

Survey of Internship Training in Rehabilitation Psychology: 2019

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Purpose/Objective: The purpose of this study was to obtain information about psychology internship training programs involving work with individuals with disabilities receiving rehabilitation services in the United States and Canada. **Research Method/Design:** The Association of Psychology Postdoctoral and Internship Centers (APPIC) directory was used to identify 426 training programs that listed supervised experience in rehabilitation psychology, and these programs were sent a survey assessing characteristics of their internship. There were 227 program directors who responded (53%), and 114 of them reported that their internship involved working with disabled persons receiving rehabilitation services. **Results:** The majority of training programs were at a hospital or subacute rehabilitation facility (Veteran Affairs and non-Veteran Affairs), and 41% of the programs were housed within an independent psychology department. Sixteen programs (15%) had faculty who were board certified by the American Board of Rehabilitation Psychology (ABRP). **Conclusions/Implications:** Interns were exposed to a broad range of conditions, such as brain injuries, orthopedic, and spinal cord injuries, as well as comorbid psychiatric and substance use disorders. Interns were also provided various levels of training in ABRP competencies across programs. Opportunities to improve training with rehabilitation populations at the internship level include increasing didactics related to rehabilitation psychology and increasing opportunities to work with ABRP faculty.

Impact and Implications

This article provides detailed information about predoctoral internship programs that include rehabilitation psychology training. It highlights helpful information such as number of interns and salary, in addition to program structure and demographics such as number of faculty, population served, and rehabilitation psychology competencies taught. The information can provide doctoral students in rehabilitation psychology a roadmap should they desire to concentrate their training in rehabilitation psychology. The article also highlights recommendations to improve the education and training of programs that provide rehabilitation services.

Keywords: rehabilitation, psychology, internship, training

Introduction

According to the Division 22 of the American Psychological Association (APA), rehabilitation psychology is a “specialty area within psychology that focuses on the study and application

of psychological knowledge and skills on behalf of individuals with disabilities and chronic health conditions to maximize health and welfare, independence and choice, functional abilities, and social role participation, across the life span.” The American Board of Rehabilitation Psychology (ABRP), established within the American Board of Professional Psychology (ABPP) in 1995, is the governing body that certifies competencies in the practice of rehabilitation psychology. In 2015, the APA’s Commission for the Recognition of Specialties, Subspecialties, and Proficiencies in Professional Psychology (CRSSPPP) recognized rehabilitation psychology as one of the specialties in professional psychology.

CRSSPPP defines a specialty in professional psychology practice as a “distinctive configuration of competent services for specified problems and populations . . . [that] requires advanced knowledge and skills acquired through an organized sequence of education and

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training in addition to the broad and general education and core scientific and professional foundations acquired through an APA or CPA [Canadian Psychological Association] accredited doctoral program” (American Psychological Association, 2012). CRSSPPP identifies four stages to the training sequence to achieve specialty practice competencies: doctoral education, internship, postdoctoral training, and postlicensure learning opportunities (American Psychological Association, 2012). Education and training programs are tasked with the development and maintenance of programs that provide organized, comprehensive, and pragmatic models at each stage of the training sequence.

Internship training is one of the earlier clinical opportunities to begin developing competency in rehabilitation psychology. APA identifies internship year as “the capstone clinical experience of a doctoral student’s graduate program and serves a gatekeeper function into the profession” (American Psychological Association, 2010). Indeed, Rodolfa and Schaffer (2019) noted “a quality psychology internship is critical to the development of competency in psychology students who are able to use this training experience to integrate knowledge into practice.” Although specialty preparation is typically obtained at the postdoctoral level (American Board of Professional Psychology American Board of Rehabilitation Psychology, 2018), internship year presents an opportunity to educate about and foster interest in specializing in rehabilitation psychology. In fact, a predoctoral internship with sufficient rehabilitation psychology training may be used to satisfy one of the 3-year experience eligibility requirements for board certification. The ABRP Board defines sufficient training as “appropriate education, training, and supervised clinical experience in rehabilitation psychology” (American Board of Professional Psychology American Board of Rehabilitation Psychology, 2018).

To better understand the structures, processes, and outcomes of psychology training involving rehabilitation populations, Stiers and Stucky (2008) conducted a survey of internship and resident (postdoctoral) training programs. Their study provided integral data regarding postdoctoral training models that categorized programs as having primary (core resident site), secondary (noncore resident site), or optional (may or may not have had a complete rehabilitation focus) involvement in rehabilitation. Results showed that many trainees working with rehabilitation populations did not receive comprehensive training in rehabilitation psychology, and many of the professionals providing care to rehabilitation populations were not board-certified in rehabilitation psychology. The study highlighted the need for consensus postdoctoral training guidelines in rehabilitation psychology, which were later developed and published in 2012. Similarly, recommendations for specialty training in rehabilitation psychology have been outlined by both the ABRP and CRSSPPP; however, more work is needed to understand the current state of training in rehabilitation psychology at the internship level.

This study aimed to take a specific focus of Stiers and Stucky (2008) by only examining internship programs. More specifically, this study focused on rehabilitation training settings, populations served, supervision, and other relevant information. Although the goals and methodology differed slightly from the 2007 survey, the present study attempted to compare relevant demographic information from a current set of internship programs to a different set surveyed 12 years ago. Finally, recommendations are provided for

the continued development of rehabilitation psychology education and training during internship.

Methodology

The study was reviewed and deemed exempt by the Institutional Review Board (IRB) of the second author. Data collection ran from August 2018 to April 2019 using the [surveymonkey.com](https://www.surveymonkey.com) platform. Notably, survey research is commonly used in health services, and with good practice and high standard of methodology, this type of research can provide valid and credible information (Kelley et al., 2003). Surveys have been used in research to collect various demographic information regarding professional practices (Sweet et al., 2021). This methodology has been used to gather student demographic information such as internship match rates by disabilities (Lund, 2021) and neuropsychology trainees’ perspective during the coronavirus disease 2019 (COVID-19) pandemic (Guidotti Breting et al., 2020).

