The Child and Adolescent Behavioral Health Workforce

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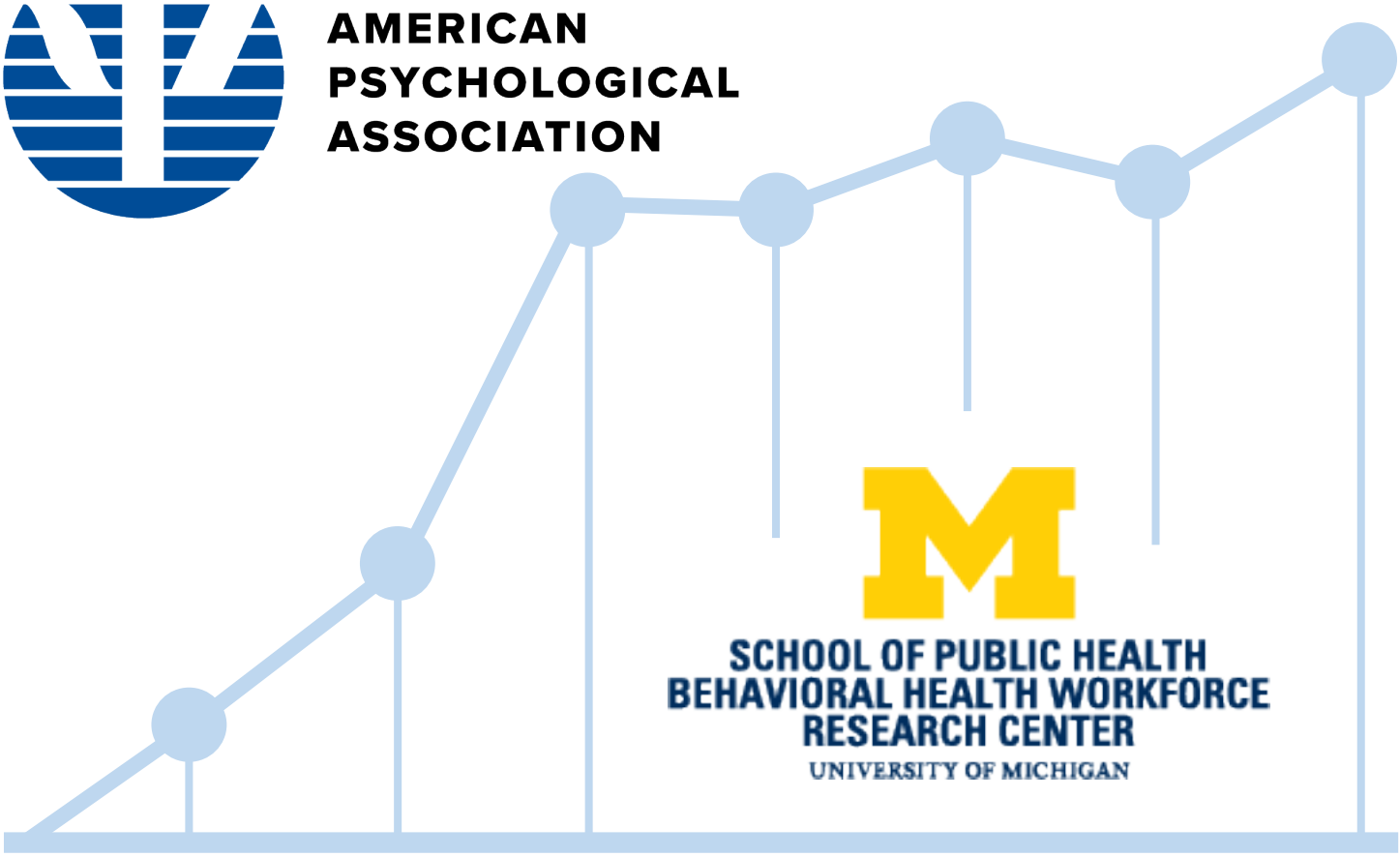

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Background

Psychologists provide mental health services in a variety of settings and specialty areas. Yet, little is known about the supply of psychologists with specialty training in clinical child and adolescent psychology, who understand and can address the unique mental health needs of children and adolescents. In 2018, about 3.5 million (14.4%) adolescents aged 12–17 years had a major depressive episode in the past year, a statistically significant increase ($p < 0.05$) from 2006 (7.9%).[1] In 2016, about one in six children aged 2–8 years (17.4%) had a diagnosed mental, behavioral, or developmental disorder.[2] Treatment rates among children and adolescents aged 3–17 years vary based on the disorder: 78.1% were treated among those with depression, 59.3% among those with anxiety, and 53.5% among those with behavior disorders.3 It is unclear whether the psychologist workforce has the right training or is located in the right geographic areas to meet needs for services provided to children and adolescents.

