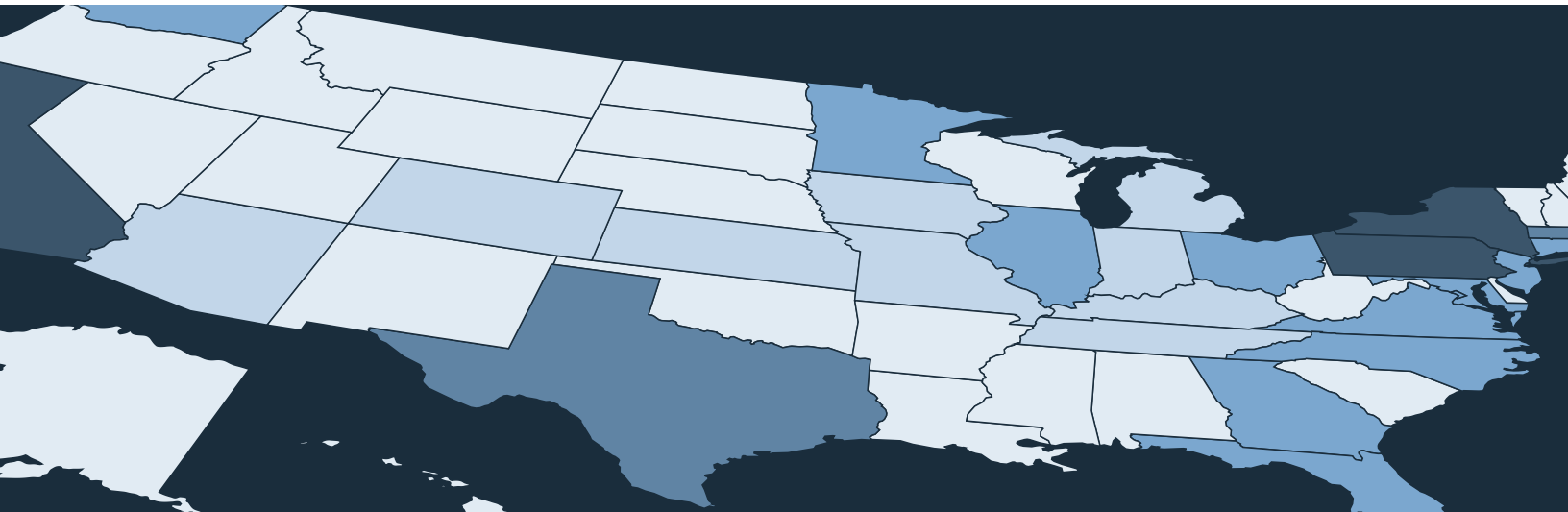


Demographics of the U.S. Psychology Workforce

Findings from the American Community Survey

American Psychological Association
Center for Workforce Studies

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Executive Summary

The American Community Survey (ACS) is the largest source of data on the United States population. These data help to answer questions pertaining to household and family structure, demographics, education, work, and income. Under an operationalized definition of active psychologists—based on ACS reported occupation, education, and work status of individuals—a demographic snapshot of the nation’s psychology workforce can be created. Major findings include:

From 2005 to 2013, the supply of active psychologists remained stable. Although there were considerable increases in retired (96.9%) and semi-retired psychologists (77.9%), new psychologists who entered the field in this period compensated for growth in retired or semi-retired psychologists. The number of active psychologists increased slightly by 3.2%.

The gender gap in the psychology workforce has widened. More females and fewer males have been entering the psychology workforce. In 2013, for every male active psychologist, there were 2.1 female active psychologists in the workforce. This gender gap was even wider for racial/ethnic minority groups.

Although members of racial/ethnic minority groups accounted for less than one-fifth of the psychology workforce in 2013, the profession has become more diverse over time. Between 2005 and 2013, the percentage of racial/ethnic minority groups within the psychology workforce grew from 8.9% to 16.4%, compared to 39.6% for the overall workforce and 25.8% for the general doctoral/professional workforce.

The “baby boomer” and “echo boomer” generations formed two peaks in the age distribution of active psychologists. In 2013, the age distribution of active psychologists peaked at ages 56 to 65, which falls within the baby boomer generation age range (those born in the period 1946 to 1964). Additionally, the age distribution peaked at ages 31 to 35, capturing part of the echo boomer generation age range (those born in the period 1976 to 2001).

Larger numbers of young racial/ethnic minority psychologists are entering the field. Compared to Whites, the distributions for racial/ethnic minority groups were relatively more concentrated at younger ages. Accordingly, the mean age of all racial/ethnic minority groups was statistically lower than that of Whites by approximately 4.1 years.

Introduction

The purpose of this report is to provide an overview of the demographics of the United States psychology workforce. The report describes the numbers of psychologists, their gender, race/ethnicity, and age as of 2013 (the most recent year for which data are available) as well as trends since 2005. The data analyzed in this report came from U.S. Census Bureau's American Community Survey (ACS) 1-year Public-Use Microdata Sample (PUMS) files (2005-2013).

To determine the sample of the psychology workforce used in this report, individuals were operationally defined as active psychologists if they: (1) were coded in the occupation of psychologist, (2) were in the workforce,¹ and (3) had professional or doctoral degrees (in any field).²

Section 1 of this report presents data on the size and growth of the U.S. psychology workforce. Specifically, it examines the number of active, retired, and semi-retired psychologists and the geographic distribution of active psychologists. Section 2 investigates the gender composition of the psychology workforce, including growth of the gender gap. Section 3 examines the racial/ethnic composition of the active psychology workforce and how the psychology workforce compares to the overall workforce and the general doctoral/professional workforce. The effect of changes in the racial/ethnic composition on the gender gap is also considered. Lastly, Section 4 examines the age distribution and the interaction between age, gender, and race/ethnicity of active psychologists.

Limitations of the data presented in this report, as well as issues for future research, are discussed in the Conclusion. Appendix A contains technical documentation of ACS methodology and of the variable taxonomy used in this report. Data supporting the figures in the report are provided in Appendix B.

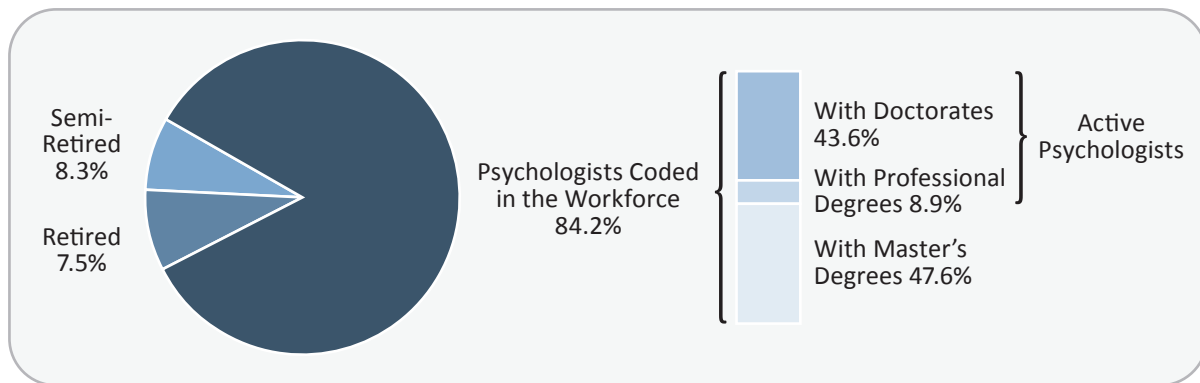
1. Individuals who were enrolled in school or who retired or semi-retired were excluded. "Retired" was defined as individuals age 60 or higher who did not work. "Semi-retired" was defined as individuals age 55 or higher who worked less than 40 hours per week or 20 weeks per year. Retired and semi-retired psychologists were defined as those who retired or semi-retired from the occupation of psychologist and had professional or doctoral degrees. See Appendix A for detailed documentation.

2. This definition differs from the definition used by APA for association membership purposes, which is based only on having a doctoral degree in psychology. The psychologist population used in this report roughly reflects the portion of the doctoral psychologists who are identified with the occupation of psychologist.

1. Composition and Growth of the Psychology Workforce

According to the results of the 2013 American Community Survey (ACS), out of approximately 188,000 people who were coded as psychologists,³ about 30,000 were either retired (7.5%) or semi-retired (8.3%). Of those who were active in the workforce, 47.6% held master's degrees, while 52.4% (approximately 83,000 individuals) held professional (8.9%) or doctoral (43.6%) degrees. This group of active psychologists⁴ with doctoral or professional degrees makes up the inferred population for this report, and is referred to as “active psychologists” in the report unless otherwise noted. Figure 1 illustrates the composition of the psychology workforce.

Figure 1. Composition of the Psychology Workforce: Active, Retired, and Semi-Retired Psychologists, 2013



Source: 2013 ACS files from U.S. Census Bureau

Note: The pie chart on the left refers to individuals who were coded as psychologists. The bar chart on the right refers to individuals who were coded as psychologists and were in the workforce. Individuals enrolled in schools or with a bachelor's degree or lower were not included in this graph. Totals may not sum to 100% due to rounding.

