Survey Methodology, Respondent Demographics, and Glossary

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Executive Summary

In Spring 2016, the American Speech-Language-Hearing Association (ASHA) conducted a survey of speech-language pathologists (SLPs) and educational audiologists in school settings. The survey was designed to provide information about school-based service delivery and to update and expand information gathered during previous Schools Surveys.

The results are presented in a series of reports. This report is based on responses from SLPs and audiologists in special day/residential schools, preschools, elementary schools, secondary schools, students’ homes, and combined school settings. Data are only presented for subsets of data in which at least 25 individuals provided a response. Several groups are included as part of the total response, even though data are not presented for them in a separate category because fewer than 25 of them provided the necessary information.

Overall Findings

- The overall response rate was 47%: 48% for SLPs and 43% for audiologists.
- 87% of SLPs and audiologists were salaried employees; the rest were contract employees.
- The most common facility was elementary schools for SLPs and combined settings for audiologists.
- 92% of SLPs and 80% of audiologists were clinical service providers.
- 80% of SLPs and 78% of audiologists worked full time.
- 88% of SLPs and 86% of audiologists received an annual salary; the rest were paid an hourly wage.
- 1% of SLPs held a PhD degree, and 50% of audiologists held an AuD degree.
- The mean age of SLPs was 45 years; the mean age of audiologists was 50 years.
- SLPs averaged (median) 16 years of experience in the professions; audiologists averaged 23 years.
- 45% of SLPs worked in a suburban area; 44% of audiologists worked in an urban area.
- SLPs (31%) and audiologists (35%) were more likely to work in the South than in other areas of the country.
- The most likely retirement year was 2025 for audiologists and 2031 for SLPs.
The survey was mailed on February 10, 2016, to a random sample of 4,000 ASHA-certified SLPs and 500 ASHA-certified audiologists who were employed in school settings in the United States. Individuals who returned their surveys were removed from second (March 16) and third (April 20) mailings. Each mailing consisted of a personalized cover letter, a numbered survey, and a #10 postage-paid business return envelope inserted into a #11 window envelope with an ASHA return address. Metered postage was at the full, first-class rate. In addition, a reminder was e-mailed to all sample members on February 19.

Of the original 4,500 members of the sample, 53 were ineligible. Three respondents ripped off their ID numbers, but their certification status (i.e., CCC-SLP or CCC-A) was revealed in their response to the certification question in the survey. The number of respondents was 2,108, resulting in a 47% response rate overall (see Table 1).

<table>
<thead>
<tr>
<th>Disposition</th>
<th>Total</th>
<th>CCC-SLP</th>
<th>CCC-A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original (gross) sample size</td>
<td>4,500</td>
<td>4,000</td>
<td>500</td>
</tr>
<tr>
<td>Undeliverable mailing address</td>
<td>8</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Ineligible: retired</td>
<td>21</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>Ineligible: other reasons</td>
<td>24</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>Net sample size</td>
<td>4,447</td>
<td>3,954</td>
<td>493</td>
</tr>
<tr>
<td>Number of respondents</td>
<td>2,108</td>
<td>1,894</td>
<td>214</td>
</tr>
<tr>
<td>Response rate</td>
<td>47.4%</td>
<td>47.9%</td>
<td>43.4%</td>
</tr>
</tbody>
</table>

Each survey had 41 questions on 25.5 in. × 11 in. white paper, folded to 8.5 in. × 11 in. and printed in a format of two columns per page. Arial 11-point font was used. The final page contained a thank-you note, information about ASHA Connect 2016 and Special Interest Groups, and contact information should respondents have questions about the survey instrument.

A methodological experiment was designed into the survey to test the effect on response rates of different banner designs at the top of the survey. Half of the SLPs and half of the audiologists were randomly assigned to the control group and received a two-icon banner; the other half received a survey with a six-icon banner (see page 3 for samples).
Control group banner with two icons:

![Control group banner](image1)

Experimental group banner with six icons:

![Experimental group banner](image2)

Table 2 shows that there was a 3.1% decrease in the unit response rate when survey banners with six icons were used compared with when only two were used ($z = 2.04; p = .021$).