This analysis presents information on the child and adolescent psychologist workforce using data from the 2015 American Psychological Association (APA) Survey of Psychology Health Service Providers,[4] National Plan and Provider Enumeration System (NPPES)/National Provider Identifier (NPI) Registry,[5] and American Board of Professional Psychology (ABPP) directory.[6] The analysis focuses on demographic and employment characteristics of the child and adolescent psychologist workforce, such as gender, race/ethnicity, age, career stage, work settings, work hours, treatment areas, populations served, and cultural competency.

Methods

The analysis examined characteristics of the child and adolescent psychologist workforce, including psychologists who self-report being child and adolescent psychologists (2015 APA Survey of Psychology Health Service Providers and NPPES/NPI Registry) and psychologists who are board certified in clinical child and adolescent psychology (ABPP directory). In 2018, there were approximately 102,000 licensed doctoral-level psychologists in the U.S. (including the 50 states and District of Columbia but not including Puerto Rico and U.S. territories).[7]

2015 APA Survey of Psychology Health Service Providers

In 2015, the APA conducted the Survey of Psychology Health Service Providers to gather information on demographic and employment characteristics for licensed psychologists in the U.S. The target population for the survey was U.S. licensed, doctoral-level psychologists. State licensing board lists from 50 states and the District of Columbia were collected, standardized, de-duplicated, and merged with APA membership records to gain e-mail addresses. A total of 36,681 individuals were successfully contacted by e-mail, and 5,325 individuals completed the survey (a response rate of 14.5%).

The survey asked questions pertaining to psychologists' areas of specialty: "What is/are your primary and secondary (if applicable) area of specialty?" About 23% of psychologists reported clinical child and adolescent psychology as their primary or secondary area of specialty.[8]

The majority of the analyses contained in this report was based on data from the 2015 APA Survey of Psychology Health Service Providers. In analyzing the clinical child and adolescent psychologist workforce, 951 respondents with a self-reported primary or secondary specialty in clinical child and adolescent psychology were included. Clinical child and adolescent specialists were compared to other psychologists ($n = 4,374$) in the sample.

The National Plan and Provider Enumeration System/National Provider Identifier Registry

The NPPES/NPI Registry offers a possible data source for counting and categorizing the psychologist workforce. In applying for an NPI, individuals are required to provide name, credentials,

gender, date of birth, business address, license number, state where the license was issued, and self-reported Healthcare Provider taxonomy codes that indicate the provider's type, classification, or specialization.[a] According to the 2015 APA Survey of Psychology Health Service Providers, 83.9% of licensed psychologists reported having an NPI.[4]

To identify doctoral-level licensed psychologists, NPPES/NPI Registry records were matched to the 2018 APA state licensing board lists, yielding a matching result of 69,655 licensed psychologists. Of those, 4,012, or about 6%, self-reported a "psychologist: clinical child and adolescent" taxonomy code.

The NPPES/NPI Registry provides geographic details that allow for state- and county-level analysis on the distribution of the clinical child and adolescent psychologist workforce.

American Board of Professional Psychology Board Certifications in Psychology

The ABPP provides certification for doctoral-level licensed psychologists in 15 specialty areas, including clinical child and adolescent psychology. In February 2020, approximately 4,300 (4%) licensed psychologists in the U.S. were board certified. Of all those board-certified psychologists, 268 (6%) were board certified in clinical child and adolescent psychology.[6] The ABPP directory provides name, address, certified area, and the state in which the psychologist was licensed. Although state information is available, small numbers of clinical child and adolescent psychologists limited analysis to larger geographic regions.

Data Source Comparisons

The three data sources examined in this report are unique in terms of the number of records, strengths, and limitations. As such, depending on their strengths and limitations, this analysis used different data sources in analyzing different aspects of the clinical child and adolescent psychologist workforce.

Table 1: Comparisons of Specialty Data Sources

Source	Clinical Child / Adolescent Psychologists		Strengths	Limitations
	n	% within data source		
2015 APA Survey of Psychology Health Service Providers	951	23%	Broadest specialty area definition Representative of APA members Demographic and employment information available	Not geographically representative A sample: limited generalizability to the population of psychologists
NPPES/NPI Registry	4,012	6%	Largest n Geographically representative[a] Majority of licensed psychologists have an NPI	Healthcare Provider Taxonomy codes are not verified Records may be not routinely updated Demographic and employment information not available
ABPP board certifications	268	6%	Demonstrated recognition of specialty certification A population: inclusive of all psychologists board certified in clinical child and adolescent psychologists	Smallest n Demographic and employment information not available

[a]Similar patterns were found in the proportions of psychologists across states in the 2018 APA state licensing board lists and NPPES/NPI Registry.