The present survey investigated the characteristics of predoctoral internship programs (e.g., number of trainees, faculty structure, teaching of rehabilitation competencies, population served, etc.). This survey is similar to the 2007 rehabilitation postdoctoral and internship survey (Stiers & Stucky, 2008); however, the current survey focused only on predoctoral internship programs. The Association of Psychology Post-Doctoral and Internship Centers (APPIC) directory was used to identify programs that may have training involving rehabilitation populations. To narrow the search, “rehabilitation psychology” was selected in the training opportunities/supervised experience search criteria in the directory. This search yielded the most number of programs (426) from the APPIC directory.

During the initial phase of data collection, program directors (PDs) of the identified training programs received up to three emails requesting survey participation. Of the 426 identified training programs, 203 PDs responded to the survey after e-mail outreach. For PDs who did not respond to e-mail outreach attempts ($n = 223$), two rounds of follow-up phone calls were made. For programs in Canada ($n = 6$), PDs received mailed letters with study details. International Business Machines (IBM Corp., 2017) Statistical Package for the Social Sciences (SPSS) Statistics Version 25 was used to analyze the data. Of the initial 426 training programs, 53% ($n = 227$) ultimately responded to the survey. From these respondents, 50% ($n = 114$) provided some level of training involving persons with disability receiving rehabilitation services.

Results

Rehabilitation Involvement

The PDs of training programs working with persons with disabilities receiving rehabilitation services provided the following information about their respective predoctoral internship. Of the 114 programs with rehabilitation involvement, rehabilitation was a primary involvement for 28% ($n = 32$) of the programs, a secondary involvement for 28% ($n = 32$) of the programs, and an optional involvement for 44% of the programs ($n = 50$). Of the 114 programs, 106 went on to complete additional survey information (Table 1). Maps that showed concentration of psychology internship programs

Table 1
Programs Offering Primary, Secondary, or Optional Specialty Training in Rehabilitation Psychology

| State/province | Institution name | Department/division name | Specialty training in rehabilitation psychology |
|------------------|---|--|---|
| Alberta | Calgary Zone, Alberta Health Services | Psychology Service | Secondary |
| Alberta | Edmonton Consortium | | Secondary |
| Arizona | La Frontera Center | Southern AZ Internship Center (SAPIC) | Optional |
| Arizona | Northern Arizona VA Health Care System | Mental Health Behavioral Sciences | Optional |
| Arizona | Phoenix Children's Hospital | Psychology | Optional |
| Arkansas | Central Arkansas Veterans Healthcare System | Mental Health Service | Optional |
| British Columbia | BC Children's Hospital | Department of Psychology | Secondary |
| British Columbia | Vancouver Coastal Health | Psychology | Optional |
| California | California Pacific Medical Center | Department of Psychiatry / Health Psychology Program | Secondary |
| California | Lucile Packard Children's Hospital at Stanford | Child Psychiatry | Primary |
| California | UCSD/VA SAN DIEGO | Psychiatry | Primary |
| California | VA Greater Los Angeles Healthcare System, West Los Angeles | Psychology | Primary |
| California | VA Long Beach Healthcare System | Psychology | Primary |
| California | VA Palo Alto Health Care System | Psychology Service | Primary |
| California | VA Sepulveda Ambulatory Care Center | Mental Health/Psychology | Optional |
| Colorado | Children's Hospital Colorado | Pediatric Mental Health Institute | Optional |
| Colorado | Denver VA Medical Center | Health Psychology Section/Mental Health Service | Primary |
| Colorado | University of Denver GSPP Internship Consortium | | Secondary |
| Connecticut | Institute of Living/Hartford Hospital | Psychology Department/ Division of Psychiatry | Optional |
| Connecticut | VA Connecticut - West Haven | Psychology Service | Optional |
| Florida | Bay Pines VAHCS | MH&BSS | Primary |
| Florida | Centerstone Consortium | AllCare | Primary |
| Florida | Florida Department of Corrections | Zephyrhills Correctional Institution | Optional |
| Florida | Jackson Health System | Rehabilitation | Primary |
| Florida | Jackson Health System in affiliation with the University of Miami Miller School of Medicine | Psychology | Primary |
| Florida | James A Haley Veterans' Hospital | Psychology Section | Optional |
| Florida | Miami VA | Psychology Service | Primary |
| Florida | North Florida/South Georgia Veterans Health System | Psychology Service | Primary |
| Florida | Orlando VA Medical Center | Psychology | Secondary |
| Georgia | Emory University Dept. of Pediatrics, Marcus Autism Center | | Primary |
| Georgia | Emory University School of Medicine | Psychiatry and Behavioral Sciences | Secondary |
| Georgia | Medical College of Georgia-Charlie Norwood VAMC Psychology Internship | Psychiatry and Health Behavior | Primary |
| Illinois | Hines VA | Psychology | Optional |
| Illinois | Rush University Medical Center | Behavioral Sciences | Primary |
| Illinois | Southern Illinois University | Counseling and Psychological Services | Optional |
| Illinois | The Chicago School's Community Internship Consortium | The Chicago School's Office of Placement & Training | Optional |
| Indiana | St. Vincent Indianapolis Hospital | Department of Neuropsychology | Secondary |
| Kansas | University of Kansas Medical Center | Department of Psychiatry and Behavioral Sciences, Division of Psychology | Optional |
| Kentucky | University of Louisville School of Medicine | Division of Child and Adolescent Psychiatry and Psychology, Department of Pediatrics | Secondary |
| Maine | Goodwill Neurorehabilitation Services | WestSide NeuroRehab | Primary |
| Maine | VA Maine Health Care System | Mental Health | Optional |
| Maryland | Kennedy Krieger Institute/ Johns Hopkins School of Medicine | Behavioral Psychology (Pediatric Psychology) | Secondary |
| Maryland | St. Agnes Hospital | Behavioral Health Services | Secondary |
| Massachusetts | Franciscan Children's | Behavioral Health Services | Primary |
| Massachusetts | Tewksbury Hospital | Psychology | Primary |
| Massachusetts | VA Boston Healthcare System Clinical Psychology Internship Program | Psychology | Primary |
| Michigan | Ann Arbor VA Healthcare System | Mental Health/Neuropsychology | Primary |
| Michigan | Battle Creek VAMC | Psychology Service | Optional |
| Michigan | Children's Hospital of Michigan | Department of Child Psychiatry and Psychology | Secondary |
| Michigan | John D Dingell VA | Mental Health/Psychology | Optional |
| Minnesota | Federal Medical Center | Psychology | Secondary |
| Minnesota | Hennepin Healthcare (formerly Hennepin County Medical Center) | Psychiatry Department/Division of Psychology | Secondary |

