McKay, D., Abramowitz, J., Newman, M. G., Buckner, J. D., Elhai, J. D., Coles, M., Smits, J. A. J., Timpano, K. R., Kashdan, T. C. L., Cougle, J. R., Olatunji, B. O., & Comer, J. S. (2019). What mentors want in doctoral applicants to research intensive labs Convergent and divergent perspectives. The Behavior Therapist, 42, 268-273.

RESEARCH TRAINING

What Mentors Want in Doctoral Applicants to Research Intensive Labs: Convergent and Divergent Perspectives

Dean McKay, Fordham University

Jonathan Abramowitz, UNC-Chapel Hill Michelle G. Newman, Pennsylvania State University Julia D. Buckner, Louisiana State University Jon D. Elhai, University of Toledo Meredith Coles, SUNY-Binghamton Jasper A. J. Smits, University of Texas at Austin Kiara R. Timpano, University of Miami Todd B. Kashdan, George Mason University Christal L. Badour, University of Kentucky Jesse R. Cougle, Florida State University Bunmi O. Olatunji, Vanderbilt University

Jonathan S. Comer, Florida International University

IMAGINE YOU ARE MEETING with your psychology professor while attending a traditional college or university. You've been accumulating research experience in your advisor's lab. You might even serve as her lab manager. As such, you seek advice on how you can best improve your credentials to become a more competitive candidate for graduate school in a research-focused doctoral clinical psychology program. Unbeknownst to you, your advisor may struggle with how to best answer your questions, which may include: What skills and experiences should be developed? Do you need additional clinical skills and experiences? Should you pursue a short-term passion now, even if it does not add to your psychology credentials? Will you have a frank conversation about the balance between pragmatic realities (i.e., earning enough to pay rent and sustenance) and necessary objectives (i.e., exposure to preprofessional, but often unpaid or poorly paid, research experiences)? This is just a sampling of topics running through your

advisor's mind as an answer is developed during your meeting. There are some obvious must-haves for successful applicants high GPA, solid GRE scores, and experience with research during the undergraduate years. But how else can you distinguish yourself from the pack? Your dedicated advisor will want to provide you with the best possible recommendations, but the reality is that these suggestions may not match up well with what your prospective mentors seek in incoming lab members.

The impetus for this article came from a simple question posed to the lead author, coming from an extremely promising student who was torn between two options: pursue a time-limited work experience that was a passion (teach in a different country for 1 year, and earn a good salary) or stay in the United States and garner research experience in a different lab that would complement work she completed during her undergraduate tenure. To fully address this student's inquiry, the lead author put the following two-part question to the rest of the authors, most/all of whom train their students using a clinical scientist framework (i.e., a good deal of the students' graduate school experiences will concern training in research methodologies, conducting independent research, and writing up empirical findings for publication in peerreviewed scientific journals):

While we all, no doubt, have lots of applicants with impressive psychology credentials, are there any things that you each look for in applicants that make them "pop" to the top of the heap? In recent years, have there been particularly novel backgrounds in applied experiences that you have valued, or that incoming students have had?

The responses to this query are summarized in this article. In this regard, the nature of the responses reflects the specific skills and background of interest to a unique category of doctoral-level mentors, those who primarily train clinical scientists (i.e., applicants interested in pursuing careers in which research, not therapy, is the primary focus). As you will see, there are several prominent areas of convergence among the respondents, and a smaller set of divergent perspectives. What was remarkable was that among the authors, most of the areas each mentor sought in prospective graduate students overlapped.

Psychology-Relevant Convergence

Matching Content Knowledge

Given the emphasis on research in the graduate training conducted by the authors, most (but not all) authors emphasized that experience in the author's area of research was a significant plus. As each of the authors receives dozens of inquiries about joining their lab each academic year, match with the prospective mentor's program of research was cited most frequently as an essential way to demonstrate that commitment. This level of commitment signifies that prospective students are able to think about the topic more deeply through their direct experience, and potentially craft novel investigations that would be part of their doctoral training. Having previous experience is also thought to indicate that prospective applicants have "fire in the belly" about the area of research for the lab to which they are applying. This focus on a particular research area may also emerge from time spent sampling content in different areas of clinical psychology in

order to gain a clear understanding of where your passions lie. A demonstration of this enthusiasm is evident through an ability to really think about the research area, generate ideas about the limits of the current research, and articulate critiques of existing lines of inquiry. One of us went as far as to note that the prospective applicant should really have a deeper appreciation of the empirical work, and not just a familiarity with review articles or meta-analyses. In short, intellectual curiosity about the topic, and not just rote familiarity, will be more likely to impress your prospective mentor. Behavioral evidence of this knowledge and intellectual curiosity is ideal, and can range from a comprehensive review paper written for a class to authorship on conference presentations or manuscripts, but can also be demonstrated through thoughtful conversations on the topic.

