Survey Methodology, Respondent Demographics, and Glossary

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Contents

Executive Summary .................................................................................................................. 1
Survey Methodology .................................................................................................................. 2
Sample Design .......................................................................................................................... 2
Weighting .................................................................................................................................. 2
Response Rate .......................................................................................................................... 2
Experimental Design .................................................................................................................. 3
Data entry ................................................................................................................................... 3
Nonresponse .............................................................................................................................. 3
Respondents Versus Population ................................................................................................. 4

Demographics ............................................................................................................................ 6
Excluding “Other” ....................................................................................................................... 6
Employment Status .................................................................................................................... 6
Salary Basis ................................................................................................................................. 7
Primary Employment Function .................................................................................................. 8
Highest Degree ............................................................................................................................ 8
Years of Experience .................................................................................................................... 9
Population Setting ....................................................................................................................... 9
Region of the Country .................................................................................................................. 10

Glossary ..................................................................................................................................... 11
Types of Facilities ...................................................................................................................... 11
Stratified Random Sample ....................................................................................................... 11
Response Rate ............................................................................................................................ 12
Measures of Central Tendency .................................................................................................... 12

Survey Notes and Methodology ............................................................................................... 13
Response Rate ............................................................................................................................ 13

Survey Reports .......................................................................................................................... 13

Suggested Citation .................................................................................................................... 13

Resources .................................................................................................................................. 14
Consultation ............................................................................................................................... 14
Additional Information ............................................................................................................... 14
Thank You! ................................................................................................................................. 14

Figures
Figure 1: Primary Employment Facility .................................................................................. 6
Figure 2: Employment Status .................................................................................................... 7
Figure 3: Salary Basis ................................................................................................................ 7
Figure 4: Primary Employment Function, by Facility ............................................................... 8
Figure 5: Highest Degree .......................................................................................................... 8
Figure 6: Mean Years of Experience, by Facility ........................................ 9
Figure 7: Population Setting ...................................................................... 9
Figure 8: Region of the Country .................................................................. 10

Tables
  Table 1: Calculation of Response Rate, Unweighted .................................. 2
  Table 2: Response Rates, by Condition ....................................................... 3
In Fall 2023, the American Speech-Language-Hearing Association (ASHA) conducted a survey of audiologists. This survey was designed to provide information about salaries, working conditions, and service delivery as well as to update and expand information gathered during previous Audiology Surveys.

Highlights

- The response rate was 27%.
- 83% of the audiologists worked full time.
- 77% received an annual salary.
- 79% were clinical service providers.
- 74% held an AuD degree as their only doctorate.
- The mean number of years of experience was 21.
- 51% worked in a city/urban area.
- 34% worked in the South.
A stratified random sample of 5,000 ASHA-certified audiologists was selected for this survey from a population of 7,838 audiologists. They were stratified on the basis of type of facility and private practice.

The survey was mailed on September 7, 2023, to 5,000 ASHA-certified audiologists working in the United States, followed by an electronic reminder on September 12. Individuals who returned their surveys were removed from second (October 5) and third (November 2) 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 and postage at the full, first-class rate.

Because facilities with fewer audiologists (e.g., industry) were oversampled and those with many (e.g., hospitals) were undersampled, weighting was used when presenting data to restore all groups to their actual proportion in the population of ASHA audiologists.

Of the original 5,000 audiologists in the sample, 64 had undeliverable addresses, 7 had retired, and 49 were no longer employed in audiology, leaving 4,880 possible respondents. The actual number of respondents was 1,329, resulting in a 27.2% response rate (see Table 1).

