Training Students at the Intersection of Divisions 33 and 40: What Should Training Priorities Be?

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As an assistant professor in an APA-approved clinical psychology program, I spend a lot of time thinking about the training needs of my students. I run a laboratory focused on the neuropsychology of intellectual and developmental disabilities (I/DD). Thus, my research and clinical interests fall at the intersection of Divisions 33 and 40 (clinical neuropsychology). Like others in these divisions, I care deeply about the welfare of children and adults with I/DD. Thus, I am invested in ensuring that the next generation of psychologists are equipped with the skills necessary to advance research and clinical care for this important group and their families.

However, I am not so naïve to think that I could write a column like this without input from colleagues. Rather, as a junior faculty member who has been involved with student training for 38 months (and counting), I thought it best to seek the advice of my mentors and more established colleagues. Thus, I sent 26 emails to colleagues whose research and/or clinical work aligns with Division 33 and/or 40 and asked the following:

What do you consider to be the most important skills for the next generation of Division 33 (or 40) psychologists? Stated another way, what do you believe should be the key training goals for doctoral students and postdocs whose studies focus on I/DD (or neuropsychology)?

I was pleased to receive 18 responses (a response rate, from my non-random sample, of close to 70%!). I then solicited the assistance of my talented first year doctoral student, Catherine Stephan, to complete a thematic analysis of the responses. In what I follows, I summarize a few of the themes that emerged and some practical advice that was provided for trainees.

Theme 1: Diversify training in preparation for interdisciplinary research and clinical care

Rather than narrowly focus training on one aspect of psychology (or psychology alone, for that matter), many respondents noted the importance of receiving a broad foundation in psychological principles and a working knowledge of related disciplines most relevant to I/DD. For example, Bruce Pennington, Emeritus Professor of Psychology at the University of Denver and my doctoral mentor, states that he believes that it is most important to prepare students for “interdisciplinary research and clinical work because that is where these fields are headed.” Thus, he argues that future psychologists “need strong training in developmental and adult cognitive neuroscience and some training in genetics, in addition to required training in clinical neuropsychology and developmental disabilities.” Consistent with this perspective, Gael Orsmond, Division 33 President and Director of the PhD in Rehabilitation Sciences Program at Boston University, states that she believes “that the ability to collaborate with researchers from other disciplines is very important. At a basic level, trainees need to (1) have basic knowledge of the values and perspectives of researchers trained in other fields, and (2) be able to communicate the value of their research and the importance of their own perspectives to those in other fields.”

The importance of collaboration was also noted by Frances Conners, Professor and Chair of Psychology at the University of Alabama, who stated that “the ability to reach out to others who have complementary expertise, and work effectively with them” is one of the most important skills for the next generation of psychologists with interests in I/DD. Similarly, Leonard Abbeduto, Director of the UC Davis Mind Institute states “I think the graduate students and postdocs of today must strive for interdisciplinarity much earlier in their careers than was true for my generation. It is impossible to study behavioral aspects of intellectual disabilities without having some knowledge of developmental psychopathology to understand comorbidities, genetics to understand etiological factors, and neuroscience to understand the brain bases of behavior.”
Echoing these sentiments, **Douglas Chute**, Professor of Psychology at Drexel University states “Division 40, Neuropsychology, is now one of the largest divisions of APA and it embraces many interactions with colleagues in ... sub-specialties within psychology. Neuropsychologists of the future need to be suitably prepared for at least some of these enriching interactions. Multi-subdisciplinary interactions will be the collaborative cornerstones of success in academia, research and clinical practice.”

Moreover, some of our respondents argued that interdisciplinary experience is important not only for moving research forward, but also for augmenting employability. For example, **Mary Spiers**, an Emeritus Professor of Psychology at Drexel states that interdisciplinary training “has opened the way for many more career opportunities as neuropsychologists’ contributions can be seen in cross-disciplinary settings. It's important that these efforts continue in training settings to prepare graduates for more specialized careers if they so desire.”

In reviewing the 18 responses to this query, 10 made mention of the importance of students embracing interdisciplinary approaches and receiving a diversity of training experiences within psychology. With regard to the latter, training areas within psychology, *developmental psychology*, and in particular, the importance of fostering a lifespan perspective on I/DD, was mentioned most. This is reviewed next.