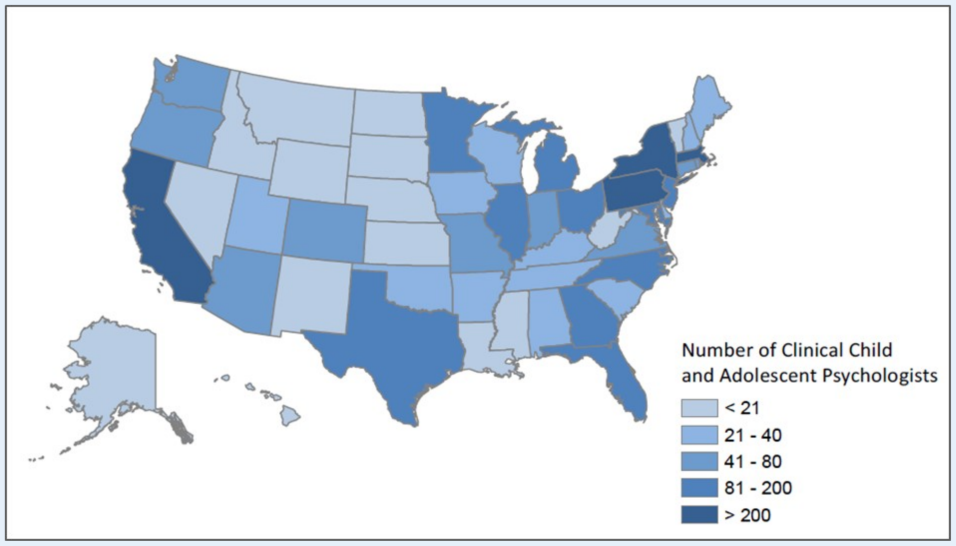
ABPP, American Board of Professional Psychology; APA, American Psychological Association; NPPES/NPI, National Plan and Provider Enumeration System/National Provider Identifier.

[a]Individuals can report up to 15 healthcare provider taxonomy codes, with one primary and up to two secondary codes. Those who indicated "psychologist: clinical child and adolescent" in any healthcare provider taxonomy field were included for the analysis. Name, license number, and license state were the major criteria for matching National Plan and Provider Enumeration System/National Provider Identifier Registry and state licensing board records.

Results

Geographic Distribution

Figure 1. Geographic Distribution of Clinical Child and Adolescent Psychologists, by State

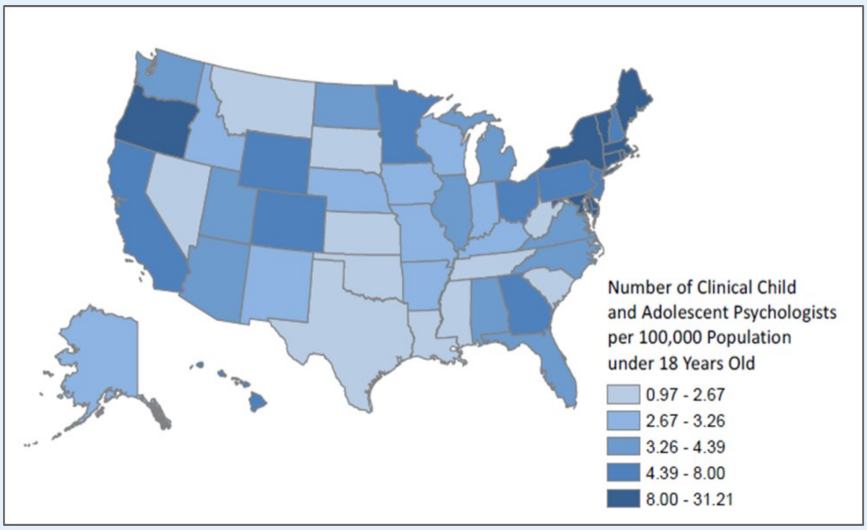


Source: 2019 National Provider Identifier Registry, Centers for Medicare and Medicaid Services; 2018 state licensing board lists, American Psychological Association.