(table continues)

Table 1 (continued)

| State/province | Institution name | Department/division name | Specialty training in rehabilitation psychology |
|----------------|--|--|---|
| Minnesota | Minneapolis VA Health Care System | Psychology | Optional |
| Minnesota | St. Cloud VA Health Care System | Mental Health Service Line | Optional |
| Missouri | Children's Mercy Kansas City | Division of Developmental and Behavioral Sciences | Optional |
| Missouri | Missouri Health Sciences Psychology Consortium | | Optional |
| Missouri | St. Louis VAHCS | Mental Health Service | Optional |
| Missouri | US Medical Center for Federal Prisoners | Psychology | Secondary |
| Montana | Montana State University | Student Success | Secondary |
| Nevada | VA Sierra Nevada Health Care System | Mental Health Service | Optional |
| New Brunswick | Horizon Health NB Clinical Psychology Internship | Stan Cassidy Center for Rehabilitation | Optional |
| New Mexico | University of New Mexico Health Sciences Center | Department of Psychiatry and Behavioral Sciences | Optional |
| New York | Buffalo Psychiatric Center | Psychology | Optional |
| New York | Jacobi Medical Center | Rehabilitation Medicine | Optional |
| New York | Mount Sinai | Rehabilitation Medicine | Primary |
| New York | Northwell Staten Island University Hospital | Rehabilitation Medicine | Primary |
| New York | NYU-Bellevue Clinical Psychology Internship | Psychiatry/Psychology | Optional |
| New York | Rusk Rehabilitation - New York University Langone Health | Psychology | Primary |
| New York | Stony Brook University | Psychiatry | Secondary |
| New York | SUNY Upstate Medical University | Psychiatry/Psychology Division | Secondary |
| New York | Syracuse Veterans Affairs Medical Center | Behavioral Health | Optional |
| North Carolina | Charles George VA Medical Center | Mental Health - Psychology Internship | Primary |
| North Carolina | Durham VA Health Care System | Psychology | Optional |
| Nova Scotia | Nova Scotia Health Authority | Halifax Clinical Psychology Residency Program | Secondary |
| Ohio | Cleveland Clinic Children's Hospital | Pediatric Behavioral Health | Secondary |
| Ohio | Louis Stokes Cleveland VAMC | Psychology Service | Secondary |
| Ohio | MetroHealth Medical Center | Psychiatry/ Child and Adolescent Psychiatry and Psychology | Optional |
| Ohio | Nationwide Children's Hospital | Pediatric Psychology | Secondary |
| Ontario | Children's Hospital of Eastern Ontario | Mental Health | Optional |
| Ontario | Hamilton Health Sciences | Neuropsychology Residency | Optional |
| Ontario | Hospital for Sick Children | Department of Psychology | Optional |
| Ontario | London Clinical Psychology Residency Consortium | | Optional |
| Ontario | NORPIC | Northern Ontario Psychology Internship Consortium | Optional |
| Ontario | Ongwanada | Psychological Services | Primary |
| Ontario | St. Joseph's Care Group | Lakehead Psychiatric Hospital | Optional |
| Ontario | The Ottawa hospital | Psychology | Primary |
| Ontario | University Health Network | Brain Program/Psychosocial Oncology | Secondary |
| Pennsylvania | Children's Hospital of Philadelphia | Child and Adolescent Psychiatry and Behavioral Sciences | Optional |
| Pennsylvania | Conemaugh Health System | Psychology Department | Secondary |
| Pennsylvania | Erie Psychological Consortium | Erie Psychological Consortium | Secondary |
| Pennsylvania | Penn Medicine/Lancaster General Health | Medicine | Secondary |
| Pennsylvania | Penn State Hershey | Department of Psychiatry | Secondary |
| Pennsylvania | VA Pittsburgh Healthcare System | Behavioral Health | Optional |
| Puerto Rico | VA Caribbean Healthcare System | Psychology Service | Secondary |
| Saskatchewan | Saskatchewan Health Authority | Clinical Psychology Residency Program | Primary |
| Tennessee | Cherokee Health Systems | Integrated Care | Optional |
| Tennessee | James H. Quillen Veterans Affairs Medical Center | Mental Health/Psychology | Optional |
| Tennessee | VA-Tennessee Valley Healthcare System | MHCL-Psychology | Optional |
| Texas | Central Texas Veterans Health Care System | Psychology Service | Optional |
| Texas | South Texas Veterans Health Care System | Psychology Service | Optional |
| Texas | Texas State University | Counseling Center | Optional |
| Texas | UT Health San Antonio | Department of Psychiatry | Secondary |
| Texas | VA North Texas Health Care System | Mental Health Service, Psychology Section | Primary |
| Virginia | McGuire (Richmond) VA Medical Center | Psychology | Primary |
| Virginia | Mid Atlantic Internship Consortium | American School of Professional Psychology | Optional |
| Washington | University of Washington | Psychiatry and Rehabilitation Medicine Departments | Primary |
| Washington | VA Puget Sound, Seattle Division | Rehabilitation Care Services | Primary |
| West Virginia | WVU Health Sciences, Charleston | Behavioral Medicine | Secondary |
| Wisconsin | Clement J. Zablocki VA Medical Center | Mental Health Division | Optional |
| Wisconsin | Medical College of Wisconsin | Psychiatry and Behavioral Medicine | Secondary |
| Wisconsin | University of Wisconsin-Madison | Department of Orthopedics & Rehabilitation | Optional |
| Wyoming | Sheridan VAHCS, Sheridan Wyoming | Mental Health | Optional |