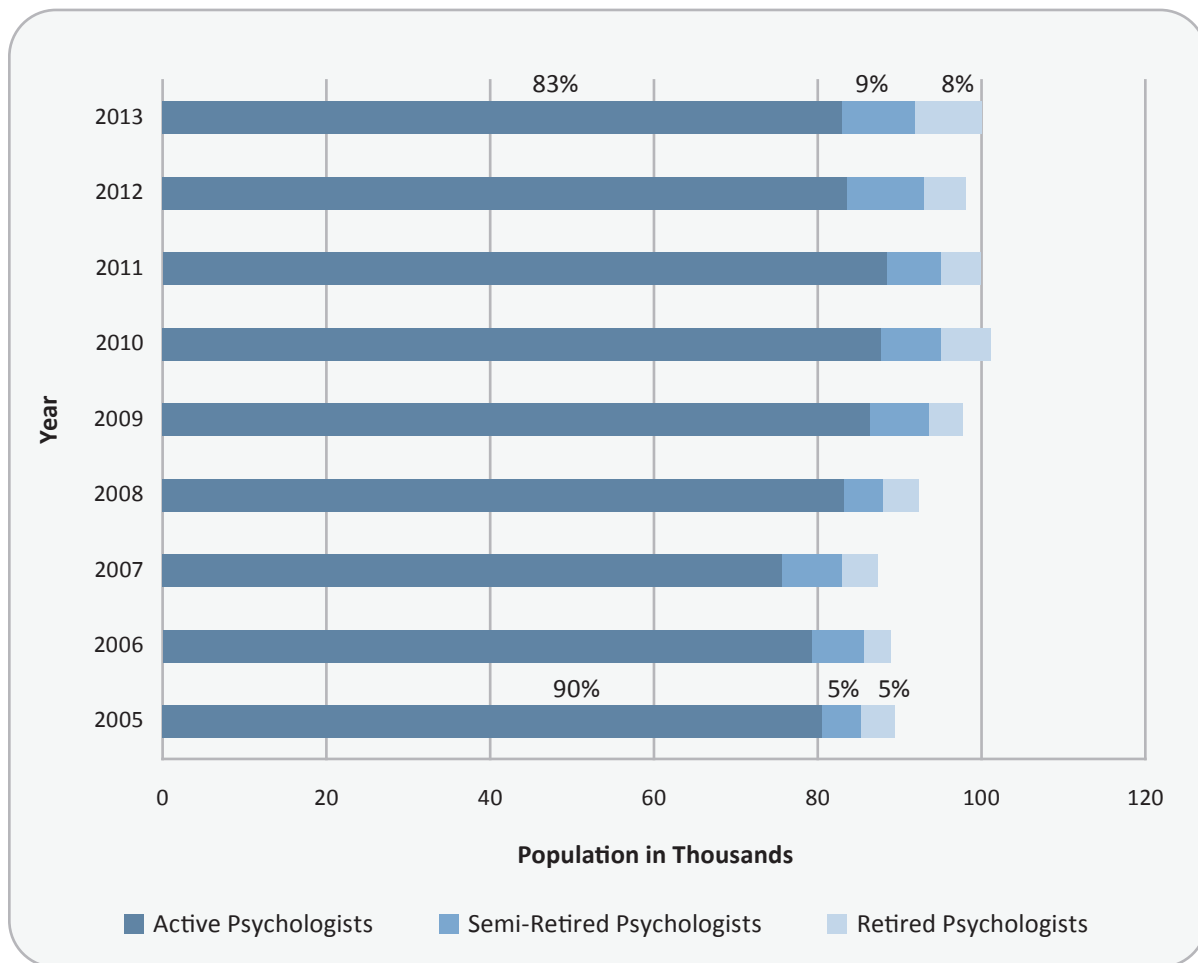
3. Individuals enrolled in schools or with a bachelor's degree or lower were not included.

4. The estimated number here is an undercount of the entire psychology workforce as it only reflects the portion of psychologists who are identified with the occupation of psychologist (with doctoral or professional degrees). It does not include doctoral-level psychologists coded in occupations such as “postsecondary teachers” or “survey researchers.” See discussion of the limitations of ACS data in the Conclusion.

Growth of the Psychology Workforce

Figure 2 displays the growth of the psychology workforce from 2005 to 2013. Despite minor fluctuations, the supply of active psychologists has remained relatively stable throughout this time period; the number of active psychologists slightly increased by 3.2%. By comparison, the number of retired and semi-retired psychologists grew considerably during this period: a 96.9% increase for retired psychologists and a 77.9% increase for semi-retired psychologists. However, the slight percentage increase in the number of active psychologists indicates that new psychologists who entered the field in this period compensated for growth in retired or semi-retired psychologists.

Figure 2. Changes in Active, Retired, and Semi-Retired Psychologists, 2005-2013



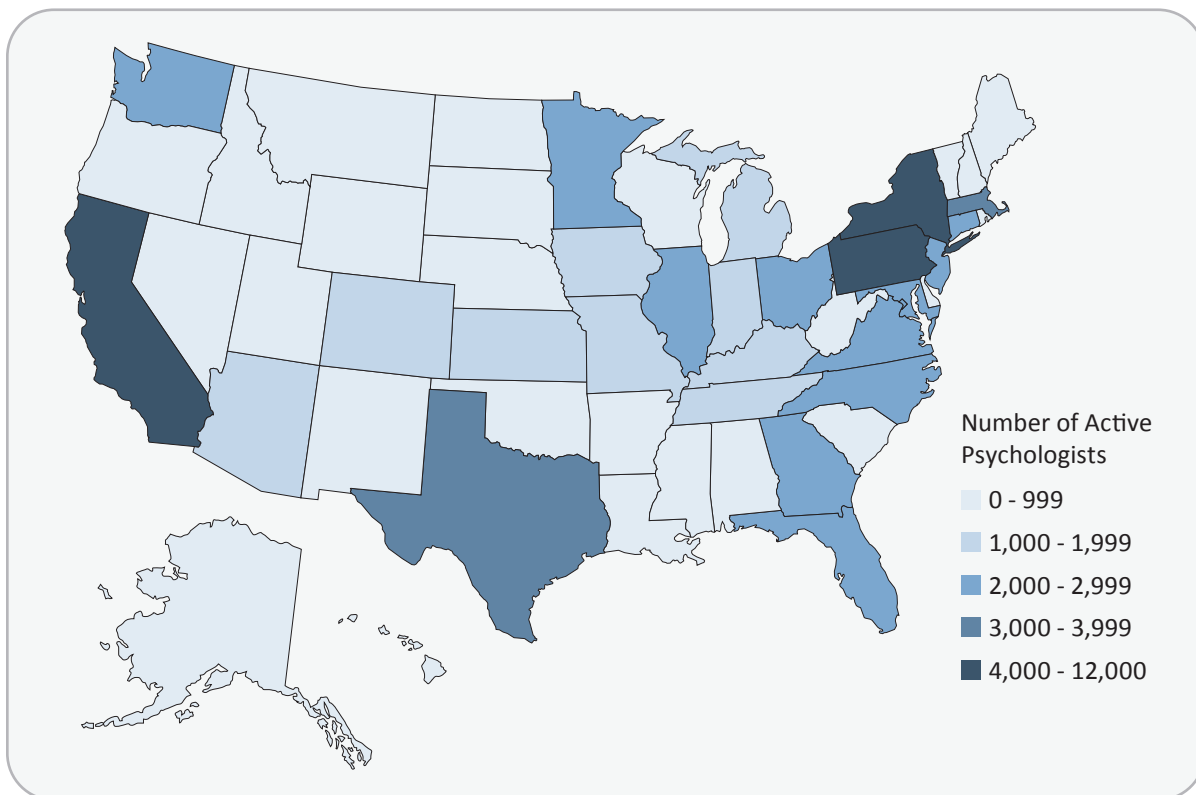
Source: 2005-2013 ACS files from U.S. Census Bureau

Figure 2 also shows a 33.7% decrease in semi-retired psychologists in 2008, which was most likely the effect of the Great Recession. During and after the recession, many people chose to either fully retire for lack of work or to re-enter the workforce full-time due to a sudden loss of financial or real estate wealth. Correspondingly, there were a slight increase (1.1%) in retirement and a considerably larger increase (10.0%) in active psychologists during that time.

Geographic Distribution of Active Psychologists

Figure 3 illustrates the geographic distribution of active psychologists in 2013. The number of active psychologists per state ranged from the highest at 11,000 (California) to as low as 160 (Mississippi). The distribution of the active psychology workforce was more concentrated in the coastal areas: in addition to California, New York (8,000), Pennsylvania (6,000), and Massachusetts (4,000) were among the states with the largest active psychology workforce. The four states together accounted for one third (34.7%) of all the active psychologists in the nation. As for the inland area, Illinois (3,000) had the largest number of active psychologists in the Midwest states, whereas Texas (3,000) was the leading Southern state with the greatest number of active psychologists.

Figure 3. Distribution of Active Psychologists by State, 2013

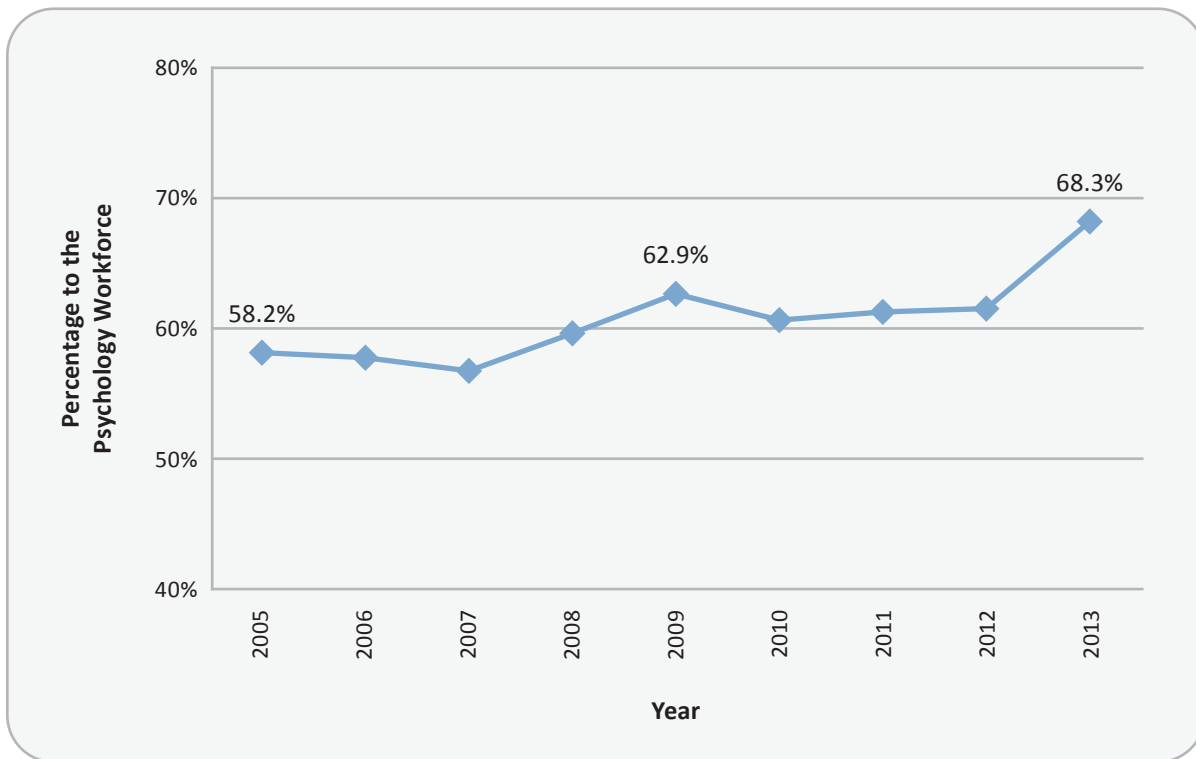


Sources: 2013 ACS Files; 2013 Topologically Integrated Geographic Encoding and Referencing (TIGER) States Map from U.S. Census Bureau