There are a wide range of views on what is required on a CV but most of the authors rely on quality over quantity when it comes to presentations and manuscripts. One of the authors expressed outright skepticism of applicants who have a large number of publications given that it is rare for someone who has not yet launched their career to contribute significantly to numerous articles. Quality research can also be a helpful part of your pre-graduate school preparation for developing predoctoral research grants. In short, concentrate on quality and possibly a couple of papers over sheer numbers. Think, "Can I engage in a meaningful conversation with the prospective mentor about a research topic that we both find interesting and important?"

Personal Familiarity

Now that you've identified a list of prospective mentors working in your area of interest, you decide to make contact. In doing so, you would be best advised to have read recent (especially past 5 years) manuscripts in peer-reviewed journals concerning the research conducted by the prospective mentors, and not just know the content area that they publish about or list on their website. You need not stroke our egos and study every written word published by the prospective mentor, but you should be able to demonstrate that you clearly read the research recently conducted in the lab. More generally, you should be armed with questions or comments about the articles that might demonstrate that you have thought deeply about the mentor's research. By doing this, you'll also be able to hit the ground running when you are finally accepted and start in someone's lab. You'll be familiar with the methods and measures germane to the area of work in which you'll be engaged with that mentor, and will have the knowledge to discuss these approaches competently.

Stay Focused

Suppose you find that a mentor is in a department where there are other faculty members doing work you find interesting. It may be tempting to enumerate several people in your personal statement whose interests line up with yours. Caution is in order when doing this. Although there may indeed be one or maybe two faculty members whose areas are closely related, listing too many signals a lack of focus, which is likely a deal breaker. If you do list multiple faculty members whose labs are of interest, be clear about who is the primary person you want to work with and also provide a rationale for why you are considering multiple faculty members in the program. It is strongly suggested that you contact them to ask whether they are taking a graduate student in a particular year. However, before doing so, check their web pages, as many programs these days post this information and it doesn't win you any points to be asking when the information is already posted on their website. You want to emphasize a person that you want to work with and who is looking for someone to join their research laboratory.

Statistics Is Essential

Another point of convergence was the emphasis on statistical knowledge. Yes, dear reader, if you are a prospective applicant to any of the labs represented by this author list, your knowledge of statistics is going to be an important metric of whether you get an invitation to interview and/or acceptance offer. One of us even stated that the grade earned in statistics is the only one they looked at when evaluating a prospective applicant's transcript. Another of us is especially interested in prospective students who are so jazzed about data that the acquisition of a new dataset may cause some loss of sleep in anticipation of conducting analyses, and will take their turn when it comes to the less exciting aspects of research such as data entry. This perspective extends to an emphasis on a general intellectual curiosity about scientific discovery overall, and learning in the broadest sense. The emphasis on statistical knowledge also means you are going to need to know the difference between μ , τ , and δ , and not just how these Greek letters refer to sororities or fraternities. Familiarity with

some statistics software is a particular plus. Knowledge of advanced data analytic approaches, and how to conduct these types of analyses, is not required but will put you in the upper echelon of applicants. Just know that if you document knowledge with statistics, be able to answer questions about them in an interview.

Nonpsychology Convergence

Communications Skills

Now that you see it in print, well, it seems obvious. Being research focused is great and necessary in seeking researchoriented careers, but it also means a good deal of human interaction employing the skills of a clinical scientist. An essential ingredient in your future success as a clinical psychological scientist is being able to effectively articulate your ideas, both orally and in writing, and to be able to work well with others. Indeed, team science is becoming increasingly important and demonstrating you can work effectively with others therefore is key to future success. Additionally, good communication skills will make your time in graduate school far more enjoyable. There are several "products" that can demonstrate this skill. One way is through your academic training, which might include a minor or dualmajor in English or communications. You can show off your communications acumen in your personal statement, as well as in your initial exchanges with a prospective mentor. A research paper submitted with your application is another opportunity to highlight your communications brio. You also can demonstrate both oral and written skills through presentation of research at national conferences, and should the opportunity present itself, through lead-authorship on a publication. This last point segues to the next topic.