<table>
<thead>
<tr>
<th>Disposition</th>
<th>Control: 2 graphics</th>
<th>Experimental: 6 graphics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original (gross) sample size</td>
<td>2,250</td>
<td>2,250</td>
</tr>
<tr>
<td>Undeliverable addresses</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Ineligible: retired</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>Ineligible: other reason</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Net sample size</td>
<td>2,220</td>
<td>2,226</td>
</tr>
<tr>
<td>Number of respondents</td>
<td>1,087</td>
<td>1,021</td>
</tr>
<tr>
<td>Response rate</td>
<td>49.0%</td>
<td>45.9%</td>
</tr>
</tbody>
</table>
Data Entry

To ensure the highest quality data reasonably possible, each of the 2,108 completed surveys was checked, and erroneous responses were corrected or deleted by the ASHA staff member with primary responsibility for the survey. The forms were then sent to an outside firm for two-pass (key and verify) data entry. This process was completed by May 25, 2016.

Not only is it typically the case that some individuals who receive a survey do not complete it (unit nonresponse), but it is likewise true that some who return their surveys do not answer every question (item nonresponse) and thus do not qualify for inclusion in portions of a report. They may be excluded from analyses because they did not answer a question at all or because their answer disqualified them (such as stating that they were employed part time when a particular analysis was limited to full-time employees). For example, among the 1,894 SLPs who responded, only 1,803 were included in reporting on their primary employment facility (see Figure 1) because they

- indicated that they had ASHA certification (i.e., the Certificate of Clinical Competence) in Speech-Language Pathology (CCC-SLP);
- indicated that they were employed full time or part time; and
- identified the type of employment facility where they were employed.
The closer the match between survey respondents and the population of ASHA school-based constituents from which they were drawn, the more validity there is in generalizing from the sample to the population—that is, the more truth there is in saying that the people who answered the survey questions represent the broader group from which they were selected. Demographic variables that appear in both the membership database and the survey include primary employment facility, primary employment function, highest earned degree, age, and region of the country.

Comparisons between the respondents and the population can be made for several characteristics, such as the type of school in which they worked.

- In the population, 46% of SLPs and 6% of audiologists who worked in the schools were employed in elementary schools, compared with 57% and 27%, respectively, of the survey respondents.

A second area of comparison is their primary function.

- 76% of SLPs and 87% of audiologists in the population were clinical service providers, compared with 92% of SLPs and 80% of audiologists among the survey respondents.

Another characteristic to be compared is the highest earned degree.

- 1% of SLPs and 27% of audiologists in the population reported having earned a doctoral degree, compared with 2% of SLPs and 52% of audiologists among the survey respondents.

Age is another characteristic that can be compared.

- The median age of SLPs who were employed full- or part time was 44 years in the population and 43 years among the survey respondents. The median age for audiologists was 52 years in both groups.

The survey sample was stratified by state; that is, states with small numbers of ASHA constituents were oversampled and those with large numbers were undersampled. Despite the stratification, SLPs and audiologists who responded to the survey almost perfectly mirrored those in the population of professionals who work in the schools on region of the country where they were employed.

- 27% of SLPs and 16% of audiologists in the population—compared with 27% of SLPs and 15% of audiologists who replied to the survey—worked in the Northeast.
- 24% of SLPs and 27% of audiologists in the population—compared with 24% of SLPs and 24% of audiologists who replied to the survey—worked in the Midwest.
- 31% of SLPs and 32% of audiologists in the population—compared with 31% of SLPs and 35% of audiologists who replied to the survey—worked in the South.
- 18% of SLPs and 25% of audiologists in the population—compared with 18% of SLPs and 25% of audiologists who replied to the survey—worked in the West.

Comparisons by gender cannot be made because the question was not asked on the survey.
Audiologists and SLPs were equally likely to be salaried employees (87%) rather than contract employees (13%).

More SLPs were employed in *elementary* schools and more audiologists in *combined* settings than in any other facility type, as shown in Figure 1.

**Figure 1: Facility, by CCC**

- Day/residential
- Preschool
- Elementary
- Secondary
- Student's home
- Administrative
- Combined
- Other


Individuals who worked in an *other* type of facility have been included in the 2016 Schools Survey reports only as part of the total—not as a separate category of facility—because of the ambiguous nature of this small group of individuals. The small number of SLPs who worked in students’ homes is also included in the total data for this group but is not broken out or shown separately.

Also included in the total are the small groups of audiologists who worked in special day/residential schools ($n = 16$), preschools ($n = 8$), secondary schools ($n = 11$), and administrative offices ($n = 23$).

Three SLPs and one audiologist did not identify a primary employment facility, despite being employed full- or part time.
The vast majority of respondents were clinical service providers, including 92% of SLPs and 80% of audiologists (see Figure 2).

![Figure 2: Function, by CCC](image)

Note. For CCC-SLP, n = 1,796. For CCC-A, n = 205.