Figure 1 displays the geographic distribution of psychologists who self-reported a "psychologist: clinical child and adolescent" Healthcare Provider taxonomy code in the NPPES/ NPI Registry. The majority of clinical child and adolescent psychologists were located in the Northeast and the west coast. States with the most clinical child and adolescent psychologists included California (620), New York (510), Massachusetts (290), Pennsylvania (210), and Florida (180).[b] States with the fewest clinical child and adolescent psychologists included South Dakota, Montana, West Virginia, Alaska, and North Dakota (all with fewer than ten clinical child and adolescent psychologists).

Figure 2 presents the number of clinical child and adolescent psychologists per 100,000 population aged <18 years. Overall in the U.S., there were 5.4 clinical child and adolescent psychologists per 100,000 population aged <18 years. The District of Columbia (31.2 per 100,000 population aged <18 years), Rhode Island (23.5), Massachusetts (21.1), Delaware (12.8), and Vermont (12.7) had the highest concentrations of clinical child and adolescent psychologists. Mississippi (1.0), Louisiana (1.1), West Virginia (1.6), South Carolina (2.1), and Montana (2.2) had the lowest.

Figure 2. Number of Clinical Child and Adolescent Psychologists per 100,000 Population Under 18 Years Old, by State



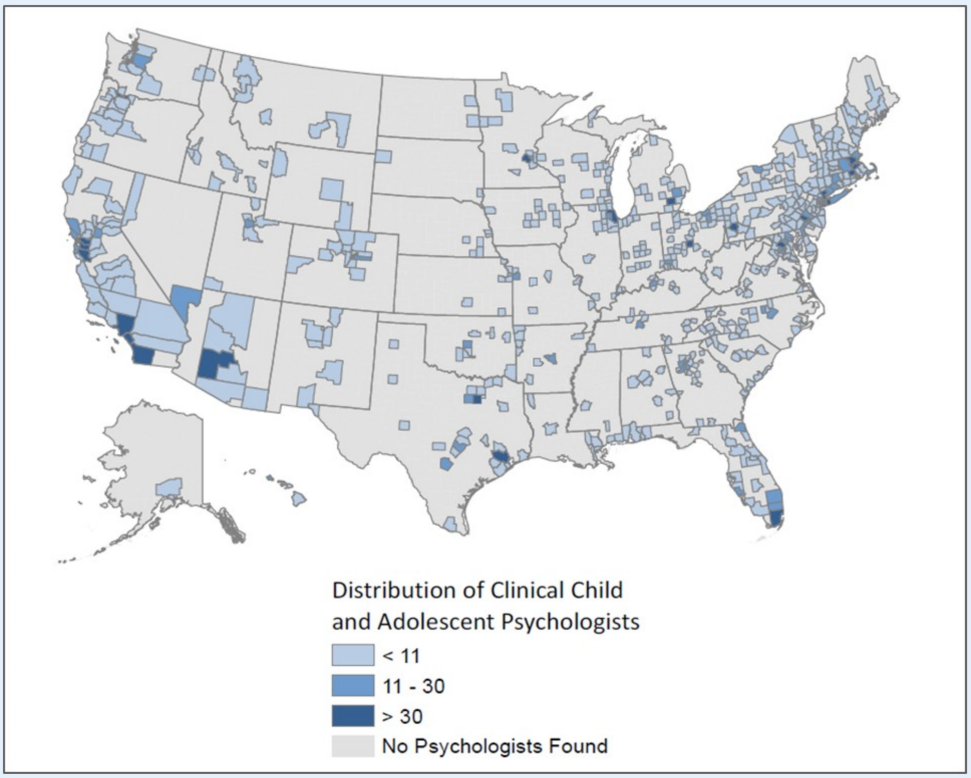
Source: 2019 National Provider Identifier Registry, Centers for Medicare and Medicaid Services; 2018 state licensing board lists, American Psychological Association; 2018 American Community Survey Demographic and Housing Estimates, U.S. Census Bureau.

Only 597 of 3,142 counties and county equivalents (19.0%) in the country had at least one clinical child and adolescent psychologist.[c] For the majority of counties (80.1%) in the U.S., there were no clinical child and adolescent psychologists. Figures 3 and 4 show the geographic distribution of clinical child and adolescent psychologists by county.

