



2010

# Schools



# SURVEY



AMERICAN  
SPEECH-LANGUAGE-  
HEARING  
ASSOCIATION

## Survey Summary Report: Number and Type of Responses, Educational Audiologists

Suggested citation:

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*2010 Schools survey summary report:*

*Number and type of responses, Educational Audiologists*

Rockville, MD: Author.

Probability (non-replacement) sampling using a stratified systematic technique was used to select a sample of 500 ASHA-certified educational audiologists with schools as their primary employment facility for the 2010 Schools Survey. The sample was stratified by state, and data have been weighted to reflect their proportion by state within the Association.

An additional 4,000 ASHA-certified speech-language pathologists were also randomly selected to participate. Small groups, such as SLPs who work in Wyoming and Idaho, were over sampled in order to have sufficient numbers from these groups included in the sample. The SLPs' results are in a separate report. This report is limited to responses only from CCC-As.

An overall response rate of 64.8% was obtained (2,826 completed surveys from a net sample of 4,359 eligibles). The response rate for audiologists was 59.1% (282 completed surveys from a net sample of 477 eligibles). These percentages are unweighted.

The "Total" column throughout the report reflects results for respondents from five facility types (i.e., special day/residential schools, elementary schools, administrative offices, combinations from the above list, and other) as well as from respondents who did not report a facility which is why the *n* in the Total column may not be the sum of the *n*'s in the other five columns. Respondents from preschools, secondary schools, and other facility were merged into a field labeled "Other."

Data are not presented for table cells with fewer than 25 respondents. For most of the tables in this report, it is not possible to compare responses across types of facilities because:

- ◆ the number of educational audiologists within a column is less than 25 (e.g., Q. 5)
- ◆ observed differences could be attributable to chance (i.e.,  $p > .05$ , as in Q. 6)
- ◆ too many cells had expected counts of less than 5 which would have inflated the chi square values (e.g., Q. 6), or
- ◆ tests of significance could not be run with available software (e.g., Q. 21).

A description of statistical terms used in the report can be found at the end of the report.

## ASHA Services and Programs

1. In your opinion, what kind of job is the Association doing in serving its school-based members? (Percentages) Analyses limited to respondents who met the following criterion: ❖ CCC-A						
Response	Total (n = 265)	Special Day/ Residential (n = 30)	Elementary (n = 71)	Administra- tive Office (n = 23)	Combination (n = 102)	Other (n = 30)
Poor	9.2	13.3	8.5	n < 25	8.8	13.3
Fair	49.2	36.7	49.3		52.0	56.7
Good	38.4	36.7	39.4		37.3	30.0
Excellent	3.2	13.3	2.8		2.0	0.0
Statistical significance		Too many cells (40%) have expected count less than 5.				

## Workforce

2. Which ASHA Certificate of Clinical Competence do you currently hold? <i>Select all that apply.</i> (Percentages) Analyses limited to respondents who met the following criterion: ❖ CCC-A						
Response	Total (n = 280)	Special Day/ Residential (n = 29)	Elementary (n = 75)	Administra- tive Office (n = 25)	Combination (n = 111)	Other (n = 31)
CCC-A (SKIP to Q. 4)						

3. **CCC-A ONLY.** Based on your own observations and experiences, rate the current job market for audiology clinical service providers in your type of employment facility and in your geographic area. (Percentages)  
 Analyses limited to respondents who met the following criterion:  
 ❖ CCC-A

Job Market	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 275)	(n = 30)	(n = 72)	(n = 24)	(n = 111)	(n = 29)
Job openings more numerous than job seekers	9.7	6.7	12.5	n < 25	9.9	3.4
Job openings in balance with job seekers	23.0	26.7	22.2		25.2	20.7
Job openings fewer than job seekers	67.3	66.7	65.3		64.9	75.9
Statistical significance	Too many cells (20%) have expected count less than 5.					

4. **CCC-SLP ONLY.** Based on your own observations and experiences, rate the current job market for SLP clinical service providers in your type of employment facility and in your geographic area. (Percentages)  
 Analyses limited to respondents who met the following criterion:  
 ❖ CCC-SLP

Job Market	Total	Special Day/ Residential	Preschool	Elementary	Secondary	Administra- tive Office	Combination
Job openings more numerous than job seekers	See Survey Summary Report: Number and Type of Responses, SLPs						
Job openings in balance with job seekers							
Job openings fewer than job seekers							

5. What is the impact of this shortage? <i>Select all that apply.</i> (Percentages) Analyses limited to respondents who met the following criteria: ❖ CCC-A ❖ Answered "Job openings more numerous than job seekers" to Q. 3.						
Impact	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 27)	(n < 25)	(n < 25)	(n < 25)	(n < 25)	(n < 25)
Increased caseload/ workload	66.6	n < 25	n < 25	n < 25	n < 25	n < 25
Decreased opportunities for appropriate service delivery	31.2					
Decreased quality of service	27.6					
Increased use of support personnel	18.6					
Increased use of contracted services	18.9					
Increased use of telepractice services	0.0					
Increased number of staff without ASHA certification	0.0					
Use of emergency certified personnel	4.3					
Less opportunity for networking and collaborating	43.8					
Decrease in job satisfaction	51.9					
There is no impact.	6.1					

6. What are your greatest challenges as a school-based professional? <i>Select all that apply.</i> (Percentages) Analyses limited to respondents who met the following criterion: ❖ CCC-A						
Challenge	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 280)	(n = 29)	(n ≥ 74)	(n ≥ 24)	(n ≥ 110)	(n = 31)
High amount of paperwork	58.5	48.3	59.5	68.0	62.7	41.9
Statistical significance		$\chi^2(4) = 6.5, p = .164$				
High workload/caseload size	51.1	43.3	53.3	n < 25	55.9	48.4
Statistical significance		$\chi^2(4) = 5.0, p = .288$				
Implementing Response to Intervention (RTI)	13.8	10.3	10.7	8.0	13.5	22.6
Statistical significance		Too many cells (30%) have expected count less than 5.				
Inadequate work space and facilities	18.7	10.3	26.7	12.0	17.1	19.4
Statistical significance		$\chi^2(4) = 5.4, p = .252$				
Lack of administrative support	25.9	13.8	32.0	28.0	25.2	25.8
Statistical significance		$\chi^2(4) = 3.7, p = .446$				
Lack of materials and assessment tools	15.5	3.4	21.6	12.0	12.6	29.0
Statistical significance		Too many cells (30%) have expected count less than 5.				
Lack of others' understanding of my role	50.1	30.0	50.0	52.0	56.8	41.9
Statistical significance		$\chi^2(4) = 7.7, p = .104$				
Lack of parental involvement and support	41.0	48.3	36.0	36.0	44.1	46.7
Statistical significance		$\chi^2(4) = 2.4, p = .658$				

(Table 6 continues on next page.)