Table 2
Program Type by Rehabilitation Involvement From 2007 to 2019

| Hospital/clinic type | Year | Primary | | Secondary | | Optional | |
|----------------------|--------|----------|----|-----------|----|----------|----|
| | | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % |
| University | 2007* | 5 | 7 | 6 | 8 | 10 | 14 |
| | 2019** | 6 | 6 | 14 | 13 | 8 | 8 |
| Public/private | 2007* | 6 | 8 | 7 | 10 | 16 | 22 |
| | 2019** | 9 | 8 | 10 | 9 | 15 | 14 |
| VA-DoD | 2007* | 0 | 0 | 4 | 6 | 19 | 26 |
| | 2019** | 15 | 14 | 3 | 3 | 22 | 21 |

Note. **n* = 73. ***n* = 102 were university, public/private, or Veterans Affairs-Department of Defense (VA-DoD) hospital/clinics; remaining four sites were private practices, counseling centers, subacute facilities, or other facilities. Rehabilitation involvement entails focus on working with persons with physical disabilities receiving physical rehabilitation in primary (core), secondary (noncore), or optional (may or may not have had a complete rehabilitation focus).

with specialty training in Rehabilitation Psychology were created for the United States (Figure 1) and Canadian Provinces (Figure 2).

Setting

Of the programs with rehabilitation involvement, 106 training programs responded to questions characterizing the setting of their training program. Of these training programs, 38% (*n* = 40) were Veterans Affairs/Department of Defense; 32% (*n* = 34) were public/private hospitals/clinics; 26% (*n* = 28) were university hospitals/clinics; 2% (*n* = 2) were counseling centers; 1% (*n* = 1) was an independent practice; and 1% (*n* = 1) was a subacute facility. Additional breakdown of program type by rehabilitation involvement can be found in Table 2.

Of the 106 programs with rehabilitation involvement, 42% (*n* = 44) were housed within an independent psychology department, 16% (*n* = 17) were housed within the department of behavioral medicine, 10% (*n* = 11) were housed within the department of psychiatry, and 4% (*n* = 4) were housed within the department of physical medicine and rehabilitation. Of the remaining programs, 29%

(*n* = 31) reported “other,” indicating that their internship program was not housed within a typical medical institutional department (e.g., faculty working across multiple institutional departments, generalized mental health service centers, clinical research programs unaffiliated with an institutional department, etc.).

Regarding accreditation, 69 of the 106 training programs (65%) responded to a question about whether their program was APA or CPA accredited. Of these 69 programs, 88% (*n* = 61) had APA or CPA accreditation.

Faculty

Of the programs with rehabilitation involvement, 106 provided information about faculty size. The majority of programs with over 50 supervisors were at a VA facility (eight out of 13 programs). There were 16 PDs (16%) who reported having faculty who were board certified in rehabilitation psychology (ABRP), 17 (16%) in clinical neuropsychology (ABCN), four (4%) in clinical health psychology (ABCHP), and five (5%) in clinical psychology (ABCP). Four PDs (4%) reported faculty with multiple board certifications while five PDs (5%) reported faculty with other board certifications (e.g., American Board of Professional Neuropsychology, American Board of Pediatric Neuropsychology).

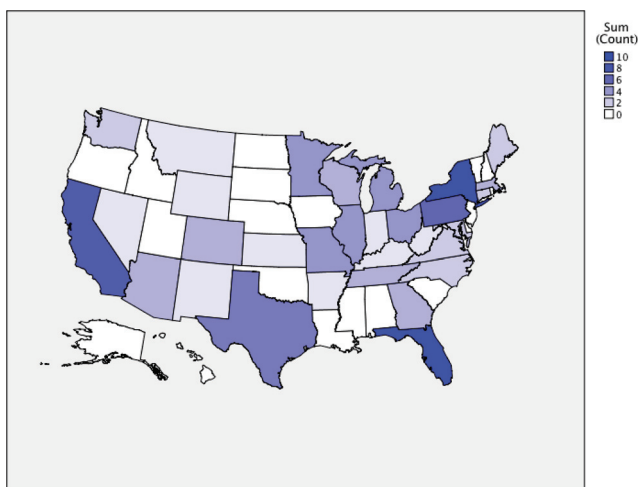
Trainees

Of the 114 training programs with rehabilitation involvement, 107 responded to a question about number of intern positions available. Number of intern slots ranged from one to 20 (*M* = 6.14, *SD* = 3.70), with a mode of three intern slots per program. Of the 114 programs, 66 responded to a question about intern salaries. The intern salary median was \$27,607.