In examining ABPP certifications, the highest percentages of board-certified clinical child and adolescent psychologists

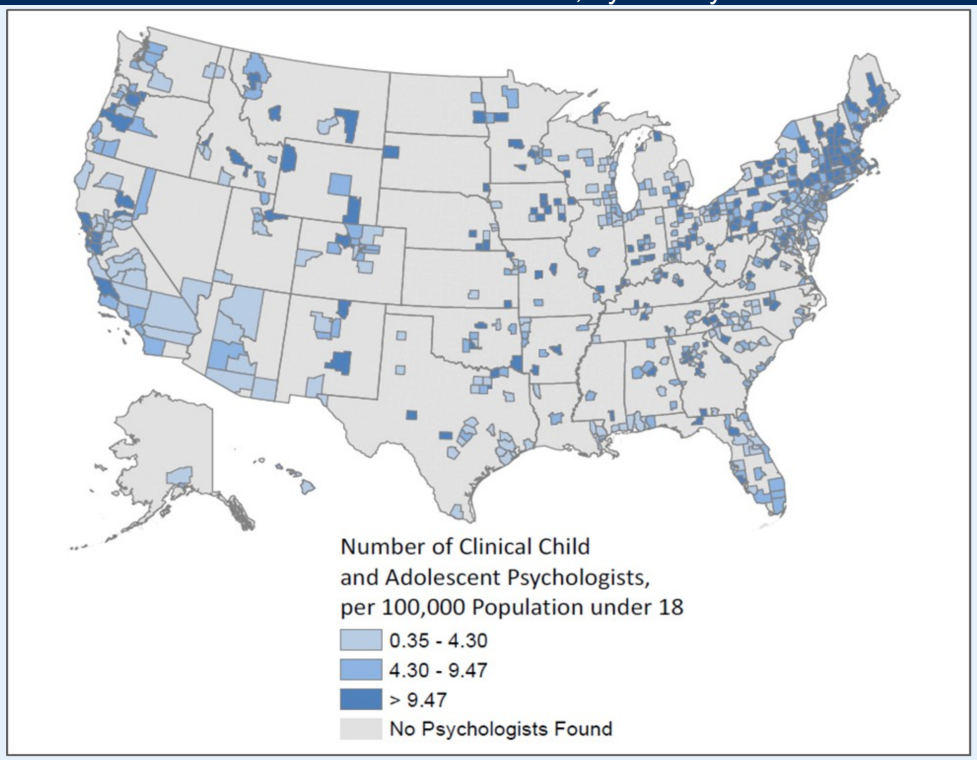
[b]Psychologists with a single license were counted in the state where the license was issued. Psychologists with multiple licenses were counted in the reported address state of the license with a more recent license issue date.
[c]Psychologists with a single license were counted in the county of the reported address. Psychologists with multiple licenses were counted the county of the reported address from the license with a more recent license issue date.

Figure 3. Geographic Distribution of Clinical Child and Adolescent Psychologists, by County



Source: 2019 National Provider Identifier Registry, Centers for Medicare and Medicaid Services; 2018 state licensing board lists, American Psychological Association.

Figure 4. Number of Clinical Child and Adolescent Psychologists per 100,000 Population Under 18 Years Old, by County



Source: 2019 National Provider Identifier Registry, Centers for Medicare and Medicaid Services; 2018 State Licensing Board Lists,

were located in the South (36.4%), followed by the Midwest (31.4%). Table 2 provides regional details. By counts, Florida (29), Ohio (24), and California (22) were the states with the most board-certified child and adolescent psychologists.[d] A total of 37 states and the District of Columbia had one or more board-certified clinical child and adolescent psychologists. There were no board-certified clinical child and adolescent psychologists in the remaining 13 states.

Table 2: Number and Percentage of Board-Certified Clinical Child and Adolescent Psychologists

Region	Psychologists Board Certified in Clinical Child and Adolescent Psychology	
	n	%
Northeast	39	14.9%
South	95	36.4%
Midwest	82	31.4%
West	45	17.2%
Total	261	100.0%

Source: 2020 American Board of Professional Psychology Directory

Demographic Characteristics

Table 3 presents demographic characteristics of psychologists with a self-reported specialty in clinical child and adolescent psychology compared with other psychologists. There was higher representation of women and younger individuals among clinical child and adolescent psychologists compared with other psychologists.[e]

Table 3: Demographic Characteristics of Clinical Child and Adolescent Psychologists and Other Psychologists

Demographic Characteristics	Clinical Child and Adolescent Psychologists	Other Psychologists
By Gender		
Women	66.4%	59.2%
Men	33.2%	40.6%
Other	0.3%	0.2%
By Race/Ethnicity		
White	86.0%	86.4%
Racial/ethnic minorities	14.0%	13.6%
By Career Stage		
Early career	23.3%	19.8%
Mid-career	29.1%	24.4%
Senior career	27.0%	26.5%
Late senior career	20.5%	29.4%

Source: 2015 APA Survey of Psychology Health Service Providers, American Psychological Association.
Note: Details may not sum to 100% owing to rounding.