6 (Cont'd). What are your greatest challenges as a school-based professional? <i>Select all that apply.</i> (Percentages) Analyses limited to respondents who met the following criterion: ❖ CCC-A						
Challenge	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 280)	(n = 29)	(n ≥ 74)	(n ≥ 24)	(n ≥ 110)	(n = 31)
Lack of time for appropriate service delivery models	30.9	30.0	35.1	28.0	34.2	16.1
Statistical significance		$\chi^2(4) = 4.4, p = .353$				
Lack of time for planning, collaboration, and/or meeting with teachers	30.8	31.0	29.3	n < 25	29.1	35.5
Statistical significance		$\chi^2(4) = 0.5, p = .971$				
Lack of training for English Language Learners (ELLs), hearing related technology, assistive and alternative communication (ACC) technology, low incidence disorders, or curriculum-based instruction	12.0	17.2	13.5	4.0	13.6	6.5
Statistical significance		Too many cells (30%) have expected count less than 5.				
Low salary	28.9	24.1	36.5	28.0	23.6	32.3
Statistical significance		$\chi^2(4) = 4.1, p = .397$				
Out-of-pocket professional expenses	33.2	23.3	38.7	n < 25	30.6	41.9
Statistical significance		$\chi^2(4) = 3.7, p = .450$				

## Employment and Earnings

7. Which one of the following categories best describes your employment status? (Percentages except where otherwise noted.)						
Analyses limited to respondents who met the following criterion: ❖ CCC-A						
Status	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 280)	(n = 29)	(n = 75)	(n = 25)	(n = 110)	(n = 31)
Employed full-time	79.6	72.4	86.7	80.0	80.9	87.1
Employed part-time	17.5	27.6	13.3	20.0	19.1	12.9
On leave of absence	0.6	0.0	0.0	0.0	0.0	0.0
Not employed but actively seeking employment	0.0	0.0	0.0	0.0	0.0	0.0
Not employed and not seeking employment	0.9	0.0	0.0	0.0	0.0	0.0
Retired	1.4	0.0	0.0	0.0	0.0	0.0
Statistical significance	Too many cells (30%) have expected count less than 5.					
<b>Employed Full-time or Part-time only</b>						
	(n = 271)	(n = 29)	(n = 75)	(n = 25)	(n = 110)	(n = 31)
Employed full-time	82.0	72.4	86.7	80.0	80.9	87.1
Employed part-time	18.0	27.6	13.3	20.0	19.1	12.9
Statistical significance	$\chi^2(4) = 3.6, p = .457$					



8. Which one of the following best describes your principal employment situation? (Percentages)  
 Analyses limited to respondents who met the following criteria:  
 ❖ CCC-A  
 ❖ Employed full-time or part-time

Situation	Total (n = 268)	Special Day/ Residential (n = 28)	Elementary (n = 75)	Administra- tive Office (n = 25)	Combination (n = 110)	Other (n = 31)
Salaried employee, full-time or part-time	94.6	100.0	94.7	96.0	91.8	96.8
Contract employee (e.g., per diem, temporary)	3.3	0.0	4.0	4.0	3.6	3.2
Owner (e.g., office-based or contract-based private practice)	2.2	0.0	1.3	0.0	4.5	0.0
Statistical significance	Too many cells (67%) have expected count less than 5.					



9. Select the one position that best describes how you spend all or most of your time. *Only one answer can be accepted.* (Percentages)

Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Employed full-time or part-time

Function	Total (n = 270)	Special Day/ Residential (n = 29)	Elementary (n = 75)	Administra- tive Office (n = 25)	Combination (n = 111)	Other (n = 31)
Clinical service provider	88.5	96.6	89.3	68.0	92.8	80.6
Special education teacher	2.6	0.0	1.3	0.0	0.9	16.1
Consultant	4.7	0.0	5.3	12.0	4.5	3.2
Administrator/supervisor/ director	3.0	3.4	1.3	20.0	0.9	0.0
Other	1.1	0.0	2.7	0.0	0.9	0.0
Statistical significance	Too many cells (76%) have expected count less than 5.					

10. Select the one type of building that best describes where you work all or most of the time. *For individuals who work in multiple settings or in private practice, select the type of building in which you deliver most of your services. Only one answer can be accepted.* (Percentages)

Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Employed full-time or part-time

Facility	(n = 270)
Special day/residential school	10.9
Elementary school	27.6
Administrative office	9.2
Combination from the above list	41.0
Other (preschool + secondary + other)	11.4

11. In your primary job, are you paid on an annual or on an hourly basis? *Select one response only.* (Percentages)  
 Analyses limited to respondents who met the following criteria:  
 ❖ CCC-A  
 ❖ Employed full-time or part-time

Salary Basis	Total (n = 270)	Special Day/ Residential (n = 30)	Elementary (n = 75)	Administra- tive Office (n = 25)	Combination (n = 111)	Other (n = 31)
Annual salary	90.6	90.0	88.0	88.0	91.0	96.8
Hourly rate (SKIP to Q. 14.)	9.4	10.0	12.0	12.0	9.0	3.2
Statistical significance	Too many cells (30%) have expected count less than 5.					