Being identified as employed full time or part time in the ASHA member database was one of the requirements for being included in the sample of ASHA constituents who received the 2016 Schools Survey. Among those who responded, 80% of the SLPs and 78% of the audiologists worked full time. An additional 15% of SLPs and 19% of audiologists were employed part time. The remaining respondents identified themselves as currently unemployed.

Most of the SLPs (88%) and most of the audiologists (86%) were paid an annual salary. The rest received an hourly wage.

SLPs (1%) and audiologists (1%) were equally likely to have earned a PhD, but audiologists were much more likely than SLPs to have earned a clinical doctorate.
- 99% of SLPs and 49% of audiologists had earned a master’s as their highest degree.
- 50% of audiologists had earned an AuD degree as their highest degree.

The mean age of the SLPs who responded to the survey was 45 years, and the median age was 44 years. The mean age of the audiologists who responded was 50 years, and the median was 53 years.
- Mean ages for SLPs were lowest in special day/residential schools (42) and highest in administrative offices (51; p = .000).
SLPs averaged 18 (mean) or 16 (median) years of experience in the *professions* and 15 (mean) or 13 (median) years of experience in the *schools*.

The type of facility where they worked had an effect on the mean number of years of experience for the SLPs.

- SLPs who currently work in special day/residential schools averaged 16 years of experience in the *professions* compared with 25 years for those who currently work in administrative offices ($p = .000$).
- The mean number of years of experience in the *schools* was twice as high for SLPs who currently work in administrative offices as for those who currently work in students’ homes (24 years and 12 years, respectively; $p = .000$).

Audiologists averaged more years of experience than did the SLPs. The mean number of years of experience that audiologists had in the *professions* was 23, and the median was also 23 years. Audiologists averaged 18 (mean and median) years of experience in the *schools*.

Nearly half (45%) of the SLPs who were employed either full time or part time worked in a suburban area (see Figure 3). The type of school setting was related to the locale in which SLPs worked ($p = .000$).

- More than half of the SLPs in secondary schools (57%) work in suburban areas.
- SLPs who work in special day/residential schools (41%) or in administrative offices (40%) were more likely to work in urban areas than were SLPs in other types of facilities.
- 31% of SLPs who work in students’ homes were employed in rural areas—more than in any other type of facility (10%–28%).

**Figure 3: Population Density, by CCC**

Note. For CCC-SLP, $n = 1,787$. For CCC-A, $n = 204$.  
Audiologists were more likely to work in urban areas (44%) or suburban areas (38%) than in rural areas (18%; see Figure 3).

- Compared with 25% of audiologists who work in combined school settings, only 9% of those who work in elementary schools are employed in rural areas.
- Compared with 53% of audiologists who work in elementary schools, only 37% of those who work in combined school settings are employed in urban areas ($p = .040$).

As noted on page 5, the survey sample was stratified by state, but the respondents mirrored the population from which they were drawn almost identically. Among the respondents, both SLPs and audiologists were more likely to work in the South (31% and 35%, respectively) than in other regions of the country. However, SLPs (27%) were much more likely than audiologists (15%) to work in the Northeast and were much less likely to work in the West (18% and 25%, respectively; see Figure 4).

Geographic distribution was related to type of facility for SLPs ($p = .000$) but not for audiologists ($p = .629$). Ranges for SLPs were

- between 18% in administrative offices and 49% in special day/residential schools in the Northeast;
- between 16% who work in special day/residential schools and 32% who work in students’ homes in the Midwest;
- between 16% of SLPs who work in students’ homes and 50% who work in administrative offices in the South; and
- between a low of 12% who work in special day/residential schools and administrative offices and a high of 22% who work in preschools and combined school settings in the West.
When asked when they were most likely to retire, audiologists responded with an earlier date than did SLPs. The average (mean) year given by audiologists was 2031, and the median year was 2025. Type of facility did not affect their response ($p = .771$).

Compared with audiologists, the SLPs in the survey predicted a later retirement date (mean year of 2035 and median of 2031). The type of facility where SLPs worked did have an effect on their answer ($p = .007$). The mean predicted retirement year was

- 2024 for SLPs who worked in administrative offices;
- 2034 for SLPs who worked in students’ homes or a combination of facility types;
- 2036 for SLPs in elementary and secondary schools;
- 2037 for SLPs in preschools; and
- 2038 for SLPs in special day/residential schools.

The following is a glossary of terms used in the 2016 Schools Survey Reports.