Publications

Increasingly, competitive applicants have one or more publications that have appeared in peer-reviewed professional journals. It has been our observation that for many of these publications the prospective applicant is somewhere in the middle of the author list. As mentioned above, we recognize that the applicant is benefiting from the generosity of the lab mentor. This is not to diminish the contribution of the applicant. It instead is a reflection that the applicant was a contributor in the lab, but may not have contributed significantly to the development of the research idea or the writing. Many of us have met with applicants who were hard pressed to describe the research on which they were coauthors. On the other hand, there are some applicants who have contributed significantly as a co-author (i.e., author in the middle of the author list) and have a deep understanding of the paper on which they contributed. Similarly, some applicants even developed research projects and had the opportunity to write the manuscript and publish it as a first-author work. It is difficult to overstate how clearly these latter two scenarios demonstrate good communication skills, as well as a commitment to the topic area, not to mention skill in conceiving and executing a project.

Small Colleges and Competitive Applications

Many of us have had applicants successfully enter our labs after attending small liberal arts colleges that did not have many opportunities for conducting research. There are several ways applicants can address this gap in their training: (a) seek out research opportunities at larger, nearby universities or research institutions-you don't necessarily need to be a student at a particular university/research institute to volunteer or work as a research assistant; and (b) as we stressed above, postundergraduate experience is often crucial. This means finding places to gain research experience after your undergraduate experience, especially if you attended an institution that did not have a wealth of research opportunities available while working on your baccalaureate degree. Remember, if your goal is to enter a research-oriented doctoral program, gaining the necessary research experience either at your undergraduate institution, at a nearby institution while you're in school, and/or following your undergraduate education will help prepare you for the rigors of a research-oriented graduate program.

Time Between Undergraduate and Graduate School

Formulating the long-term plan to attend a doctoral program means cultivating experiences after completing a baccalaureate degree. All of the mentors on this article often prioritize applicants who have a year or more of postbaccalaureate real-world experiences. To be fair, there are surely plenty of applicants who complete their undergraduate work who possess the maturity and sophistication to go directly to doctoral study. But recall the point above that many of the research-oriented doctoral labs seek incoming students who have

familiarity with the methods and measures of that area of expertise. It is unlikely that an applicant coming straight out of their undergraduate will have that background. Maturity is also demonstrated through real-life experiences, which can only be gained through time and effort. Further, doctoral training can be demanding. The additional experience gained in the field will help make your graduate experience less stressful and, thus, more enjoyable. Finally, maturity is challenging to assess, and the stakes for mentors in selecting incoming lab members are quite high; accordingly, postbaccalaureate research experiences can go a long way in assuring potential mentors of your commitment to graduate training in psychological research.

The Importance of Diverse Experiences

One of us has lamented the procession of applicants who have secured interviews for doctoral study who are "psychology automatons." These are extremely bright applicants who are eager to cite research studies in answering questions, even going so far as to steer any questions that are not directly research-related back to the published literature, but who seemingly lack any other experiences. Remember that your career as a psychologist will involve contact with research participants, clients, and community partners who are not familiar with, or interested in, psychology concepts. They need to relate to you on a human level, where a wide range of other activities, cultures, and experiences are more likely to foster the essential commonfactor connection that will serve to promote change. Accordingly, to succeed in graduate school you'll need to live in the world and not just in the lab. Be prepared to point out that you have other interests outside psychology.

This point is so central that committing to other interests is a valuable part of an applicant's dossier. Recall that this article came about because a promising student faced a quandary-gain more research experience or pursue a short-term line of work that was a passion. The result from posing the question that sparked the rich discussion leading to this article was that it was recommended to the student that she pursue the work teaching overseas. Gaining unique and interesting experiences are usually not held against a promising applicant who has also acquired the researchoriented skills discussed above. In fact, such experiences contribute to personal and professional development. In short,

being balanced, with knowledge outside psychology as well as within the desired area of study, can broaden your background, foster an appreciation for diverging viewpoints, and may serve to enrich your knowledge of culturally diverse groups and perspectives. Mentors are seeking applicants who bring unique experiences to the lab, and diverse cultural experiences enhance the research conducted, foster innovative thinking among lab members, and are necessary for success in the profession, generally considering the wide range of perspectives that will be encountered in other research and treatment settings.