[d]Board-certified psychologists were counted in the state of the reported address from the ABPP directory. The analysis was based on 50 states and the District of Columbia and did not include Puerto Rico or U.S. territories.
[e]Comparisons were statistically significant at p <0 .001.

- About 66.4% of clinical child and adolescent psychologists were women, compared with 59.2% of other psychologists.
- By career stage, representation in early career (23.3%) or mid-career stages[f] (29.1%) was higher among clinical child and adolescent psychologists compared with other psychologists (19.8% and 24.4%, respectively). Representation in the late senior career stage was lower among clinical child and adolescent psychologists (20.5%) than other psychologists (29.4%).
- Racial/ethnic minorities represented 14.0% of clinical child and adolescent psychologists, which was similar to other psychologists (13.6%).

Work Settings

Nearly half (48.8%) of clinical child and adolescent psychologists worked in private practice (Table 4). Other common work settings included hospitals (19.4%) and organized human service settings (9.4%).

Table 4: Primary Work Settings for Clinical Child and Adolescent Psychologists and Other Psychologists

Work Setting	Clinical Child and Adolescent Psychologists	Other Psychologists
Private practice	48.8%	44.8%
Hospital settings	19.4%	16.9%
Organized human service settings	9.4%	6.7%
University	6.2%	12.0%
Four-year college	0.6%	1.1%
Government settings	3.7%	6.8%
Other educational settings	7.8%	6.3%
Business settings	0.4%	0.9%
Other settings	3.6%	4.5%
Total	***100.0%***	***100.0%***

Source: 2015 APA Survey of Psychology Health Service Providers, American Psychological Association.
Note: Details may not sum to 100% owing to rounding.

Work Hour and Practice Plans

The mean work hours for clinical child and adolescent psychologists was 35.8 hours per week, which was similar to mean work hours for other psychologists (35.4 hours per week).

When asked "What are your plans for the next 12 months regarding direct patient/client care?," the majority (73.0%) of clinical and adolescent psychologists answered "continue as you are." About 12.7% responded "increase hours," 11.7% responded "decrease hours," and <3% answered "seek non-clinical job" or "other" (Table 5).

[f]Career stages were coded into four categories based on years since doctorate: early career (1–10 years), mid-career (11–20 years), senior career (21–30 years), and late senior career (≥31 years).

Table 5: Practice Plans for Clinical Child and Adolescent Psychologists and Other Psychologists		
Practice Plans	**Clinical Child and Adolescent Psychologists**	**Other Psychologists**
Increase Hours	12.7%	11.7%
Decrease Hours	11.7%	10.7%
Seek Non-clinical Job	0.7%	0.7%
Continue as You are	73.0%	74.4%
Other	1.8%	2.4%
Total	***100.0%***	***100.0%***

Source: 2015 APA Survey of Psychology Health Service Providers, American Psychological Association.
Note: Details may not sum to 100% owing to rounding.

Populations Served

As expected, clinical child and adolescent psychologists provided services to both children (under the age of 13) and adolescents (ages 13-18) more frequently than other psychologists.[g] About 75.5% of clinical child and adolescent psychologists provided services to children "frequently" or "very frequently," compared to 26.0% of other psychologists (Table 6).

Table 6: Frequency of Providing Services to Children for Clinical Child and Adolescent Psychologists and Other Psychologists		
Frequency of Providing Services to Children	**Clinical Child and Adolescent Psychologists**	**Other Psychologists**
Very frequently	42.1%	12.7%
Frequently	33.4%	13.3%
Occasionally	14.0%	11.6%
Rarely	6.4%	12.5%
Never	4.0%	49.9%
Total	***100.0%***	***100.0%***

Source: 2015 APA Survey of Psychology Health Service Providers, American Psychological Association.
Note: Details may not sum to 100% owing to rounding.

About 79.1% of clinical child and adolescent psychologists provided services to adolescents "frequently" or "very frequently," compared with 34.2% for other psychologists (Table 7).

[g]Respondents were asked the frequency of providing services to children and adolescents: never, rarely, occasionally, frequently, or very frequently.

Table 7: Frequency of Providing Services to Adolescents for Clinical Child and Adolescent Psychologists and Other Psychologists		
Frequency of Providing Services to Adolescents	**Clinical Child and Adolescent Psychologists**	**Other Psychologists**
Very frequently	35.2%	12.0%
Frequently	43.9%	22.2%
Occasionally	13.7%	21.8%
Rarely	4.6%	19.1%
Never	2.6%	24.9%
Total	***100.0%***	***100.0%***

Source: 2015 APA Survey of Psychology Health Service Providers, American Psychological Association.
Note: Details may not sum to 100% owing to rounding.