<p>12. Your annual income from your job includes salary, bonuses, and commissions. If you are paid on an annual salary basis, what is your annual income, before deductions, for your main job? (Gross annual salary, Feb., 2010.)</p> <p>Analyses limited to respondents who met the following criteria:</p> <ul style="list-style-type: none"> <li>❖ CCC-A</li> <li>❖ Employed full-time</li> <li>❖ Annual salary of at least \$1</li> </ul>						
Annual Salary	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
<b>Worked 9-10 months (academic year)</b>						
	(n = 153)	(n = 12)	(n = 48)	(n = 13)	(n = 65)	(n = 15)
25th percentile	\$53,000	n < 25	\$49,765	n < 25	\$54,000	n < 25
50th percentile (Median)	\$60,000		\$58,566		\$60,373	
75th percentile	\$72,636		\$70,000		\$72,746	
Mean	\$62,448		\$59,480		\$62,731	
Standard deviation	\$13,435		\$12,826		\$11,913	
Mode	\$65,000		\$70,000		\$65,000	
Statistical significance	$F(4, 147) = 1.2, p = .304$					
<b>Worked 11-12 months (calendar year)</b>						
	(n = 41)	(n = 8)	(n = 6)	(n = 6)	(n = 13)	(n = 7)
25th percentile	\$61,338	n < 25	n < 25	n < 25	n < 25	n < 25
50th percentile (Median)	\$70,239					
75th percentile	\$90,000					
Mean	\$73,484					
Standard deviation	\$16,434					
Mode	\$70,000					

13. For what period of work is this? *If you work for 9-10 months, as in an academic setting, but are paid over a 12-month period, select response "1." Select one response only.* (Percentages)  
 Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Employed full-time or part-time
- ❖ Annual salary of at least \$1

Salary Basis	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 223)	(n = 24)	(n = 57)	(n = 22)	(n = 92)	(n = 25)
Work 9 or 10 months per year	80.2	n < 25	89.5	n < 25	85.9	72.0
Work 11 or 12 months per year	19.4		10.5		14.1	28.0
Work other period	0.4		0.0		0.0	0.0
Statistical significance	Too many cells (30%) have expected count less than 5.					

14. If you are paid on an hourly basis, what is the hourly rate you receive at your main job? *Include your hourly salary before all deductions. Bonuses, commissions, and supplements should be included.* (Hourly rate, Feb., 2010.)  
 Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Hourly salary of at least \$1

Hourly Wage	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 23)					
25th percentile	n < 25	n < 25	n < 25	n < 25	n < 25	n < 25
50th percentile (Median)						
75th percentile						
Mean						
Standard deviation						
Mode						

15. For how many hours were you paid for the hourly rate you entered in Q. 14? (Hours/week)  
 Analyses limited to respondents who met the following criteria:  
 ❖ CCC-A  
 ❖ Hourly salary of at least \$1

Hours	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 23)					
25th percentile	n < 25	n < 25	n < 25	n < 25	n < 25	n < 25
50th percentile (Median)						
75th percentile						
Mean						
Standard deviation						
Mode						

16. Do you receive a salary supplement, stipend, bonus, or other type of “salary upgrade” for any of the following reasons? If so, how often do you receive it? *Select one response for each row.* (Percentages)  
 Analyses limited to respondents who met the following criterion:  
 ❖ CCC-A

Response	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n ≥ 231)	(n ≥ 25)	(n ≥ 69)	(n ≥ 22)	(n ≥ 92)	(n ≥ 24)
<b>CCCs</b>						
No	77.9	83.3	80.6	n < 25	77.4	60.7
One time	3.8	3.3	4.2		1.9	10.7
Annual, # years capped	4.7	3.3	2.8		2.8	25.0
Annual, no cap on years	13.6	10.0	12.5		17.9	3.6
Statistical significance		Too many cells (60%) have expected count less than 5.				

(Table 16 continues on next page.)

16 (Cont'd.) Do you receive a salary supplement, stipend, bonus, or other type of “salary upgrade” for any of the following reasons? If so, how often do you receive it? *Select one response for each row.* (Percentages)  
 Analyses limited to respondents who met the following criterion:  
 ❖ CCC-A

Response	Total ( <i>n</i> ≥ 231)	Special Day/ Residential ( <i>n</i> ≥ 25)	Elementary ( <i>n</i> ≥ 69)	Administra- tive Office ( <i>n</i> ≥ 22)	Combination ( <i>n</i> ≥ 92)	Other ( <i>n</i> ≥ 24)
<b>Extra work (Medicaid billing, supervision, etc.)</b>						
No	91.8	89.3	92.8	<i>n</i> < 25	92.6	<i>n</i> < 25
One time	2.5	3.6	4.3		0.0	
Annual, # years capped	2.6	7.1	2.9		0.0	
Annual, no cap on years	3.2	0.0	0.0		7.4	
Statistical significance	Too many cells (75%) have expected count less than 5.					
<b>Recruitment/retention bonus</b>						
No	97.1	96.0	97.1	<i>n</i> < 25	96.7	<i>n</i> < 25
One time	0.0	0.0	0.0		0.0	
Annual, # years capped	0.9	0.0	1.4		1.1	
Annual, no cap on years	1.9	4.0	1.4		2.2	
Statistical significance	Too many cells (67%) have expected count less than 5.					
<b>Bilingual services</b>						
No	99.5	96.0	100.0	<i>n</i> < 25	100.0	<i>n</i> < 25
One time	0.0	0.0	0.0		0.0	
Annual, # years capped	0.0	0.0	0.0		0.0	
Annual, no cap on years	0.5	4.0	0.0		0.0	
Statistical significance	Too many cells (50%) have expected count less than 5.					

17a. Approximately what is your current unpaid student debt, and in what year (e.g., 2015) do you expect to have it paid off? Enter \$0 if none.						
Analyses limited to respondents who met the following criteria:						
❖ CCC-A						
❖ Includes responses of \$0						
Debt Amount	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
<b>Includes \$0</b>						
	(n = 258)	(n = 29)	(n = 71)	(n = 24)	(n = 105)	(n = 30)
25th percentile	\$0	\$0	\$0	n < 25	\$0	\$0
50th percentile (Median)	\$0	\$0	\$0		\$0	\$0
75th percentile	\$0	\$0	\$0		\$0	\$2,725
Mean	\$5,329	\$3,240	\$5,766		\$5,990	\$6,695
Standard deviation	\$18,569	\$10,073	\$16,032		\$23,814	\$16,146
Mode	\$0	\$0	\$0		\$0	\$0
Statistical significance	$F(4, 253) = 0.4, p = .829$					
<b>Excludes \$0</b>						
	(n = 43)	(n = 4)	(n = 13)	(n = 5)	(n = 14)	(n = 7)
25th percentile	\$7,000	n < 25	n < 25	n < 25	n < 25	n < 25
50th percentile (Median)	\$26,000					
75th percentile	\$39,556					
Mean	\$31,671					
Standard deviation	\$35,150					
Mode	\$29,000					



17b. Approximately what is your current unpaid student debt, and in what year (e.g., 2015) do you expect to have it paid off? Enter \$0 if none.

Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Excludes responses of \$0

Debt Year	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 37)	(n = 3)	(n = 10)	(n = 5)	(n = 12)	(n = 7)
25th percentile	2014	n < 25	n < 25	n < 25	n < 25	n < 25
50th percentile (Median)	2020					
75th percentile	2025					
Mean	2021					
Standard deviation	8					
Mode	2020					



18. Which of the following benefits does your employer provide? <i>Select all that apply.</i> (Percentages)						
Analyses limited to respondents who met the following criteria:						
		❖ CCC-A				
		❖ Employed full-time or part-time				
Benefit	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 271)	(n ≥ 29)	(n ≥ 74)	(n ≥ 24)	(n ≥ 110)	(n = 31)
Sick leave	91.4	89.7	94.7	100.0	87.4	93.5
Statistical significance		Too many cells (30%) have expected count less than 5.				
Maternity/paternity leave	65.7	70.0	68.0	64.0	64.0	64.5
Statistical significance		$\chi^2(4) = 0.6, p = .961$				
Health insurance	91.6	93.1	96.0	100.0	86.4	93.5
Statistical significance		Too many cells (30%) have expected count less than 5.				
Dental insurance	80.1	82.8	83.8	76.0	74.8	93.5
Statistical significance		$\chi^2(4) = 6.6, p = .160$				
Life insurance	68.3	63.3	66.7	84.0	65.8	77.4
Statistical significance		$\chi^2(4) = 4.8, p = .307$				
Disability insurance	55.7	66.7	52.0	n < 25	52.3	61.3
Statistical significance		$\chi^2(4) = 3.3, p = .516$				
Flextime	15.2	26.7	10.8	24.0	13.5	16.1
Statistical significance		Too many cells (30%) have expected count less than 5.				
Job sharing	9.3	10.0	18.9	4.0	4.5	6.5
Statistical significance		Too many cells (30%) have expected count less than 5.				
Flexible, pre-tax spending accounts	61.9	65.5	62.7	72.0	59.5	61.3
Statistical significance		$\chi^2(4) = 1.5, p = .822$				
Retirement	87.2	93.1	88.0	100.0	84.7	80.6
Statistical significance		Too many cells (30%) have expected count less than 5.				
Tuition reimbursement	20.9	24.1	16.2	16.0	23.4	25.8
Statistical significance		$\chi^2(4) = 2.4, p = .666$				

### Caseload/Workload

“Caseload” is based only on the number of students served, whereas “workload” is based on the number of students served PLUS your additional duties.

19. Using the description above, which approach is used to determine the number of students you serve? *Select all that apply.* (Percentages)  
 Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Clinical service provider
- ❖ Employed full-time or part-time

Response	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 229)	(n = 29)	(n = 65)	(n = 16)	(n = 97)	(n = 25)
Caseload approach	40.9	24.1	47.7	n < 25	41.2	60.0
Workload approach	56.4	72.4	50.8		54.6	40.0
NA; I do not serve students. (SKIP to Q. 29.)	2.7	3.4	1.5		4.1	0.0
Statistical significance	Too many cells (33%) have expected count less than 5.					

20. What is your average monthly caseload? That is, how many different students do you personally evaluate or treat in a typical month? *Count each student only once.*

Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Clinical service provider
- ❖ Employed full-time

Caseload Size	Total (n = 175)	Special Day/ Residential (n = 19)	Elementary (n = 54)	Administra- tive Office (n = 11)	Combination (n = 71)	Other (n = 19)
25th percentile	35.0	<i>n</i> < 25	35.0	<i>n</i> < 25	37.0	<i>n</i> < 25
50th percentile (Median)	50.0		50.0		50.0	
75th percentile	75.0		75.0		75.0	
Mean	69.9		68.4		71.0	
Standard deviation	66.8		73.8		67.8	
Mode	50.0		40.0		50.0	
Statistical significance	<i>F</i> (4, 170) = 0.2, <i>p</i> = .937					



21. Approximately what percentage of students in your typical monthly caseload are in each of the following categories? Use your state's or school district's definition for degree of communication impairment. (Mean percentages) Total must equal 100%.

Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Clinical service provider
- ❖ Employed full-time
- ❖ Response to Q. 20 (caseload size) is at least 1

Response	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 158)	(n = 19)	(n = 45)	(n = 11)	(n = 65)	(n = 17)
Severely/profoundly impaired	24.8	n < 25	20.3	n < 25	20.7	n < 25
Moderately impaired	30.8		33.0		33.2	
Mildly impaired	24.0		26.8		24.5	
Non-IEP, RTI, 504	20.4		20.0		21.7	
Statistical significance		Tests of significance cannot be run using the available software.				



22. Indicate how many students you serve in a typical month in each of the following areas. *Students who have overlapping areas of intervention may be counted more than once.*

Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Employed full-time
- ❖ Clinical service provider
- ❖ Response to Q. 20 (caseload size) is at least 1

Area of Intervention	Total		Special Day/Residential		Elementary	
	Percentage who regularly serve clients with this disorder	Number served (mean) (Includes only those who <u>do</u> serve these clients)	Percentage who regularly serve clients with this disorder	Number served (mean) (Includes only those who <u>do</u> serve these clients)	Percentage who regularly serve clients with this disorder	Number served (mean) (Includes only those who <u>do</u> serve these clients)
	(n = 175)	(n varies)	(n = 19)	(n varies)	(n = 54)	(n varies)
Articulation/phonological disorders	15.8	26.7	n < 25	n < 25	19.3	n < 25
Auditory processing disorders (APD)	44.1	5.2			50.6	4.8
Autism spectrum disorders, including PDD, Asperger's	31.5	7.3			25.3	n < 25
Childhood apraxia of speech (CAS)	8.5	n < 25			17.6	n < 25
Cognitive impairment/developmental disability	39.5	15.9			42.1	n < 25
Dysphagia (swallowing)	3.1	n < 25			3.1	n < 25
Fluency disorders	7.4	n < 25			13.0	n < 25
Hearing disorders	84.1	50.0			76.1	43.3

Table 22 continues on next page.