Diverging Areas

There is a saying that goes something like this: If you ask two psychologists for their opinions, you will get three answers. In this way, it was inevitable that inquiring of this group would lead to some areas that were not necessarily embraced by all.

Letters of Recommendation

Obviously, you'll seek out letters from professors and researchers who can comment on your skills and abilities. The quality of the letter is outside your control. However, what a few of us noted was that the letters should not be "cookie-cutter," but instead reflect your unique qualities, your excitement about the topic, and how you stand out from the broader applicant pool. On the other hand, letters of recommendation are notoriously unreliable, and so although an important point of consideration by some, they are not necessarily emphasized in the evaluation of an applicant's materials by all mentors.

No Prior Experience Necessary

We know this will seem confusing, but a couple of us noted that there have been occasions when we have accepted into our labs applicants who had no prior experience in the areas of our work. For this atypical route to work, the areas emphasized above must be truly superlative, particularly research and statistical acumen in other research areas.

Intangibles

There is a frank reality here: matching with a lab is kind of like matching with a partner. Labs have personalities, and you are seeking to join this group, most concretely for a period of around 6 years, but really your relationship with this group will be the longest professional relationship of your career. One of us emphasizes to their students when meeting with prospective applicants to watch for applicants that may be difficult to work with. Other labs are very hierarchical in nature, where contact with the mentor may be less frequent. Still others have a very formal structure. Knowing which will work for you is an essential part of seeking a lab, and mentors will also be on the watch for how you might best match with the lab.

Conclusions

Finding the right mentor and preparing for application to a research-oriented clinical psychology doctoral training lab requires the accumulation of a specific set of skills and knowledge. The areas highlighted in this article represent the perspectives of a small but diverse group of researchers all engaged in research on anxiety and related conditions, and as a result might reflect biases common to that subspecialty within clinical psychological science. We recognize that the perspective offered in this article might present a daunting list of qualifications necessary to gain entry to graduate school. Unfortunately, the reality is that there are a lot of applicants and a small number of spots in each of our respective programs, and this is true for the majority of research-focused doctoral programs. On this note, we want to provide an additional word of encouragement. Each of us has had students apply to our labs, or go through the application cycle, more than once and land in a competitive doctoral program after two or even three tries. If this is something you want, do not despair if it doesn't work out the first pass. You will likely gain valuable lessons in the process and should seek guidance from a trusted mentor on how to become a more competitive applicant when the time comes to reapply.

Prospective applicants seeking training in other areas of specialization (and those interested in pursuing careers more focused on conducting clinical services such as assessment and/or psychotherapy) are encouraged to ask their advisors whether the suggestions highlighted here are applicable to other disciplines in psychology. It is our collective perspective that our recommendations for how to best prepare a competitive application to a research-oriented lab will generalize to labs conducting research focused on other specializations. Further, getting into researchoriented doctoral training programs in clinical psychology is an honor and privilege, and while at the outset 6 years will seem like a long time, it will pass quickly. Being positioned to maximize the learning experiences from the diverse faculty at the program as well as from your mentor sets the stage for a successful career. While we are confident the perspectives offered here are valid for other areas of graduate study, we would nonetheless recommend applicants view the perspectives outlined here as a starting point, with the understanding that ultimately every applicant possesses unique characteristics that may make them attractive to prospective mentors. And with this, we also wish you the absolute best of luck!

. . .

No conflicts of interest or funding to disclose.

Correspondence to Dean McKay, Ph.D., Department of Psychology, Fordham University, Bronx, NY 10458; mckay@fordham.edu

Postdoctoral Clinical Research Fellowship



The VISN 17 Center of Excellence for Research on Returning War Veterans (CoE) at the Central Texas VA Medical Center is accepting applications for its two-year Postdoctoral Fellowship specializing in the assessment and treatment of PTSD, TBI, depression, substance use and other mental health problems afflicting returning war Veterans. Our Fellows are afforded a competitive salary and benefits package as well as a wide range of opportunities involving research, clinical work, and grant writing.

The CoE is one of the largest research facilities in the VA, featuring clinical space, observation rooms, wet labs, EEG neurofeedback, a transcranial magnetic stimulation suite, and a 3T MRI for neuroimaging. We also have close collaborations with Fort Hood, Texas A&M College of Medicine, Baylor University, the University of Texas, and other VA hospitals.

For more information about this position, please contact the Dr. Laura Zambrano-Vazquez at laura.zambrano-vazquez@va.gov