Patient Population

Internship programs involving rehabilitation populations exposed learners to a wide variety of patient population. For programs with primary and secondary involvement, all programs provided treatment to patients with acquired brain injury, orthopedic/musculoskeletal conditions, limb loss, acute/chronic pain, cancer, and cardiovascular conditions. For programs with optional involvement, all programs provided treatment to patients with acquired brain injury, orthopedic/musculoskeletal conditions, and limb loss. Additionally, programs were highly involved with conditions typically associated with rehabilitation such as spinal cord injury (primary: 96%; secondary: 93%;

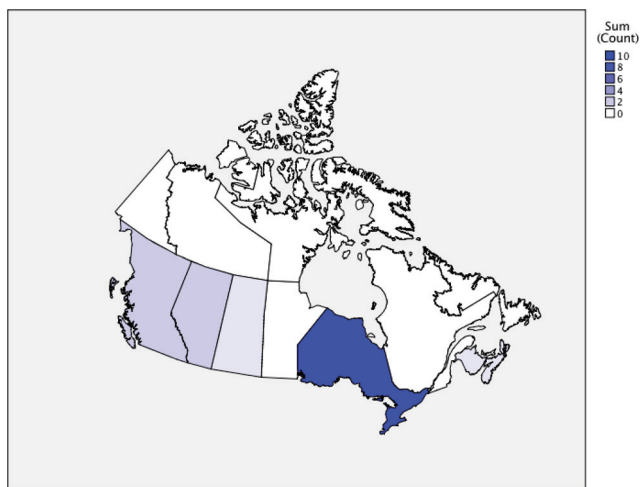
Figure 1
Psychology Internship Programs With Specialty Training in Rehabilitation Psychology in the United States



Note. Not pictured, Puerto Rico. See the online article for the color version of this figure.

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Figure 2
Psychology Internship Programs With Specialty Training in Rehabilitation Psychology in the Canadian Provinces



Note. See the online article for the color version of this figure.

optional: 93%) and neurologic disorders (primary: 96%; secondary: 93%; optional: 93%). The population with least involvement was burn patients (primary: 50%; secondary: 64%; optional: 63%). More detailed breakdown of patient populations can be found in Table 3.

In addition to primary medical conditions, rehabilitation training programs also provided treatment to patients with substance abuse and psychiatric diagnoses. Nineteen (18%) noted substance abuse as a primary involvement while 36 (34%) reported it as a secondary involvement. Furthermore, 17 of the programs (16%) had psychiatric conditions as a primary involvement while 44 (42%) responded as a secondary involvement.

Rehabilitation Psychology Competencies

All of the programs that have rehabilitation rotations (primary, secondary, and optional) taught at least some of the ABRP competencies.

Table 3
Patient Populations by Rehabilitation Involvement

| Population | Primary | | Secondary | | Optional | |
|--------------------------------------|----------|------|-----------|------|----------|------|
| | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % |
| Acquired brain injury | 23 | 100 | 16 | 100 | 32 | 100 |
| Orthopedic/musculoskeletal | 22 | 100 | 16 | 100 | 33 | 100 |
| Limb loss | 23 | 100 | 15 | 100 | 33 | 100 |
| Acute/chronic pain | 22 | 100 | 14 | 100 | 33 | 97 |
| Cancer | 16 | 100 | 14 | 100 | 33 | 97 |
| Cardiovascular conditions | 16 | 100 | 15 | 100 | 29 | 96.6 |
| Spinal cord injury | 23 | 95.7 | 15 | 93.3 | 30 | 93.3 |
| Neurologic disorders | 23 | 95.7 | 15 | 93.3 | 33 | 93.3 |
| HIV | 23 | 96.7 | 16 | 87.5 | 33 | 90.9 |
| Deafness/blindness | 17 | 94.1 | 14 | 85.7 | 30 | 86.7 |
| Developmental/intellectual disorders | 17 | 70.6 | 14 | 78.6 | 30 | 80 |
| Congenital conditions | 17 | 64.7 | 15 | 66.6 | 29 | 72.4 |
| Burn patients | 20 | 50 | 14 | 64.3 | 32 | 62.5 |

Note. Rehabilitation involvement entails focus on working with persons with physical disabilities receiving physical rehabilitation in primary (core), secondary (noncore), or optional (may or may not have had a complete rehabilitation focus).

The competency most taught was diversity and cultural issues (primary: 100%; secondary: 94%; optional: 78%). The next most common competencies in programs with primary rehabilitation involvement were interprofessional collaboration and consultation (82%), substance abuse (73%), and pain (73%). Programs with secondary rehabilitation involvement taught cognitive functioning (44%), clinical research and program evaluation (44%), and ethical and legal framework related to disability (31%). Programs with optional rehabilitation involvement taught pain (82%), interprofessional collaboration and consultation (79%), and substance abuse (67%). Adjustment to disability—a core competency in rehabilitation psychology—was formally taught in 51.6% of programs with primary rotations, 25.9% with secondary rotations, and 25.5% with optional rotations. Percentages of formal and informal training in rehabilitation psychology competencies at each type of program are reported in Table 4.

Competency Evaluation

Out of 71 programs that responded about the frequency of formal evaluations, 42 (59%) conducted evaluations quarterly, 14 (20%) biannually, and 24 (34%) annually. Seven (10%) reported triannual formal evaluations while one program reported six evaluations per year, one every 6 weeks, and one reported no formal evaluations. Seventy-two programs responded to the various types of formal evaluations used; this can be seen in Table 5.