2. Gender

Figure 4 displays the percentage of female active psychologists in the active psychology workforce. Between 2005 and 2013, the percentage of female active psychologists in the workforce increased by ten percentage points (from 58.2% to 68.3%). In 2013, for every male active psychologist, there were 2.1 female active psychologists in the workforce.

Figure 4. Percentage of Female Active Psychologists in the Active Psychology Workforce, 2005-2013

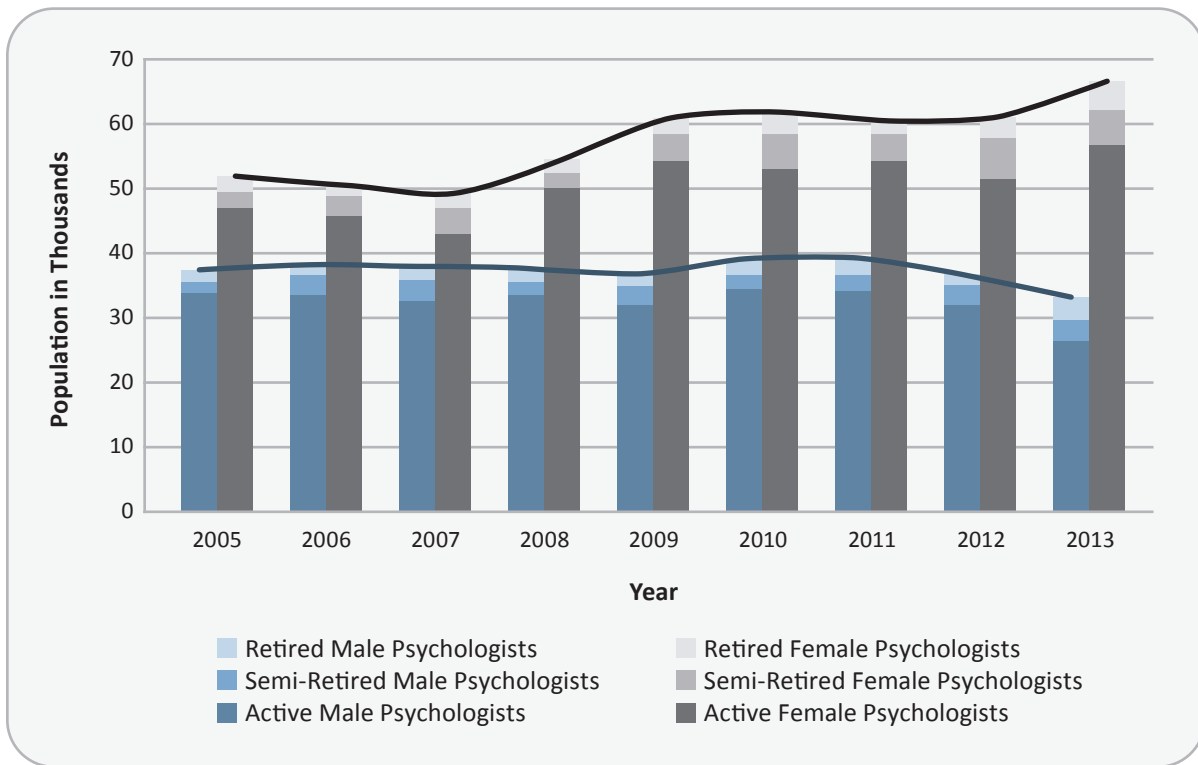


Source: 2005-2013 ACS files from U.S. Census Bureau

Growth of the Gender Gap of Psychologists

Figure 5 presents the number of active, retired, and semi-retired psychologists by gender from 2005 to 2013. The figure denotes a growth in the gender gap (i.e., the difference in the number of psychologists by gender) during this time period. The widened gender gap was the result of not only more females entering the workforce, but also more males exiting the workforce. Between 2007 and 2009, for instance, the total number of psychologists increased by 23.3% for females and decreased by 3.2% for males. Similarly, between 2012 and 2013, the total psychology workforce increased by 8.8% for females and decreased by 10.2% for males.

Figure 5. Active, Retired, and Semi-Retired Psychologists by Gender, 2005-2013

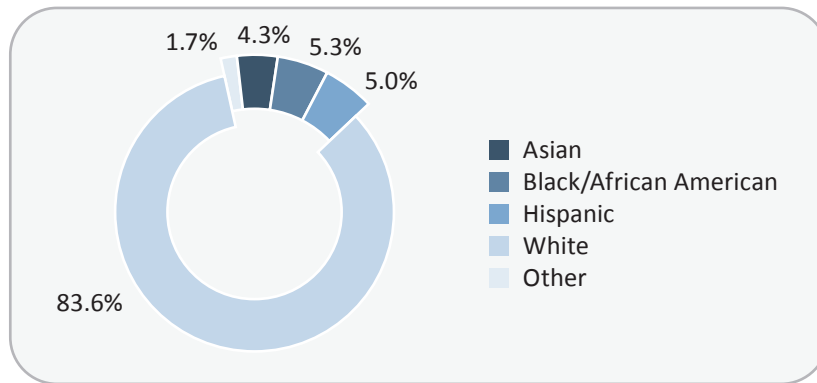


Source: 2005-2013 ACS files from U.S. Census Bureau

3. Race and Ethnicity

Figure 6 displays the racial/ethnic composition⁵ of the active psychology workforce. The active psychology workforce was primarily White: in 2013, Whites accounted for 83.6% of active psychologists. Racial/ethnic minority groups, including Asian (4.3%), Black/African American (5.3%), Hispanic (5.0%), and other racial/ethnic groups (1.7%), accounted for approximately 16.4% of active psychologists.⁶

Figure 6. Racial/Ethnic Composition of Active Psychologists, 2013



Source: 2013 ACS files from U.S. Census Bureau
Note: Totals do not sum to 100% due to rounding.

The active psychology workforce was considerably less diverse compared to the overall U.S. workforce (i.e., the workforce across all fields, including psychologists), and slightly less diverse compared to the general doctoral/professional workforce (i.e., the workforce with doctoral or professional degrees across all fields, including psychologists). Figure 7 illustrates the percentage point differences in the racial/ethnic composition (1) between the active psychology workforce and the overall workforce and (2) between the active psychology workforce and the general doctoral/professional workforce in 2013.

In the first set of comparisons, the representation of racial/ethnic minority groups in the active psychology workforce (16.4%) was much lower than their representation in the overall workforce (39.6%); the percentage point difference between the two was estimated to be

5. The categorization of racial/ethnic groups in this report was based on the ACS categorization as follows:

Asian: "Asian alone" racial groups in ACS.

Black/African American: "Black or African American alone" racial groups in ACS.

Hispanic: "Recorded as Hispanic Origin," with Mexican racial groups included as they were in ACS.

White: "White alone" in ACS. This included individuals that were categorized as White and did not belong to any other racial groups. Individuals that were White and Hispanic fell into the Hispanic group rather than the White group.

Other: including "American Indian alone," "Alaska Native Alone," "Native Hawaiian and Other Pacific Islander alone," "Some other race alone," and "Two or more major race groups."