<table>
<thead>
<tr>
<th>Table 1: Calculation of Response Rate, Unweighted</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Disposition</strong></td>
</tr>
<tr>
<td>Original (gross) sample size</td>
</tr>
<tr>
<td>Undeliverable addresses</td>
</tr>
<tr>
<td>Retired</td>
</tr>
<tr>
<td>No longer employed in audiology</td>
</tr>
<tr>
<td>Net sample size</td>
</tr>
<tr>
<td>Number of respondents</td>
</tr>
<tr>
<td>1,329 / 4,880 = 27.2%</td>
</tr>
</tbody>
</table>
Experimental Design

All surveys were printed on 17 in. × 11 in. paper folded to 8.5 in. × 11 in. and printed with two columns per page. The font was Arial, 11 pt. The survey was designed in Teleform to be scannable.

We designed a methodological experiment into the survey to test whether the amount of color on the survey instrument would have an effect on response rates. Specifically, a randomly selected half of the sample was assigned to the control group and received a survey with minimal color, and the other half was assigned to the experimental group with more color.

Data Entry

To ensure the highest quality data reasonably possible, each of the 1,329 completed surveys was checked, and erroneous responses were corrected or deleted by the ASHA staff member with primary responsibility for the project. The forms were then scanned with Teleform, and any additional corrections were made.

Nonresponse

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 (e.g., stating that they were employed part time when a particular analysis was limited to full-time employees). For example, among the 1,329 audiologists who responded, only 1,316 were included in the analysis of primary employment facility because they were the only respondents who indicated that they were employed either full time or part time and identified the type of facility where they were employed. Comparable restrictions apply to other analyses in the report.

Table 2: Response Rates, by Condition

<table>
<thead>
<tr>
<th>Disposition</th>
<th>Control (Less Color)</th>
<th>Experimental (More Color)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original (gross) sample size</td>
<td>2,500</td>
<td>2,500</td>
</tr>
<tr>
<td>Net sample size</td>
<td>2,438</td>
<td>2,442</td>
</tr>
<tr>
<td>Responses</td>
<td>676</td>
<td>653</td>
</tr>
<tr>
<td>Response rate</td>
<td>27.7%</td>
<td>26.7%</td>
</tr>
</tbody>
</table>
As is our practice, we did not report data for cells with fewer than 25 respondents. This both protects respondent confidentiality and increases data stability. Note, too, that some percentages total 99% or 101% because of rounding.

As a rule of thumb, the closer a sample approximates the characteristics of the population from which it is drawn—and which it is designed to represent—the greater the external validity or ability to generalize to that population. The population for this survey consisted of ASHA-certified audiologists whose primary employment facility was a college/university, hospital, audiology franchise/retail chain, nonresidential health care facility, or industry. Note that educational audiologists were removed from the Audiology Survey in 2018 and included in the Schools Survey because the questions in the latter survey are more appropriate for the work that they do. Below are comparisons of respondent characteristics with the database population from which they came.

### Facility
- Small groups (e.g., colleges/universities) were oversampled to ensure sufficient respondents from that facility for reporting purposes. Likewise, large groups (e.g., hospitals) were undersampled. Therefore, unless otherwise noted, where totals are reported, either in text or tables, they have been weighted to reflect the distribution of ASHA-certified audiologists in each type of facility. The number of respondents ($n$) shown in figures and tables is the weighted number who responded to the question.
- Because of stratification, comparing the distribution of the sample’s facility to that of the population’s would not be worthwhile and was not performed.

### Employment Status, Unweighted
- Respondents: 83% full time, 17% part time
- Population: 86% full time, 14% part time

### Function, Unweighted
- Respondents: 73% clinical service provider; 12% faculty; 6% administrator; 5% sales, training; 2% researcher; 1% consultant; 1% other
- Population: 80% clinical service provider; 5% faculty; 7% administrator; 2% researcher; 1% consultant; 4% other
Highest Degree, Unweighted
- Respondents: 16% master’s, 80% doctorate
- Population: 34% master’s, 66% doctorate

State, Unweighted
- Respondents: 21% Northeast, 28% Midwest, 35% South, 16% West
- Population: 21% Northeast, 26% Midwest, 36% South, 18% West

Years of experience, salary basis, and population setting are variables that are available only for the respondents to the survey, so those comparisons cannot be made. Additionally, sales and training as a function is only available as a response option on the survey, not in the membership database.