Funding

Four programs (4%) reported training grants as a source of funding, with the amount of total funding covered ranging from 30–65%. Training grants were provided through a variety of sources, including Behavioral Health Workforce Education and Training (*n* = 1), Graduate Psychology Education (*n* = 2), Health Resources and Services Administration (*n* = 1), and Veterans Affairs (*n* = 1). Six other programs (6%) reported billing/collections as a source of funding, with the amount of total funding covered ranging from 30–100%. Other sources of funding included institutional and clinical (*n* = 1), government (*n* = 1), department

Table 4
Percentage of ABRP Competencies and the Level Taught

| Competencies | Primary | | | Secondary | | | Optional | | |
|---|------------|--------------|----|------------|--------------|----|------------|--------------|----|
| | Formal (%) | Informal (%) | n | Formal (%) | Informal (%) | n | Formal (%) | Informal (%) | n |
| Common rehabilitation populations | 51.6 | 19.4 | 31 | 25.9 | 33.3 | 27 | 27.7 | 21.3 | 47 |
| Adjustment to disability | 51.6 | 19.4 | 31 | 25.9 | 33.3 | 27 | 25.5 | 44.7 | 47 |
| Cognitive functioning | 64.5 | 6.5 | 31 | 44.4 | 14.8 | 27 | 46.8 | 23.4 | 47 |
| Personality functioning | 64.5 | 16.1 | 31 | 18.5 | 40.7 | 27 | 34 | 34 | 47 |
| Family/couples functioning | 35.5 | 29 | 31 | 3.7 | 44.4 | 27 | 14.9 | 48.9 | 47 |
| Education and vocational functioning | 29 | 38.7 | 31 | 11.1 | 40.7 | 27 | 8.5 | 44.7 | 47 |
| Recreational functioning | 25.8 | 38.7 | 31 | 3.7 | 33.3 | 27 | 10.6 | 46.8 | 47 |
| Sexual functioning | 54.5 | 45.4 | 22 | 25 | 62.5 | 16 | 21.2 | 60.6 | 33 |
| Substance abuse | 72.7 | 18.1 | 22 | 62.5 | 25 | 16 | 66.7 | 30.3 | 33 |
| Pain | 72.7 | 27.3 | 22 | 75 | 25 | 16 | 81.8 | 18.1 | 33 |
| Interprofessional collaboration and consultation | 81.8 | 13.6 | 22 | 75 | 25 | 16 | 78.8 | 21.2 | 33 |
| Ethical and legal framework related to disability | 54.5 | 45.5 | 22 | 31.3 | 62.5 | 16 | 45.5 | 51.5 | 33 |
| Compensation (e.g., workers compensation) | 13.6 | 59.1 | 22 | 12.5 | 50 | 16 | 9.1 | 45.5 | 33 |
| Diversity and cultural issues | 100 | — | 22 | 93.8 | 6.3 | 16 | 78.1 | 21.9 | 32 |
| Clinical research and program evaluation | 47.6 | 47.6 | 21 | 43.8 | 43.8 | 16 | 27.3 | 69.7 | 33 |

Note. ABRP = American Board of Rehabilitation Psychology. Rehabilitation involvement entails focus on working with persons with physical disabilities receiving physical rehabilitation in primary (core), secondary (noncore), or optional (may or may not have had a complete rehabilitation focus; ABRP competency level taught are described as formal (e.g., didactic, seminars, journal clubs) or informal (e.g., supervision, involvement with rehab team).

(n = 1), budget line (n = 2), private (n = 1), and VA/Office of Academic Affiliations (n = 4).

Survey Data Comparison

Information from the current survey was compared with intern data from 2007 and is presented in Tables 6, 7, and 8. The programs surveyed in 2007 and 2019 were different sets of programs; the current dataset was obtained from APPIC while the 2007 dataset was from various enrollment sources, general comparisons between the two data sets were presented. Due to the difference in methodology, more in-depth analysis such as site-by-site comparison was not performed.

There were notable program structural differences between the two sets of survey data. The number of interns in the present study were 364 while there were 314 in 2019. Furthermore, the number of faculty in the current study was 423 while the 2019 reported 330. The percent of programs with ABPP faculty also shows a difference with 14% in 2007% to 38% in 2019.

Regarding populations interns commonly worked with, all populations showed differences from 2007 to 2019, with the greatest in HIV/AIDS (61%) and blindness and/or deafness (45%). Additional variations were in ABRP competencies formally taught—72% in 2017% to 56% in 2019. Looking at the specific competencies, there were differences between the data sets in competencies related to diversity and cultural issues (−30%) and ethical and legal framework (−27%). Additional differences were related to family/couples functioning (5%), education/vocation/recreational functioning (13%), and sexual functioning (16%).

Discussion

Although rehabilitation psychology has been established as a Division of APA (i.e., Division 22) since 1958, there has been limited focus on the extent to which internship training plays a role in

developing competency in rehabilitation psychology. Stiers and Stucky (2008) conducted a survey evaluating the structures, processes, and outcomes of internship and postdoctoral programs providing training in rehabilitation psychology. The results revealed that many interns and residents (postdoctoral trainees) providing services to rehabilitation patients did not receive comprehensive rehabilitation psychology training, and clinical professionals providing care to this patient population are often not board certified in rehabilitation psychology. These findings highlighted the need for more structure in training programs, and in response, Stiers and colleagues (Stiers et al., 2012) developed and published consensus postdoctoral guidelines for postdoctoral training in rehabilitation psychology. No such guidelines or efforts have been established for internship training in rehabilitation psychology, which is needed to strengthen training in the field. An initial step toward developing these goals and efforts is to better understand the current state of internship training in rehabilitation psychology.