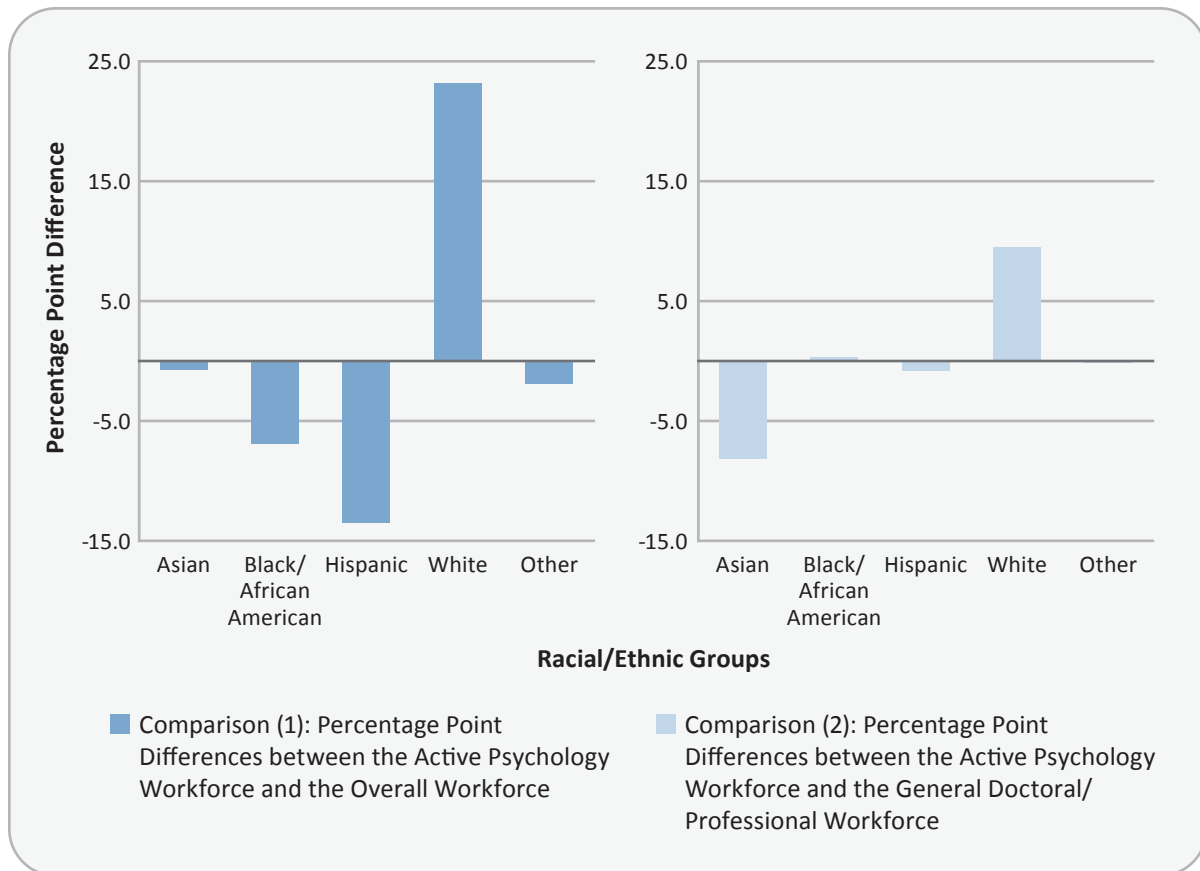
Racial/Ethnic Minority Groups: All racial/ethnic groups that were not White.

See Appendix A for details.

6. Totals do not sum to 16.4% due to rounding.

23.2. For Asians, the difference was relatively small (0.7 percentage points). For the Black/African American and the Hispanic groups, however, the differences were 7.0 and 13.6 percentage points respectively. These findings indicate a lower level of presence of racial/ethnic minority groups in the active psychology workforce than in the overall workforce.

Figure 7. Comparison of the Racial/Ethnic Composition between the Overall Workforce, the General Doctoral/Professional Workforce, and the Active Psychology Workforce, 2013



Source: 2013 ACS files from U.S. Census Bureau

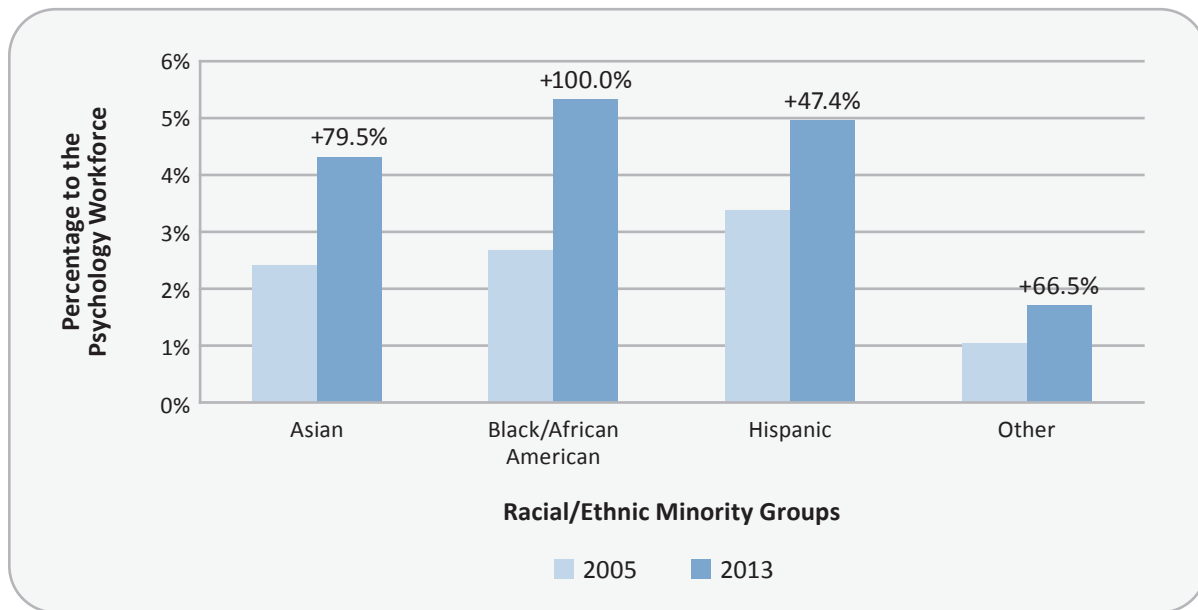
Note: In comparison (1), bar heights indicate the percentage of a racial/ethnic group within the overall workforce subtracted from the percentage of the racial/ethnic group within the active psychology workforce. In comparison (2), bar heights indicate the percentage of a racial/ethnic group within the general doctoral/professional workforce subtracted from the percentage of that racial/ethnic group within the active psychology workforce.

In the second set of comparisons, the active psychology workforce was also found to be less diverse than the general doctoral/professional workforce. Racial/ethnic minority representation in the active psychology workforce (16.4%) was 9.4 percentage points lower than it was in the general doctoral/professional workforce (25.8%). The representations of Black/African American, Hispanic, and other racial/ethnic groups in the psychology workforce were very similar to their counterparts in the general doctoral/professional workforce. However, Asians had considerably lower (8.3 percentage points) representation in the psychology workforce (4.3%) than in the general doctoral/professional workforce (12.6%).

Changes in the Racial/Ethnic Composition of Active Psychologists

Although members of racial/ethnic minority groups made up a small portion of the active psychology workforce (and were at a level lower than that of the overall workforce and the general doctoral/professional workforce), the proportions of these groups have grown significantly over time. Figure 8 shows the percentage of each racial/ethnic minority group in the active psychology workforce in 2005 and in 2013. From 2005 to 2013, the percentage of Asians in the psychology workforce grew from 2.4% to 4.3% – an increase of 79.5%. Black/African Americans doubled in their percentage of the psychology workforce (from 2.7% to 5.4%). The proportion of Hispanics increased by 47.4%, while the proportion of other racial/ethnic groups increased by 66.5%. The total representation of racial/ethnic minority groups in the active psychology workforce grew by almost eight percentage points (from 8.9% to 16.4%). This growth indicates that the psychology workforce has become more diverse over time.

Figure 8. Growth in the Percentage of Racial/Ethnic Minority Groups in the Active Psychology Workforce, 2005-2013



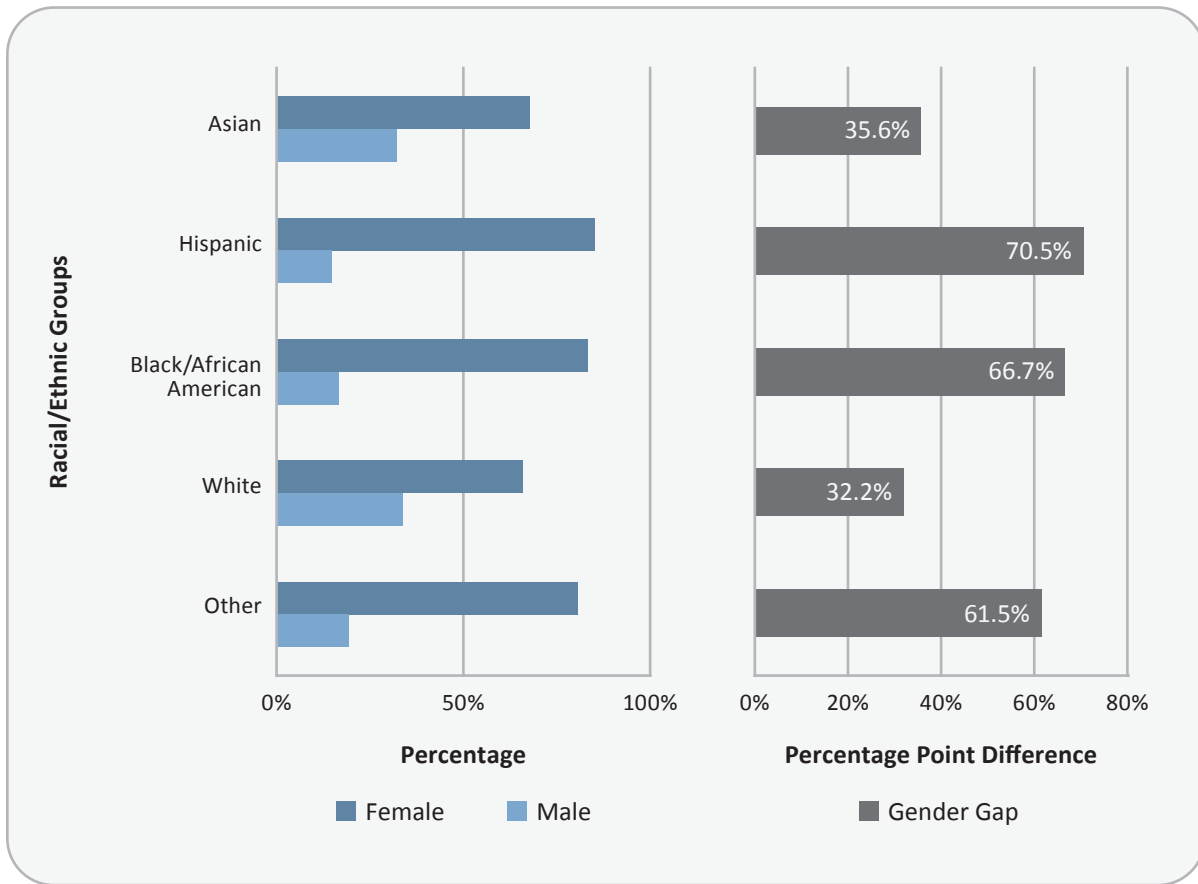
Source: 2005 and 2013 ACS files from U.S. Census Bureau

The Effect of Race/Ethnicity on the Gender Gap

There were more female than male active psychologists in all racial/ethnic groups, but the differences were more pronounced for racial/ethnic minority groups than for Whites. Figure 9 shows the percentage of females and males in each racial/ethnic group and their respective percentage point differences (i.e., the gender gap). In 2013, 66.1% of White active psychologists were female and 33.9% of White active psychologists were male, which pro-

duced a gender gap of 32.2 percentage points. In other words, there were roughly twice as many White female active psychologists than there were White male active psychologists. The gender gap was slightly larger for Asians (35.6 percentage points). For Black/African Americans, the gap was 70.5 percentage points: for every male Black/African American active psychologist, there were 5.8 female Black/African American active psychologists. The gender gap was 66.7 percentage points for the Hispanic groups (i.e., 5.0 females for each male) and 61.5 percentage points for other racial/ethnic groups (i.e., 4.2 females for each male).