**Theme 2. Foster skills to understand I/DD across the lifespan**

As the late, esteemed developmental neuroscientist, Annette Karmiloff-Smith, so clearly stated in the title of a foreword to a special issue of the *American Journal on Intellectual and Developmental Disabilities* in 2012, “Development is not about studying children...” Karmiloff-Smith was a champion for the importance of understanding how developmental disorders unfold over time using longitudinal methods. While much of Karmiloff-Smith’s work involved the longitudinal study of infants and children, her commitment to lifespan research was clear through her leadership in the London Down Syndrome Consortium, a research consortium committed to understanding the link between Down syndrome and Alzheimer’s disease through lifespan studies.

Given that life expectancies are increasing for those with I/DD (Bittles et al., 2002), the importance of taking a lifespan approach is certainly on the minds of those who care for individuals with I/DD. Indeed, five respondents, all practicing psychologists, cited the importance of lifespan considerations for the care of those with I/DD. For example, **Jennifer Gallo**, faculty member in the Department of Neurology at Drexel University argues that “trainees should focus their attention on true lifespan questions and issues in their scientific and clinical training, and commit to moving this subset of our field forward by developing skills in assessment, diagnosis, and prognosis relevant to the unique needs of this population.” Similarly, **Reem Tarazi**, faculty member in the Department of Psychiatry at Drexel, states “as many pediatric patients now live into adulthood, those entering the field of "adult" neuropsychology should be receiving exposure to and training in how pediatric conditions present across the lifespan and should be ready to serve these patients as they transition into adulthood. Our ability to serve patients better in the transition process from childhood to adulthood is essential.”

I wholeheartedly concur with these sentiments. I also suspect that one of the reasons lifespan approaches to I/DD was on the minds of our respondents is that our current health care system and training models are not well-aligned with a lifespan approach to service provision. For example, I received my PhD from the University of Denver’s Clinical Child Psychology program and completed my predoctoral internship at the Children’s Hospital of Colorado. Thus, my training provided me with a strong foundation in research methods and clinical care for those under the age of 18. I feel less equipped to address the needs of adults with I/DD. Moreover, I am at a loss for where to encourage my students with lifespan interests in Down syndrome to get clinical training experiences with adults with I/DD in the greater Philadelphia area. This is clearly a complex
issue involving multiple systems in which those with I/DD, their families, and care providers are embedded. This leads us into the next theme from our respondents – that is, taking a systems approach to understanding the needs of those with I/DD.

Theme 3. Take a systems approach to research and clinical care for those with I/DD
Just as Urie Bronfenbrenner’s seminal writings from the 1970s (Bronfenbrenner, 1979) posited that a child should not be considered in a vacuum but rather as an individual embedded within a family, community, and larger culture, several of the respondents cited the importance of understanding individuals with I/DD within the context of their families and broader society. For example, Anna Esbensen, faculty member in the Division of Developmental and Behavioral Pediatrics at Cincinnati Children's Hospital, notes that in addition to gaining skills to evaluate and treat individuals with I/DD themselves, it will be important for trainees to develop “therapeutic skills for supporting families of children with special needs (i.e., knowledge of risk factors for parental well-being; multiple family stressors...).”

Susan Hepburn, professor of Human Development and Family Studies at Colorado State University states “I also believe it is important for students to consider the context surrounding persons with disabilities, so coursework and/or experiential learning opportunities that illuminate different family perspectives, educator experiences and private provider perspectives are all important.” She also states “Cultural sensitivity is critical, as understanding how intellectual disabilities are conceptualized in different cultures provides an important starting point for any kind of clinical or research interaction.” Similarly, Terry Katz, faculty member in Developmental Pediatrics at the University of Colorado School of Medicine, stated that she believes it is important for students to develop “an understanding of systems of care and how professionals can work on the local, state, and federal level to impact change for individuals with developmental disabilities.” She also mentioned “the importance of understanding and incorporating self-advocates' input into research, policy, and clinical programs.” Central to efforts to integrate the desires of those with I/DD into clinical care and legislative policy is the need to recognize the inherent strengths possessed by those with I/DD, the topic of our next section.

Theme 4. Recognize and harness the strengths of those with I/DD in research and clinical care
I think that Frances Conners put it best when she stated that she believes that the next generation of psychologists should have “a deep commitment to understanding the challenges and blessings of IDD/ASD.” As a developmental neuropsychologist trained within a classic medical model, I find that in my research papers and clinical reports, that I write a good deal about “impairments” and “weaknesses,” as these terms are key to securing services for those with I/DD. However, in my experiences interacting with those with I/DD and their families, I am acutely aware of the strengths of these individuals and the great joy I receive through my interactions with them. Indeed, I can say for certain that my life is much richer because of the prominent role those with I/DD play in it.