**School:**
- Special day/residential
- Pre-elementary (preschool)
- Elementary
- Secondary school (middle school, junior high, senior high)
- Student’s home
- Administrative office
- Combination from the above list
- Other

Respondents self-identified their primary employment facility as one of the following types of schools: special day/residential, pre-elementary (preschool), elementary, secondary, student’s home, administrative office, combination from the above list, or “other.” Individuals from the “other” category are included when total responses are discussed, but they are not discussed as a separate type of facility because their numbers were fairly small (15 SLPs and eight audiologists) and because of the uncertain nature of the category.

A stratified sample of 4,000 ASHA-certified SLPs and 500 ASHA-certified audiologists was randomly selected to participate in this survey. A random sample is a probabilistic sample in which each person has an equal chance of being selected. A sample is stratified when the population is divided into separate groups (i.e., strata), and a random sample is drawn from each stratum. In this survey, there were 51 strata: the 50 U.S. states plus the District of Columbia.
Response Rate

The response rate was calculated using the following equation:

\[ RR = \frac{(C + P)}{S - (Ret + I)} \]

where

- \( RR \) = Response rate
- \( C \) = Number of completed surveys
- \( P \) = Number of partial surveys
- \( S \) = Sample size
- \( Ret \) = Ineligible because of retirement
- \( I \) = Ineligible for other reasons (e.g., does not work in a school, is no longer in the discipline, or is on a leave of absence)

\[ RR = \frac{2,108}{4,500 - (21 + 33)} = 47.4\% \]

Mean: To find the mean, add the total of all the values, and divide by \( n \) (the number of items).

Median: To find the median, arrange the values in order, from lowest to highest. Then, select the value in the middle position.

Mode: The mode is the value that occurs more often than any other.

Example: Sample data set

1, 1, 7, 34, 88

Mean: \((1 + 1 + 7 + 34 + 88) / 5 = 26.2\)

Median: 7

Mode: 1

The statistic that is reported most often in the 2016 Schools Survey is the median (middle) statistic unless otherwise noted. Median statistics are presented because they are more stable and less sensitive to extreme values than are mean values.

\( p \) value refers to probability. It is found in expressions such as \( p = .04 \), meaning “There is a 4% chance of observing a difference as large as the one that you observed even if the two population means are identical (the null hypothesis is true).” The smaller the number, the less likely that the result was due to chance.

A \( z \)-score (aka, a standard score) indicates how many standard deviations a score is from the mean.
## Regions of the Country

### Northeast
- Middle Atlantic
  - New Jersey
  - New York
  - Pennsylvania
- New England
  - Connecticut
  - Maine
  - Massachusetts
  - New Hampshire
  - Rhode Island
  - Vermont

### South
- East South Central
  - Alabama
  - Kentucky
  - Mississippi
  - Tennessee
- South Atlantic
  - Delaware
  - District of Columbia
  - Florida
  - Georgia
  - Maryland
  - North Carolina
  - South Carolina
  - Virginia
  - West Virginia
- West South Central
  - Arkansas
  - Louisiana
  - Oklahoma
  - Texas

### Midwest
- East North Central
  - Illinois
  - Indiana
  - Michigan
  - Ohio
  - Wisconsin
- West North Central
  - Iowa
  - Kansas
  - Minnesota
  - Missouri
  - Nebraska
  - North Dakota
  - South Dakota

### West
- Mountain
  - Arizona
  - Colorado
  - Idaho
  - Montana
  - Nevada
  - New Mexico
  - Utah
  - Wyoming
- Pacific
  - Alaska
  - California
  - Hawaii
  - Oregon
  - Washington
Results from the 2016 Schools Survey are presented in a series of reports:

- Survey Methodology, Respondent Demographics, and Glossary
- SLP Caseload Characteristics
- SLP Workforce and Work Conditions
- SLP Practice Issues
- SLP Annual Salaries and Hourly Wages
- Survey Summary Report—SLPs
- Survey Summary Report—Educational Audiologists


ASHA would like to thank the SLPs and audiologists who completed the 2016 Schools Survey. Reports like this one are possible only because people like you participate.

Is this information valuable to you? If so, please accept invitations to participate in other ASHA-sponsored surveys and focus groups. You are the experts, and we rely on you to provide data to share with your fellow members. ASHA surveys benefit you.

For additional information regarding the 2016 Schools Survey, please contact Deborah Dixon, director of ASHA’s School Services, at 800-498-2071, ext. 5690 or ddixon@asha.org. To learn more about how the Association is working on behalf of school-based ASHA Certified Members, visit ASHA’s Schools webpages at www.asha.org/slp/schools/.