Figure 9. Gender Differences in the Number of Active Psychologists by Race/Ethnicity, 2013



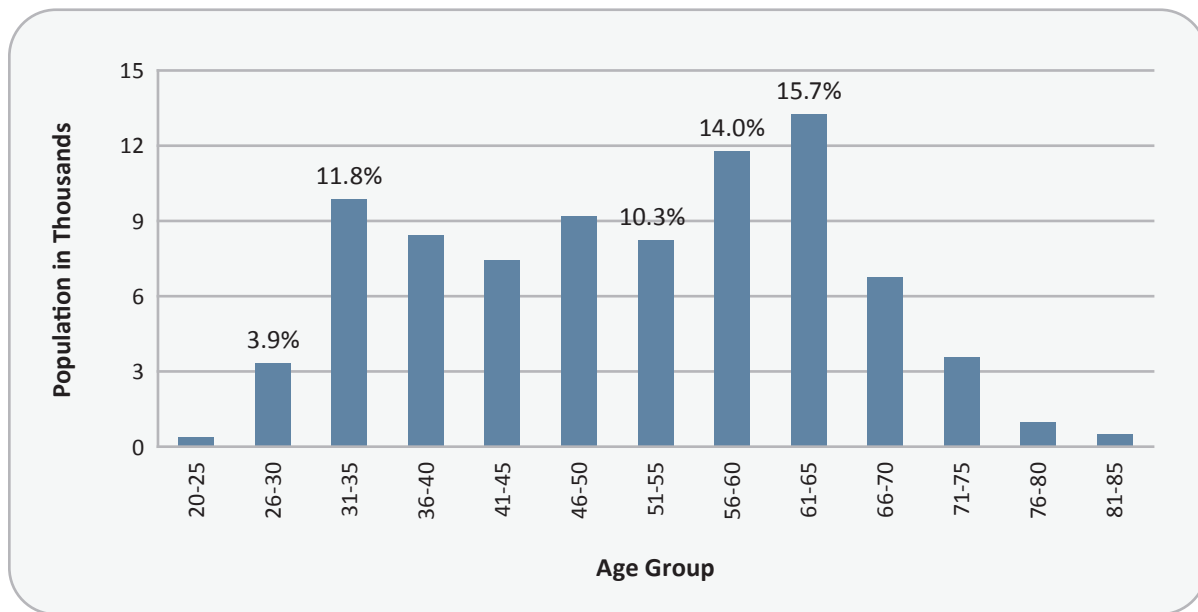
Source: 2013 ACS files from U.S. Census Bureau

Note: The gender gap is the percentage of males subtracted from the percentage of females.

4. Age

Figure 10 displays the distribution of active psychologists in 2013 by age group. The distribution peaked at two age ranges: ages 31 to 35 and ages 56 to 65. The 56 to 65 age peak falls within the “baby boomer” generation (born in the period 1946 to 1964, ages 49 to 67 in the year 2013). The 31 to 35 age peak is part of the “echo boomer” generation (born in the period 1976 to 2001, ages 12 to 37 in 2013).⁷ People in the 31-35 age cohort might still be in pursuit of doctoral or professional degrees.⁸ Therefore, the size of the echo boomer peak might grow larger in subsequent years.

Figure 10. Age Distribution of the Active Psychology Workforce, 2013



Source: 2013 ACS files from U.S. Census Bureau

Figure 11 depicts the age distribution of the overall workforce, the general doctoral/professional workforce, and the active psychology workforce in 2013. The differences between the three were relatively small for ages 31 through 55. However, the distributions were considerably different for age groups under 31 and above 55.

The percentage of the active psychology workforce who were under age 31 was much lower than the percentage for the overall workforce. A similar distribution was observed for the general doctoral/professional workforce, which indicates that the additional time needed

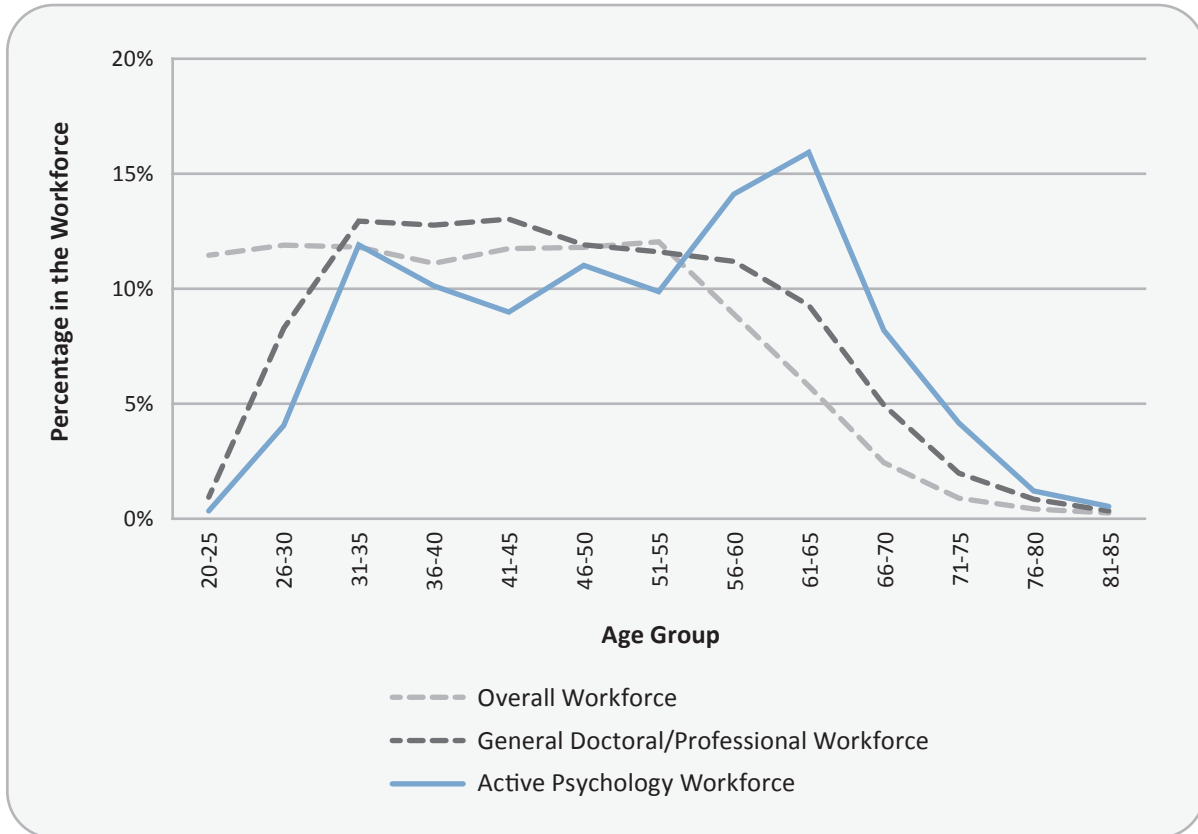
7. Age ranges for baby boomer and echo boomer generations are those used in the U.S. Census Bureau’s Current Population Reports (Colby & Ortman, 2014).

8. According to the National Science Foundation, the median age of individuals receiving research doctorates in psychology in the 2012-2013 academic year was 31.3 years (Survey of Earned Doctorates, 2013).

to acquire a doctoral or professional degree leads to late entrance into the workforce.

Above age 55, the age distribution of active psychologists was greater than the percentage of both the overall workforce and the general doctoral/professional workforce. This suggests that the baby boomer generation of psychologists might be less likely to retire, or more likely to retire at an older age, in comparison with the overall workforce and the general doctoral/professional workforce.