22 (Cont'd.). Indicate how many students you serve in a typical month in each of the following areas. *Students who have overlapping areas of intervention may be counted more than once.*

Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Employed full-time
- ❖ Clinical service provider
- ❖ Response to Q. 20 (caseload size) is at least 1

Area of Intervention	Total		Special Day/Residential		Elementary	
	Percentage who regularly serve clients with this disorder	Number served (mean) (Includes only those who <u>do</u> serve these clients)	Percentage who regularly serve clients with this disorder	Number served (mean) (Includes only those who <u>do</u> serve these clients)	Percentage who regularly serve clients with this disorder	Number served (mean) (Includes only those who <u>do</u> serve these clients)
	(n = 175)	(n varies)	(n = 19)	(n varies)	(n = 54)	(n varies)
Language impairment	22.6	26.4	n < 25	n < 25	29.9	n < 25
Learning disability	29.1	17.2			32.4	n < 25
Nonverbal, augmentative/alternative communication	17.5	7.0			20.2	n < 25
Pragmatics/social communication	14.6	7.7			23.4	n < 25
Reading and writing (literacy)	15.3	21.2			18.5	n < 25
Selective mutism	4.5	n < 25			9.3	n < 25
Traumatic brain injury (TBI)	7.6	n < 25			5.0	n < 25
Voice/resonance	3.2	n < 25			0.0	n < 25

(Table 22 continues on next page.)

22 (Cont'd.). Indicate how many students you serve in a typical month in each of the following areas. *Students who have overlapping areas of intervention may be counted more than once.*

Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Employed full-time
- ❖ Clinical service provider
- ❖ Response to Q. 20 (caseload size) is at least 1

Area of Intervention	Administrative Office		Combination		Other	
	Percentage who regularly serve clients with this disorder	Number served (mean) (Includes only those who <u>do</u> serve these clients)	Percentage who regularly serve clients with this disorder	Number served (mean) (Includes only those who <u>do</u> serve these clients)	Percentage who regularly serve clients with this disorder	Number served (mean) (Includes only those who <u>do</u> serve these clients)
	(n = 11)	(n varies)	(n = 71)	(n varies)	(n = 19)	(n varies)
Articulation/phonological disorders	n < 25	n < 25	10.2	n < 25	n < 25	n < 25
Auditory processing disorders (APD)			48.7	6.5		
Autism spectrum disorders, including PDD, Asperger's			27.6	n < 25		
Childhood apraxia of speech (CAS)			2.9	n < 25		
Cognitive impairment/developmental disability			35.6	9.6		
Dysphagia (swallowing)			1.5	n < 25		
Fluency disorders			3.5	n < 25		
Hearing disorders			85.2	51.9		

Table 22 continues on next page.



22 (Cont'd.). Indicate how many students you serve in a typical month in each of the following areas. *Students who have overlapping areas of intervention may be counted more than once.*

Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Employed full-time
- ❖ Clinical service provider
- ❖ Response to Q. 20 (caseload size) is at least 1

Area of Intervention	Administrative Office		Combination		Other	
	Percentage who regularly serve clients with this disorder	Number served (mean) (Includes only those who <u>do</u> serve these clients)	Percentage who regularly serve clients with this disorder	Number served (mean) (Includes only those who <u>do</u> serve these clients)	Percentage who regularly serve clients with this disorder	Number served (mean) (Includes only those who <u>do</u> serve these clients)
	(n = 11)	(n varies)	(n = 71)	(n varies)	(n = 19)	(n varies)
Language impairment	n < 25	n < 25	17.7	n < 25	n < 25	n < 25
Learning disability			31.3	n < 25		
Nonverbal, augmentative/alternative communication			11.3	n < 25		
Pragmatics/social communication			9.5	n < 25		
Reading and writing (literacy)			15.6	n < 25		
Selective mutism			1.4	n < 25		
Traumatic brain injury (TBI)			7.0	n < 25		
Voice/resonance			4.0	n < 25		
Statistical significance	Tests of significance cannot be run using the available software.					

23. What percentage of your time do you spend in each of the following models in a typical WEEK? Enter "0" if none.  
(Mean percentages)

Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Clinical service provider
- ❖ Employed full-time
- ❖ Response to Q. 20 (caseload size) is at least 1

Model	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 121)	(n = 12)	(n = 38)	(n = 8)	(n = 46)	(n = 18)
Pull-out service	61.7	n < 25	64.9	n < 25	62.1	n < 25
Classroom- or curriculum-based	12.5		12.7		12.9	
Collaborative consultation	17.5		15.3		20.6	
RTI services	7.3		5.7		4.3	
Team teaching	0.9		1.4		0.0	
Telepractice	0.1		0.0		0.1	
Statistical significance		Tests of significance cannot be run using the available software.				

24. **IF YOU ARE CCC-SLP**, for what percentage of your caseload during the 2008-09 school year did you change your service delivery model as your students' needs changed?

Change	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
See Survey Summary Report: Number and Type of Responses, <u>SLPs</u>						

25. What is your role in RTI? <i>Select all that apply.</i> (Percentages)						
Analyses limited to respondents who met the following criteria:						
		❖	CCC-A			
		❖	Employed full-time or part-time			
		❖	Clinical service provider			
RTI Role	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 239)	(n = 28)	(n ≥ 66)	(n ≥ 16)	(n = 103)	(n ≥ 25)
Conduct screenings	38.0	21.4	40.3	n < 25	39.8	40.0
Statistical significance		$\chi^2(4) = 3.7, p = .452$				
Provide consultation	43.2	35.7	37.3	n < 25	48.5	44.0
Statistical significance		$\chi^2(4) = 2.9, p = .576$				
Provide direct services within general education	21.3	17.9	17.9	n < 25	24.3	26.9
Statistical significance		$\chi^2(4) = 2.6, p = .623$				
Provide strategies to classroom teachers	45.8	25.0	47.0	n < 25	49.5	52.0
Statistical significance		$\chi^2(4) = 5.9, p = .208$				
Not applicable; I don't participate in RTI.	29.3	35.7	35.8	n < 25	23.3	28.0
Statistical significance		$\chi^2(4) = 3.8, p = .438$				