ABRP provides guidance toward specialty practice in rehabilitation psychology. As an accredited internship involving rehabilitation psychology may provide a foundation of knowledge that can satisfy a portion of the board certification training requirements (American Board of Professional Psychology American Board of Rehabilitation Psychology, 2018), it is important to better understand the education and training provided during that stage of

Table 5
Types of Formal Evaluations (n = 72)

| Type | n |
|---|----|
| Written evaluations by supervisors | 72 |
| Written evaluations by peer/staff | 5 |
| Patient satisfaction questionnaires | 5 |
| Oral exams | 4 |
| Written exams | 1 |
| Rating of written vignettes or simulated patients | 4 |
| Ratings of patient observation or videotape reviews | 19 |
| Measurement of patient outcomes | 10 |
| Use of knowledge, skills, and behavior checklists | 12 |
| Others | 5 |

Table 6
Program Structure

| Structure | 2007 (n = 73) | | 2019 (n = 106) | | Percent difference |
|---|---------------|-----|----------------|------|--------------------|
| | n | % | n | % | |
| Programs with primary involvement | 11 | — | 31 | — | 282% |
| Programs with secondary or optional involvement | 62 | — | 75 | — | 121% |
| Interns | 364 | — | 314 | — | 86% |
| Faculty | 330 | — | 423 | — | 128% |
| Percent requiring APA or CPA accreditation | 59 | 81% | 106 | 100% | 123% |
| Percent of programs with board certified faculty | 35 | 48% | 29 | 27% | −56% |
| Percent of programs with ABRP faculty | 10 | 14% | 32 | 38% | 271% |
| Percent of programs with ABCN faculty | 22 | 30% | 39 | 37% | 123% |
| Percent with written curriculum for didactics | 50 | 69% | 64 | 60% | 87% |
| Program mean percent of teaching formally or informally ABRP competencies | 71 | 97% | 71 | 67% | 69% |
| Program mean of teaching formally ABRP competencies | 53 | 72% | 69 | 65% | 90% |

Note. APA = American Psychological Association; CPA = Canadian Psychological Association; ABRP = American Board of Rehabilitation Psychology; ABCN = American Board of Clinical Neuropsychology.

training. However, to date, there is no formal identification consensus of specific internship training programs that have demonstrated sufficient training with an emphasis detailed by the specialty practice in rehabilitation psychology (ABRP). Trainees may find the results of this survey helpful in identifying programs with a primary focus in rehabilitation psychology that could potentially satisfy one of the 3 years of experience needed for specialty board certification. Leaders in rehabilitation psychology may use the results of this study to inform guidelines for determining programs potentially most appropriate for meeting one of the 3 years of experience for board certification.

Similar to Stiers and Stucky (2008), the present study investigates internship programs that provide training in the ABPP competencies. In the 2019 survey, 58% provide a primary or secondary involvement in rehabilitation, while the remaining programs provide an optional involvement. The majority of these training opportunities occur in a hospital or subacute rehabilitation facility (Veterans Affairs and non-Veterans Affairs). It should be noted that programs that were unresponsive to requests to participate in the present study might offer some additional training opportunities in rehabilitation psychology.

In regards to faculty, 51 (48%) had board certified faculty, with only 16 programs (15%) having ABRP certified faculty, and 17 programs (16%) having ABCN certified faculty. This is an area of potential improvement, as ABRP board certified faculty may be best suited to provide training related to persons with disabilities (Stiers, 2016).

The present study indicates a wide array of diagnoses that are served by psychology internship programs with training involving rehabilitation, including chronic medical conditions such as HIV and pain conditions, along with the more traditional rehabilitation diagnoses of traumatic brain injury, limb loss, and spinal cord injury. It should be noted that many training programs also provide training in settings where co-occurring disorders, including substance use disorders and psychiatric conditions, are treated simultaneously with rehabilitation-related diagnoses. Internship training programs with specialty training in both rehabilitation psychology and general clinical/counseling psychology are beneficial to subsequent postdoctoral training or employment in rehabilitation settings.

Regarding ABPP competencies, all of the programs taught at least some competencies, but few provided comprehensive training. The competency of diversity and cultural issues was most commonly

Table 7
Populations With Which Trainees Commonly Worked (Percent of Programs)

| Population | 2007 (n = 73) | | 2019 (n = 72) | | Percent difference |
|--------------------------------------|---------------|-----|---------------|-----|--------------------|
| | n | % | n | % | |
| Brain injury | 69 | 95% | 71 | 99% | 4% |
| Neurologic | 66 | 91% | 70 | 97% | 6% |
| Pain | 66 | 91% | 70 | 97% | 6% |
| Spinal cord injury | 61 | 84% | 68 | 94% | 10% |
| Psychiatric | 58 | 79% | 61 | 85% | 6% |
| Orthopedic/musculoskeletal | 55 | 76% | 71 | 99% | 23% |
| Substance abuse | 52 | 71% | 55 | 76% | 5% |
| Cardiovascular | 47 | 64% | 58 | 81% | 17% |
| Amputation | 44 | 60% | 65 | 90% | 30% |
| Cancer | 42 | 57% | 58 | 81% | 24% |
| Congenital | 32 | 44% | 46 | 64% | 20% |
| Developmental/intellectual disorders | 27 | 37% | 42 | 58% | 21% |
| Blindness and/or deafness | 21 | 29% | 54 | 75% | 46% |
| Burns | 21 | 29% | 41 | 57% | 28% |
| HIV/AIDS | 21 | 29% | 66 | 92% | 63% |

Table 8
Competencies Formally Thought (Percent of Programs)

| Competencies | 2007 (<i>n</i> = 73) | | 2019 (<i>n</i> = 106) | | Percent difference |
|--|-----------------------|-----|------------------------|-----|--------------------|
| | <i>n</i> | % | <i>n</i> | % | |
| Diversity and cultural issues | 70 | 96% | 70 | 66% | −30% |
| Ethical and legal framework | 67 | 92% | 65 | 65% | −27% |
| Cognitive functioning | 63 | 86% | 71 | 67% | −19% |
| Pain | 56 | 77% | 71 | 67% | −10% |
| Interprofessional collaboration and consultation | 52 | 71% | 71 | 67% | −4% |
| Substance abuse | 52 | 71% | 66 | 62% | −9% |
| Personality functioning | 51 | 70% | 70 | 66% | −4% |
| Adjustment to disability | 50 | 69% | 71 | 67% | −2% |
| Clinical research and program evaluation | 49 | 67% | 66 | 62% | −5% |
| Family/couples functioning | 39 | 54% | 63 | 59% | 5% |
| Education/vocational/recreational functioning | 34 | 46% | 63 | 59% | 13% |
| Sexual functioning | 31 | 43% | 63 | 59% | 16% |

taught across programs with primary (100%), secondary (94%), and optional (78%) involvement with rehabilitation populations. Unfortunately, fewer programs taught about adjustment to disability, with only 25.5% (optional) to 51.6% (primary) of programs covering the competency, despite it being a core aspect of rehabilitation practice. This finding supports the need for internship programs to evaluate their training curriculum, especially those preparing trainees for postdoctoral training in rehabilitation psychology.