Figure 11. Age Distribution of the Overall Workforce, the General Doctoral/Professional Workforce, and the Active Psychology Workforce, 2013



Source: 2013 ACS files from U.S. Census Bureau

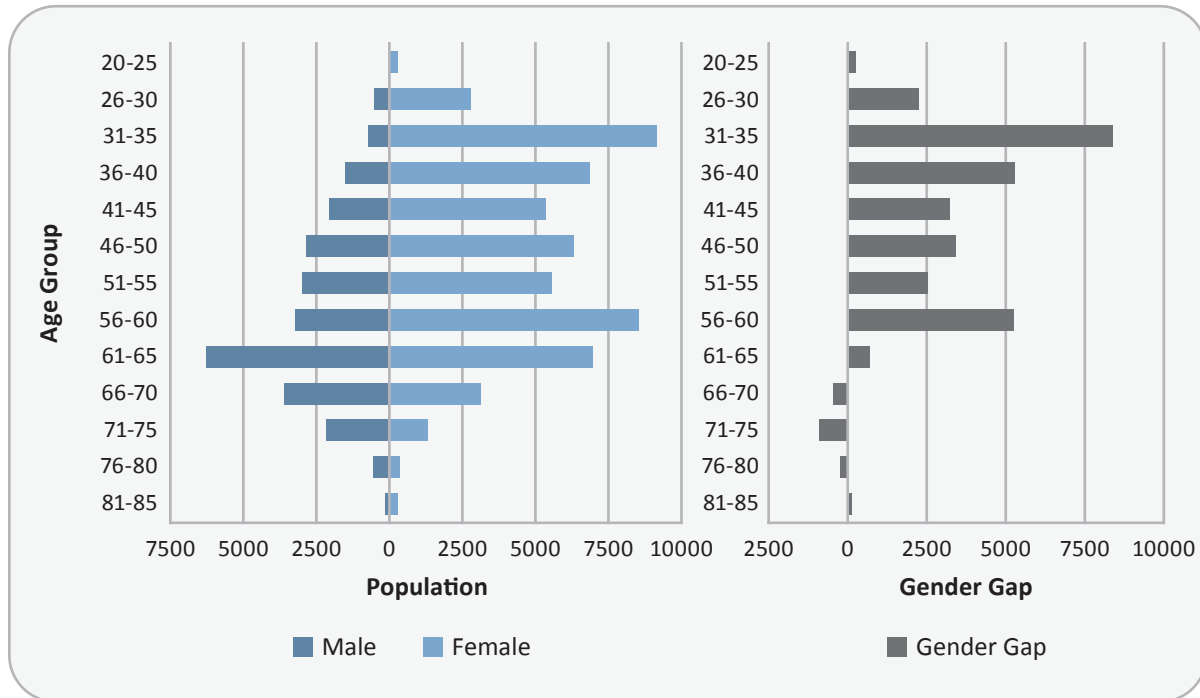
Gender Differences in the Age Distribution of Active Psychologists

The age distribution of the active psychology workforce differed by gender, which produced differences in the gender gap by age. Figure 12 displays a population pyramid with the corresponding gender gap (differences in number of psychologists between genders) in 2013. The number of female active psychologists surpassed the number of male active psychologists at all age groups between ages 20 and 65. The gender gap peaked at ages 31-35, which fell within the echo boomer generation. It appears that fewer young males entered the field of psychology in the years immediately preceding 2013. The gender gap also peak-

ed for the baby boomer generation at ages 56-60, although the gap was smaller compared to the peak for the echo boomer generation.

At ages greater than 65, however, the number of males in the active psychology workforce surpassed the number of females. This finding may reflect the fact that the psychology workforce was primarily male in earlier periods. It may also indicate that older male psychologists are more likely to stay in the workforce than older female psychologists.

Figure 12. Age Distribution of the Active Psychology Workforce by Gender (Population Pyramid) and Gender Gap by Age, 2013



Source: 2013 ACS files from U.S. Census Bureau

Note: The gender gap in this figure is the number of male active psychologists subtracted from the number of female active psychologists in each age group.

With a greater presence of young females and older males in the active psychology workforce, the average age for females was lower than the average age for males overall. The mean and median ages for females and males for the period 2011-2013 are shown in columns (2)-(3) of Table 1 (data for three years were combined to obtain larger sample sizes). The 7.2 year difference in mean age between genders was statistically significant.⁹

9. Independent samples t test: $t(255,295)=145.7, p<0.001$; Independent sample test for equality of medians: $\chi^2(1)=14,000, p<0.001$; Mann-Whitney U test: $Z=140.6, p<0.001$.

Table 1. Mean, Median, and Standard Deviation of Ages for Active Psychologists by Gender and Race/Ethnicity, 2011-2013

Ages	(1). Total Active Psychologists	Active Psychologists by Gender		Active Psychologists by Race/Ethnicity			
		(2). Female	(3). Male	(4). Asian	(5). Black/African American	(6). Hispanic	(7). White
Mean	50.5	47.9	55.1	46.5	47.9	46.4	51.1
Median	51	48	57	43	46	44	53
Std. Dev.	12.5	12.4	11.4	13.3	10.3	11.2	12.6

Source: 2011-2013 ACS files from U.S. Census Bureau. Three 1-Year files of PUMS data (2011-2013) are combined in order to obtain larger sample sizes.

Age Distribution for Different Racial/Ethnic Groups

Patterns in the age distribution of the active psychology workforce also differed by racial/ethnic groups. Figure 13 depicts the age distribution for different racial/ethnic groups for the period 2011-2013 (data for three years were combined to obtain larger sample sizes). Whites formed the majority of the active psychology workforce; therefore the age distribution of White active psychologists generally resembled the pattern of all active psychologists, with similar peaks linked to the baby boomer and echo boomer generations.

Compared to Whites, the distributions for all racial/ethnic minority groups were more concentrated at younger ages. The peak for Black/African American active psychologists was at ages 41-50 rather than 51-60 for Whites. For both Asian and Hispanic active psychologists, the peaks were at ages 31-40. These findings indicate that larger numbers of young racial/ethnic minority psychologists have been entering the field.

Accordingly, the mean ages of all racial/ethnic minority groups were significantly lower than that of Whites. As shown in columns (4)-(7) of Table 1, the difference in mean age between the White (51.1) and the Asian groups (46.5) was 4.6 years;¹⁰ the difference between the White and the Black/African American (47.9) groups was 3.2 years;¹¹ and the difference between the White and Hispanic groups (46.4) was 4.7 years.¹² The mean age difference between the White and all racial/ethnic minority groups (46.9) was 4.1 years.¹³

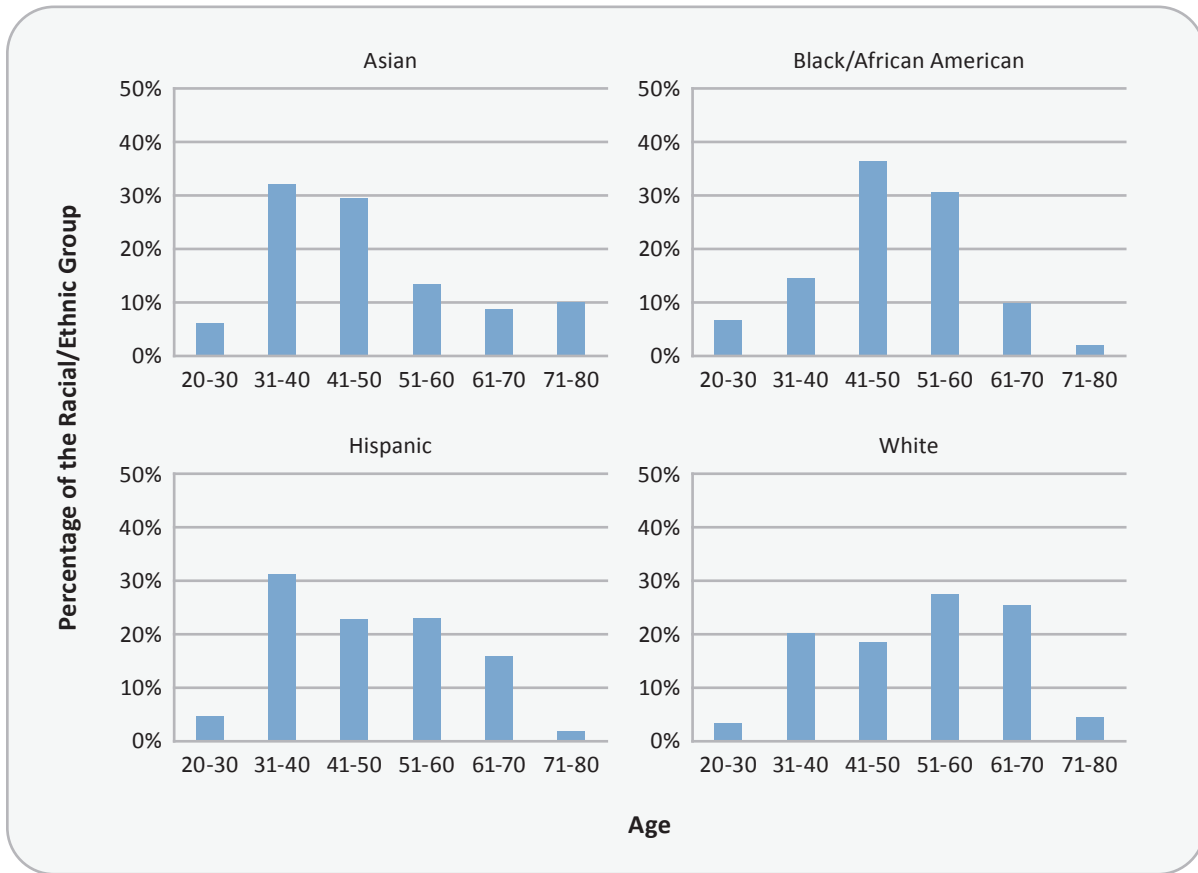
10. Independent samples t test: $t(229,004)=34.6$, $p<0.001$; Independent sample test for equality of medians: $\chi^2(1)=1,900$, $p<0.001$; Mann-Whitney U test: $Z=35.6$, $p<0.001$.

11. Independent samples t test: $t(228,742)=24.3$, $p<0.001$; Independent sample test for equality of medians: $\chi^2(1)=764.2$, $p<0.001$; Mann-Whitney U test: $Z=27.3$, $p<0.001$.

12. Independent samples t test: $t(231,968)=40.4$, $p<0.001$; Independent sample test for equality of medians: $\chi^2(1)=1,700$, $p<0.001$; Mann-Whitney U test: $Z=40.6$, $p<0.001$.

13. Independent samples t test: $t(255,295)=58.7$, $p<0.001$; Independent sample test for equality of medians: $\chi^2(1)=4,500$, $p<0.001$; Mann-Whitney U test: $Z=60.4$, $p<0.001$.

Figure 13. Age Distribution of Active Psychologists by Race/Ethnicity, 2011-2013



Source: 2011-2013 ACS files from U.S. Census Bureau

Note: Three 1-Year files of PUMS data (2011-2013) were combined to obtain larger sample sizes.