26. How many hours do you spend on each of the following activities in a typical <u>WEEK</u> ? Enter "0" if none. (Means) Analyses limited to respondents who met the following criteria: ❖ CCC-A ❖ Employed full-time						
Activity	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 168)	(n = 18)	(n = 51)	(n = 14)	(n = 62)	(n = 23)
Direct intervention	7.5	n < 25	8.7	n < 25	6.6	n < 25
Indirect activities (e.g., record keeping, building activities, travel, IEP meetings, consultation, and other indirect interventions)	10.5		11.3		11.2	
Supervision	1.3		0.7		0.9	
Pre-referral or RTI activities	0.9		0.8		0.9	
Diagnostic evaluations (e.g., observation, scoring, analysis)	8.5		6.6		8.2	
Screenings	3.1		3.8		2.9	
Troubleshooting technology (e.g., hearing aids, AAC, cochlear implants, personal FM systems)	8.2		7.7		9.1	
Statistical significance	Tests of significance cannot be run using the available software.					

**ENGLISH LANGUAGE LEARNERS (ELLs)**

27. Who provides services to identified speech-language disordered children who are ELL? <i>Select all that apply.</i> (Percentages) Analyses limited to respondents who met the following criteria: ❖ CCC-A ❖ Employed full-time or part-time						
ELL Service Provider	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 271)	(n ≥ 29)	(n = 75)	(n = 25)	(n ≥ 110)	(n = 31)
I have no ELL students. (SKIP to Q. 29.)	24.5	26.7	26.7	12.0	25.5	25.8
Statistical significance	$\chi^2(4) = 2.4, p = .656$					
I provide services to them in English.	33.5	10.3	42.7	36.0	33.3	32.3
Statistical significance	$\chi^2(4) = 9.9, p = .042$ , Cramer's V = .191					
I provide services to them in their language.	9.7	17.2	9.3	12.0	4.5	22.6
Statistical significance	Too many cells (30%) have expected count less than 5.					
A bilingual SLP is contracted.	4.6	3.4	9.3	0.0	1.8	6.5
Statistical significance	Too many cells (50%) have expected count less than 5.					
A bilingual audiologist is contracted.	2.3	0.0	2.7	8.0	1.8	0.0
Statistical significance	Too many cells (50%) have expected count less than 5.					
Bilingual SLP assistants	1.4	0.0	1.3	4.0	1.8	0.0
Statistical significance	Too many cells (50%) have expected count less than 5.					
Bilingual audiology assistants	2.6	0.0	0.0	4.0	3.6	3.2
Statistical significance	Too many cells (50%) have expected count less than 5.					

(Table 27 continues on next page.)

27 (Cont'd.). Who provides services to identified speech-language disordered children who are ELL? *Select all that apply.*  
 (Percentages)  
 Analyses limited to respondents who met the following criteria:  
 ❖ CCC-A  
 ❖ Employed full-time or part-time

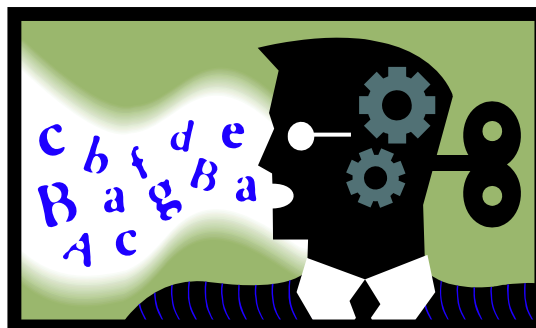
ELL Service Provider	Total (n = 271)	Special Day/ Residential (n ≥ 29)	Elementary (n = 75)	Administra- tive Office (n = 25)	Combination (n ≥ 110)	Other (n = 31)
Trained interpreters	33.4	26.7	29.7	41.7	33.6	41.9
Statistical significance	$\chi^2(4) = 2.8, p = .590$					
Untrained interpreters (e.g., family members)	16.7	0.0	25.3	16.0	16.2	16.1
Statistical significance	Too many cells (20%) have expected count less than 5.					



28. How many ELL students are in your typical monthly caseload?  
 Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Clinical service provider
- ❖ Employed full-time
- ❖ Response to Q. 20 (caseload size) is at least 1

ELL Students	Total (n = 120)	Special Day/ Residential (n = 8)	Elementary (n = 35)	Administra- tive Office (n = 10)	Combination (n = 53)	Other (n = 13)
25th percentile	1.0	<i>n</i> < 25	1.0	<i>n</i> < 25	2.0	<i>n</i> < 25
50th percentile (Median)	5.0		3.9		5.0	
75th percentile	15.0		20.0		15.0	
Mean	14.1		11.1		10.2	
Standard deviation	29.2		14.9		17.0	
Mode	0.0		20.0		0.0	
Statistical significance		<i>F</i> (4, 114) = 3.5, <i>p</i> = .010				



29. How qualified do you believe you are to provide services to multicultural populations? *Please respond even if you are not currently a clinical service provider.*

Analyses limited to respondents who met the following criterion:

❖ CCC-A

Response	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 262)	(n = 27)	(n = 73)	(n = 23)	(n = 103)	(n = 29)
1 Not at all qualified	6.9	7.4	9.6	n < 25	6.8	3.4
2	19.5	11.1	30.1		15.5	20.7
3	37.4	33.3	35.6		38.8	34.5
4	26.6	33.3	19.2		29.1	24.1
5 Very qualified	9.5	14.8	5.5		9.7	17.2
Statistical significance		Too many cells (32%) have expected count less than 5.				

**Ethics**

30. Which of the following ethical issues have you faced during the last three years? Select all that apply. (Percentages)

Analyses limited to respondents who met the following criterion:

❖ CCC-A

Issue	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 280)	(n ≥ 29)	(n ≥ 74)	(n ≥ 24)	(n ≥ 110)	(n = 31)
Finding adequate time to supervise support personnel	8.7	3.3	8.0	12.0	9.9	12.0
Statistical significance		Too many cells (30%) have expected count less than 5.				
Pressure to enroll ineligible students	16.6	6.9	20.3	12.0	14.5	25.8
Statistical significance		Too many cells (20%) have expected count less than 5.				
(Table 30 continues on next page.)						