Table 8 presents the percentage of psychologists who frequently or very frequently provide services to different age groups. As expected, clinical child and adolescent psychologists provided services to populations other than children and adolescent on a less frequent basis than other psychologists.

Table 8: Percentage of Psychologists Providing Services Frequently or Very Frequently to Age Groups		
Percentage Providing Services Frequently or Very Frequently to the Following Age Groups	**Clinical Child and Adolescent Psychologists**	**Other Psychologists**
Children (aged <13 years)	75.5%	26.1%
Adolescents (aged 13–18 years)	79.1%	34.2%
Adults (aged 19–64 years)	51.7%	83.3%
Older adults (aged 65–79 years)	9.5%	37.1%
Oldest old adults (aged ≥80 years)	1.4%	9.2%

Source: 2015 APA Survey of Psychology Health Service Providers, American Psychological Association.

Treatment Areas

Table 9 presents the percent of psychologists who frequently and very frequently provided services to clients/patients in each treatment area. The majority of clinical child and adolescent psychologists frequently or very frequently provided services to patients/clients with anxiety disorders (82.7%); depressive disorders (72.6%); and disruptive, impulse control, and conduct disorders (58.3%). Compared with other psychologists, those specializing in clinical child and adolescent psychology were more likely to provide services to clients/patients with disruptive, impulse control, and conduct disorders (58.3% vs 29.4%) and neurodevelopmental disorders (37.4% vs 16.2%).[h]

[h]Comparisons were statistically significant at p<0.001.

Table 9: Treatment Areas for Clinical Child and Adolescent Psychologists and Other Psychologists		
Treatment Areas	**Clinical Child and Adolescent Psychologists**	**Other Psychologists**
Anxiety disorders	82.7%	85.4%
Depressive disorders	72.6%	84.2%
Trauma and stressor-related disorders	44.6%	57.0%
Bipolar and other related disorders	20.6%	28.2%
Personality disorders	14.7%	32.0%
Substance-related and addictive disorders	16.3%	30.2%
Disruptive, impulse control, and conduct disorders	58.3%	29.4%
Obsessive–compulsive and other related disorders	25.7%	24.2%
Neurocognitive disorders	15.7%	20.2%
Somatic symptom and other related disorders	12.9%	20.1%
Sleep–wake disorders	10.2%	16.4%
Neurodevelopmental disorders	37.4%	16.2%
Schizophrenia spectrum and other related disorders	5.1%	9.4%
Feeding and eating disorders	6.7%	8.6%
Other mental disorders	6.6%	7.6%
Sexual dysfunction	2.1%	5.0%
Dissociative disorders	3.2%	4.7%
Gender dysphoria	1.3%	2.6%
Paraphilic disorders	1.4%	2.3%
Elimination disorders	5.6%	2.0%
Medication-induced movement disorders/other adverse effects of medication	0.8%	3.6%
Other conditions that may be a focus of clinical attention (V codes)	22.9%	26.4%
No mental or physical health diagnoses	4.7%	6.4%

Source: 2015 APA Survey of Psychology Health Service Providers, American Psychological Association.

Cultural Competency

Compared with other psychologists, clinical child and adolescent psychologists reported higher cultural competency levels in providing services. When asked "How well prepared overall were you when working with diverse cultural populations?," 57.7% of those specializing in clinical child and adolescent psychology responded "extremely knowledgeable" or "fairly knowledgeable," compared with 52.7% for other psychologists.[i]

[i]Comparison was statistically significant at p<0.001.

Table 10: Overall Cultural Competency for Clinical Child and Adolescent Psychologists and Other Psychologists		
How Well Prepared Overall Were You When Working With Diverse Cultural Populations?	**Clinical Child and Adolescent Psychologists**	**Other Psychologists**
Extremely knowledgeable	16.8%	13.2%
Fairly knowledgeable	40.9%	39.5%
Quite knowledgeable	24.1%	28.0%
Slightly knowledgeable	17.0%	16.4%
Not knowledgeable at all	1.2%	3.0%
Total	***100.0%***	***100.0%***

Source: 2015 APA Survey of Psychology Health Service Providers, American Psychological Association.
Note: Details may not sum to 100% owing to rounding.

The majority of psychologists who specialize in clinical child and adolescent psychology (93.1%) reported being extremely or fairly knowledgeable about working with children,[j] significantly higher relative to other psychologists (45.0%) (Table 11).