Conclusion

The American Community Survey allows for the creation of a demographic snapshot of the active psychology workforce. From 2005 to 2013, the psychology workforce remained stable in number as new entrants to the field compensated for retirements and semi-retirements. The gender gap in the number of active psychologists widened with fewer males and more females entering the workforce. Although the representation of racial/ethnic minorities was small relative to Whites, racial/ethnic minority representation in the psychology workforce has increased over time. With larger numbers of young racial/ethnic minority psychologists entering the field, the mean ages of racial/ethnic minority groups were lower than the mean age of White psychologists.

The findings of this report also point to directions for future research. For example, further research is needed to understand why the gender gap has continued to widen in recent years. It is important to understand both why a greater number of females have entered the workforce and why fewer males have entered the workforce (and more males have exited). Research is also needed to identify the factors that have enabled larger numbers of members of racial/ethnic minority groups to enter the psychology workforce and how that growth can be sustained. It will be important as well to examine the factors that influence decisions to retire and semi-retire from the psychology workforce.

A limitation of the ACS data is that they only reflect the portion of psychologists who were coded as having the occupation of psychologist. Because the ACS data do not include information on an individual's field of doctoral degree, the definition of psychologist in this report is primarily based on occupation identification rather than field of degree. As the field of degree is not collected in the ACS, psychologists' doctoral and professional degrees might not always be in psychology. Moreover, for the occupation question, coders from the U.S. Census Bureau assigned an occupation code after each respondent filled in the answer. For psychologists engaged in education or research, it is possible that coders classified these individuals into occupations such as "postsecondary teachers" or "survey researchers" rather than "psychologist." It is therefore unclear whether the ACS data adequately reflect those segments of the psychology workforce that are not practitioners but work in fields such as education and research.

Further, the ACS data do not classify psychologists according to sub-fields (clinical, cognitive, industrial/organizational, etc.) Developing methods for analyzing the psychology workforce by subfields would enable a more fine-grained characterization of the workforce to be produced.

In contrast, the major strength of the ACS data is its large and representative sample. The U.S. Census Bureau builds a representative sample of the entire U.S. population. The high response rate and variety of information collected renders the ACS one of the richest and most balanced datasets available on the U.S. population.

Future reports from the APA Center for Workforce Studies will examine earnings, work settings, and educational backgrounds of the psychology workforce based on ACS data.

Appendix A: Technical Documentation

The major data source used for this report was the American Community Survey (ACS) Public-Use Microdata Sample (PUMS) file downloaded from the U.S. Census Bureau website. The ACS creates estimates on both individual and household characteristics of the U.S. population every year by sampling on a monthly basis, and then collating into an annual estimate.

The ACS uses the Master Address File maintained and updated by the U.S. Census Bureau to contact a sample of housing units and group quarters. The 2013 ACS interviewed roughly 1 in 38 U.S. households and had a sample size of approximately 3.1 million people. Sample weights were given so that inferences could be made about the entire U.S. population.

The specific data files used in this report were the 1-year PUMS data file from 2005 to 2013. The 2013 PUMS files contain the most recent ACS data available. Earlier data (2000 to 2004) had smaller sample sizes and excluded some portions of the U.S. (small counties). Therefore, these data are less comparable to more recent ACS data and were not used in this report.

The PUMS data gave individual-level responses to the ACS questionnaire. The variable taxonomy used in this report is as follows:

Gender

The gender variable SEX in the ACS was used in this report. The variable SEX was coded as follows:

1. Male
2. Female

Race and Ethnicity

The ACS race and ethnicity variables RAC1P and HISP were used to categorize racial/ethnic groups in this report.

RAC1P is coded as follows:

1. White alone
2. Black or African American alone
3. American Indian alone
4. Alaska Native alone
5. American Indian and Alaska Native tribes specified; or American Indian or Alaska native, not specified and no other races
6. Asian alone

7. Native Hawaiian and Other Pacific Islander alone
8. Some other race alone
9. Two or more major race groups

HISP was coded as follows:

1. Not Spanish/Hispanic/Latino
2. Mexican
3. Puerto Rican
4. Cuban
5. Dominican
6. Costa Rican
7. Guatemalan
8. Honduran
9. Nicaraguan
10. Panamanian
11. Salvadoran
12. Other Central American
13. Argentinean
14. Bolivian
15. Chilean
16. Colombian
17. Ecuadorian
18. Paraguayan
19. Peruvian
20. Uruguayan
21. Venezuelan
22. Other South American
23. Spaniard
24. All Other Spanish/Hispanic/Latino

The racial/ethnic groups in this report were defined as follows:

Asian: RAC1P=6. Asian alone.

Black/African American: RAC1P=2. Black or African alone.

Hispanic: HISP≠1. Do not fall into category “Not Spanish/Hispanic/Latino”.

White: RAC1P=1 and HISP=1. White alone, not Hispanic.

Other: All other left.

Age

The ACS age variable, AGEP, was used to code ages. The variable was top-coded with 99 being the highest value, and 0 as the lowest value. Individuals younger than one year were coded as 0. Individuals aged higher than 99 were coded as 99.

Geography

Variable ST (State Code) was used to determine the location of a given psychologist.

Overall Workforce

Respondents were classified as belonging to the overall workforce if they were coded as in the labor force by ACS variable ESR (Employment Status Recode): ESR ≠6. ESR was coded as follows:

- b. N/A (less than 16 years old)
 - 1. Civilian employed, at work
 - 2. Civilian employed, with a job but not at work
 - 3. Unemployed
 - 4. Armed forces, at work
 - 5. Armed forces, with a job but not at work
 - 6. Not in labor force

General Doctoral/Professional Workforce

Respondents were classified as belonging to the general doctoral/professional workforce if they

- (A) Were in the workforce (i.e., ESR≠6);
and
- (B) Had professional or doctoral degrees (i.e.,SCHL≥23).

Variable SCHL (Educational attainment) was coded as follows:

- bb. N/A (less than 3 years old)
 - 1. No schooling completed
 - 2. Nursery school, preschool
 - 3. Kindergarten
 - 4. Grade 1
 - 5. Grade 2
 - 6. Grade 3
 - 7. Grade 4
 - 8. Grade 5
 - 9. Grade 6
 - 10. Grade 7
 - 11. Grade 8
 - 12. Grade 9
 - 13. Grade 10
 - 14. Grade 11
 - 15. Grade 12 – no diploma

16. Regular high school diploma
17. GED or alternative credential
18. Some college, but less than 1 year
19. 1 or more years of college credit, no degree
20. Associate's degree
21. Bachelor's degree
22. Master's degree
23. Professional degree beyond a bachelor's degree
24. Doctorate degree

Retirement

Respondents were defined as “retired” if they

- (A) Were older than or equal to 60 years old (i.e., $AGEP \geq 60$);
and
- (B) Were not in the labor force (i.e., $ESR = 6$).

“Retired psychologists” were defined as those who “retired” from the occupation of psychologist (OCCP [Occupation]=1820, code for “Sci-Psychologist”) with professional or doctoral degrees ($SCHL \geq 23$).

Semi-Retirement

Respondents were defined as semi-retired if they:

- (A) Were equal to or older than 55 years old (i.e., $AGEP \geq 60$);
and
- (B) Worked 39 weeks or less out of the year ($WKW \geq 4$) or worked 19 hours or less per week ($WKHP \leq 19$).

WKW (Weeks worked during past 12 months) was coded as follows:

- b. (less than 16 years old/ did not work during the past 12 months)
 1. 50 to 52 weeks worked during the past 12 months
 2. 48 to 49 weeks worked during the past 12 months
 3. 40 to 47 weeks worked during the past 12 months
 4. 27 to 39 weeks worked during the past 12 months
 5. 14 to 26 weeks worked during the past 12 months
 6. Less than 14 weeks worked during the past 12 months

WKHP (Hours worked per week during past 12 months) was coded as follows:

- bb. N/A (less than 16 years old/did not work during the past 12 months)
- 1-98. 1 to 98 usual hours

99 .99 or more usual hours

“Semi-retired psychologists” were defined as those who “semi-retired” from the occupation of psychologist (OCCP=1820) with professional or doctoral degrees (SCHL≥23).

Active Psychologist

Respondents were defined as active psychologists if they

- (A) Were coded as Psychologists. (OCCP [Occupation]=1820, which is code for “Sci-Psychologist”);
- (B) Were in the workforce (ESR≠6);
- (C) Were not enrolled in school (i.e., SCHG=N/A [not attending school]);
- (D) Were not retired or semi-retired;
- and
- (E) Had professional or doctoral degrees (SCHL≥23).

Note: Some respondents with Doctor of Psychology (Psy.D.) degrees might categorize themselves as having a “professional degree.”

Variable SCHG (Grade level attending) was coded as follows:

bb. N/A (not attending school)

1. Nursery school/preschool
2. Kindergarten
3. Grade 1
4. Grade 2
5. Grade 3
6. Grade 4
7. Grade 5
8. Grade 6
9. Grade 7
10. Grade 8
11. Grade 9
12. Grade 10
13. Grade 11
14. Grade 12
15. College undergraduate years (freshman to senior)
16. Graduate or professional school beyond a bachelor’s degree

Appendix B: Supporting Data for Figures

Table 2. Estimated Number of Psychologists, 2013 (Supporting Table for Figure 1)

Total Respondents Coded as "Psychologists"	188,428
Retired	-14,210
Semi-Retired	-15,654
Total Respondents Coded as "Psychologists" Active in Workforce	158,564
With Master's Degrees	-75,442
Total Active Psychologists	83,142
With Doctorates	69,084
With Professional Degrees	14,058

Source: 2013 ACS Files from U.S. Census Bureau

Note: Individuals enrolled in schools or with a bachelor's degree or lower were not included in this table.