In regards to comparison between the training-related data, there appears to be a difference in number of faculty that may suggest more supervisors or professionals are involved in internship training (from 330 to 423); it should be noted this may be a result of a larger number of programs surveyed in the current study. As this survey is focused on rehabilitation psychology training, it is important to recognize the competencies established by ABRP. The notable difference in percentage of formal or informal training in ABRP competencies (72% to 56%) may be due to the larger pool of internship programs in the 2019 survey (106) compared with 2007 (73) with more diverse training or multiple rotations. It is also possible that there are more psychologists working in rehabilitation settings, but they are not rehabilitation psychologists. As a result, there may be numerous rehabilitation patients and treatment teams who are not receiving specialized rehabilitation psychology services, but rather are receiving general psychology (e.g., clinical) services or neuropsychology services. If so, there is a need/opportunity to provide rehabilitation psychology didactic materials to these programs and/or increase ABRP faculty. At the very least, peer consultation with a rehabilitation psychologist should be practiced so that rehabilitation patients and teams receive specialized care.

These findings suggest that many trainees in programs involving working with disabled persons continue not to receive comprehensive training in rehabilitation psychology, and professionals in these settings are still often not board-certified in rehabilitation psychology. Furthermore, there is a continued need for clearer training guidelines, especially for internships.

Recommendations for Training in Rehabilitation Psychology

Overall, the results of this study provide information about the current state of psychology internship programs that may be beneficial

to psychology trainees as they seek opportunities for rehabilitation psychology training during internship. However, detailed below are barriers that trainees may still encounter in identifying and obtaining an internship that will provide adequate education and training for a career in rehabilitation psychology, as well as some recommendations for addressing these barriers.

In the current study, many internship programs endorsed having rehabilitation psychology as a training opportunity within the APPIC directory; however, less than half of the programs who responded to this survey provided some level of education and training in rehabilitation settings. Moreover, when the current data were compared with 2007, internship training programs show a difference of formal teaching in 75% of the ABRP competencies. This discrepancy can lead to trainees sorting through several programs that are inconsistent with their training goals, which can contribute to heightened confusion, frustration, and discouragement. This cumbersome process can ultimately cause some trainees to interview or match at an internship that provides limited or no training involving rehabilitation. Potential strategies for improving the APPIC directory include: clearly defining rehabilitation psychology at the internship stage, requiring more stringent criteria for inclusion in the directory as a program with rehabilitation training opportunities, and requesting internship program directors to confirm that their program meets the established criteria.

Another barrier revealed by the present study was internships' inconsistent language in program brochures. Terms that are often used include track, concentration, and area of focus. These terms are arbitrary, possibly referring to the same or a different amount of training. As a result of this inconsistent and unclear terminology, trainees may experience uncertainty and unease when navigating the internship application and interview process. To promote consistent use of definitions and terms to describe training opportunities across programs, American Psychological Association (2012) developed a taxonomy for education and training in professional psychology health services specialties. This taxonomy provides general guidelines that could be applied across specialties: levels of training opportunity range from "exposure" to "experience" to "emphasis" to "major area of study," and the stages of training include doctoral education, internship, postdoctoral training, and postlicensure learning opportunities. Universal adoption of this taxonomy will help clarify what training opportunities are actually offered.

Limitations

The present study provides a useful overview of rehabilitation psychology training in psychology internship training programs; however, there are several limitations. First, the current study used similar methods as Stiers and Stucky (2008) to promote consistency and generally compare findings; however, the data collected are from two different sets of programs. Future research should use prospective methods in which the same programs are assessed over time. This method will allow researchers to better evaluate trends in the field.

Second, about half of the programs initially identified as providing training in rehabilitation psychology did not respond to the survey for the current study. As a result, there may be internship programs that provide rehabilitation training that did not participate in the study. This limits our ability to fully generalize the results to the entire field. Additional work is needed to characterize the current state of internship training in rehabilitation psychology.

Third, additional information about the specific amount of time spent in rehabilitation-related training opportunities along with details of generalist training during the internship year is limited with the current results. Fourth, details about trainees' success at obtaining postdoctoral fellowships and then obtaining board certification from specific programs are not obtained. This would be a useful continuation of the current research to expand trainee knowledge of programs that can provide sufficient training for them to embark on a career in rehabilitation psychology.

Finally, this study gathers limited information about trainees' and faculty's demographics, which limits our knowledge about diversity in the field. Andrews and Lund (2015) found that disabilities are not regularly included in identifying diversity groups in psychology. Furthermore, approximately 32% of psychology doctorates in 2016 are awarded to people of color (U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, 2015). It is important to monitor the trends of rehabilitation psychologists and trainees compared with the general psychology workforce.

Conclusion

Overall, the present study expands the information on internship training programs in rehabilitation psychology initially investigated by Stiers and Stucky (2008). There appears to be growing number of internship programs that provide services related to rehabilitation psychology. As a result, it is important for programs to incorporate educational and training opportunities in rehabilitation psychology competencies to ensure best practices. Future research focused on the value of increasing specialized training at the internship level related to rehabilitation psychology and exposure to ABRP competencies by board certified faculty would be beneficial.

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