30 (Cont'd.). Which of the following ethical issues have you faced during the last three years? Select all that apply. (Percentages) Analyses limited to respondents who met the following criterion: ❖ CCC-A						
Issue	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 280)	(n ≥ 29)	(n ≥ 74)	(n ≥ 24)	(n ≥ 110)	(n = 31)
Pressure to dismiss students prematurely	8.6	3.4	6.8	n < 25	8.1	16.1
Statistical significance	Too many cells (30%) have expected count less than 5.					
Pressure to sign off on Medicaid forms on students you have not adequately observed	0.5	0.0	0.0	0.0	0.0	0.0
Statistical significance	No statistics are computed because variable is a constant.					
Pressure to provide services in areas outside your area of training	11.4	3.4	13.5	8.0	9.9	22.6
Statistical significance	Too many cells (30%) have expected count less than 5.					
Pressure to provide services outside scope of practice	2.7	3.4	2.7	0.0	3.6	0.0
Statistical significance	Too many cells (50%) have expected count less than 5.					
Pressure to provide English only services to a non-English speaker	9.3	10.3	13.3	8.0	4.5	9.7
Statistical significance	Too many cells (30%) have expected count less than 5.					
Did not face any ethical issues.	57.7	73.3	58.7	60.0	58.2	51.6
Statistical significance	$\chi^2(4) = 3.3, p = .512$					

## Demographics

31. Identify the degrees you have earned. *Count only actual degrees—not equivalencies or certificates—and do not include degrees expected but not yet conferred.* Select all that apply. (Percentages)

Analyses limited to respondents who met the following criterion:

❖ CCC-A

Earned Degrees	Total (n = 280)	Special Day/ Residential (n ≥ 29)	Elementary (n ≥ 74)	Administra- tive Office (n = 25)	Combination (n ≥ 110)	Other (n = 31)
Master's	84.8	75.9	82.4	88.0	90.0	77.4
PhD	1.8	3.3	1.4	0.0	0.9	6.5
AuD	29.9	44.8	29.3	32.0	28.8	25.8
Other doctorate, specify	1.2	0.0	1.3	0.0	1.8	0.0
<b>Highest Degree</b>						
Master's	67.0	53.3	68.0	68.0	68.2	67.7
Doctorate	33.0	46.7	32.0	32.0	31.8	32.3
Statistical significance	$\chi^2(4) = 2.6, p = .628$					



32. Excluding your clinical fellowship, how many years have you been employed (a) in the speech-language pathology or audiology profession, and (b) how many of those years were in the schools? *Round to the nearest full year. Enter "0" if you have never been employed in the professions.*

Analyses limited to respondents who met the following criterion:

❖ CCC-A

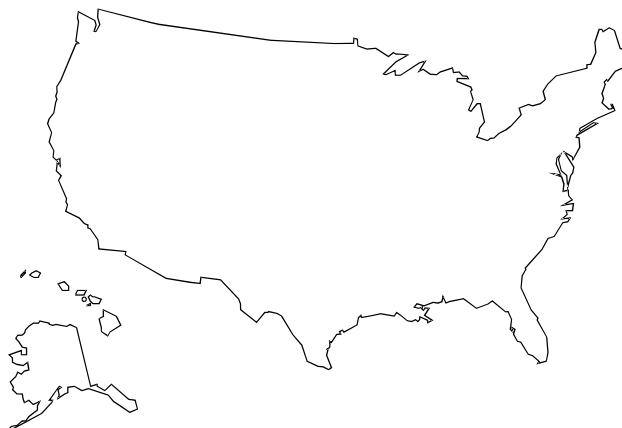
Years Employed	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
<b>In the Professions</b>						
	(n = 275)	(n = 28)	(n = 74)	(n = 24)	(n = 110)	(n = 31)
25th percentile	13.0	15.2	12.3	n < 25	14.9	8.8
50th percentile (Median)	22.0	24.0	18.5		22.8	20.7
75th percentile	29.0	28.3	28.0		30.0	30.0
Mean	20.9	22.0	19.5		21.4	18.9
Standard deviation	9.9	8.6	9.9		9.4	10.5
Mode	25.0	25.0	13.0		25.0	30.0
Statistical significance	$F(4, 261) = 1.6, p = .165$					
<b>In the Schools</b>						
	(n = 278)	(n = 29)	(n = 74)	(n = 25)	(n = 110)	(n = 31)
25th percentile	9.0	9.3	10.0	10.0	9.0	3.3
50th percentile (Median)	15.0	13.3	14.0	18.0	15.0	11.9
75th percentile	22.0	25.0	22.6	23.3	21.5	21.6
Mean	15.6	16.1	15.8	16.4	15.5	12.9
Standard deviation	8.9	9.7	8.9	8.6	8.3	9.7
Mode	10.0	10.0	15.0	10.0	20.0	3.0
Statistical significance	$F(4, 263) = 0.8, p = .535$					

33. Which one of the following best describes where you work? (Percentages)

Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Employed full-time or part-time

Locale	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 266)	(n = 28)	(n = 73)	(n = 23)	(n = 110)	(n = 30)
Metropolitan/urban area	45.8	53.6	41.1	n < 25	50.9	40.0
Suburban area	32.4	35.7	31.5		24.5	53.3
Rural area	21.9	10.7	27.4		24.5	6.7
Statistical significance	$\chi^2(8) = 15.5, p = .050, \text{Cramer's } V = .242$					



34. In what state is your primary employment FACILITY located? Use standard post office two-letter code, e.g., NY for New York. (Percentages)

Analyses limited to respondents who met the following criteria:

- ❖ CCC-A
- ❖ Employed full-time or part-time

Area	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 271)	(n = 29)	(n = 74)	(n = 25)	(n = 111)	(n = 31)
<b>Northeast</b>	<b>14.8</b>	<b>31.0</b>	<b>17.6</b>	<b>0.0</b>	<b>9.0</b>	<b>22.6</b>
Middle Atlantic	11.1	20.0	9.2	0.0	9.2	22.6
New England	3.7	10.0	9.2	0.0	0.0	0.0
<b>Midwest</b>	<b>29.2</b>	<b>17.2</b>	<b>33.8</b>	<b>12.0</b>	<b>35.1</b>	<b>22.6</b>
East North Central	17.0	10.0	17.1	8.0	22.9	9.7
West North Central	12.2	6.7	15.8	4.0	12.8	12.9
<b>South</b>	<b>31.3</b>	<b>20.7</b>	<b>23.0</b>	<b>48.0</b>	<b>36.0</b>	<b>32.3</b>
East South Central	5.2	10.0	2.6	0.0	7.3	6.5
South Atlantic	19.8	3.3	18.4	36.0	20.2	25.8
West South Central	6.3	10.0	2.6	12.0	8.3	3.2
<b>West</b>	<b>24.7</b>	<b>31.0</b>	<b>25.7</b>	<b>40.0</b>	<b>19.8</b>	<b>22.6</b>
Mountain	13.2	20.0	13.2	24.0	9.2	9.7
Pacific	11.6	10.0	11.8	16.0	10.1	9.7
Statistical significance		FOR 4 REGIONS: $\chi^2(12) = 29.3$ , $p = .004$ , Cramer's V = .190 FOR 9 DIVISIONS: Too many cells (58%) have expected count less than 5.				

35. What is your sex? (Percentages)						
Analyses limited to respondents who met the following criterion:						
❖ CCC-A						
Sex	Total	Special Day/ Residential	Elementary	Administra- tive Office	Combination	Other
	(n = 279)	(n = 28)	(n = 74)	(n = 25)	(n = 111)	(n = 31)
Female	89.7	92.9	91.9	80.0	89.2	93.5
Male	10.3	7.1	8.1	20.0	10.8	6.5
Statistical significance	Too many cells (30%) have expected count less than 5.					



Statistics used in the summary report include the following notation and description:

Notation	Description
Response rate	<p>The percentage of individuals who were included in the sample, minus any who were ineligible</p> $RR = \frac{(C + P)}{S - (Ret + I)}$ <p>Where</p> <ul style="list-style-type: none"> <li>RR = Response rate</li> <li>C = Number of completed surveys</li> <li>P = Number of partial surveys</li> <li>S = Sample size</li> <li>Ret = Ineligible because of retirement</li> <li>I = Ineligible for other reasons (e.g., does not work in schools, no longer in the field, on leave of absence)</li> </ul> $RR = \frac{2,544}{4000 - (17 + 101)} = 65.5\%$
<i>n</i>	The number in the sample. In this report, the number of people who answered a particular question.
Mean	<p>A measure of central tendency; an average. Add the total of all the values and divide by the number of items.</p> <p>Example: <math>(1 + 1 + 7 + 34 + 88) / 5 = 26.2</math></p>
Standard deviation	<p>A statistic that shows the spread of scores in a distribution. Used with means. The larger the standard deviation, the more widely the scores are spread out around the mean.<sup>1</sup></p> <p>About 68% of the measurement is between 1 standard deviation greater than and 1 standard deviation smaller than the mean; 95% are plus/minus 2 standard deviations.</p> <p>Example: <math>(1 + 1 + 7 + 34 + 88)</math>                      Standard deviation = 37.1</p> <p>Therefore, 68% of the responses are between -10.9 and 63.3</p>
Median	<p>A measure of central tendency. Arrange the values in order, from lowest to highest. Select the value in the middle position.</p> <p>Example: 1, 1, 7, 34, 88                      Median = 7</p>
Table continues on next page.	

Notation	Description
Mode	<p>A measure of central tendency. The value that occurs more frequently than any other value.</p> <p>Example: 1, 1, 7, 34, 88                      Mode = 1</p>
Statistical significance	<p>Describes whether a value is larger or smaller than would be expected by chance alone.</p> <p>Note that a large sample size can lead to results that are “statistically significant” even though the results themselves may not have substantive or practical significance. This is particularly true for ChiSquare (<math>X^2</math>) tests.<sup>1</sup></p>
ChiSquare ( $X^2$ )	<p>A test used to assess the statistical significance of a finding where the variables being assessed are nominal (e.g., “annual salary” and “hourly salary”) or ordinal (e.g., “Excellent,” “Good,” “Fair,” and “Poor”). It measures whether there are statistically significant differences between the observed frequencies and the expected frequencies of two variables. The larger the observed frequency is in comparison with the expected frequency, the larger the <math>X^2</math> statistic and the more likely the difference is statistically significant. When the sample size is large, large <math>X^2</math> values (that are statistically significant) can be obtained even for weak associations.<sup>1</sup></p>
Cramer's V	<p>A measure of the <u>strength</u> of the association, used with <math>X^2</math> statistics to identify the meaningfulness of a relationship. The <math>X^2</math> value may be large with a probability of having occurred by chance that is small (<math>p &lt; .05</math>). That is, it is “statistically significant at the .05 level.” Cramer's V tells us so what: how strong (practically important) is the relationship between the variables. The larger Cramer's V, the stronger the association.</p>
ANOVA ( $F$ )	<p><math>F</math> is the statistic computed when conducting an analysis of variance (ANOVA). Analysis of variance measures the differences between means on two or more variables. It is used when there are categorical independent variables and a continuous dependent variable.<sup>1</sup></p>
$p$	<p>Probability. Found in expressions such as <math>p = .003</math> meaning “The probability that this result could have been produced by chance is 1 in 3/1000ths. The smaller the number, the less likely that the result was due to chance. The <math>p</math> value is the actual probability associated with an obtained statistical result, such as <math>X^2</math> or <math>F</math>.<sup>1</sup></p>
$df$	<p>Degrees of freedom. The number of values that are free to vary when computing a statistic. Used in interpreting both a <math>X^2</math> and an <math>F</math> ratio. It is calculated in a cross-tabulation as <math>(R - 1) (C - 1)</math> or (the number of rows minus 1) times (the number of columns minus 1). In a 3 x 4 table, <math>df</math> would be 6.</p>

<sup>1</sup> Vogt, W. P. (1993). *Dictionary of Statistics and Methodology*. Newbury Park, CA: Sage.