. It isn't just a few of us on here. You will find a community of other scholars, of other people that are doing these kind of things.

You will disappoint people. You won't go to APA and it'll be the same anymore. It'll be a little different. You'll look at different sessions to go to and your advisor might be a little angry with you and also your colleagues who you used to do research with. All these things have been true for me. I know for others, this isn't just n equals one here. I read about this. It's a difficult thing.

I really have to go back to what Antonio was saying earlier. You've got to gird yourself and just say, "This is what I really want to do, and I only have one life, is at least as far as I know, and so I better do it now and stand up for myself." I thought that was a great message, Antonio.

Antonio: Thank you. For me, I also would add stay checked in with yourself. What I valued personally and professionally in 1998 may not have been the same in 2003 or 2007. Stay checked in with yourself and say, "Is the environment that I'm in, does that align with the way that my personal and/or professional values have stayed the same or might have changed over time?"

For me, and I give an example of that, one of the reasons why I didn't think I would be cut out for an academic setting was because the teaching experiences that I had as a graduate student, particularly with teaching mid-stage quant courses left me wanting in a little bit. For me, it was a matter of how much did I want to teach versus how much did I want to consult? If you stripped away what's common across the environments, grants, publications, those sorts of, what I call, typical academic currency. I wanted to lean more on the consulting side than I did the teaching side.

Well, that changed over time where I had given guest lectures over at Chapel Hill and graduate students in quant got an interest in some of my work. I put together a mini-course on missing data, and I got the teaching bug a little bit that way, and thinking about coming over at the associate level, which was floated to me at the time. Mind you, this is 2008. For those of you that remember what things were like in 2008, moving to hard money sounded very good in 2008.

There were a lot of different things that went into the transition in versus out. I saw someone had a question and offered to continue offline with them. The message for me is stay checked in with yourself in terms of how are my professional and personal values changing over time? Is the environment around me in the position that I'm in, is that also changing? It's always stay checked in about fit.

Adrienne: Thank you. We have less than a minute. Let me ask, Ashley, Wendy last thoughts?

Wendy: I'll let Ashley go for it.

Ashley: Oh, what haven't I said already? Echoing what other people have said, your life, your career. This is your life. This is your career. It's in your own hands. Your university is not going to help you, probably. You really have to go out and figure it out on your own. Like I said, I've been in this space for three years and I have not seen anything improve on the university level. I'm more than happy to help anyone who's looking for help changing jobs. There's a lot of other people on

LinkedIn as well, so you definitely don't have to do this on your own, but it's probably not going to happen in academia, unfortunately.

Wendy: Let me recommend again that there are things that you can do as a graduate student to broaden your perspective. Personal interest inventory shared with your graduate advisor is a really good place to start. I study habits. I'm interested in specific behaviors. That's a behavior that can change the discussion that you and your advisor are having.

Looking for internships in your local area. RTI is a particularly fruitful place, but most universities have research arms associated with them of some kind. Figure out what's available, or look more broadly at the national level of what's available in internships while you're a graduate student, and go to career panels. Those three things, I think, and join LinkedIn. I'll add four because I think Ashley's absolutely right. Those four things as a graduate student are going to prepare you to think broadly about your career when you finally get to the point of looking for a job. Those are specific things that you can do that will change your experience.

Adrienne: Thank you, Wendy. That's a wonderful last word for the audience. We are at time. I want to thank you each so much for the time, for the insights that you provided, and the information. There will be some resources that we'll follow. I hope that everyone's enjoyed the discussion today, and know that you now have four friends, five including me. Everyone's on LinkedIn and Barb mentioned her website.

You should all receive a one-minute survey to complete after today's broadcast. We really value the feedback. We also want to hear from you about topics that you'd like for us to cover. You can email us at science@apa.org with any recommendations, and just to remind us to subscribe to *Science Spotlight*. We hope to see you at future events. Thank you so much for sharing your feedback on the survey. Have a wonderful day. Thank you all, and hope to continue offline. Have a wonderful day.

Wendy Wood, PhD: Thank you.

Antonio Morgan-Lopez, PhD: Thanks