Consistent with my experience, others emphasize the strengths of those with I/DD and encourage the next generation of psychologists to focus research on these strengths. For example, Sigan Hartley, an associate professor of Human Development and Family Studies at the University of Wisconsin, states that it will be important for trainees to understand and promote “resiliency and strength in addition to risk and challenge within the field of IDD.” Similarly, Madison Berl, a faculty member in the Departments of Psychiatry and Behavioral Sciences at George Washington University states that psychologists should recognize that while many with I/DD may fall “within the bottom 1-2 % of functioning” according to psychometric testing “there is great variability within” this group. Moreover, those with I/DD “have other strengths to draw on” that impact daily life. She states “the next generation [of psychologists] I hope will hone our ability to refine our evaluation and treatment tools to get at these more precisely.”
Having discussed four central themes that capture many respondents’ beliefs about important training goals for the next generation of psychologists serving those with I/DD, I end this column with specific advice shared by our respondents.

Practical Advice for Trainees to Maximize Success in the Academy and Clinic

In the research arena, Leonard Abbeduto, Frances Conners, and Sharon Krinsky-McHale noted the great importance of trainees learning how to write fundable grant applications. For example, Sharon Krinsky-McHale, a faculty member at the Institute for Basic Research in Developmental Disabilities, noted that when she was a trainee, graduate programs provided little direct training in key tasks that are crucial for success in academia. She stated “there are no courses on how to obtain grant funding [or] how to critique a paper for a journal review. This is all learned ‘on the job’.” She noted that these activities represent a large part of our academic lives and she believes that there should be some direct training in graduate programs in these areas.

Tying research and clinical training together, Diana Robins, Professor at the AJ Drexel Autism Institute, noted the importance of helping students to understand the “2-way street” between research and clinical skills. She stated that she likes “helping students see how research informs clinical practice, and also how training/involvement in clinical work helps generate research questions.” Within the clinical arena, several respondents highlighted the importance of trainees being adaptable when working with those with I/DD. For example, Lauren Kenworthy, Director of the Center for Autism Spectrum Disorders at Children’s National Medical Center, notes that many trainees lack “hands on experience assessing children with poor behavior regulation, limited language, and/or other physical and mental limitations that prevent them from participating in a standardized assessment. Students need to see an experienced clinician flexibly problem solve in response to a child with fewer abilities than expected to respond to standardized materials. That could include getting under the testing table in order to engage the child [or] switching to a different assessment tool in the middle of an evaluation... etc.”

Two faculty members at Kennedy Krieger institute, Lisa Jacobsen and T. Andrew Zabel, highlighted other practical clinical skills that are crucial for trainees. For example, Lisa Jacobsen noted that trainees gaining “knowledge of school processes and special education procedures is also critical.” She explained that trainees should be asking “what are ‘do-able’ recs that are fair to ask? What can we reasonably expect from schools in terms of interventions within a regular classroom setting?” T. Andrew Zabel noted that trainees should develop their skills in integrating “knowledge of diversity issues in assessment, research, treatment, and consultation...” Lastly, he noted that it is important that trainees maintain “effective and productive relationships with patients, families, caregivers, colleagues, team members, and communities across the complex interprofessional settings involved in practice.”

I’d like to close by focusing on this last practical suggestion and underscore the importance of relationship building to training and professional development. Clearly, I could not have written this column without the assistance of my generous colleagues. I also couldn’t have gotten to where I am professionally without the mentors who have trained me and who continue to advise me (now many years after I have received my PhD), the families who entrusted their child’s clinical care to me (particularly when I was a trainee), or those families who took a risk and participated in my research studies (which, by the way, have included doing unsedated neuroimaging with small children with I/DD; this clearly required families to take a leap of faith when they agreed to participate!). Thus, I believe that relationship building is crucial for the next generation of psychologists who will focus their research and clinical care on serving the needs of individuals with I/DD and their families across the lifespan. So, with this, I’d like to end by thanking my colleagues for contributing to this piece and express my appreciation for our continued enriching professional relationships.
REFERENCES