Table 3. Estimated Number of Active, Retired, and Semi-Retired Psychologists, 2005-2013 (Supporting Table for Figure 2)

Year	Active Psychologists		Retired Psychologists		Semi-Retired Psychologists		Total Psychologists
	Population	Percentage	Population	Percentage	Population	Percentage	
2005	80,593	90.0%	4,061	4.5%	4,867	5.4%	89,521
2006	79,355	89.3%	3,324	3.7%	6,197	7.0%	88,876
2007	75,675	86.6%	4,302	4.9%	7,418	8.5%	87,395
2008	83,258	93.0%	4,351	4.7%	4,918	5.3%	92,527
2009	86,560	88.6%	4,138	4.2%	6,989	7.2%	97,687
2010	87,662	86.7%	6,002	5.9%	7,493	7.4%	101,157
2011	88,508	88.6%	4,652	4.7%	6,729	6.7%	99,889
2012	83,646	85.2%	5,212	5.3%	9,301	9.5%	98,159
2013	83,142	83.3%	7,996	8.0%	8,657	8.7%	99,795

Source: 2005-2013 ACS Files from U.S. Census Bureau

Table 4. Estimated Number of Active Psychologists by State, 2013 (Supporting Table for Figure 3)

State Code	State	Number of Psychologists
1	Alabama	-*
2	Alaska	-
4	Arizona	1578
5	Arkansas	347
6	California	11025
8	Colorado	1943
9	Connecticut	2082
10	Delaware	-
11	District of Columbia	537
12	Florida	2926
13	Georgia	2105
15	Hawaii	553
16	Idaho	-
17	Illinois	2896
18	Indiana	1580
19	Iowa	1130
20	Kansas	1095
21	Kentucky	1330
22	Louisiana	650
23	Maine	710
24	Maryland	2445
25	Massachusetts	3614
26	Michigan	1152
27	Minnesota	2232
28	Mississippi	-
29	Missouri	1479
30	Montana	-
31	Nebraska	309
32	Nevada	835
33	New Hampshire	756
34	New Jersey	2668
35	New Mexico	441
36	New York	8074
37	North Carolina	2156
38	North Dakota	-
39	Ohio	2150
40	Oklahoma	325
41	Oregon	737
42	Pennsylvania	5837
44	Rhode Island	-
45	South Carolina	782
46	South Dakota	-
47	Tennessee	1436
48	Texas	3908
49	Utah	-
50	Vermont	603
51	Virginia	2807
53	Washington	2950
54	West Virginia	397
55	Wisconsin	939
56	Wyoming	340

Source: 2013 ACS Files from U.S. Census Bureau

*Considering sample sizes and sample weights given by ACS, groups with inferred population sizes less than 300 were not shown in the table.

Table 5. Estimated Number of Active, Retired, and Semi-Retired Psychologists by Gender, 2005-2013 (Supporting Table for Figure 4 and Figure 5)

Year	Male Psychologists			Female Psychologists			Active Psychologists		Total Psychologists	
	Active	Semi-Retired	Retired	Active	Semi-Retired	Retired	Percentage Male	Percentage Female	Percentage Male	Percentage Female
2005	33,674	1,858	2,055	46,919	2,203	2,812	41.8%	58.2%	42.0%	58.0%
2006	33,406	1,586	3,304	45,949	1,738	2,893	42.1%	57.9%	43.1%	56.9%
2007	32,633	2,005	3,353	43,042	2,297	4,065	43.1%	56.9%	43.5%	56.5%
2008	33,422	2,284	2,190	49,836	2,067	2,728	40.1%	59.9%	41.0%	59.0%
2009	32,150	1,910	2,700	54,410	2,228	4,289	37.1%	62.9%	37.6%	62.4%
2010	34,434	2,725	2,074	53,228	3,277	5,419	39.3%	60.7%	38.8%	61.2%
2011	34,156	2,633	2,549	54,352	2,019	4,180	38.6%	61.4%	39.4%	60.6%
2012	32,033	1,854	3,038	51,613	3,358	6,263	38.3%	61.7%	37.6%	62.4%
2013	26,349	3,512	3,313	56,793	4,483	5,344	31.7%	68.3%	33.2%	66.8%

Source: 2005-2013 ACS Files from U.S. Census Bureau

Table 6. Estimated Number of Active Psychologists by Race/Ethnicity, 2005-2013 (Supporting Table for Figure 6, Figure 7, and Figure 8)

Year	Asian		Black/African American		Hispanic		White		Other	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
2005	1,941	2.4%	2,156	2.7%	2,723	3.4%	72,950	90.5%	823	1.0%
2006	2,009	2.5%	2,049	2.6%	2,468	3.1%	72,324	91.1%	505	0.6%
2007	1,867	2.5%	2,401	3.2%	2,821	3.7%	68,067	89.9%	519	0.7%
2008	1,795	2.2%	3,149	3.8%	3,730	4.5%	73,533	88.3%	1,051	1.3%
2009	2,320	2.7%	4,974	5.7%	5,012	5.8%	73,305	84.7%	949	1.1%
2010	2,855	3.3%	2,435	2.8%	4,476	5.1%	76,309	87.0%	1,587	1.8%
2011	2,929	3.3%	1,899	2.1%	4,600	5.2%	77,855	88.0%	1,225	1.4%
2012	2,797	3.3%	3,225	3.9%	3,807	4.6%	72,033	86.1%	1,784	2.1%
2013	3,595	4.3%	4,459	5.4%	4,140	5.0%	69,534	83.6%	1,414	1.7%

Source: 2005-2013 ACS Files from U.S. Census Bureau

Table 7. Estimated Number of Active Psychologists by Gender and Race/Ethnicity, 2013 (Supporting Table for Figure 9)

Racial/Ethnic Groups	Male		Female		Gender Differences	
	Number	Percentage	Number	Percentage	Gender Gap	Female to Male Ratio
Asian	1,157	32.2%	2,438	67.8%	35.6%	2.1 : 1
Black/African American	657	14.7%	3,802	85.3%	70.5%	5.8 : 1
Hispanic	689	16.6%	3,451	83.4%	66.7%	5.0 : 1
White	23,574	33.9%	45,960	66.1%	32.2%	1.9 : 1
Other	272	19.2%	1,142	80.8%	61.5%	4.2 : 1

Source: 2013 ACS Files from U.S. Census Bureau

Note: The gender gap is the percentage of males subtracted from the percentage of females.

Table 8. Estimated Number of Active Psychologists by Gender and Age, 2013 (Supporting Table for Figure 10, Figure 11, and Figure 12)

Age Group	Total Active Psychologists	Male		Female	
		Number	Percentage	Number	Percentage
20-25	-	-	-	-	-
26-30	3,298	517	15.7%	2781	84.3%
31-35	9,860	729	7.4%	9131	92.6%
36-40	8,400	1550	18.5%	6850	81.5%
41-45	7,416	2085	28.1%	5331	71.9%
46-50	9,166	2857	31.2%	6309	68.8%
51-55	8,208	2637	32.1%	5571	67.9%
56-60	11,740	3197	27.2%	8543	72.8%
61-65	13,280	6289	47.4%	6991	52.6%
66-70	6,699	3593	53.6%	3106	46.4%
71-75	3,462	2171	62.7%	1291	37.3%
76-80	914	587	64.2%	327	35.8%
81-85	418	-	-	-	-

Source: 2013 ACS Files from U.S. Census Bureau

*Considering sample sizes and sample weights given by ACS, groups with inferred population sizes less than 300 were not shown in the table.

Table 9. Estimated Number and Percentage of Active Psychologists by Race/Ethnicity and Age, 2011-2013 (Supporting Table for Figure 13)

Age Group	Asian		Black/African American		Hispanic		White		Other	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
20-25	-	-	-	-	-	-	-	-	-	-
26-30	423	4.5%	634	6.6%	546	4.4%	7,163	3.3%	-	-
31-35	1,146	12.3%	412	4.3%	1,118	8.9%	22,877	10.4%	920	20.8%
36-40	1,860	20.0%	999	10.4%	2,792	22.3%	21,470	9.8%	388	8.8%
41-45	1,284	13.8%	1,655	17.3%	1,851	14.8%	20,045	9.1%	388	8.8%
46-50	1,475	15.8%	1,833	19.1%	1,003	8.0%	20,550	9.4%	787	17.8%
51-55	541	5.8%	894	9.3%	1,513	12.1%	25,804	11.8%	662	15.0%
56-60	700	7.5%	2,044	21.3%	1,391	11.1%	34,869	15.9%	504	11.4%
61-65	560	6.0%	690	7.2%	1,843	14.7%	34,952	15.9%	545	12.3%
66-70	-	-	-	-	-	-	20,814	9.5%	-	-
71-75	765	8.2%	-	-	-	-	7,645	3.5%	-	-
76-80	-	-	-	-	-	-	2,395	1.1%	-	-
81-85	-	-	-	-	-	-	526	0.2%	-	-

Source: 2011-2013 ACS Files from U.S. Census Bureau

Note: Three 1-Year files of PUMS data (2011-2013) were combined to obtain larger sample sizes.

*Considering sample sizes and sample weights given by ACS, groups with inferred population sizes less than 300 were not shown in the table.

References

- American Psychological Association. (n.d.). *What is APA's definition of "psychologist"?* [Online text box]. Retrieved from <http://www.apa.org/support/about/apa/psychologist.aspx#answer>
- Colby, S. L., & Ortman J. M. (2014). *The baby boom cohort in the United States: 2012 to 2060* (Current Population Reports P25-1141). Retrieved from U.S. Census Bureau's website: <http://www.census.gov/prod/2014pubs/p25-1141.pdf>
- National Science Foundation, National Center for Science and Engineering Statistics. (2013). *Survey of Earned Doctorates*. Retrieved from <http://www.nsf.gov/statistics/sed/2013/data/tab60.pdf>
- U.S. Census Bureau. (2005-2013). *American Community Survey 1-Year Data Dictionary*. Retrieved from <http://www.census.gov/programs-surveys/acs/technical-documentation/pums/documentation.html>
- U.S. Census Bureau. (2005-2013). *American Community Survey 1-Year PUMS file*. Retrieved from <http://www.census.gov/programs-surveys/acs/data/pums.html>
- U.S. Census Bureau. (2013). *2013 Topologically Integrated Geographic Encoding and Referencing State and Equivalent Shape file*. Retrieved from <ftp://ftp2.census.gov/geo/tiger/TIGER2013/STATE/>