In conclusion, there was virtually no difference between the respondents and the population from which they came with regard to employment status and region of the country. However, there were fewer clinical service providers and more university faculty among the respondents than in the population from which they were drawn, and the respondents reported fewer master’s and more doctoral degrees than did the population. The difference in highest degree may be because individuals who originally reported a master’s degree have since earned a doctorate but have not updated their file in the membership database.
Nearly half of the respondents who were employed either full time or part time worked in nonresidential health care facilities, and one third worked in hospitals (see Figure 1).

The nine individuals who worked in an other type of facility, either full time or part time, have been included in the ASHA 2023 Audiology Survey Reports only where totals are reported—not as a separate category of facility—because of the ambiguous nature of this small group of individuals. Also included in the total is the group of six respondents who were employed full time or part time but who did not answer the question about the type of facility in which they were employed.

More than three-fourths (83%) of the respondents were employed full time, and 17% were employed part time. Audiologists who were not currently employed were removed from the group of survey respondents.

A closer look at the audiologists who were employed shows that full-time and part-time status varied significantly by the type of facility where they worked. Part-time audiologists were more likely to be found working in nonresidential health care facilities than in other types of facilities ($p = .000$; see Figure 2).
Salary Basis

Three-fourths of the audiologists reported receiving primarily an annual salary (see Figure 3).

Note. \( n = 1,314 \).

Primary Employment Function
The vast majority of respondents who were employed full time or part time were clinical service providers (79%). Clinicians were more likely to be employed in hospitals, franchises and retail chains, and nonresidential health care facilities than in colleges and universities or industry ($p = .000$; see Figure 4).

**Figure 4: Primary Employment Function, by Facility**

<table>
<thead>
<tr>
<th>Facility</th>
<th>Clinical Service Provider</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>12%</td>
<td>88%</td>
</tr>
<tr>
<td>Hospital</td>
<td>88%</td>
<td>12%</td>
</tr>
<tr>
<td>Franchise</td>
<td>97%</td>
<td>3%</td>
</tr>
<tr>
<td>Nonresidential HC</td>
<td>93%</td>
<td>7%</td>
</tr>
<tr>
<td>Industry</td>
<td>9%</td>
<td>91%</td>
</tr>
</tbody>
</table>

*Note. n = 1,301.*

Recipients of doctoral degrees included 74% of the respondents who held only an AuD degree and 5% who held only a PhD (see Figure 5).

**Figure 5: Highest Degree**

- Master’s: 17%
- AuD, only doctorate: 74%
- PhD, only doctorate: 3%
- Multiple doctorates: 5%

*Note. n = 1,318.*
The median number of years of experience was 20. It was lowest in hospitals (14 years) and highest in nonresidential health care facilities (23 years; median numbers are not shown in any figure). The mean number of years of experience was 21 and varied by type of facility ($p = .000$; see Figure 6).

![Figure 6: Mean Years of Experience, by Facility](image)

Note. $n = 1,301$.

Half of the audiologists who were employed either full time or part time worked in a city/urban area (see Figure 7).

![Figure 7: Population Setting](image)

Note. $n = 1,314$.

Audiologists employed in hospitals were more likely than those employed in other types of facilities to work in a city/urban area (67%). Audiologists employed in nonresidential health care facilities (47%), in audiology franchises and retail chains (44%), or in industry (42) were more likely than those in other types of facilities to work in a suburban area. Finally, the group more likely than other groups to work in a rural area were those employed in audiology franchises and retail chains (18%; $p = .000$; not shown in any figure).
Overall, more of the audiologists who were employed part- or full time worked in the South and Midwest than in other regions of the country (see Figure 8).