Table 11: Level of Knowledge for Working with Children for Clinical Child and Adolescent Psychologists		
Knowledge About Working with Children	**Clinical Child and Adolescent Psychologists**	**Other Psychologists**
Extremely knowledgeable	66.8%	24.5%
Fairly knowledgeable	26.3%	20.5%
Quite knowledgeable	5.8%	17.2%
Slightly knowledgeable	s	23.9%
Not knowledgeable at all	s	13.9%
Total	***100.0%***	***100.0%***

Source: 2015 APA Survey of Psychology Health Service Providers, American Psychological Association.
Note: Details may not sum to 100% owing to rounding.
s = suppressed due to small cell size.

Similarly, the majority of psychologists who specialize in clinical child and adolescent psychology (93.8%) reported being extremely or fairly knowledgeable about working with adolescents,[k] significantly higher compared with other psychologists (58.2%) (Table 12).

[j]Respondents were asked how knowledgeable they are about ways of working with children and adolescents: extremely knowledgeable, quite knowledgeable, fairly knowledgeable, slightly knowledgeable, or not at all knowledgeable.
[k]Comparison was statistically significant at p<0.001.

Table 12: Level of Knowledge for Working with Adolescents for Psychologists Specializing in Clinical Child and Adolescent Psychology		
Knowledge About Working with Adolescents	**Clinical Child and Adolescent Psychologists**	**Other Psychologists**
Extremely knowledgeable	66.2%	28.8%
Fairly knowledgeable	27.6%	29.4%
Quite knowledgeable	4.8%	23.0%
Slightly knowledgeable	s	15.9%
Not knowledgeable at all	s	3.0%
Total	***100.0%***	***100.0%***

Source: 2015 APA Survey of Psychology Health Service Providers, American Psychological Association.
Note: Details may not sum to 100% owing to rounding.
s = suppressed due to small cell size.

Conclusions and Policy Considerations

This report fills in data gaps in specialty areas in the psychologist workforce by providing information about the geographic distribution, demographic characteristics, and practice patterns of clinical child and adolescent psychologists. The NPPES/NPI Registry identified approximately 4,000 clinical child and adolescent psychologists. This number represents a small proportion (4%) of the approximately 102,000 licensed doctoral-level psychologists in the U.S. Nationwide, there were 5.4 clinical child and adolescent psychologists per 100,000 population aged <18 years. The concentration of clinical child and adolescent psychologists was higher in the Northeast and the west coast. Only 597 of the 3,142 counties and county equivalents (19.0%) in the country had at least one clinical child and adolescent psychologist. There was higher representation of women and younger individuals among clinical child and adolescent psychologists compared with other psychologists. Nearly half (48.8%) of clinical child and adolescent psychologists worked in private practice. Compared with other psychologists, clinical child and adolescent psychologists reported higher cultural competency levels in providing services.

The NPPES/NPI Registry and ABPP board certifications both show the same percentage (6%) of clinical child and adolescent psychologists. As such, the NPPES/NPI Registry had the strength of identifying the largest number of clinical child and adolescent psychologists and is best suited for geographic analysis. The NPPES/NPI Registry could be used to examine distributions of other health professionals (such as social workers or mental health counselors) and other psychologist specialty areas. However, it is unclear whether the NPPES/NPI Registry contains sufficiently detailed healthcare provider taxonomy codes to identify these types of health professionals. Additionally, this approach may be difficult for specialty areas with small numbers of psychologists, such as geropsychology or group psychology.

The 2015 APA Survey of Psychology Health Service Providers is best suited to examine workforce characteristics such as practice patterns and demographics. This survey indicated that the percentage of self-reported clinical child and adolescent psychology specialists (23%) is identical to the 23% of psychologists who provided services frequently or very frequently to children. However, it is lower than the proportion of psychologists who provided services frequently or very frequently to adolescents (34%). The number of psychologists who provide services to children and adolescents is considerably higher than the number of psychologists with specialty training in clinical child and adolescent psychology.

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One policy consideration is to increase specialty training opportunities, such as doctoral programs, internships, postdoctoral fellowships, ABPP certifications, and continuing education offerings. The relatively small number of board-certified clinical child and adolescent psychologists presents a challenge in describing the supply of specialty-trained psychologists. Encouraging more psychologists to engage in specialty training will help the profession of psychology to prepare for the future.

A second policy consideration is to support training programs that increase psychologists' capacity to work with underserved populations. These may include grant opportunities such as Graduate Psychology Education Program and Behavioral Health Workforce Education and Training. Providing toolkits for navigating the grant process may aid training programs in specialty areas to successfully apply for these funding opportunities.

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