![Figure 8: Region of the Country](image)

Note. $n = 1,322$.
Northeast: CT, MA, ME, NH, NJ, NY, PA, RI, VT
Midwest: IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI
South: AL, AR, DC, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV
West: AK, AZ, CA, CO, HI, ID, MT, NV, NM, OR, UT, WA, WY

The type of facility in which they worked was not related to the region of the country where audiologists were employed ($p = .272$).
Terms used in the ASHA 2023 Audiology Survey Reports:

College/university:
- College/university
- Medical school

Hospital:
- General medical hospital
- Psychiatric hospital
- Rehabilitation hospital
- Pediatric hospital
- VA hospital/medical center
- University hospital
- Military hospital
- All other hospitals

Nonresidential health care facility:
- Home health agency/client's home
- Health Maintenance Organization (HMO)
- Private physician’s office
- SLP’s or audiologist’s office
- Speech and hearing center
- Outpatient rehabilitation center
- Ambulatory care center
- Eye/ear institute
- Audiology/hearing clinic
- Speech/language clinic
- All other nonresidential facilities

Audiology franchise or retail chain

Industry:
- Industry
- Manufacturer–audiology related

A stratified random sample was used to select 5,000 ASHA-certified audiologists for this survey from a population of 7,838 audiologists. They were stratified on the basis of type of facility and private practice. A random sample is a probabilistic sample in which each person has an equal chance of being selected. This is a requirement for generalizing responses from a sample to the broader population from which the members were selected.
Response Rate

The response rate was calculated using the following equation:

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

where

- \( RR \) = Response rate
- \( C \) = Number of completed surveys
- \( P \) = Number of partial surveys
- \( S \) = Sample size
- \( \text{Ret} \) = Ineligible because of retirement
- \( I \) = Ineligible for other reasons (e.g., does not work in audiology, no longer in the field)

\[ RR = \frac{(1,329)}{5,000 - (7 + 113)} = 27.2\% \]

Measures of Central Tendency

- **Mean**: Add the total of all values and divide by \( n \).
- **Median**: Arrange the values in order, from lowest to highest. Select the value in the middle position.
- **Mode**: 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

Because medians are more stable and less sensitive to extreme values than are means, we use medians as the most commonly presented statistic in the *ASHA 2023 Audiology Survey Reports*. 
The ASHA Audiology Survey has been fielded in even-numbered years between 2004 and 2018 to gather information of interest to the profession. The 2020 version was postponed by 1 year because of the COVID-19 pandemic, and the survey has been fielded in odd-numbered years since 2021. Members, volunteer leaders, and staff rely on data from the survey to better understand the priorities and needs of audiologists.

The survey was fielded via postal mail in September, October, and November 2023 to a random sample of 5,000 ASHA-certified audiologists who were employed in the United States.

The sample was a random sample, stratified by both type of facility and private practice. Small groups, such as industry, were oversampled. Weighting was used when presenting data to reflect the actual distribution of audiologists in each type of facility.

Of the original 5,000 audiologists in the sample, 7 were retired, 49 were not currently employed in the profession, and 64 had undeliverable mail addresses. The actual number of respondents was 1,329, resulting in a 27.2% response rate. The results presented in this report are based on responses from those 1,329 individuals.

Results from the ASHA 2023 Audiology Survey are presented in a series of reports:
- Survey Summary
- Annual Salaries
- Hourly Wages
- Clinical Focus Patterns
- Private Practice
- Survey Methodology, Respondent Demographics, and Glossary

Resources


Consultation

For a free consultation with an ASHA staff audiologist, please contact audiology@asha.org.

Additional Information

For additional information regarding the 2023 Audiology Survey, please contact ASHA’s audiology practices unit at audiology@asha.org. To learn more about how the Association is working on behalf of ASHA-certified audiologists, visit ASHA’s website at www.asha.org/aud/.

Thank You!

ASHA would like to thank the audiologists who completed the ASHA 2023 Audiology 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.